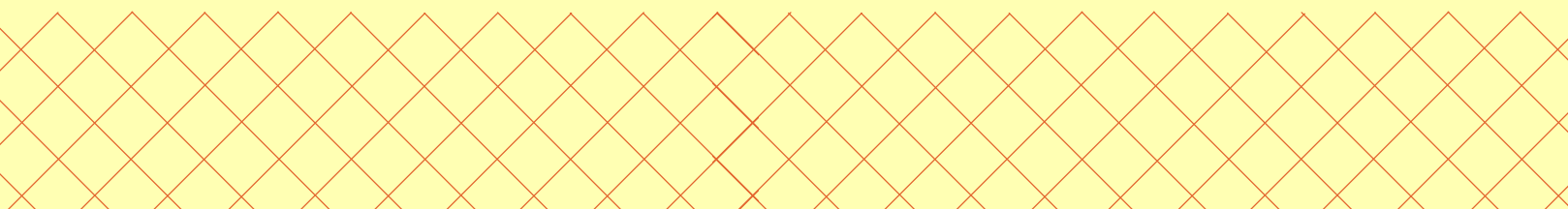


WESTERN HEMISPHERE PAYMENTS AND SECURITIES CLEARANCE AND SETTLEMENT FORUM
CENTER FOR LATIN AMERICAN MONETARY STUDIES
THE WORLD BANK

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

DECEMBER 2010



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SYSTEMS IN COLOMBIA

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and Settlement Systems
in Colombia*

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The authors are solely responsible for any errors of omission or commission.

FOREWORD

Following a request from the Western Hemisphere Finance Ministers, the World Bank launched in January 1999 the Western Hemisphere Payments and Securities Settlement Initiative. The World Bank, in partnership with the Center for Latin American Monetary Studies (CEMLA), first led this initiative, which over the years has evolved into a permanent Forum as a result of the capacity already created throughout the region. The Western Hemisphere Payments and Securities Settlement Forum (WHF) represents a new set of organizational arrangements to give continuity to the efforts started under the initiative and was formally launched in June 2003.

The objective of the WHF is to describe and assess the payments systems of the Western Hemisphere with a view to identifying possible improvement measures in their safety, efficiency and integrity. To carry out this mandate an International Advisor Council (IAC) was established in March 1999. It is comprised of experts in the field from several institutions. In addition to representatives from the WB and CEMLA this Council includes members from the Bank for International Settlements (BIS), Banca d'Italia, Banco de Portugal, Banco de España, Council of Securities Regulators of the Americas (COSRA), European Central Bank, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, Inter-American Development Bank, International Monetary Fund, International Organization of Securities Commissions (IOSCO), Securities Commission of Spain, Swiss National Bank and US Securities Exchange Commission (SEC). CEMLA acts as Technical Secretariat of the Forum and plays a major role in making the process sustainable and capable of extension to all the countries in the region. Additionally, practitioners in payments and securities clearing and settlement in some countries of the region have participated in the studies under the Initiative, through CEMLA 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 will maintain the infrastructure created under the Initiative and provide a permanent forum for the countries in the region to discuss, coordinate, and continue the work in the area of payments systems in the Western Hemisphere. The Forum has undertaken a number of activities in order to respond to the Western Hemisphere Finance Ministers' request. These include: the preparation of public reports containing a systematic in-depth description of each country's payments clearing 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 webpage to present the outputs of the Forum and other information of interest in the payments system area; and the promotion of working groups

to ensure a continuation of the project activity. To assure quality and effectiveness, the Initiative includes two important components. 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.

This document is the first update of the Payments and Securities Clearing and Settlement Systems in Colombia Report published in August 2001. It has been elaborated by the Banco de la República following the new model developed by the WHF Core Team.

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The team from the Banco de la República worked in close collaboration with the WHF Core Team to complete this Report. The members of the Core Team were: Corina Arteché Serra and José Antonio García García Luna (World Bank), and Raúl Morales (CEMLA).

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1. INTRODUCTION

In 1992, the Banco de la República began an energetic and orderly process of developing Colombia's financial market. Since then it has responded to the need for stronger infrastructures.

This Report begins with an overview of the recent macroeconomic-financial situation and a brief description of the Colombian financial market. It goes on to describe the institutional aspects of payments and securities clearing and settlement systems, specifically detailing the legal and regulatory framework and the general responsibilities of the Banco de la República (BR) in its different roles, detailing its oversight function and operational role. The role of other actors from the public and private sectors with relevant participation are also outlined.

This is followed by a description of the behavior of payment instruments used in Colombia, including cash, cheques, electronic transfers, cards and recent developments such as the use of home banking and intelligent cards. The special features of government payments are also mentioned followed by a description of the inter-bank clearing and settlement system, starting with the large-value system: rules and participants, types of transactions, operating requirements, clearing procedures and risk control mechanisms. It is important to point out that banking institutions are not the only participants in such systems. There are also other types of financial entities playing an important role in the Colombian financial system, such as credit institutions, broker-dealers, pension funds, trust companies and other infrastructure providers.

Retail payment systems and cross-border payments, particularly for paying remittances, are also analyzed.

The report ends with a detailed description of financial asset trading, clearing and settlement systems, showing the different types of assets traded in the securities and foreign exchange market, and settlement and clearing rules and procedures employed by financial market infrastructures, as well as Banco de la República's use of the settlement systems for this type of financial asset as a monetary policy transmission mechanism.

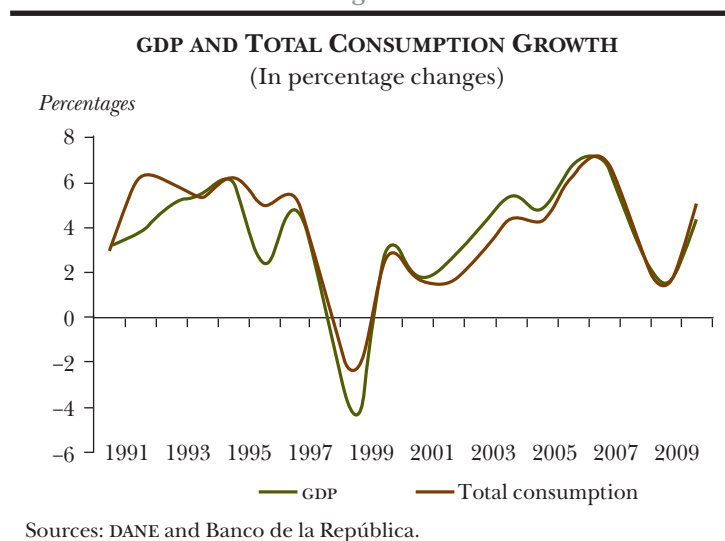
2. ECONOMIC AND FINANCIAL MARKET OVERVIEW

2.1 Economic Environment¹

In 2010, Colombia's gross domestic product (GDP) grew 4.3% in real terms as a result of favorable external and domestic conditions. In the context of a moderate world recovery, factors such as high commodity prices contributed to renewed positive growth in the country's exports. Low interest rates in advanced economies and reduced risk perceptions meant Colombia also benefitted from ample resources stemming from foreign direct investment. Domestic factors such as the recovery of confidence among agents, low interest rates, widely available credit, low inflation and the recovery of the labor market had a positive impact on economic growth (see Table 1).

By type of expenditure, GDP growth was driven by domestic demand, particularly household consumption (see Figure 1). Fixed capital investment improved

Figure 1



¹ Based on the Board of Directors' Report to the Colombian Congress, March 2011, Banco de la República.

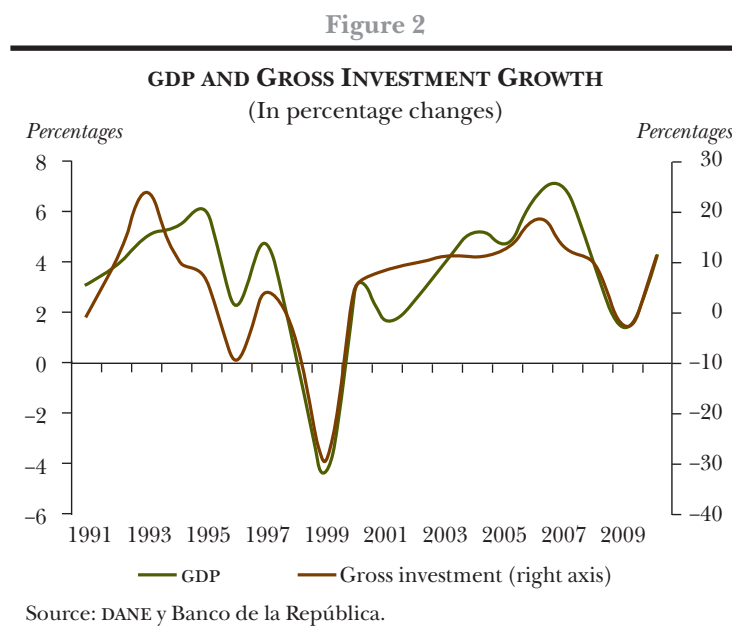
Table I

Indicator	MACROECONOMIC INDICATORS IN COLOMBIA, 2001-2010										Average
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Real GDP growth	1.7	2.5	3.9	5.3	4.7	6.7	6.9	3.5	1.5	4.3	4.1
Balance of payments current account (% of GDP)	-1.1	-1.3	-1.0	-0.8	-1.3	-1.8	-2.9	-2.8	-2.1	-3.1	-1.8
Consolidated public sector fiscal deficit (% of GDP)	-2.7	-3.0	-2.3	-1.1	0.0	-0.7	-0.6	-0.1	-2.7	-3.2	-1.7
Total inflation, annual percentage CPI variation	7.6	7.0	6.5	5.5	4.9	4.5	5.7	7.7	2.0	3.2	5.5
Representative market exchange rate (end of the year)	2,291.2	2,864.8	2,778.2	2,389.8	2,284.2	2,238.8	2,014.8	2,243.6	2,044.2	1,914.0	2,306.4
Nominal devaluation rate (end of the year)	2.8	25.0	-3.0	-14.0	-4.4	-2.0	-10.0	11.4	-8.9	-6.4	-1.0
Export growth	-4.7	-5.4	10.4	23.8	25.2	17.1	19.8	24.7	-10.4	18.3	11.9
Import growth	10.2	-3.1	8.1	19.2	25.7	21.9	23.4	19.6	-14.0	21.1	13.2
DTF interest rate (end of the year)	11.5	7.7	7.9	7.7	6.3	6.8	9.2	9.8	4.1	3.5	7.5
Unemployment rate ¹ (average)	15.0	15.5	14.1	13.6	11.8	12.0	11.2	11.3	12.0	11.8	12.8
Foreign direct investment	2.6	1.3	0.8	2.5	3.8	3.4	3.9	3.4	1.7	0.1	2.4
Total external debt (% GDP)	39.9	38.2	40.2	33.7	26.3	24.6	21.5	19.0	22.7	22.4	28.9
Public external debt	24.0	23.3	26.0	22.1	16.5	16.2	13.9	12.0	15.7	13.7	18.3
Private external debt	15.9	14.9	14.2	11.7	9.8	8.5	7.6	6.9	7.0	8.7	10.5

Sources: DANE, CONFIS, Superintendencia Financiera and Banco de la República.

¹ Total national monthly unemployment rate.

significantly as compared to the preceding year, becoming the aggregate which made the second largest contribution to GDP growth (see Figure 2). Investment channeled to industry, represented in machinery and transportation equipment, was particularly outstanding.



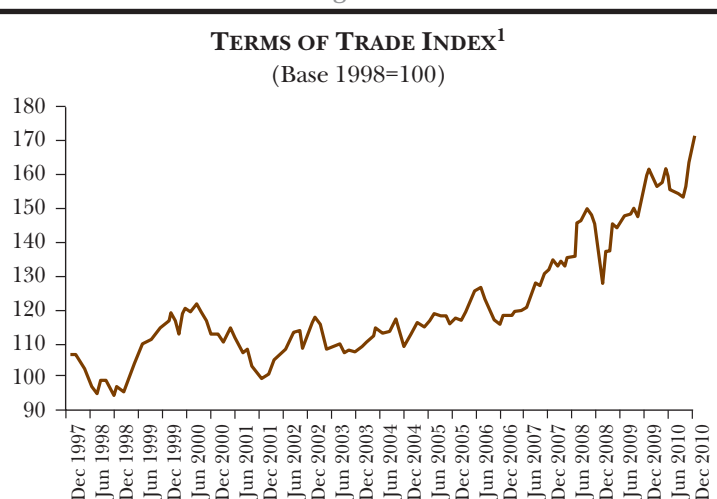
Both imports and exports grew in 2010, although imports recorded the highest growth, resulting in a trade deficit. Within imports the performance of consumer durables, commodities and capital goods purchases was noteworthy. Meanwhile, exports of traditional products, particularly from the mining sector, behaved favorably.

Prices of imported goods fell as compared to those of exported goods, which began to increase in the last few months of 2010 in response to the high international prices of basic export goods. The aforementioned led to improvements in the terms of trade (see Figure 3).

Figures for the foreign exchange balance² show that during 2010 both private and public capital account operations recorded returns amounting to USD 6.791 billion and USD 6.657 billion, respectively, while current account operations exhibited net outflows totaling USD 10.412 billion. Within the latter, the trade balance accounted for net payments of USD 9.023 billion (USD 8.442 billion in exports and USD 17.465 billion in imports). In the private sector capital account, inflows from foreign direct

² Includes transactions channeled through foreign exchange market intermediaries (IMC, as in Spanish) and the Banco de la República. Does not include clearing accounts.

Figure 3



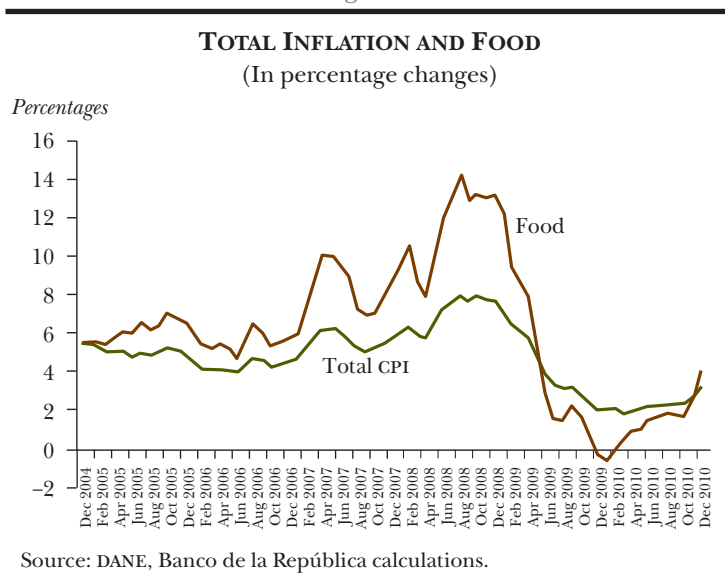
¹ It is calculated as the coefficient between the export price index and the import price index. The source of information is the producer price index. Source: Banco de la República.

investment are noteworthy (USD 9.485 billion), particularly in the oil and mining sectors (USD 7.973 billion), and foreign portfolio investment (USD 2.349 billion). Investment abroad by Colombians (direct and portfolio) and operations channeled to accounts held abroad generated net outflows amounting to USD 5.042 billion, which partly offset income from direct and portfolio investment.

The recovery of economic activity together with a fall in the unemployment rate resulting from improvements in the labor market occurred in an environment where the inflation target was met. At the end of 2010 consumer inflation was 3.17% (see Figure 4). Few inflationary pressures stemming from demand, the exchange rate, wage costs and agents' expectations were observed during the year. Nevertheless, the heavy rains during the second half of the year, coupled with the increase in the international prices of some agricultural and mining products, affected the prices of foods and various regulated goods and services, which pushed inflation up toward the end of the year. Inflation excluding foods was 2.8% at the end of 2010.

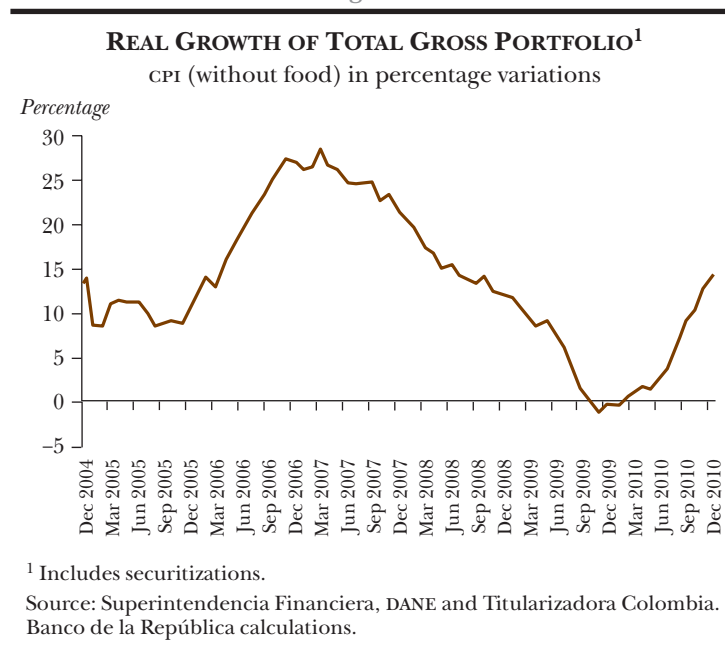
The expansive monetary policy in place since 2009 stimulated the recovery of economic activity. The central bank intervention rate, which was 3.5% at the start of 2010, was lowered 50 basis points in April, remaining at a historically low level of 3% for the rest of the referred year. This contributed to the fact that interest rates on different types of credit also reached historically low levels (see Figure 5). This was reflected in the positive behavior of the financial system's consumption, commercial and mortgage portfolios, which fostered a recovery in household consumption, business investment and home purchases.

Figure 4



In tandem with its monetary stimulus measures, the Banco de la República maintained an active foreign exchange policy. In March 2010 the Board of Directors decided to renew the purchase of reserves through daily auctions of USD 20 million in response to indications of exchange rate misalignment. Exchange rate intervention

Figure 5



through such auctions, coupled with other measures taken by Colombia's government (including not monetizing USD 1.5 billion in 2010, reducing customs tariffs and modifying the 2011 Financial Plan to balance external sources of financing) were effective in generating exchange rate devaluation pressures.

2.2 Financial Market

2.2.1 Financial System Structure

At the beginning of the 1990s Colombia's financial system adopted a parent and subsidiary scheme that has allowed it to achieve some benefits from universal banking, while limiting the complexity of this type of banking and its extension to certain sectors. During recent years the sector has entered a process of internationalization through the arrival of more foreign investors and the investments of local banks in foreign markets. The resulting structure of the financial system can be seen in Box 1.

Box 1

FINANCIAL SYSTEM STRUCTURE

<p style="text-align: center;"><i>Credit institutions</i></p> <ul style="list-style-type: none"> • Banks • Financial corporations • Financing companies • Cooperative bodies of superior level • Financial cooperatives • Special official institutions-public development banks 	<p style="text-align: center;"><i>Funds</i></p> <ul style="list-style-type: none"> • Pensions and severance • Collective portfolios • Foreign capital funds • Mutual funds • Third party portfolio management • Other trust assets
<p style="text-align: center;"><i>Insurance industry</i></p> <ul style="list-style-type: none"> • General insurance • Life insurance • Insurance cooperatives • Capitalization firms • Insurance and reinsurance brokers 	<p style="text-align: center;"><i>Infrastructure providers</i></p> <ul style="list-style-type: none"> • Stock and agricultural exchanges • Securities depositories • Ratings agencies • Clearing and settlement systems • Retail payments system administrators • Deposit general warehouses
<p style="text-align: center;"><i>Financial services firms</i></p> <ul style="list-style-type: none"> • Pension and severance fund managers • Trust companies • Deposit general warehouses 	<p style="text-align: center;"><i>Securities issuers</i></p> <ul style="list-style-type: none"> • Investment management firms • Foreign exchange intermediaries
<p style="text-align: center;"><i>Securities intermediaries</i></p> <ul style="list-style-type: none"> • BVC brokers • Independent brokers • Agricultural exchange brokers 	

Source: Estatuto Orgánico del Sistema Financiero.

Table 2

MAIN FINANCIAL SECTOR INDICATORS

Type of intermediary	Total assets			Profits		
	2009	2010	Variation (%)	2009	2010	Variation (%)
Credit institutions	235,075,842	270,532,601	15.1	5,467,681	5,914,501	8.2
Special official institutions	33,533,874	34,526,815	3.0	634,946	374,327	-41.0
Insurance companies	28,539,314	32,487,575	13.8	1,387,766	1,469,512	5.9
	Financial services firms					
Stock brokerages	3,949,941	5,699,096	44.3	139,932	124,880	-10.8
Trust companies	1,520,983	1,663,782	9.4	325,067	307,125	-5.5
Pension and severance fund administrators	1,852,381	2,244,961	21.2	454,890	425,328	-6.5
Investment fund managers	62,616	65,108	4.0	9,392	7,970	-15.1
Infrastructure providers	1,189,332	1,239,455	4.2	73,303	76,932	5.0
Total SSF	7,385,921	9,607,839	30.1	919,889	857,333	-6.8
	Funds Administered by SSF					
Stock brokers	3,605,676	4,743,000	31.5	254,917	184,456	-27.6
Joint portfolios	3,605,676	4,743,000	31.5	254,917	184,456	-27.6
Trust companies	143,657,382	168,299,042	17.2	8,116,250	5,167,523	-36.3
Joint portfolios	21,908,559	23,562,425	7.5	1,341,015	693,436	-48.3
Other trust assets	121,748,823	144,736,617	0.8	6,775,235	4,474,087	-34.0
Pension and severance fund administrators	93,463,547	115,174,914	23.2	19,387,959	17,180,492	-11.4
Non-voluntary pension funds	79,943,185	99,163,670	24.0	17,663,130	15,710,493	-11.1
Severance funds	4,948,455	5,759,216	16.4	872,518	683,307	-21.7
Voluntary pension funds	8,571,907	10,252,028	19.6	852,311	786,692	-7.7
Investment fund administrators	2,297,496	3,108,512	35.3	293,189	277,760	-5.3
Joint portfolios	1,529,299	2,220,194	45.2	154,381	167,354	8.4
Mutual funds	768,197	888,318	15.6	138,808	110,406	-20.5
Total funds	243,024,101	291,325,468	19.9	27,759,126	22,810,231	-17.8
Total financial system	547,559,052	638,480,298	16.6	36,169,408	31,425,904	-13.1

Source: Superintendencia Financiera de Colombia.

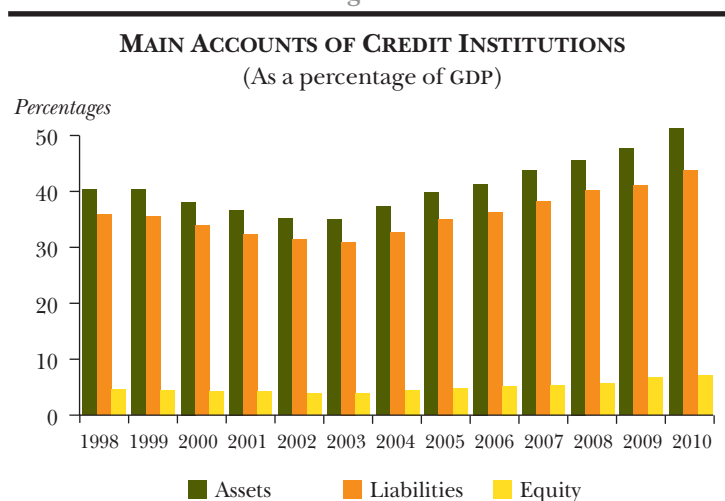
The recovery of the financial system after the crisis at the end of the 1990s has been demonstrated in the performance of its main balance sheet accounts and in the profits generated.

The total assets of the consolidated financial sector (see Table 2) recorded an annual increase of 16.6% in December 2010, with a balance of Colombian pesos (COP) 638.5 trillion. This amount was composed of COP 270.5 trillion from credit institutions, whose assets grew at an annual rate of 15.1%, and COP 291.3 trillion from trust assets, which recorded annual growth of 19.9 percent.³

Since 2010 the portfolio of credit institutions has rebounded in response to the improved performance of the commercial, consumption and microcredit portfolios. Investments also recorded positive growth, maintaining their share in the assets. Aggregate profits of the financial system totaled COP 31.4 trillion, mainly resulting from profits reported by non-voluntary pension funds (COP 15.7 trillion) and credit institutions (COP 5.9 trillion).

Figure 6 shows that by 2010 assets represented 51.3% of GDP (an indicator of financial depth), figure higher than those recorded during the last decade. Credit institution liabilities have also increased as a percentage of GDP, shifting from 36% (COP 64.7 trillion) in 1998 to 44.2% (COP 234.8 trillion) in 2010. Meanwhile, assets exhibited the same trend, increasing from 4.5% (COP 8 trillion) to 7.2% (COP 38.2 trillion) during the same period.

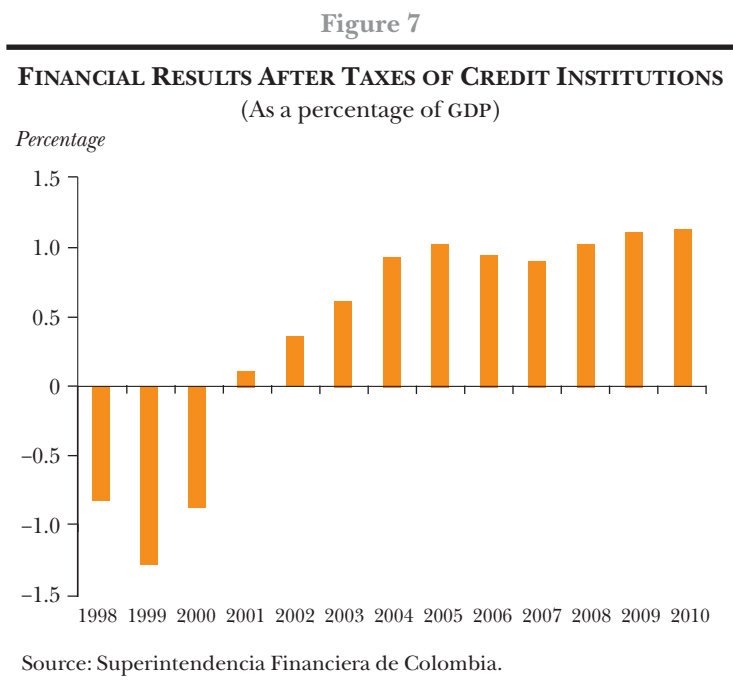
Figure 6



Source: Superintendencia Financiera de Colombia.

³ In the Statistical Tables Annex, Table A1 shows the exchange rate at the end of the period and its average level from 2001-2010.

Figure 7 shows that credit institutions have followed a path of sustained growth since their recovery from the crisis at the end of the 1990s. After having recorded losses of close to 1% of GDP in 1999 and 2000, and stagnating in terms of profits during 2001, credit institutions have exhibited a clear upward trend in their results since 2002. It is also worth mentioning that since 2004 the financial sector's after tax results have fluctuated around 1% of GDP.



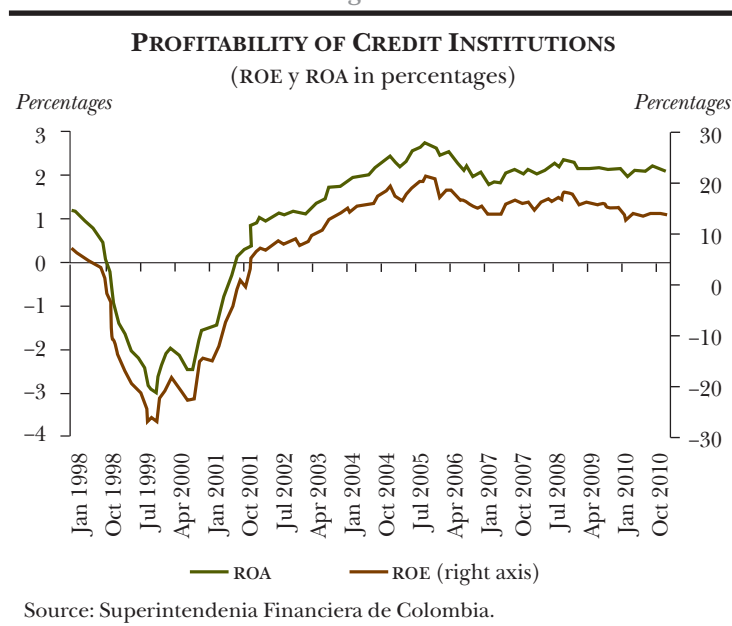
As of December 2010 the return on assets (ROA) of credit institutions was 1.9%, while the return on equity (ROE) (see Figure 8) reached a level of 13.8%, figures that, although above those recorded during the crisis of 1998, are still not as high as levels reached in 2005.

The penetration of the financial system in Colombia's population has grown during recent years. In particular, according to information from the Asociación Bancaria y de Entidades Financieras de Colombia (Colombian association of banking and financial institutions, Asobancaria), as of September 2010, 18.3 million Colombian adults had access to at least one banking product, figure representing a bankerization level of 62% of the adult population. The increase is significant as compared to the same month in the preceding year and is the equivalent of over 1.8 million individuals.

Over 17 million adults, 58.6% of the adult population, have savings accounts in Colombia, meaning they are the financial product with the greatest degree of pene-

tration in the country. Furthermore, as of September 2010, 11.2 million individuals have a credit product, among which the penetration of credit cards is outstanding (five million owners).

Figure 8



2.3 Money Market⁴

Repos, buy-sell back operations and interbank fund transactions, among others, are considered money market operations under Colombian regulations.⁵ The interbank money market consists of transactions between financial institutions which can be separated in accordance with guarantee obligations into the non-collateralized and collateralized market.

Non-collateralized market operations, i.e., those using interbank funds, are loans agreed over the telephone at mostly one-day terms. Participants in this market are mainly banking institutions (over 70%), while others include financial companies, commercial credit firms and special financial entities.⁶ Due to the fact that no guarantees are provided in this market, institutions offset counterparty risk by establishing pre-approved credit lines.

⁴ Based on the paper *Interbank Market and Liquidity Management* of the Banco de la República published in Borradores de Economía (673).

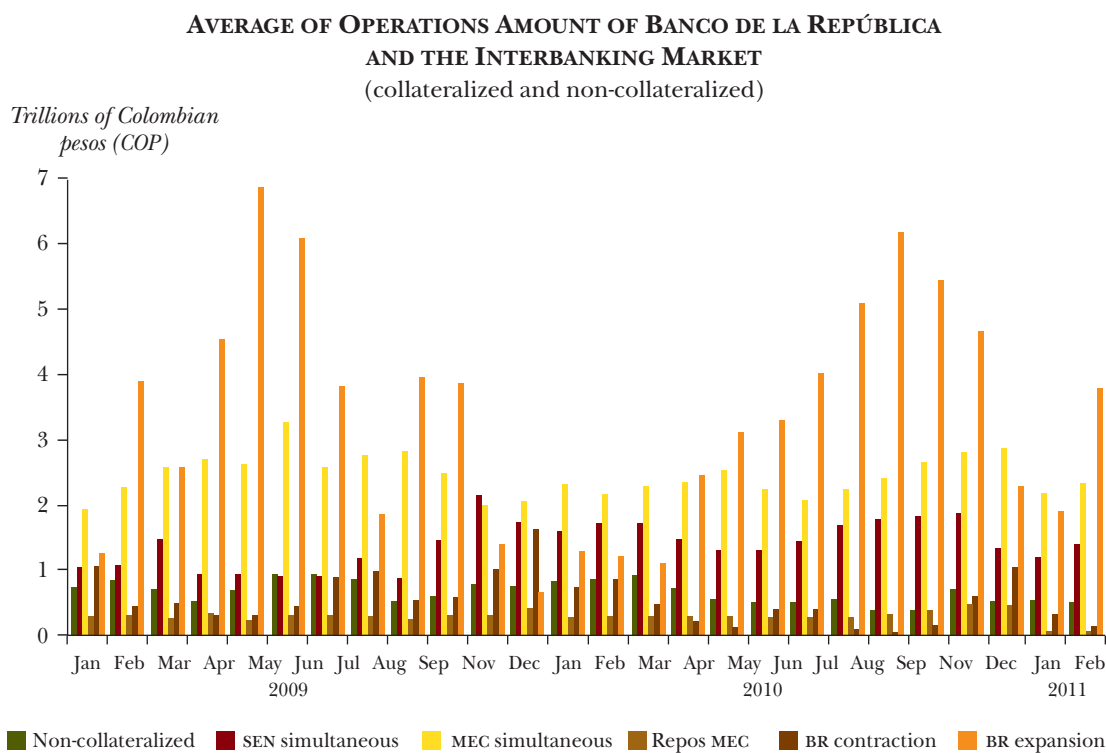
⁵ Temporary transfer of securities and associated funds.

⁶ Bancoldex, Findeter, Finagro, FEN and the Caja Promotora de Vivienda Militar y de Policía.

Collateralized market operations can be negotiated by telephone or through securities trading systems.⁷ As its name suggests, in this market loans are backed by collateral (securities). If the transaction implies a restriction on the mobility of the security offered the operation is a closed repo agreement. In the opposite case the operation is classified as a buy-sell back transaction. Although the regulations also allow open repos to be carried out with the free use of received collateral, they are not common.

Figure 9 shows the average trading amounts of the non-collateralized interbank market, buy-sell back transactions agreed in the trading systems, repos and expansionary and contractionary operations carried out by the BR. The amounts involved in expansion operations are significantly higher than those traded in the interbank market (collateralized and non-collateralized). It can also be seen that the volume of transactions in the non-collateralized market is lower than that of the collateralized buy-sell back market, but higher than that of the repo market.

Figure 9

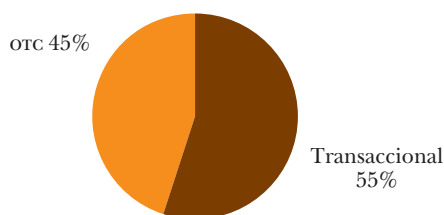


⁷ Colombia has the Sistema Electrónico de Negociación (an electronic trading system, SEN) administered by the Banco de la República and the Mercado Electrónico Colombiano (Colombian electronic market, MEC) administered by the Bolsa de Valores de Colombia.

If BR expansionary and contractionary operations are excluded, it can be seen that buy-sell back transactions account for most of the operations in the money market. In 2010, COP 1,315 trillion were traded through this type of transaction, 45% of which took place in the over-the-counter market (OTC). The latter is illustrated in Figure 10.

Figure 10

**PERCENTAGE DISTRIBUTION OF BUY-SELL BACK
TRANSACTIONS BY ORIGIN, 2010**



Fuente: Banco de la República y Bolsa de Valores de Colombia.

2.4 Capital Market

During recent years the capital market has undergone significant regulatory, technological and structural changes. The securities market industry has therefore made efforts to increase its local and regional competitiveness through several initiatives, among which the following stand out: *i*) internationalizing Colombia, Peru and Chile's regional markets through the Mercado Integrado Latinoamericano (Latin American integrated market), *ii*) renewing trading platform technology, shifting from an automatic bid matching system to an electronic trade matching mechanism and *iii*) creating the first central counterparty clearinghouse as well as launching the standardized derivatives market (financial and commodities).

These changes have been accompanied by growing market strength. In 2010, the securities market recorded transactions for around COP 2,183 trillion,⁸ equal to a daily average of COP 8.9 trillion (USD 4,694 million). Trading of fixed-income securities is outstanding, accounting for 97% of such transactions, followed by the variable-income market with 2%, and finally the standardized derivatives market with one percent.

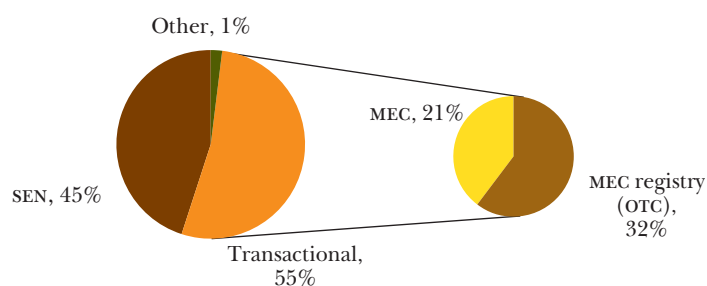
2.4.1 Fixed-income

Fixed-income market trading is carried out through different forums. Figure 11

⁸ Does not include money market operations.

Figure 11

FIXED-INCOME SECURITIES TRADING BY SYSTEM, 2010



Source: Banco de la República and BCV.

shows around COP 2,120 trillion were traded through authorized security trading and registry systems where around 55% of the market is transactional.⁹

As for the type of securities traded, Table 3 shows that at the end of the year the *títulos de Tesorería* (Treasury securities, TES) accounted for around 79% of the all securities traded. Such behavior has been characteristic of the market in recent years.

Table 3

FIXED-INCOME TRANSACTIONS IN 2010

Trillions of Colombian pesos

Type	Value traded	Share
TES	1,682	79%
Other securities	439	21%
Total market	2,120	100%

Source: Banco de la República and Bolsa de Valores de Colombia.

2.4.2 Variable-income

The Colombian legal framework for variable-income securities sets out that the Bolsa de Valores de Colombia (Colombian stock exchange, BVC) is the only forum authorized for trading this type of instrument. Operations in this market are only carried out through transactional systems (there is no OTC) and access can only be obtained through a brokerage firm (SCB, as in Spanish).

There are currently 28 registered SCB, nine of which are bankerized, i.e., their main partners are commercial banks who use them to access the market.

During 2010, SCB carried out buy and sell operations between participants for

⁹ Includes cash transactions, term transactions, carousel transactions and swaps.

around COP 37.1 trillion, a 34% higher than that recorded the preceding year, making it one of the best years for the stock market. As for the primary market, issues reached a figure close to COP 0.5 trillion (see Table 4).

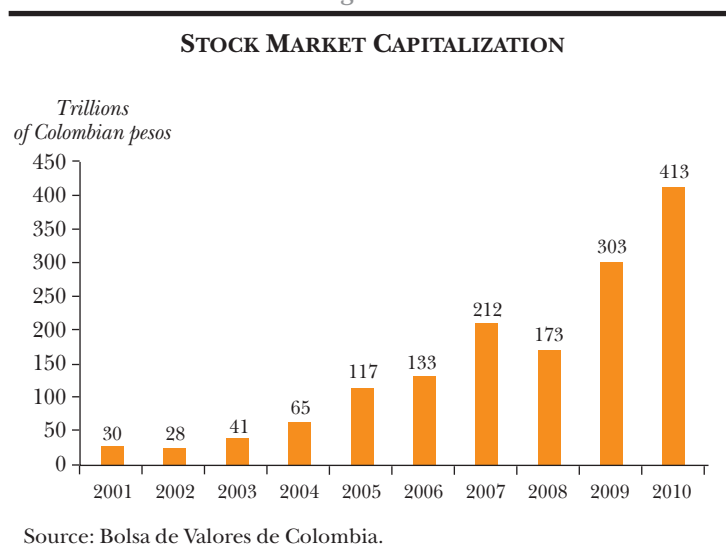
Table 4

VARIABLE-INCOME TRANSACTIONS IN THE BVC DURING 2010		
Trillions of Colombian pesos		
<i>Type</i>	<i>Amount</i>	<i>Share</i>
Buy/sell	37.1	99%
Issues ¹	0.5	1%
Market total	37.6	100%

Source: Bolsa de Valores de Colombia.
 Note: ¹ Mainly includes initial public offerings (IPO).

Stock market capitalization has grown over the last decade (see Figure 12). In particular, this indicator increased 55% at the end of 2010, reaching USD 217 billion.

Figure 12



2.5 Standardized Derivatives Market¹⁰

The BVC administers the trading and registration of transactions in the standardized derivatives market. This market has 36 members, among which it is important

¹⁰ Under Colombian law standardized derivatives are considered *securities* and are therefore included in this section.

to mention banks, SCB, financial corporations, trusts, and pension and severance funds. The market currently offers futures with fixed and variable-income securities, and currencies as underlying assets (see Table 5).

Table 5

STANDARDIZED FUTURES LISTED IN THE BVC		
<i>Fixed income</i>	<i>Variable income</i>	<i>Currencies</i>
Short-term TES	ECOPETROL	TRM
Medium-term TES	PFBANCOLOMBIA	MINI-TRM
Long-term TES		

Source: Bolsa de Valores de Colombia.

As for fixed-income, TES futures can be found on the short, medium and long-term sections of the yield curve. Meanwhile, the underlying assets of individual shares of ECOPETROL and preferential Bancolombia are listed as equity securities. Finally, in currencies it is important to mention futures and mini-futures of the representative market exchange rate (RMER).

After two years of operations and growth rates of 1,000%, in 2010, this market recorded business amounting to COP 25.1 trillion, 41% of which was carried out in the OTC market. Among the most traded products were fixed-income futures, accounting for around 54% of the market, followed by currency futures with 45 percent.

2.6 Foreign Exchange Market

In Colombia the only institutions authorized to negotiate currencies directly are *intermediarios del mercado cambiario* (foreign exchange market intermediaries, IMC). The Board of Directors of the Banco de la República, in its role as regulator of this market, only authorizes this activity to commercial banks, SCB, financing firms, financial cooperatives, financial companies and foreign exchange intermediation firms (formally foreign exchange offices).

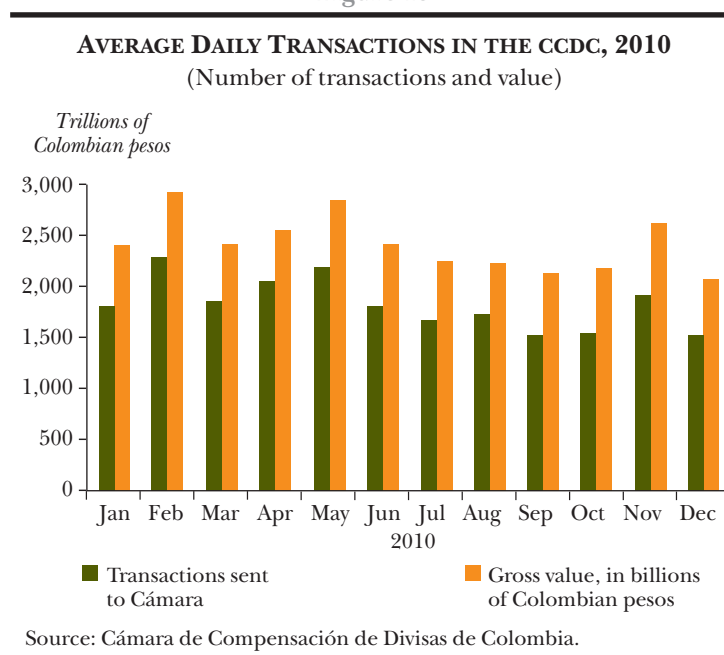
There are other agents, which given their nature are authorized to trade currencies directly. These include the BR, the Ministerio de Hacienda y Crédito Público (Ministry of Finance and Public Credit, MHCP), the Cámara de Compensación de Divisas de Colombia (Colombian Foreign Exchange Clearinghouse, CCDC), Banco de Comercio Exterior (a foreign trade bank, Bancoldex) and the Financiera Energética Nacional (National Financial Energy Corporation, FEN).

Current markets can be differentiated by the settlement date of cash and forward transactions. In the former, (up to $t+2$) transactions are carried out through trading

and registry systems¹¹. Regarding their clearing and settlement, since 2007 this has been made through the CCDC.

The CCDC has 41 direct participants that settled a daily average volume of 1,825 transactions in cash markets during 2010. The gross average daily value cleared was USD 1,274 million, equal to around COP 2.4 trillion (see Figure 13).

Figure 13



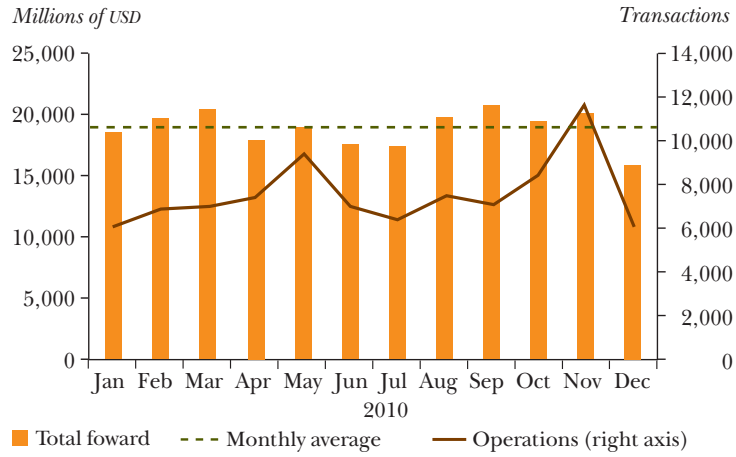
In the forward market ($t+3$ or more) transactions are mainly peso/dollar forwards negotiated in the OTC market and cleared and settled bilaterally.

According to figures from the Banco de la República, in 2010, USD 226,414 million were traded in the forward market, equal to an average daily volume of USD 937 million. Figure 14 shows the behavior of such transactions during the year. Although the Cámara de Riesgo Central de Contraparte de Colombia (Colombia's central counterparty risk clearinghouse, CRCC) provides clearing and settlement for these transactions, its average daily partition at the end of the referred year was less than one million US dollars.

¹¹ SET-FX, ICAP FX, Tradition Colombia and GFI Exchange are currently authorized.

Figure 14

FORWARD MARKET TRANSACTIONS, 2010
(Number of transactions and value)



Source: Banco de la República.

3. INSTITUTIONAL ASPECTS

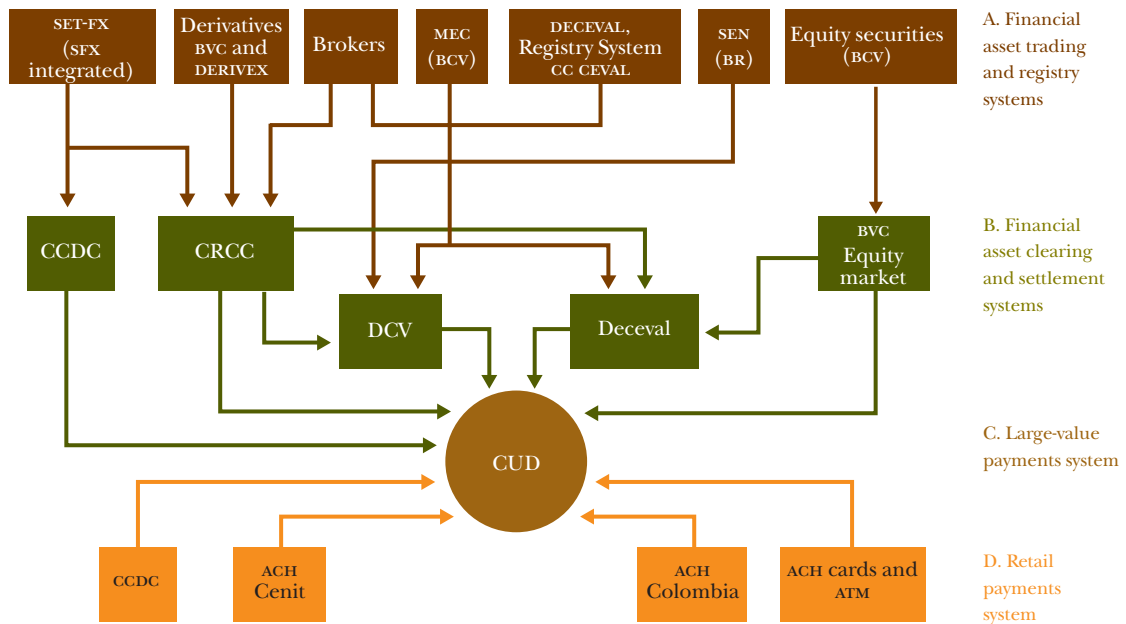
3.1 Institutional Framework

Diagram 1 shows a simplified overview of payments and securities and other financial asset settlement systems in Colombia, along with their main trading platforms, and the interconnections between the most important participants in such systems.

Band A at the top of Diagram 1 includes the main trading systems for securities and currencies. Among the former is the SEN, an electronic trading system administered by the BR, where government securities are traded; and the MEC, a system administered by the Bolsa de Valores de Colombia (Colombia Stock Exchange, BVC),

Chart 1

OVERALL PANORAMA OF PAYMENTS AND SECURITIES AND OTHER FINANCIAL ASSETS SETTLEMENT SYSTEMS – 2010



Source: Banco de la República.

where all types of public and private securities are traded. As for currency trading, the SET-FX system is used. The band also includes brokers which facilitate the bilateral trading of securities and currencies (ICAP FX, Tradition FX and ICAP securities) in the OTC market. The resulting transactions must be registered in a security or currency transaction registry system for later clearing and settlement.

Band B shows clearing and settlement systems for securities and US dollar transactions that institutions use to settle the securities, currencies and other financial assets they contract in such markets. The systems for securities include two central securities depositories: the Depósito Central de Valores (DCV), administered by the BR exclusively for government securities; and the Depósito Centralizado de Valores de Colombia (Deceval), owned by the banks, the BVC, brokers and other financial intermediaries for all types of public and private securities. For clearing and settlement currencies and derivatives, there are two systems in Colombia: the Cámara de Riesgo Central de Contraparte de Colombia S. A. (CRCC), where financial derivatives traded in the BVC¹² are settled and some OTC market operations are registered; and Cámara de Compensación de Divisas de Colombia (CCDC), where currency transactions carried out in the SET-FX system are settled.

Band C shows the large-value payments system, the CUD. This is the axis of the financial infrastructure toward which settlements of large value funds transactions converge from financial asset clearing and settlement systems and from the clearing of retail payment systems' net multilateral positions. The large-value payments system or CUD deposit account system is administered by the Banco de la República.¹³

The retail payments systems in band D include Cámara Electrónica de Compensación de Cheques (a cheque clearinghouse, Cedec) administered by the BR, the automated electronic payment clearinghouse ACH-Cenit, also administered by the BR, and the commercial bank owned ACH-Colombia, as well as ATM networks and credit and debit cards (Redeban, Servibanca, ATH, Credibanco and the Central Cooperativa y Solidaria de Servicios Múltiples "Visionamos").

¹² Only OTC market transactions made using the CRCC's clearance and settlement services are registered at present.

¹³ According to article 22 of Law 31 of 1992, the BR can open current bank accounts or enter into deposit contracts with public or private firms when necessary to enable them to carry out their operations with the central bank. This must be approved by the JDBR, which is exclusively responsible for dictating the conditions applicable to such accounts and deposits. In order to exercise this power the JDBR issued Internal Resolution 3 of 1997, establishing the regulatory framework currently in force regarding the conditions under which the BR provides state entities and the financial system with deposit account services for facilitating financial transactions. Item 4 of UCCP External Circular 39 of May 1998, entitled "Cuentas de Depósito en el Banco de la República" sets out all matters related to deposit account opening, management, cancellation and withdrawals of cash.

3.2 Legal and Regulatory Framework for Payment Systems and Instruments

According to article 16 of Law 31 of 1992, in Colombia the BR is responsible for “[...] studying and adopting monetary, credit and foreign exchange measures for regulating monetary circulation and the overall liquidity of the financial market and the normal functioning of the economy’s domestic and external payments, ensuring monetary stability[...]”.

In view of the mandate granted by Colombia’s Constitution and the rules of Law 31 of 1992, the BR is responsible for guaranteeing price stability. Proper fulfillment of this task is dependent upon financial stability.

Article 6 of Law 795 of 2003, assigns the Government the role of “regulator of the payments system and activities linked with this service that are not the responsibility of the Banco de la República. This power will be exercised prior to review by the Board of Directors of the Banco de la República in order to allow this body to state its opinion on the influence of the regulation on the policies under its control”. Furthermore, article 72 of the same Law sets forth that the Superintendency of Banks (currently Superintendencia Financiera de Colombia, SFC) will *oversee* institutions that administer credit or debit card systems as well as those administering payment and clearing systems”.

Law 964 of 2005 includes the division of responsibilities “according to the organic Statute of the financial system, the Banco de la República will continue regulating large-value payments systems” (article 66, paragraph 3), as well as currency and currency derivatives trading and settlement systems (paragraph 2), while the government will regulate securities and financial derivatives trading and settlement systems (articles 3 and 4). Interpreting this regulation in accordance with article 19 of Law 795 confirms that the regulatory power of Colombia’s Government refers to *retail payment systems*, while that of the BR corresponds to *large-value payment systems*.

Law 964 of 2005 defines the concept of value as “all negotiable rights included in an issue which is aimed or designed to capture resources from the public [...]” identifying the activities making up the securities market and establishing Government intervention mechanisms. It also:

- Includes standardized financial derivatives in its concept of value and recognizes the quality of underlying electrical energy or fuel gas assets. It also includes among securities market activities the administration of systems for trading or registering securities, futures, options and other derivatives.
- Establishes, for tax reasons, the regime of central counterparty risk clearing-houses and some derivatives operations, determines registration fees in the Sistema Integral de Información del Mercado de Valores (Securities Market

Comprehensive Information System, Simev) and the fees that must be paid to the SFC for activities carried out with derivatives.

- Identifies the rules regulating central counterparty risk clearinghouses for providing transaction clearing services as reciprocal creditors and debtors of rights and obligations originating in previously accepted operations for their clearing and settlement.
- Includes securities clearing and settlement among market activities, defining clearing and settlement as follows: “clearing is the process that establishes the obligations of participants in a clearing and settlement system for delivering securities and transferring funds deriving from securities transactions. Participants’ obligations can be established using bilateral or multilateral mechanisms that may or may not include the net value of such obligations. Obligations established in this way must be fulfilled under the terms stipulated by the law [...]. Settlement is the process through which obligations stemming from a securities transaction are finally fulfilled, where one party delivers securities and the other transfers the funds or securities.”
- Grants the power to administer clearing and settlement systems of institutions set up exclusively for such aims, central counterparty clearinghouses, stock exchanges, centralized securities depositories, the BR and/or any others that the Colombian Government authorizes.
- Defines that central counterparty risk clearinghouses are exclusively for providing clearing services as a central operational counterparty aimed at reducing or eliminating the risks of noncompliance with the obligations stemming from such transactions.
- Establishes that a book-entry is the registry of rights or balances of deposit account holders that will be carried out by a central securities depository. The book-entry will constitute the respective right. Thus, the creation, issuance or transfer, taxes and cautionary measures they might be subject to, as well as anything else affecting the rights contained in the respective book-entry security will be stipulated in the book-entry.
- Specifies that transfers of funds or securities deriving from financial assets transactions, as well as any action that according to the regulations of a clearing and settlement system must carry out for their fulfillment, will be final, irrevocable, binding and enforceable against third parties from the moment such transactions have been accepted by the clearing and settlement system.
- Once a transfer order has been accepted by the clearing and settlement system, the respective funds or securities cannot be the subject of legal or administrative

measures, including cautionary measures, freezing orders or the like, as well as those stemming from bankruptcy laws, possession, annulment, settlement or global debt restructuring agreements aimed at preventing, suspending or in any way limiting the payments that must be made through such system. Accepted transfer orders, acts necessary for their fulfillment and the transactions they derive from cannot be disputed, annulled or declared ineffective. These measures will only be valid for transfer orders declined at the moment the system administrator has been notified of them in accordance with applicable rules.

- Grants legal recognition to bilateral and multilateral netting, and gives greater clarity in issues of possession, pledging, property registration and customer protection in the face of custodian insolvency.
- Stipulates that the guarantees provided by a participant to a clearing and settlement system, be their own or a third party's, that are applicable to the fulfillment of transactions or transfers accepted by the system, as well as the clearing and settlement resulting from them, may not be subject to recovery, seizure, sequestration, deduction or any similar administrative or legal cautionary measure until all the obligations stemming from such transactions or orders have been fulfilled.
- The acts by which the guarantees are constituted, increased or substituted will be irrevocable and cannot be contested, annulled or declared ineffective.
- The guarantees provided by a participant to a clearing and settlement system can be applied to the settlement of guaranteed obligations even if the guarantor is the subject of bankruptcy or winding up proceedings or a restructuring agreement. However, it is understood that the corresponding obligations charged to the referred guarantees will form part of the guarantor's equity for the respective process.

Developments in the regulations of the above mentioned laws are combined in decree 2555 of 2010. They relate to retail payment systems¹⁴ and securities clearing and settlement systems, as well as their participants. They cover the terms for applying, from start to finish, the transfers they handle, the management of the guarantees provided by their participants, the mechanisms for mitigating financial, operational and systemic risks, and the procedures to be followed in cases of suspended pay-

¹⁴ Originally in decree 1400 of 2005 and taken up again in decree 2555 of 2010. This sets out the framework that defines a payment system and sets an average daily limit of 2.5 trillion 2005 pesos for transfers classified as *low value*. Systems handling values above said limit are classified as *large value*. It also assigns the Superintendencia Financiera the function of regulating retail payments system administrators. On matters related to competition, these administrators are subject oversight by the Superintendencia de Industria y Comercio

ments, insolvency proceedings, seizures and other cautionary measures, as well as other key aspects for their safe and efficient functioning. This decree stipulates that:

- Funds or securities transfer orders entered into a clearing and settlement system will be taken as accepted and, therefore, final and irrevocable in accordance with Law 964 of 2005 when the risk requirements and controls set out in the system in question's regulations have been fulfilled. Such requirements and controls must at least cover credit, liquidity, operational, systemic and legal risks. No clearing and settlement system can accept a transfer order until after it has been confirmed by one or all of the participants involved in the respective transaction in accordance with the regulations.
- In a system that clears and settles operations on a gross basis, a transfer order will be understood to have fulfilled risk controls and have, therefore, been accepted, only after verifying that there are sufficient funds or securities in the accounts of the participants, and after the corresponding book entry has been made without affecting compliance with other risk controls laid down in the system's regulations.
- In a system that clears and settles operations under a differed net settlement environment, a transfer order will be understood to have been accepted when it has completely fulfilled all the requirements and risk controls set out in the respective system's regulations. These include verifying the availability of bilateral and multilateral credit lines (operational limits), the suitability and sufficiency of guarantees backing the operation, the funds available from the credit lines offered by liquidity providers and other risk mitigation measures stipulated in said regulations.
- When a securities clearing and settlement system accepting a transfer order (securities or funds) needs to use the services of one or more clearing and settlement systems or payment systems to carry out or complete the corresponding transfer, such systems must receive the respective transfer in order to continue with the settlement process. This occurs even when the respective participant or individual on behalf of whom it is acting has been subject to legal or administrative proceedings. The latter include suspension of payments, cautionary measures, retaining orders, freezing or blocking of funds or similar, as well as proceedings stemming from insolvency regulations, seizure, dissolution, settlement or global debt restructuring agreements aimed at prohibiting, suspending or in any way limiting payments that must be made through such system without this implying that the administrator(s) of such system(s) must guarantee the efficient fulfillment of the respective transfer(s). These transfer orders cannot be cancelled or changed by the originator except if the

institution administrating the system authorizes it for reasons such as material error, technical problems and the like.

Securities operations of trading and registry systems must be cleared and settled on a delivery-versus-payment (DVP) basis in the authorized clearing and settlement systems.¹⁵ Among other rules, securities market intermediation activities establish those related to the post trading registration for OTC market operations and the fulfillment of intermediaries' special responsibilities regarding the disclosure of information and the management of conflicts of interest, among others.¹⁶

The Board of Directors of the Banco de la República (JDBR)¹⁷ conferred powers to the BR for overseeing large-value payments systems, including interconnected external systems.¹⁸ These powers are aimed at supporting efforts made by the central bank in matters of safety, efficiency and financial stability, as well as those of other public authorities regarding the supervision of such systems. In order to strengthen its work in this field, in October 2010 the JDBR authorized the creation of the Departamento de Seguimiento a la Infraestructura Financiera (a department for overseeing the financial infrastructure) which will carry out its functions separately from the services provided directly by the BR. The task of oversight consists of monitoring the financial infrastructure and the interconnections between its systems and participants from a comprehensive standpoint. This allows any possible risks in the infrastructure's functioning to be identified and addressed. The BR also created this department to bolster research in the field and develop methodologies for analyzing the stability of the payments system as a whole, providing an additional input to other areas the Bank has for supporting financial stability.

3.3 The Role of Public Authorities

3.3.1 Banco de la República

3.3.1.1 General Responsibilities

The status of the Banco de la República (BR) as Colombia's central bank is laid down in article 371 of the Constitution of 1991, while its activity and that of its Board of Directors are regulated by Law 31 of 1992.

¹⁵ Decree 1120 of 2008.

¹⁶ Decree 1121 of 2008.

¹⁷ JDBR External Resolution 5 of 2009.

¹⁸ "In accordance with that set out in article 18 of Law 31 of 1992, large-value payment system administrators and participants in such systems, including administrators of interconnected external systems, must provide the Banco de la República with all the information it requires for monitoring the System's safe and efficient functioning, its interaction with external systems and its influence on systemic risk and financial system stability [...]" (article 19 of External Resolution 5 of 2009).

The BR provides the complete range of its banking and treasury services nationally through 15 branches located in the country's most important cities, coordinating them from its Head Offices in Bogotá.

According to the Constitution, the basic functions of the central bank are regulating the currency, international exchange rates and credit, issuing legal tender, managing international reserves, being the lender of last resort and banker for credit institutions, and serving as fiscal agent to the government. The Constitution also establishes the JDBR as the monetary, foreign exchange and credit authority.

With respect to liquidity, the Law stipulates that the BR is responsible for studying and adopting the necessary monetary, credit and exchange measures for regulating the money in circulation and, in general, the liquidity of the financial market and the smooth functioning of the economy's domestic and external payments, while safeguarding the stability of the value of the currency.

The BR fulfills the above objective by, among other actions, performing open market transactions, granting temporary liquidity facilities to credit institutions and intervening in the foreign exchange market as purchaser or seller.

Open market transactions are made by purchasing or selling, definitive or transitory, government securities. Operations are carried out between the BR and open market transactions placing agents, which include credit institutions and pension funds. Open market operations are carried out through limited amount auctions (periodically reviewed by the authorities) and window mechanisms (limited amount transactions made at a preannounced interest rate).

The temporary liquidity facilities that the BR, under constitutional mandate, provides to credit institutions are granted through discount or rediscount contracts for securities with credit content.

Intervention in the foreign exchange market is carried out with exchange market intermediaries. The BR purchases and sells currencies through US dollar *put* option auctions (the right to sell US dollars to the BR) and US dollar *call* option auctions (the right to buy US dollars from the BR). Such transactions are used as a mechanism for accumulating international reserves or for controlling the volatility of the exchange rate.

The JDBR also has regulatory functions that directly or indirectly influence liquidity, such as the regulations governing banks' required reserves and its own minimum and maximum positions in foreign currency; setting temporary maximum limits to financial institutions' active and passive remunerative interest rates, as well as temporary limits on the growth of such institutions' long transactions; determining the financial conditions of government bonds; and regulating international exchange operations.

With respect to Colombia's government, the BR has the following functions: *i)* act, at the request of the Government, as fiscal agent in contracting external and

domestic credits and in transactions that are compatible with the objectives of the BR; *ii*) grant loans or guarantees on behalf of the State under the conditions set out in article 373 of the Constitution; *iii*) receive funds in deposit from national and public institutions; *iv*) serve as the government's agent in the edition, placement and administration of public securities; *v*) provide the Government and any other public institutions the JDBR decides with the technical assistance they require in matters related to the nature and functions of the BR. The BR fulfills these functions by signing the corresponding contracts with the government or other public institutions.

Finally, regarding its administrative function, the BR manages international reserves according to the public interest, for the benefit of the Colombian economy and with the purpose of facilitating the country's payments abroad. It also develops relations with international financial organizations in its role as a central bank and in order to facilitate international payment and credit operations.

3.3.1.2 Monitoring the Payments System

Resolution 5 of 2009 assigns the BR the function of monitoring the safe and effective functioning of the large-value payments system, its interaction with other external systems and its influence on systemic risk and financial system stability.

In 2010 the BR created the Department for Overseeing the Financial Infrastructure in order to improve fulfillment of this function. Meanwhile, as a means of communicating progress in this area, since 2010, the BR has published an annual *Payments System Report*. This document informs the public on the evolution of the main infrastructures making up the country's payments and securities settlement system. For further information see: <http://www.banrep.gov.co/publicaciones/pub_rep_sist_pag.htm>.

It is important to reiterate that the SFC is the body responsible for overseeing the country's financial infrastructures (see section 3.2).

3.3.1.3 Operational Activities in the Area of Payments and Securities Settlement Systems

The BR is empowered by law to develop activities related to the payments system. It therefore currently administers the large-value payments system and the deposit accounts of institutions authorized to participate in such system, interbank cheque clearing services, an ACH, a central securities depository and an electronic securities trading system for government bonds.

It is important to mention that the law authorizes credit institutions to participate in the organization of cheque clearinghouses that are set up as corporations providing technical and administrative services, subject to supervision by the SFC. As a consequence, the clearing service currently provided by the BR may have to com-

pete with private services. The same applies to other components of the financial infrastructure: Colombia operates private securities (Deceval), a securities trading system owned by the stock exchange (MEC) and a private ACH (ACH-Colombia), among others.

In accordance with its responsibilities as monetary authority and its role in preserving financial stability, the Law assigns the BR the function of regulating the large-value payments system and allows it to administrate a system that fulfills these characteristics and the previously mentioned low-value applications. The BR meets its regulatory and supervisory objectives by entering bilateral contracts with all participants, as well as through cooperation with the private sector.¹⁹ The contracts on the services provided explicitly establish all participant obligations and responsibilities and the conditions for their operations, service pricing, and sanctions for noncompliance.

The BR's participation in the provision of services is aimed at contributing to the modernization of Colombia's payments system, specifically through the development of new and more sophisticated automated applications and the provision of electronic services focused on facilitating transactions made by financial intermediaries and the capital market, making them more efficient and cheaper. The BR has also perused an objective of supporting the private sector in its endeavors to improve efficiency and competition.

3.3.1.4 Cooperation Agreements with other Institutions

The JDBR's External Resolution 5 of 2009 stipulates that the Banco de la República can make inter-administrative agreements or memorandums of understanding with the Superintendencia Financiera in order to cooperate in the fulfillment of its functions and exchange information on large-value payment systems, external systems and their respective participants. In 2010, an agreement was signed for the delivery and exchange of information between the SFC and the BR. It established the conditions for sharing and consulting information, in line with current policies, protocols, procedures and regulations.

The BR periodically requests information from the country's different financial infrastructures through the function of payments system oversight.

3.3.2 Other Authorities

3.3.2.1 Superintendencia Financiera de Colombia

The Superintendencia Financiera de Colombia (SFC) was created through Decree 4327 of 2005 by merging the Superintendency of Banks and the Superintendency

¹⁹ Generally known as moral suasion.

of Securities. It is a technical body attached to the Ministry of Finance and is the supervisory authority of the Colombian financial system with the objective of preserving public confidence and the stability of the financial system; maintaining the integrity, efficiency and transparency of the securities market and other financial assets; and safeguarding the rights of financial consumers, ensuring that services are duly provided.

The SFC is responsible for overseeing and inspecting banking institutions, financial corporations, financing companies, trust firms, general deposit warehouses, high level cooperative organizations, capitalization societies, insurance brokers, general insurance companies, life insurance companies, insurance cooperatives, representative offices in Colombia of foreign financial organizations, special public institutions, pension and severance fund administrators, solidarity average premium regime administration institutions, representative offices of foreign reinsurance companies in Colombia, foreign exchange intermediation societies and special financial services, financial cooperatives, self-regulating bodies, stock exchanges, centralized securities depository administrators, securities rating societies, stockbrokers, investment administrators, guarantee funds, supervised mutual investment funds, the Banco de la República, representative trade offices in Colombia without business premises, retail payment system administrators, agricultural stock exchanges, agricultural stock brokers, agricultural stock exchange clearinghouses, trading and currency registration system administrators, securities trading and securities transaction registration administrators, central counterparty risk clearinghouses, currency clearing and settlement system administrators, representative offices of foreign securities markets, and representative offices of trust and entitling societies without business premises.

The SFC adopted a risk supervision plan based on international standards and the recommendations of the Basel Committee. Supervision is exercised through in-site and off-site programs. The Superintendency fulfills its objectives using the on-site mechanism. It periodically visits supervised institutions to evaluate, among others, credit, market and operational risks, as well as those related to money laundering and the financing of terrorism that institutions might face, in order to prevent systemic or individual crises. Off-site supervision supports the Superintendency's inspection tasks. Adequate remote/desktop supervision (off-site) instruments are used to establish warnings allowing direct supervision work at the institutions to be prioritized (on-site). For this reason it set up a system of behavior indicators which capture advanced signals that help to identify potential difficulties in the evolution, results, quality of assets and management at credit institutions. These indicators are an additional tool for preventing deterioration at such institutions and for measuring the results of corrections implemented by supervisory bodies.

The supervision and control exercised by the SFC is aimed at encouraging market participants to adjust their transactions to applicable regulations and healthy mar-

ket uses and practices. Supervision implies inspection and oversight, and although the former is occasional and the latter permanent, both are preventative. Control implies pre and post verification and is mainly corrective or sanctionary.

The SFC has legal power not only over the institutions subject to its inspection, control and oversight, but also over individuals who infringe upon the legal regulations governing and affecting the market. It can therefore impose sanctions, including cautions, suspensions and fines, and seize or wind up a company.

3.3.2.2 *Ministerio de Hacienda y Crédito Público*

Decree 4712 of 2008 sets forth the objective of the Ministerio de Hacienda y Crédito Público (MHCP) as the definition, formulation and implementation of the country's economic policy together with the general plans, programs and projects related to such policy. The Ministry also draws up the laws, decrees and regulations on fiscal, taxation, customs, public credit, budgetary, treasury, cooperative, financial, exchange, monetary and credit matters, without prejudice to the attributions conferred on the Board of Directors of the Banco de la República, and those it exercises through attached or connected bodies regarding activities associated with State intervention in financial, stock exchange and insurance areas, as well as any others related to the handling, leverage and investment of public resources and the National Treasury in accordance with the Constitution and the Law.

Among the functions of this Ministry related to payments systems are:

- Administrate the National Treasury and meeting the Nation's payment obligations through exercising bodies or directly through the Unified National Account.
- Issue and manage securities, bonds, promissory notes and other public debt instruments.
- Manage the actions of the Nation in *sociedades de economía mixta* (semi-public corporations) linked to the Ministry, as well as other such corporations for which it has signed inter-administrative agreements to coordinate the process of disposing of their assets and shareholdings.
- Monitor financial management and the investments of national decentralized entities.
- Keep and preserve administrative documents representing the securities that are the property of the Nation and any instruments constituted on its behalf.
- Sell or purchase national government securities and other reserve assets in the country or abroad.

- Issue regulations for the public securities market through the Superintendencia Financiera de Colombia.
- Set the external and domestic financing policies of the Nation, local bodies and decentralized institutions, registering and controlling their execution and servicing, as well as managing the country's public debt.
- Under Law 795 of 2003 and Law 964 of 2005, the Government regulates the retail payments system through the MHCP.

3.4 Private Sector Institutions

3.4.1 Banking Association

The Asobancaria is the Colombia's banks and other financial institutions association; it acts as the representative body of the Colombian financial sector and was founded in 1936. It is made up of all Colombian and foreign commercial banks, both public and private, as well as financial corporations, special public institutions and the BR, as honorary member. With regards to the payments system, the Asobancaria has contributed to the modernization of the country's banking and financial activity through publications, studies and discussion forums.

3.4.2 Bolsa de Valores de Colombia

The Bolsa de Valores de Colombia S. A. (BVC) is a private institution aimed at developing and growing the country's financial assets market. The BVC was founded on July 3, 2001, as a result of the merging of the Bogotá, Medellín and Occidente stock exchanges. It has offices in Bogotá, Medellín and Cali.

Stock exchanges require prior authorization from the SFC in order to begin operating. Such authorization includes approval of general operating and trading system regulations. Statutory reforms do not require prior authorization by the SFC, although when these are carried out they must be reported as soon as they are approved.

The BVC is empowered to issue operating and disciplinary regulations, and establish the necessary requirements for becoming a member of the stock exchange, having the final decision on who it accepts. It is also the responsibility of the BVC to maintain the operation of a properly organized stock market that offers proper conditions of equality, security, honor and correction. Therefore, the BVC has the obligation to create codes of behavior to which its officials and firms must submit, as well as control procedures allowing it to ensure strict compliance by brokerage firms with legal and regulatory provisions.

3.4.3 Central Securities Depositories

The creation of firms with the sole objective of administering central securities deposits must be authorized by the SFC, which also approves the regulations and modifications for the functioning of these financial infrastructures. The latter excludes direct government approval to the BR for managing centralized securities depositories under the inspection and oversight of the SFC.

Central securities depositories must ensure their customers comply with the operating rules and standards that regulate the public securities market. There are two depositories operating in Colombia, the DCV, operated by the Banco de la República and the Deceval, owned by commercial banks, the BVC, stock brokers and other financial intermediaries.²⁰

3.4.4 Asociación de Comisionistas de Bolsa de Colombia

The Asociación de Comisionistas de Bolsa de Colombia (the Colombian association of stock exchange brokers, Asobolsa) gathers together the stock brokerage firms of Colombia (SCB), defined as entities that obtain and distribute financial resources. Customers can use SCB to receive information on the different investments offered by the securities market, obtain advice on making investment decisions and properly managing their resources. The business alternatives that the SCB can offer include shares, fixed income, derivatives, currencies, securities funds, portfolio management, securities management, correspondences and investment banking.

The Asobolsa is responsible for promoting and strengthening the capital market before the regulatory, inspection, oversight and control authorities.

3.4.5 Asociación de Sociedades Fiduciarias

Asofiduciaria is the Asociación de Sociedades Fiduciarias (the trust companies association); it began operating in 1986 as coordinator of the 12 trust companies that existed at that time. Currently, Asofiduciaria has 24 affiliated trust companies. Its main function is to represent its members and ensure that trust activity is carried out within a legal and ethical framework.

3.4.6 Asociación Colombiana de Administradoras de Fondos de Pensiones y de Cesantía

Asofondos is the Colombian Association of Pension and Severance Fund Administrators, founded in 1994. Among its most important objectives is administering savings and generating improved yields for the funds its members handle.

²⁰ Points 6.2.2. and 6.2.3 of chapter 6 describe the participants and processes of the DCV and Deceval.

The group has focused on designing a pensions system aimed at protecting Colombian workers by developing social security savings based on each affiliate's individual account.

3.4.7 Autorregulador del Mercado de Valores

The Autorregulador del Mercado de Valores (stock market self-regulator, AMV) has operated in Colombia since July 7, 2006. It is a private, national non-profit corporation governed by the Constitution, civil laws, Law 964 of 2005 and the regulations contained in its statutes and rules, as well as the principles applicable to self-regulatory bodies.

Different individuals or institutions are linked to the AMV as members, voluntarily self-regulating associates and associates. Members are firms enrolled in the National Registry of Stock Market Agents as stock intermediaries or individuals that are duly registered as stock intermediaries and have been accepted as members by the self-regulator. Voluntary self-regulating associates are individuals that, due to the objective of their own activities and their status as transactional or registry system members, must self-regulate. Organizations, stock markets and associations of institutions overseen by the Superintendencia Financiera are associates and can participate in the self-regulator's equity.

One of the main functions of the AMV is supervision and regulation. Supervision consists of verifying compliance with applicable standards by those subject to self-regulation. AMV supervision is made up of three processes: monitoring and overseeing market, behavioral supervision and preventive supervision.

With respect to regulations, the AMV is responsible for carrying out studies to be used as a basis for drawing up regulatory proposals covering stock intermediaries. The aim of these proposals is to foster market integrity and quality, the fulfillment of intermediaries' general obligations and their investment regimes, due fulfillment of obligations with third parties and/or customers, and protect the market from fraudulent schemes such as the use of privileged information, market manipulation and scams, among others.

4. PAYMENT INSTRUMENTS USED

4.1 Cash

The currency unit and legal tender in Colombia is the Colombian peso (COP), as established by Law 31 of 1992. The peso is the only payment means of legal tender in the country. The Colombian legal framework does not recognize any other currency as a means of settling payment obligations among residents in the country.

Cash is a widely used for low-value transactions.²¹ The currency in circulation at the end of 2010 amounted to COP 29.7 trillion, equal to 5.4% of GDP. The demand for cash has grown since the end of the previous decade. In fact, in 1999 the cash/GDP ratio was 3.3%, increasing steadily over the following years and reaching 5.4% in 2010. This increase in the demand for cash is explained by the decline of nominal interest rates during recent years, taxes on financial movements,²² lower inflation and increased economic activity, among other factors.

Cash in circulation is currently distributed in five denominations of coins: 50, 100, 200, 500 and 1,000 pesos; and six of banknotes: 1,000, 2,000, 5,000, 10,000, 20,000 and 50,000 pesos.

The BR is the issuer of legal tender. It is responsible for ruling on the characteristics of banknotes and coins, as well as their production, supply and eventual withdrawal from circulation. In accordance with the law, credit institutions are authorized to receive deposits in cash.

The BR is directly responsible for the production and distribution of currency in Colombia. Production is carried out at the banknote printing factory (Imprenta de Billetes) and the mint (Casa de la Moneda). The BR distributes and guards all the denominations using a scheme of decentralized treasuries located in the country's main cities (13), which are responsible for supplying cash to commercial banks and the general public. Specifically for supplying low denominations the BR has agree-

²¹ The statistical appendix provides information on the monetary base, M1 and M3, as well as their composition.

²² Since November 1998 this has been applied to all debits to current and savings accounts, and other financial assets, meaning economic agents have increasingly used cash in order to avoid paying the tax.

ments with cash transportation companies using vaults located in different cities of the country.

Commercial banks must make their requests for cash to the BR one business day in advance communicating electronically by Sebra, the electronic system of Banco de la República. The BR does not charge the banks for distribution and custody of cash. However, at the time of withdrawal, the BR requires that the composition of cash be adjusted to a predetermined structure, which according to a statistical estimation model corresponds to the needs for each denomination of banknotes that should circulate in the economy. When a bank requests a denomination composition different than the one estimated by the BR, it must pay a commission of COP 18 for every COP 10,000 of the amount that differs from the predetermined composition.

4.2 Payment Instruments other than Cash

4.2.1 Cheques

Although cheques continues to be a frequently used payment means in Colombia, figures from recent years at 2010 constant values show that their use has decreased considerably. Around 100 million interbank cheques were settled in 2000 for a total of COP 579 trillion, while during 2010, 36 million cheques were issued for an amount close to COP 389 trillion.²³ The latter is illustrated by Figure 15, which shows how the volume of cheques has followed a downward trend throughout the last decade and their value from 2007 onwards.

The percentage composition of the value and number of cheques cleared shows that during recent years the share of cheques with a value of less than one million of pesos has declined in terms of total volume and the value settled. In 2006 this group represented 63% of the total volume and 3.5% of the value settled, while by 2010 the corresponding percentages had fallen to 52.4% and 1.8%. On the other hand, cheques for values over COP 100 million, which represented 1% of the total in 2010, increased their share of the value settled from 56.6% in 2006 to 65.4% in 2010.

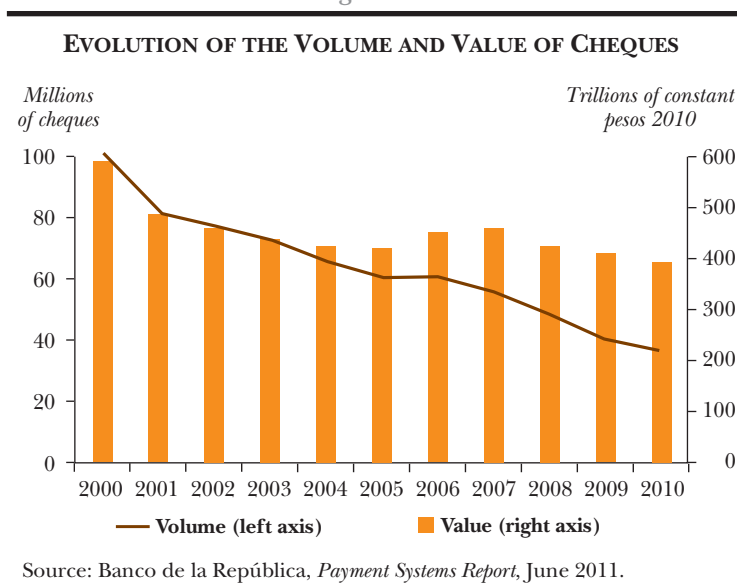
4.2.2 Electronic Transfers

There are two automated clearinghouses operating in Colombia: the ACH-Cenit (administered by the BR) and the ACH-Colombia, owned by the private commercial banks.

Increases in the value and volume of payments made through these infrastruc-

²³ With respect to interbank cheques, information reported by commercial banks, where the issuer and receiver share the same bank and are, therefore, not sent to the Cedec, Central Bank clearing houses or their delegated entities, shows that interbank cheques represented around 41% and 38% of the total volume of interbank clearance in 2009 and 2010, respectively.

Figure 15



tures reveal the importance that electronic transfers have acquired in the country in line with a growing preference for paperless payment instruments observed around the world. In 2010, these two clearinghouses cleared more than 100 million transactions, a daily average of 438,000 payment instructions (31,000 of which were processed in ACH-Cenit and 407,000 in ACH-Colombia), for a total value of COP 2.02 trillion (COP 0.46 trillion in ACH-Cenit and COP 1.56 trillion in ACH-Colombia). The total value cleared by these two ACH during 2010 was COP 495.5 trillion, figure equivalent to 91% of nominal GDP that year. The total volume of 107.5 million registered transactions is equal to 21 times that observed in 2001.

4.2.3 Payment Cards

The use of debit and credit cards has increased steadily throughout the last decade. Just as in other countries, debit cards are mainly used as an instrument for accessing cash, which is used by the customer for settling their obligations in person to person transactions. The use of credit cards can be classified as: purchases, advances and tax payments.

In this context, debit cards have shown particular dynamism during the last decade, meaning their use for making direct purchases and withdrawals has shifted from a daily average of 685,000 transactions in 2001 to 1,462 million in 2010 and their value from COP 70,000 million to COP 344,000 million. Although they are used more frequently, they continue to be mainly used for cash withdrawals at ATMs (see Table 6).

Table 6

ANNUAL BEHAVIOR OF DEBIT CARD USE							
Year	Millions of cards	Purchases		Cash Withdrawals		Total	
	Annual average	Millions of transactions	Value in billions of COP	Millions of transactions	Value in billions of COP	Millions of transactions	Value in billions of COP
2001	7.82	34.60	1.97	215.45	23.75	250.05	25.72
2002	8.34	40.32	2.45	233.69	26.24	274.01	28.70
2003	8.73	49.53	3.19	233.88	31.23	283.41	34.42
2004	9.80	59.29	4.05	245.13	35.46	304.42	39.50
2005	10.86	69.02	4.71	277.24	43.25	346.26	47.97
2006	11.99	78.00	5.78	322.42	54.40	400.42	60.17
2007	13.86	83.54	7.01	343.84	66.55	427.39	73.57
2008	15.32	96.66	8.33	376.29	78.49	472.94	86.81
2009	14.83	107.29	11.07	407.58	102.30	514.86	113.37
2010	15.02	118.14	12.43	415.82	113.12	533.96	125.55

Source: Superintendencia Financiera de Colombia and Asobancaria.

In the case of credit cards, average daily transactions increased from 96,000 in 2001 to 359,000 in 2010, and their value from COP 15,000 million to COP 76,000 million. Table 7 summarizes statistics illustrating their evolution. In fact, by 2010 the average number of active credit cards was equal to almost four times that registered in 2001, while in the case of debit cards (see Table 6) such figure was two times.

Table 7

ANNUAL BEHAVIOR OF CREDIT CARD USE							
Year	Millions of cards	Purchases		Advances and taxes		Total	
	Annual average	Millions of transactions	Value in billions of COP	Millions of transactions	Value in billions of COP	Millions of transactions	Value in billions of COP
2001	1.95	29.73	5.01	5.36	0.65	35.10	5.66
2002	2.11	33.78	5.89	6.19	0.87	39.97	6.75
2003	2.34	39.08	7.11	7.91	1.17	46.99	8.28
2004	2.60	52.68	8.57	9.07	1.52	61.75	10.09
2005	3.10	60.27	10.20	11.66	2.31	71.93	12.51
2006	3.98	70.21	12.63	15.16	3.28	85.36	15.91
2007	4.96	78.36	14.32	19.85	4.90	98.21	19.22
2008	5.30	81.20	15.28	21.91	5.80	103.11	21.08
2009	7.20	96.37	17.66	20.55	5.94	116.92	23.60
2010	7.73	110.30	21.10	20.75	6.72	131.06	27.83

Source: Superintendencia Financiera de Colombia and Asobancaria.

Regarding the volume of direct purchase transactions, it can be seen that these rose from a total of 30 million in 2001 to 110 million in the case of credit cards, and from 35 million to 118 million in the case of debit cards. Meanwhile, the ratio of the nominal values of purchases in 2010 as compared to 2001 were 6.3 times in debit cards and 4.2 times in credit cards (this ratio corresponds to real growth rates of 400% for debit cards and 267% for credit cards).

As mentioned at the start of this section, Table 6 and 7 show that another frequent use of cards, especially in the case of debit cards, is as a means for accessing ATMs to make cash withdrawals and advances.

4.2.4 Payment Instrument Innovations

The greater availability of payment channels in the economy, particularly points of sale terminals (POS) and internet banking, has led to a decline in the number and value of transactions made at bank branches, a fact that demonstrates the preference for electronic payments.

The Colombian government has been working on a legal framework for establishing electronic deposits as a basis for innovation in electronic payments.

4.2.5 Others

The high penetration of mobile telephones in Colombia (44 million lines for a population of 45 million at December 2010) suggests that mobile telephones are a highly potential channel for accessing the payments system and, thereby, the financial sector. In 2010, the bank correspondents model was included in mobile banking (bank correspondents aim to provide services in the most remote parts of the country).

It is also possible to transfer funds from an account to pay cash to individuals without a bank account by mobile phone. This type of funds transfer allows cash withdrawals at ATMs, service payments and mobile telephone credit refills.

There are also stored-value cards in Colombia where the value of the purchase to be made with the card is paid in advance. These cards are used for business transactions and for withdrawing cash at ATMs.

4.3 Government Payments

The payment infrastructures operated by the BR are widely used by the Colombian government and other public institutions for making payments and transferring funds, particularly through the CUD large-value system and the Cenit clearinghouse.

The Dirección General de Crédito Público y del Tesoro Nacional (General Directorate of Finance and Treasury, DGCPTN) has a deposit account at the BR where it receives revenues from taxes and the payment of electronic debit orders. The Ministry of Finance made average monthly domestic debt service payments through the CUD

of COP 2.6 trillion during 2010. The DGCPTN pays suppliers, payrolls and pensions using its deposit account at the BR to channel funds to the different commercial banks linked up to ACH-Cenit System. The DGCPTN generated an average of around 56,000 payments per month for a value of over COP 6.8 trillion through this media in 2010.

Meanwhile, the Dirección de Impuestos y Aduanas Nacionales (National Directorate of Taxes and Customs, DIAN), also attached to the Ministry of Finance, is the country's tax collector. Collection is made using different mechanisms depending on the type of taxpayer.

Since 2007 a social security payments mechanism has operated in Colombia that allows taxpayers to carry out procedures via a unified electronic template either directly by internet or with the advice of information operators. Taxpayers can make payments directly from their bank account using internet, debits from their bank accounts ordered by the information operator or by filling out a form at a bank branch. The funds are distributed to the administrators on the collection date by electronic transfers to their bank accounts. Detailed information on daily collections are sent to the administrators on the same date using a system for exchanging files between information operators offered by the ACH-Cenit.

4.4 Recent Developments

4.4.1 Home Banking

All financial institutions offer their customers a remote access service for connecting online to most of the products and services they offer. Through each institution's internet portals it is possible to carry out multiple financial transactions, including balance inquiries, account transfers, tax payments, payments to third parties and transfer funds between accounts at the same institution and to other banks.

4.4.2 Teleservices

Teleservices for carrying out banking transactions over the phone are particularly important. This service is directed at non-business customers and allows operations ranging from balance enquiries and electronic transfer of funds among different accounts of the same beneficiary in the same credit institution to the payment of public services, credit card payments, cash account deposits charged to the credit card and the block of electronic cards, among others.

4.4.3 Intelligent Cards

Payment cards are in the process of changing their technology from the traditional magnetic strip to an electronic chip, providing greater security, storage and data processing.

Until now the main use for intelligent cards has been in the university environment given that they were incorporated into the identity cards of students at Colombia's universities with the aim of allowing each cardholder to access different services. They are being employed in transport systems in some cities (Transmilenio in Bogotá and Mío in Cali). They are also used by compensation offices, trade union organizations and several banks.

5. INTERBANK PAYMENTS SYSTEM

5.1 General Aspects

At the start of the 1990s the BR took the lead in the process of modernizing and strengthening the payments system at the operational, regulatory and institutional level, which up until then had mainly been based on the cheque for settling low and large-value interbank transactions.

Thus, in 1992 the BR launched the Depósito Central de Valores (DCV). The latter is a computerized system for managing dematerialized securities, which after it was connected to the deposit accounts system (CUD) in 1993, allowed the compliance of securities transactions with the delivery-versus-payment (DVP) model. It is important to mention that the DCV currently only manages securities issued by the government and administered by the BR.

The Sistema Electrónico del Banco de la República (Sebra) was implemented in 1993. The system provided the basic structure for settling large-value interbank transactions and for those with securities deposited at the DCV. Through this system, using remote terminals, affiliated institutions were able to order interbank fund transfers from their current accounts at the BR to other institutions in the Sebra. Final settlement of all payments instructions ordered by credit institutions occurred at the end of the day according to a deferred net settlement scheme, while payment transactions sent by non-bank institutions passed a real time control by the system on a gross basis to verify the availability of funds.

In the second half of the 1990s the BR began a second phase of modernizing the payments system, the main objectives of which were to increase the depth and transparency of the public debt market, the modernization of the cheque clearing process, and the implementation of electronic systems for large-value, retail and foreign exchange transactions. Thus, in 1998 four new BR administered electronic systems began operating:

- The Sistema Electrónico de Negociación (SEN), a trading system for the secondary market of public debt securities, interconnected with the DCV and the CUD for fulfilling transactions based on the principle of DVP.
- The cheque clearing system, Cedec is an automated clearinghouse for the elec-

tronic transmission of information, which clears on a net basis and settles on the deposit accounts at the BR on the same day as instruments are presented to the system.

- The Sistema de Compensación Electrónica Nacional Interbancaria, ACH-Ce-nit is a clearinghouse employing a net multilateral electronic transfer system for settling debits and credits automatically on the deposit accounts of authorized entities at the BR.
- The Sistema de Operaciones Internacionales (SOI) processes transactions resulting from international agreements, transfers to and from abroad, and transactions with international organizations.

Besides the abovementioned system, Colombia also has five clearinghouses for low-value debit and credit card, and ATM network transactions; a central private securities depository; a private ACH owned by the banks, which besides clearing and settling electronic retail payments, offers an online payment service for bank accounts, a clearinghouse for currency transactions and a central counterparty risk clearinghouse for clearing and settling futures and derivatives.

The following section describes the most important operational and security characteristics of all payment systems operating in Colombia.

5.2 Real Time Gross Settlement System

With respect to large-value systems, the most important initiative was the setting up of a real time gross settlement system (RTGS) in 1998 that operated through the Sebra national interbank network.

5.2.1 Operating Regulations

CUD regulations stipulate that all institutions with deposit accounts at the BR, in Colombian pesos or foreign currency, may access its services. Meanwhile, JDBR Internal Regulation 3 of 1997 and 4 of 2004, and External Resolution 4 of 2006 authorize the BR to enter deposit account contracts with public or private firms when it is necessary for carrying out open market transactions, purchasing and selling currency, making international payment and credit transactions, managing securities deposits, interbank clearing services, transactions as a fiscal agent to the Government and banker and lender of last resort for credit institutions, as well as foreign entities constituted as currency liquidity providers for currency clearinghouses.

Furthermore, according to articles 16 and 19 of JDBR External Resolution 5 of 2009, *external systems* may access deposit accounts at the BR for total or partial settlement of their customers' payment orders. External systems are defined as any system for clearing and settling securities, currencies, futures, options and other financial

assets, as well as any central counterparty risk clearinghouses other than CUD that are duly authorized by the SFC or other competent authority to operate in Colombia.

5.2.2 Participants

As of December 2010 there were 152 entities participating in the CUD. These included the DGCPTN, the BR, 19 banks, 22 commercial financing companies, three financial corporations, six pension and severance funds, 26 brokerage firms, 27 trusts, 15 insurance companies and capitalizers, five public financial institutions, eight financial cooperatives, six social security information operators, the BCV, the Deceval, the CCDC, the CRCC, the ACH-Colombia, the Credibanco and another seven institutions (investment management firms, collective portfolio administrators, foreign exchange offices and the social security institute).

5.2.3 Type of Transactions

The Sistema de Cuentas de Depósito (CUD) settles transactions such as monetary policy operations, treasury payments, interbank money market transactions, fund settlements in securities transactions, currencies, derivatives and the balances of retail payment systems, as well as a wide range of business transactions of financial intermediaries and securities. Banks were allowed to mobilize mandatory bank reserves in order to supply the system with the necessary liquidity and in 1999 intraday repurchase (repo) operations were authorized.

5.2.4 Transfer System Operation

In 2006, besides the RTGS of the CUD, which guaranteed instant (real time) one to one fulfillment (gross) of fund transfers as long as there were sufficient funds available in the deposit account, a liquidity optimization mechanism was implemented that employs algorithms to solve most of the transactions pending fulfillment due to lack of funds.

The CUD provides transaction settlement services to the cheque clearinghouse, the two ACH, the securities settlement systems operated by the DCV and Deceval, the CCDC, the BVC and the CRCC. The special services that the CUD provides to these external systems have been implemented in parallel to the development of the markets and clearing and settlement infrastructures.

The CUD is able to receive new external systems and link them up to the services it already offers. New services can also be designed and developed according to requirements and their benefit for the country's payments system.

5.2.5 Settlement Procedures

In 1993, the BR automatized CUD to provide remote access online in order to facilitate the settlement of large-value interbank transfers and transactions with securities held at the DCV.

Until 1998 electronic funds transfer orders received by credit institutions were settled in a batch deferred netting process, which occurred at the end of the day. This mechanism did not foresee any online control of account balances. In case of inability to settle, each financial intermediary had to ensure it had funds in other accounts on which to automatically make the corresponding debit and, if the problem persisted the mechanism would finally reject individual transactions of the entity with a net debt position.

Although there were no problems associated with the operation of this mechanism, in July 1998 the BR decided to implement a system based on real time gross settlement for all payment transactions transiting the deposit accounts, controlling the balances available in the accounts for gross settlement of each transaction online. Since then all transactions lacking available funds are automatically rejected. In order to simplify the operating procedures of institutions participating in the CUD and optimize the use of deposit account liquidity, in July 2006 a centralized queue management mechanism was added to the system. This mechanism included priority management and automatic gross settlement of transactions through periodic FIFO bypass sweeps or settlement cycles of transactions in batches (simulated multi-lateral netting) with optimization algorithms for the resources available.

The BR currently uses the CUD to offer institutions clearing and settling securities, currencies, derivatives and other financial assets, as well as payments systems in the Colombian financial market, a service for settling transactions against their deposit accounts with characteristics that, where applicable, *a)* facilitate DVP or payment-versus-payment, *b)* allow debit of the deposit accounts of participants in each system with or without confirmation; *c)* allow credits in batches to third party deposit accounts, *d)* generate online reports on credits to participants' deposit accounts, *e)* support the use of collateral schemes or guarantees and pre-funding, among others. The Cheque Clearinghouse, the two ACH, the CCDC, Deceval and DCV, and the CRCC use this service.

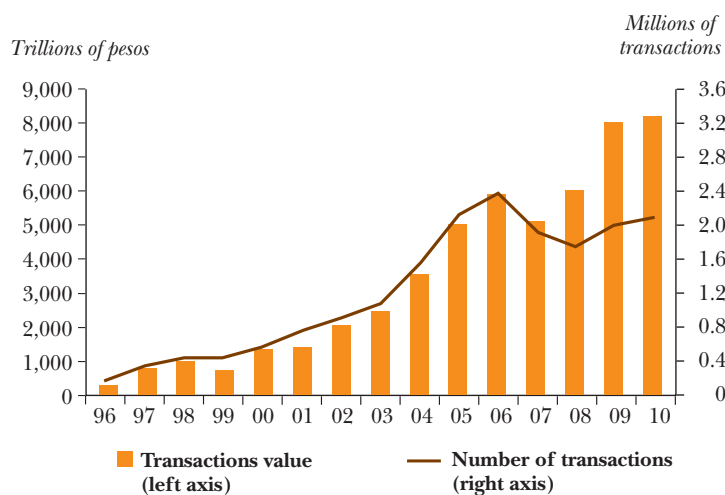
The CUD offers all users onscreen online information on deposit account balances and movements throughout the day (7:00 a. m. to 8:00 p. m.).

In 2010, around 2.1 million transactions were settled in the CUD for a total value of COP 8,166 trillion (see Figure 16), 46% of which was associated to public debt market transactions.

Finally the CUD is developed on an Oracle platform with a web philosophy. The users have a system of double intervention (input and approval) and, just as the BR's

Figure 16

ANNUAL DEPOSIT ACCOUNT SYSTEM TRANSACTIONS, CUD



Source: Banco de la República, Departamento de Sistemas de Pago.

other systems, it has defined and tested a series of operating and technological procedures to guarantee continuity in transaction settlement services.

5.2.6 Risk Control Procedures and Instruments (credit, liquidity, operational and legal)

The CUD has the following general risk control mechanisms:

Credit risk: Does not exist due to the fact that it is a real time gross settlement system (RTGS) with online balance controls.

Liquidity risk: This risk is mitigated by: *a)* the intraday use of the total bank reserve for making payments and the immediate availability of deposits received from third party transfers; *b)* the use of a centralized queuing system for transactions pending settlement and simulated periodic netting with optimization algorithms of available resources; *c)* fee incentives for early transaction settlement; *d)* the permanent availability of system facilities for consulting account statements and for modifying priorities in the centralized transaction queuing system; and *e)* access to central bank liquidity facilities for open market transactions placing agents via intraday and term repos through monetary operations.

Legal risk: The CUD has rules, procedures, and clear and understandable contracts that adjust to current laws, decrees and resolutions. These include the strength and irreversibility of payment orders accepted in the system, even in the case of a participant's default or insolvency. External regulatory circulars and deposit account contracts are

used to define the characteristics of the system, its functioning, types of transactions, conditions of access and conditions for confirming and accepting transfer orders. They also stipulate the effects of cautionary measures, payment suspensions, settlement and similar actions on its participants, fees and operating schedule, as well as the obligations and responsibilities if the CUD administrator and participants in the system.

Money laundering and financing of terrorism risk: Participants in the CUD are overseen by the SFC, meaning they must have a Money Laundering and Financing of Terrorism Risk Administration System (Sarlaft).

Operational risk: Operational and technological risks associated to the functioning of the CUD are controlled with high level multiple contingency mechanisms and the application of an operational risk integral management model known as SIA-RO. The Payment Systems Department and the Data Support and Continuity Unit of the BR is responsible for designing, publishing, periodically testing and applying contingency plans that guarantee the continuity of CUD services to its participants.

Measures for optimizing liquidity management: In May 2010 a large amount of daily activity took place between 1:00 p. m. and 5:00 p. m. accounting for approximately 60% of the total value and volume of transactions. This is mainly due to the fact that during this time slot financial intermediaries settle a significant share of the transactions agreed in the securities trading system (SEN and MEC), while two clearing cycles occur at each of the two ACH and one occurs at the currency clearinghouse. It is also significant that in the mornings of the referred month around 30% of payments were processed, including transfers of taxes collected by banks to the Ministry of Finance-Directorate of Public Credit and the Treasury, and the guarantees constituted in the currency (CCDC) and derivatives (CRCC) clearinghouses. Two closing cycles also take place in the morning at both ACH, together with the activation of the first liquidity saving cycle and the enabling of DCV transactions and final settlement of the Cheque Clearinghouse's daily cycle. Figure 17, which compares the flow of transactions during May 2002 with the same month of 2010, illustrates the evolution of payments at the CUD throughout the day.

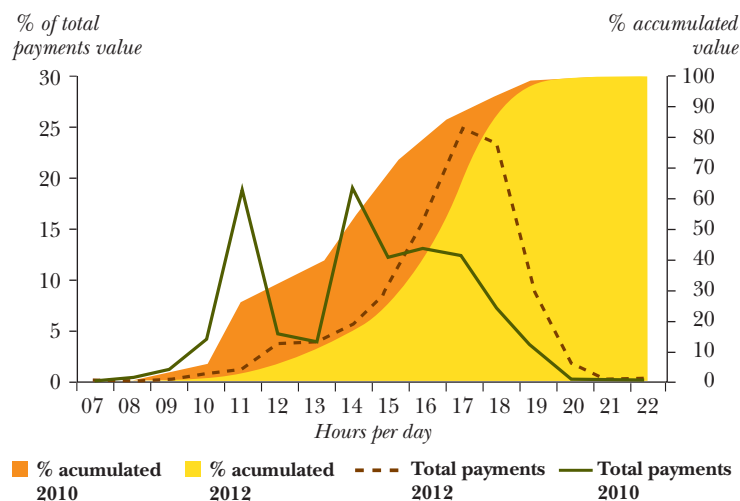
The current transfer settlement cycle of the CUD is smoother, more organized and less concentrated than in the past. It can also be seen that, while in May 2002 two thirds of the day's payments were settled between 4:00 p. m. and 7:00 p. m., in May 2010 only one third of such transactions were settled in that time slot. Nowadays a greater percentage of transactions are fulfilled during the morning and the early afternoon. This has allowed the transaction fulfillment cycle to be moved forward, meaning that in May 2010 77.4% of the total value of accumulated daily transactions had been settled by 4:00 p. m., comparing very favorably to just 41.3% of the total 2002.

This result is even more important if the significant growth of transactions channeled through the CUD between the start and end of the decade is taken into account. In fact, as Figure 18 shows, the daily average volume of transactions settled through

Figure 17

EVOLUTION OF INTRADAY PAYMENTS AT THE CUD

(May 2002 compared to May 2010)



Source: Banco de la República, CUD.

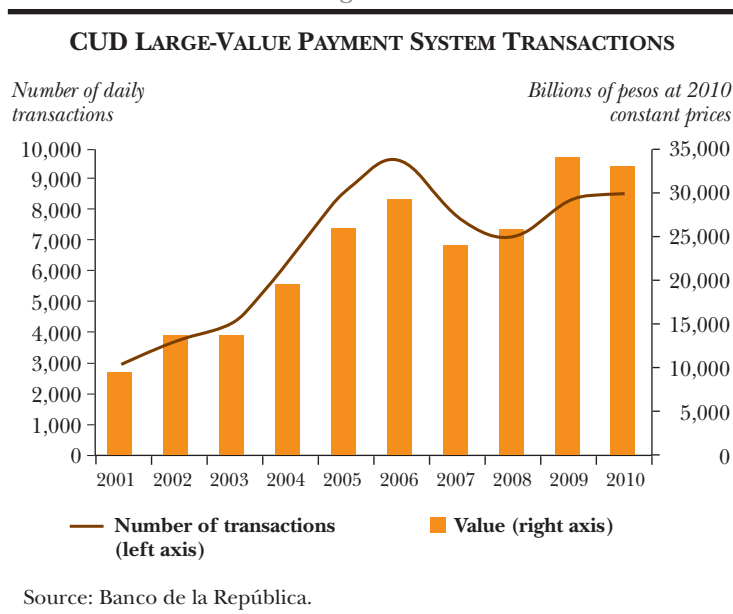
the CUD system between 2002 and 2010 increased from 3.752 to 8.535, while during the same period the value rose from COP 13.4 trillion to COP 33.3 trillion pesos at 2010 constant prices.

The considerable differences between the periods studied illustrate the effects of the intraday supply and demand of liquidity in the payments system, policies applied by the BR, innovations in operating mechanisms and joint efforts by the BR and financial institutions aimed at balancing payment behavior between CUD participants.

Among the factors most influencing such results it is important to emphasize: 1) the greater availability of funds in commercial bank accounts resulting from higher reserve requirements²⁴ implemented by the BR since 2002, meaning the average estimated ratio of bank reserves shifted from 5.5% of liabilities subject to reserve requirements in 2002 to 7.6% in 2010; 2) incentives for the early transmission of payment transactions by setting up fee windows (since April 2004), charging lower fees

²⁴ The main objective of the reserve requirement is to maintain a liquidity reserve for possible bank runs. Current regulations establish a reserve requirement that institutions must maintain as a proportion of their funds. These reserves must be held in their vault or their accounts at the BR. The percentage of reserve requirements is established according to volatility. Three types of deposits have been established together their corresponding percentage of required reserves: 11% on current and savings accounts, 4.5% on time deposits with a maturity of less than 18 months, and 0.0% on other deposits. Fulfillment of reserve requirement regulations is carried out by establishing required reserve calculation periods. Such periods consist of 14 calendar days, starting on Wednesday and finishing Tuesday.

Figure 18



for payments made before 5:00 p. m. and applying much higher ad-valorem fees for those carried out after that time; and, 3) the development of optimized operating mechanisms for facilitating transaction settlements and liquidity savings for both the CUD and the DCV.

These factors complement other policy decisions and operating mechanisms aimed at facilitating liquidity management in the payment system and the securities settlement system, some of which were established a long time ago. The aforementioned include:

- Authorizing credit institutions to use their reserves for making intraday payments through the CUD.
- Ordinary liquidity provision, in line with monetary policy, through open market transactions, particularly repos.
- Intraday repos (since 1999), expressly aimed at supplying temporary liquidity to payments systems at practically no cost (Figure 19).

5.2.7 Pricing Policy

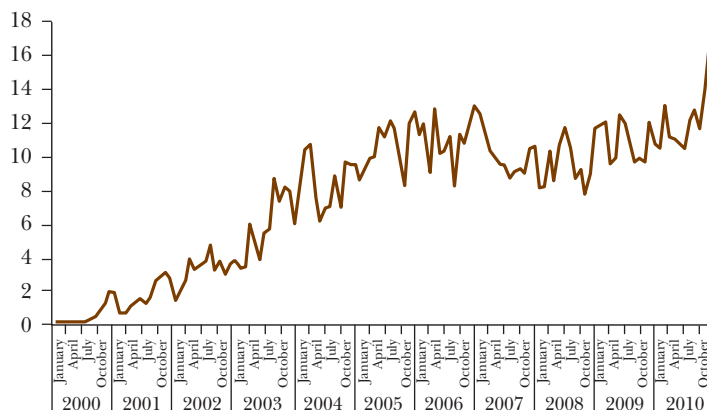
Just as with other services the BR provides to the financial system, the CUD charges fees for its services that fully cover its costs:

- A fixed monthly fee of COP 500,500 for administration of the first deposit account in each currency.

Figure 19

MONTHLY EVOLUTION OF THE VALUE OF REPO TRANSACTIONS

Trillions of Colombian pesos



Source: Banco de la República.

- A fixed monthly administration fee of COP 256,700 for each additional account in each currency.
- COP 2,200 for every debit made between 12:00 p. m. and 5:00 p. m.
- COP 2.5 per million debited between 5:01 p. m. and 12:00 a. m., with a minimum fee of COP 3,210 per transaction (there is a charge for time windows to encourage early settlement of transactions).
- A fixed monthly fee of COP 1,026,900 charged to external systems for settling transactions on deposit accounts.
- COP 238 for each credit file reported to institutions using the credit reporting system.

5.3 Other Large-value Payment Settlement Systems

The CUD is the only large-value payment system in Colombia.

5.4 Retail Payment Systems

Electronic payments and debit/credit card transactions have increased significantly in recent years, although instruments such as cash and cheques continue to be used. The use of payments instruments other than cash has been affected by the tax on financial transactions that has encouraged a preference for cash. Cheques are

increasingly less important as a payment instrument, although they are still widely used for low-value transactions and the business sector and financial intermediaries continue to use them for large-value payments.

In order to improve the efficiency of retail payments systems, an electronic system for the presentation of cheques was implemented in 1999. This system (Cedec) settles cheques on a net multilateral basis.

Low-value electronic payments are processed through two ACH. The first one, ACH-Cenit, is managed by the BR and is mainly used for low-value payments of the public sector. The second, ACH-Colombia, is owned by commercial banks and is essentially for payments between individuals and firms. It operates on a private network and settles multilateral net balances at the BR. In 2009 and 2010 the value of payments channeled through both clearinghouses amounted to COP 411 billion and COP 495 billion, respectively, thereby surpassing the value of interbank payments made by cheque in 2009.

5.4.1 Cheque Clearinghouse (Cedec)

5.4.1.1 Operating Regulations

Cheque clearing is a service offered at the national level by the BR through the Cedec and local clearinghouses, which are the locations where the paper instruments are physically exchanged. At branches where the Cedec does not operate, bilateral positions for each entity are reported in templates, which are then entered in the electronic system provided by the BR. In locations where there are more than four banking institutions and there is no branch of the BR, a system of delegated clearing entities is in place. Through this system each participating institution calculates its own respective multilateral net position and enters it securely by internet into the cheque clearing system using public key infrastructure (PKI).

The functioning of Cedec, as well as the rights, obligations and responsibilities of the entities that participate in it, are governed by the Commercial Code; the Organic Law of the Financial System; Law 31 of 1992; Decree 2520 of 1993; Decree 1207 of 1996; the Operational Regulations of the Interbank Clearing Service approved by the Board of Directors of the Banco de la República on April 20, 1998; Decree 1400 of 2005, with its modifications and additions; Cedec regulatory circular DSP 153; operating procedures for the clearing and settlement of cheques and other physical payment instruments under DSP 155; and all other rules that modify or substitute for them, as well as the respective bilateral contracts for linking up to the system.

5.4.1.2 Participants

Commercial banks authorized to operate in Colombia may access the Cheque Clearinghouse as long as they comply with all applicable conditions and requirements.

Other credit institutions that in the future are expressly authorized by the BR may also link up to this system.

Authorized entities may hire cheque processing firms to cater for the activities and operations involved in clearing services. Such firms must comply with established requirements and the authorized entity must inform the BR of the name of the outsourcing firm they have hired, as well as the service or services it will provide. In these cases the obligations and responsibilities stemming from the regulations governing clearinghouses with respect to third parties remain in force for the authorized institutions hiring said services.

5.4.1.3 Type of Transactions

There are three mechanisms for handling information related to paper instruments presented for clearing at institutions linked up to the service:

- Since 1998 the Cedec has operated in the country's eight main cities (accounting for around 90% of the value and volume of the cleared instruments at the national level). The Cedec is an application for the electronic presentation of cheques through which information on the documents presented for clearing at each city is captured and electronically transmitted to the BR using magnetic ink character recognition (MICR) technology. The automation achieved through this application has enabled a substantial reduction in the cost (both public and private) of the processing of paper payment instruments by eliminating duplication in such areas as lecto-classification and microfilming, and by accelerating the operations, simplifying cheque control and clearing, and reducing fraud. The physical exchange of documents is done at the BR's clearinghouses, but the calculation of net positions is executed through the electronic files sent to the system by each institution. All returned items from the first clearing session of these cities are also processed through Cedec. In 2010, returned items amounted to an average of 2.54% of the total value presented for clearing, and 5.7% of the volume of cleared instruments.
- In nine other locations where the Cedec does not operate but where the BR has a branch, participants in the clearing session convene in the clearinghouse with the documents and with individual templates of the values to be cleared. The templates are inserted in the clearing system of the BR, which calculates the multilateral net positions for each location and then centralizes and consolidates all information in Bogotá. The same procedure is followed for clearing and settlement of returned items.
- Finally, the aforementioned system of delegated clearinghouses operates in 50 locations through which the delegated agent at each location enters the net

clearing positions of all participants into the BR's system for its incorporation into the national clearing system.

Commercial banks can link up to the Cedec. The BR also participates in the Cedec system as an authorized entity.

5.4.1.4 System Operation

Between 2000 and 2010, the value of cheques processed in the interbank clearing-house increased 14.2%, shifting from COP 341 trillion to COP 390 trillion, implying a reduction of 24% at 2010 constant prices in pesos. Meanwhile, the volume of cheques cleared fell 63% during the same period, declining from 100 million to 36 million documents. The difference between the lower levels of cheque value and volume is explained by the fact that the volume of cheques for less than five billion of pesos (99.98% of the total) has declined more than 50%, while their total value has remained practically constant due to an increase of over 150% in their individual value; at the same time, the individual value of cheques for more than five billion of pesos has increased by almost one billion of pesos implying an increase of over 170% in their total value.

The significant decline in the use of cheques as a payment instrument in Colombia was influenced by an increase in the participation of payments through the BR's large-value payments system and electronic payments (ACH and debit and credit cards).

5.4.1.5 Settlement Procedures

According to commercial practices, cheques should be paid to the final beneficiaries on the same day-value in which they are presented to any financial institution by the customer. For this reason, the first clearing session takes place at night (20:30 p. m.) and the BR calculates all multilateral net positions of the documents presented for clearing at the national level through the two electronic systems described previously.

At the end of the clearing session, the deposit accounts at the BR are automatically affected according to a provisional mechanism which stipulates that while entities with net debt positions have their accounts debited; receiving entities receive the funds on a provisional basis, i.e., their accounts are credited but the funds are not available for transactional purposes. The second clearing session corresponds to the returned items ends at 11:30 a. m. on $t+1$, and the net multilateral positions calculated the night before are readjusted and final settlement occurs on the deposit accounts of participating institutions (with day-value $t+0$).

5.4.1.6 Risk Control Mechanisms

The following mechanisms are in place to cover the risk of eventual shortfalls on the accounts of institutions participating in the Cedec.

Overnight repo for the clearing: In 2000 the JDBR approved implementation of an automatic repo to cover the shortfalls deriving from the first clearing session. Prerequisites for this operation are: *i*) the entity presenting the shortfall belongs to the category of entities authorized as dealers of open market operations of expansion (selected according to certain solvency and liquidity criteria); *ii*) the entity must have sufficient securities at the DCV to collateralize its position (public debt securities); and *iii*) its total repos with the BR must be lower, in the average of the last 15 days, to a limit of 15% of its liabilities with the public. The maximum value of funds granted through this mechanism to an entity is equal to its shortfall plus 10% of its multilateral net debit position (to cover potential new shortfalls of the second clearing session) and its cost is equivalent to the Lombard rate of open market operations increased by one percentage point.

If an entity presenting a shortfall in the first clearing session cannot or does not want to use the former mechanism, it has the possibility of getting the necessary funds at the interbank market to be credited in its deposit account on the day-value of the first clearing session (*t*). This operation must be completed before the end of the second clearing session on *t+1*.

Finally, as a mechanism of last resort, the system's regulations allow for the unwinding of the clearing, excluding the institution in shortfall and recalculating the multilateral net positions of the remaining institutions.

The interbank cheque clearing service offered by the BR has high standards of security, redundancy and several contingency levels graded according to the seriousness of possible unexpected events. As a file transmission contingency it allows institutions to send files by internet with PKI.

5.4.1.7 Pricing Policy

The fees charged for Cedec services are as follows:

- A fixed fee for each file sent or returned with a value of up to COP 42.
- A monthly fee of COP 1,540,200 for each participating institution.
- A fixed monthly fee of COP 158,400 per institution in the nine locations where the BR operates clearing houses.
- In cities where clearing is delegated, a fixed monthly fee of COP 251,500, divided between participating entities at each location, is charged for the settlement services the BR provides.
- Finally, in cities where clearing is delegated, a fixed monthly fee of COP 1,169,800, divided between participating entities at each location, is charged for the services of the delegated clearing entity.

5.4.2 National Interbank Electronic Clearing System (ACH-Cenit)

5.4.2.1 Operating Regulations

Cenit is an ACH administered by the BR. Despite the small volume of operations cleared and settled through this clearinghouse, it processes a significant value of payments since the DGCPTN channels central government payments to suppliers through it. In the BR's development plans the DGCPTN will also channel pay roll transfers and pensions through the ACH-Cenit.

5.4.2.2 Participants

There are 34 authorized institutions in the ACH-Cenit. These include commercial banks, the DGCPTN, Social Security Information Operators, financial cooperatives and Deceval.

5.4.2.3 Type of Transactions

In 2007, a special type of transaction was introduced allowing social security contributions to be paid through a unified electronic collection template and through a special ACH-Cenit service. The corresponding information is exchanged between information operators and finally passed on to the social security administrators. In addition, in 2010, the ACH-Cenit implemented another type of operations for single payment with multiple addendum through which the DGCPTN centralized the payment of public services of different government bodies (a single payment and a report of each invoice in the addenda).

5.4.2.4 System Operation

The ACH-Cenit clears all payment orders received from its 34 authorized entities in five daily sessions according to a multilateral netting scheme. At the end of each cycle (10:30 a. m., 1:00 p. m., 3:00 p. m., 5:00 p. m. of $t+0$, and 9:00 a. m. of $t+1$ for returned items from the last cycle of the preceding day) Cenit settles the net balances on the deposit accounts at the BR.

5.4.2.5 Settlement Procedures

Payment orders and returned items are settled with the same day-value as the transaction, and the receiving entities are obliged by regulation to credit the account of the final beneficiary with the same day-value. Originally, each day's returned items were received in the first cycle of $t+1$, but their day-value was recorded as t . At present entities participating in ACH-Cenit must make returns in the cycle immediately after the one in which they received them, significantly benefitting the use of this payment instrument.

5.4.2.6 Risk Control Mechanisms

If participating institutions are unable to cover their debt positions at the end of its cycle, ACH-Cenit manages a queuing system through which all multilateral positions are recalculated to withdraw all operations that cannot be settled. These operations are put on pending status to be settled in the next operating cycle; if this occurs in the last cycle of the day, the payment orders which continue to be unable to settle (according to the FIFO mechanism) are finally automatically rejected.

The ACH-Cenit has the same security measures as the Cedec, as well as hardware redundancy schemes and internet with PKI as a contingency mechanism for transmitting files.

5.4.2.7 Pricing Policy

The BR charges users a fee of COP 130 for each transaction processed in the system. The cost of this type of transactions for the end user is around COP 5,000, since banks establish an interbank fee (originator to receiver) to cover costs associated with the use of their banking networks.

5.4.3 ACH-Colombia

5.4.3.1 Operating Regulations

ACH Colombia S. A., an automated clearinghouse, was founded in 1997 by private financial institutions in order to offer new and improved services to their customers through the networks existing at that time: Ascredibanco, Red Multicolor, Redeban, Servibanca and A Toda Hora.

Under resolution 1738 issued on November 4, 2005, ACH-Colombia became subject to the inspection, oversight and control of the SFC in its role a retail payment system administrator.

5.4.3.2 Participants

Colombia's financial institutions participate in ACH-Colombia, originating, authorizing or receiving low-value funds transfers and/or processing the reception, procedures and distribution of information on social security contributions.

5.4.3.3 Type of Transactions

ACH-Colombia originally offered credit transaction services through which the customers of financial institutions could send transactions to customers of other financial entities for paying obligations and/or transferring funds.

The debit transfer services that it started to offer to financial entities in 2001 allowed customers of one financial institution to make payments to customers of another.

In 2005, the online payment button service named Proveedor de Servicios Electrónicos (PSE) was launched. This is a centralized system allowing firms and businesses to offer users and customers the ability to pay and purchase online with the resources they have available at their financial institution. Individuals wishing to pay through this media connect to their bank through the PSE button on the respective website and use their passwords to authorize payment. Debit to the payees account is confirmed online and settlement of the interbank transfer is included in the next netting cycle of ACH-Colombia.

Since 2006 this ACH has offered the SOI, which allows settlement of social security and parafiscal contributions through the *planilla integrada de liquidación de aportes* (an integrated contribution settlement template). This reduces contributors' paperwork and facilitates the deposit template payment process for administrators.

5.4.3.4 System Operation

ACH-Colombia settles the net values resulting from clearing in five daily cycles. The clearing house informs participants in its system of each member's net multilateral position in order for those with net debit balances to send a payment order to the account of ACH-Colombia at the BR.

5.4.3.5 Settlement

Settlement of net positions occurs through the large-value system of the BR using ACH-Colombia's deposit account. For this reason, once net positions have been calculated, participants with net debit balances transfer funds to the account of ACH-Colombia at the BR, which then sends payment orders to banks with a net credit position.

5.4.3.6 Risk Control Mechanisms

If any participants are experiencing a delay in transferring funds to the ACH, the latter will grant them additional time; at the end of which it proceeds to reprocess the day's clearing in order to reject transactions sent by entities experiencing shortfalls.

As for operating risks, the clearing services of ACH-Colombia have strict information security standards certified under ISO 27001 (Information Security Management System). It also has an alternative processing center in case its main center fails.

5.4.3.7 Pricing Policy

ACH Colombia charges its direct participants a fixed monthly tariff plus a variable fee with a decreasing scale according to the volume of transactions.

5.4.4 Card Networks

ATM networks were created under Law 45 of 1990 (Financial Reform). The law authorized financial institutions to set up service companies with the purpose of operating in the fields of organization, administration and connection of ATM networks, information handling, and data processing and transfer.

The original schemes adopted by financial institutions under which they maintained the ownership and administration of proprietary ATM networks has been gradually replaced by a new model where they outsource administration to specialized companies offering shared networks.

At the end of 2010 there were five debit card networks operating in Colombia responsible for clearing transactions made at points of sale (POS) and ATMs: *a)* Redeban Multicolor; *b)* ATH-A Toda Hora; *c)* Servibanca; *d)* Credibanco; and *e)* Visionamos.

Each of these networks clears individually all debit card purchases and cash withdrawals made by customers of their affiliated institutions. There is also an inter-network agreement meaning cards can be used at any ATM irrespective of the owner of the network (interoperability). Each network calculates the net clearing balances of its members and the balances to be cleared with other networks on a daily basis (at night), informing all parties and coordinating through a delegated bank the settlement of net balances through the BR's large-value system.

Regarding credit cards, there are four networks: *a)* Credibanco; *b)* Redeban Multicolor; *c)* Servibanca and *d)* ATH -A Toda Hora. Credibanco clears Visa card transactions and Redeban Multicolor those of Master Card. Clearing and settlement is carried out in a similar way to the networks described above, using a settlement bank and the BR's large-value payment system.

At the end of 2010 there were around 157,000 POS processing a total of 19.2 million transactions per month. Meanwhile, it is estimated that there are 11,496 ATMs in Colombia.

5.4.4.1 Cards with International Brands

Currently, in the Colombian market it is possible to find the main international credit card brands such as Visa (Credibanco), MasterCard, Diners and American Express, as well as other brands administered directly by credit institutions. The main players in the Colombian credit card market are Visa and MasterCard, which operate under an open system (they issue cards through commercial banks), while Diners and American Express operate under a closed system. Visa has been in the country since 1962 and American Express since 2002.

Visa and MasterCard also manage the debit card market with their Débito (current accounts) and Electrón (savings accounts) products for the Visa brand and Maestro for the MasterCard brand.

At the end of 2010 there were 8.17 million credit cards in the Colombian market distributed as follows: Visa with 2.73 million, MasterCard 1.99 million, Diners 0.44 million and American Express 0.41 million.

5.4.4.2 Domestic Cards

As of December 2010, 2.64 million of the credit cards used in the Colombian market were brands owned and issued by different credit institutions. Among these are those belonging to banks such as “Fácil-Codensa” of Banco Colpatria, “CMR-Falabella” of Banco Falabella, and Tarjeta “SpringStep” of Banco Davivienda, and the cards of commercial financing companies such as “La 14” of Giros y Finanzas, “La Polar” of Polar, and “Éxito” of Tuya and “Coomeva” both of the Cooperativa Financiera Coomeva.

5.5 Cross-border Payments

5.5.1 Remittances

According to current foreign exchange regulations in force in Colombia,²⁵ worker’s remittances are a free market operation that can be voluntarily channeled through the regulated foreign exchange market, i.e., by IMCs.²⁶ In practice, 98% of remittances are sent through the bank correspondent network and international money transfer operators. They are paid to the final receivers in Colombia by an IMC, becoming a transaction of the regulated foreign exchange market. The currencies enter this market and are then disbursed in local currency; the beneficiary identifies them as a remittance using codes contained in the control document that all agents making foreign exchange operations in Colombia must present and sign.

The definition used in foreign exchange declarations for remittances is in line with international methodological criteria which describes them as foreign currency inflows sent by Colombians living and working abroad.²⁷

Cash remittances sent from abroad by friends or family, or brought directly by migrants to their families living Colombia, are considered part of the free exchange market and are exchanged into local currency by professional exchange offices.

Foreign exchange intermediaries holding agreements with foreign issuers of debit and stored-value cards (rechargeable and non-rechargeable), as well as other similar

²⁵ Banco de la República External Resolution 8 of 2000, chapter XII Foreign Exchange Market Intermediaries, article 59.

²⁶ Commercial banks, financial corporations and some commercial financing companies and financial cooperatives are authorized to operate as IMC.

²⁷ In Colombia, remittances sent to finance recurrent expenditure, i.e., that associated with regular family expenditure on education, food and services, etc. (number 1809), is separated from remittances channeled to home purchase (number 1812) and those not considered direct investment (1812).

instruments, are authorized to distribute and sell them in Colombia as long as the foreign financial institution is on the list authorized by Banco de la República. These instruments are used, among other things, for remittance transactions.

According to the BR's quarterly survey, remittance inflows have followed an upward trend during the last five years, increasing from USD 3,313 million in 2005 to USD 4,023 million in 2010 (see Table 8). In 2010, 36% of the total value of remittances came from Spain, 33% from the USA and 31% from the rest of the world. Meanwhile, during 2010, 82% of remittances were disbursed at the cash desk and around 18% was deposited in current or savings accounts.

Table 8

INFLOWS FROM REMITTANCES BY COUNTRY OF ORIGIN						
Millions of USD						
<i>Country of origin</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009^a</i>	<i>2010^b</i>
Spain	1.226,0	1.468,1	1.685,6	1.794,4	1.662,0	1.451,2
USA	1.428,2	1.551,8	1.695,0	1.689,3	1.316,1	1.342,3
Remaining countries	659,5	869,7	1.112,0	1.358,7	1.166,9	1.230,0
Total	3.313,7	3.889,6	4.492,6	4.842,4	4.145,0	4.023,5

Source: Quarterly remittance survey, Banco de la República.
^a: provisional data
^b: preliminary data subject to review.

5.5.2 Agreement on Reciprocal Payments and Credits under the ALADI

Under the context of the ALADI, 12 central banks entered into the Convenio de Pagos y Créditos Recíprocos (an agreement on reciprocal payments and credits) through which they process and clear among themselves, during periods of four months, payments stemming from trade in goods originating from member countries. The net multilateral debtor or creditor position of each central bank with the other participants are transferred or received at the end of every four months (clearing period).

The participating multilateral central banks are those of: Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Paraguay, Peru, Dominican Republic, Uruguay and Venezuela.

The objective of this mechanism is to enhance monetary cooperation and foster the expansion of trade amongst countries of the region.

It operates on a net basis every four months. Settlement of debits made and registered during the period (exports paid by each central bank through the mechanism) at the clearinghouse administered by the agent bank (the Banco Central de Reserva del Perú fulfills this function) is carried out at the end of April, August and December.

The Agreement has a system of guarantees granted by central banks, including: the convertibility of national currencies to US dollars (the only valid currency for operations channeled through the agreement), the transferability of US dollars through the mechanism and the reimbursement among central banks of transactions channeled through the agreement.

The last guarantee mentioned above means central banks assume the obligation to pay all the payment instruments issued while the Agreement is in force, irrespective of the importer or the financial institution they used to issue such instrument, or if the central bank is insolvent. Country risk is therefore directly transferred to the central bank of the exporting country, which guarantees to pay the transactions.

In order to avoid an excessive accumulation of debt during the clearing period and reduce risk, each central bank establishes a US dollar reciprocal credit line with all the other members. This credit line is set according to trade volumes and its use is determined by the difference between each country's exports.

The Agreement provides for extraordinary payment of amounts that surpass the credit line as required by the creditor central bank.

The Agreement has been functioning smoothly since the 1960s and in order to use it an exporter only has to request that the payment instrument used by an importer in another member country to settle the trade transaction be paid through the Agreement.

Use of this payment mechanism has declined significantly due to increases in the international reserves of member countries and the internationalization of their economies, which has facilitated direct payments between economic agents; the internationalization of commercial banks, improving correspondent relations and simplifying the processing of external trade transactions; and lower operating costs.

However, between 2004 and 2009 there was a considerable increase in transactions channeled through the ALADI's Agreement as a result of the foreign exchange measures adopted by Venezuela which introduced expedited processing of merchandise imports from member countries.

6. SECURITIES SETTLEMENT SYSTEMS

Law 964 of 2005 stipulates securities as “all rights of negotiable nature that are part of a securities issued, when it has for its objective or effect gathering public deposits, including the following: shares, bonds, commercial papers, goods certificate of deposit, any type of certificate or right resulting from a process of securitization, any type of representative certificate of risk capital, term certificates of deposit, banking acceptations, mortgage debentures, any type of public debt bond and standardized derivatives (futures and options)”.

According to Colombian legislation there are two types of securities in Colombia’s capital market, those represented by physical instruments and those by registration book-entries at a central securities depository. After excluding issues made abroad, close to 63% of financial assets available for trading are held by local depositories. As for the type of asset, around 99% of debt issues are made in dematerialized form, while 51% of share issues circulate in such way.

On the one hand, there are securities issued through the delivery of physical certificates. It is necessary to keep a registration book for these registered securities, where transfers of ownership, guarantees, seizures and other cautionary measures for each of the instruments or securities in circulation are recorded.

On the other, there are dematerialized securities represented in book-entry form. Issuing institutions can deposit all or part of an issue at a central securities depository, delivering one or various instruments that represent all or part of an issue. The registration book of dematerialized registered instruments can be kept by the central securities depository or by the issuer, as the latter decides. In the Colombian public stock market there is no obligation to register instruments or securities at central securities depositories in order for them to be traded. The book-entry is a record of the rights or balances of deposit account holders at a central securities depository. Thus, the creation, issue or transfer, pledges and cautionary measures they may be subject to, as well as anything else affecting the rights of the registered security in circulation will be recorded in its registration book. The holder of the security is the person stated in the registration book and they may request the corresponding benefits from the issuing entity.

Central securities depositories deliver certificates specifying the rights contained in book-entry records. Such certificates are legal documents but cannot circulate or be used to transfer ownership of the securities. It is also the responsibility of central securities depositories to issue certificates for exercising the rights granted by securities.

According to issuances and yields, there are two types of securities: equity instruments such as shares and subscription rights; and instruments with a credit content that represent debt such as bonds, acceptances, term deposit certificates and treasury instruments, among others.

Variable income equity instruments include shares. The latter is a registered instrument that represents a proportional ownership right of a stockholder in the equity of a stock company. Shares can be ordinary, preferred without a voting right and privileged.

Ordinary shares confer on the owner the rights to: *a)* participate in the discussions of the general shareholders assembly and to vote in it; *b)* receive a proportional share of the profits as established by the end-of-year balances; *c)* freely trade the shares, unless a preference right is stipulated on behalf of the company or the stockholders, or both; *d)* freely inspect the books and papers of the company 15 business days prior to the general assembly meetings to examine the end-of-year balances; and, *e)* receive a proportional part of the corporate assets if the company is wound up once liabilities have been paid.

Preferred shares without a voting right give the holder the right to receive a minimum dividend that is established in the subscription regulations, and preference is given in payment over ordinary shares; and preferential reimbursement is made once external liabilities have been paid should the company be dissolved. They also enjoy the rights given to ordinary shares, with the exception of participating in the stockholder assembly and voting in it. They must have the same nominal value as ordinary shares but cannot represent more than 50% of the subscribed capital.

Privileged shares are those which, besides the rights given to ordinary shares, have certain other rights that by express legal provision consist only in such economic advantages as: *a)* a preferential right to reimbursement in the case of liquidation up to their nominal value, and *b)* a right from the profits given to them to a determined quota that might be cumulative or not. The accumulation may not extend to a period longer than five years.

Preferential subscription rights, another type of variable income security, give stockholders the right to preferentially subscribe in all new share issues an amount proportional to that which they possess on the date the rules for such new issue are approved.

As for fixed income securities, these include Treasury securities, bonds, acceptances, commercial papers and term certificates of deposit.

Treasury securities (TES, as in Spanish) are bearer securities²⁸ issued by the government with the purpose of obtaining resources to finance the national budget. These securities are issued with yearly terms at fixed or variable rates and can be denominated in domestic or foreign currency in real value units (UVR). The government can also issue short-term (less than one year) Treasury bonds to finance Treasury operations. In 2010, the TES represented 92% of Colombia's public debt.

Bonds are securities that include an aliquot part of a collective credit charged to a company or to autonomous equity. They may be in either a registered or bearer form, and must be issued with a maturity of one year or more. Ordinary bonds can be issued by the public and the private sectors for financing investment projects, plant extension, substitution of liabilities, attention to working capital requirements, etc. Bonos Obligatoriamente Convertibles en Acciones (Boceas) are registered instruments issued by stock companies that, upon maturity, must be converted into equity shares of the company that issued them. They bear interest up to their date of maturity with the amount and type of payment of this interest being determined by the issuing company in the corresponding rules of issue.

Acceptations are notes charged to a purchaser of merchandise, generally traders and intermediaries, which are guaranteed by a financial institution. The objective of such instruments is to serve as an alternative source of financing for the productive sector. Their term of maturity is no more than a year and they are bearer securities.

Commercial papers are notes offered on the public stock market, issued massively or in a series. Commercial papers cannot have a term of maturity of less than 15 calendar days or longer than nine months as of the date of subscription. The resources obtained through their placing cannot be used for the credit institution's own activities, for the purchase of equity shares or mandatory convertible bonds. Commercial papers are bearer securities.

Term certificates of deposit (CDT) are registered securities issued by financial institutions in order to capture public savings. The minimum term is one month and they can be extended for the same term as that which was originally agreed upon.

In line with Law 964 of 2005, the SFC is currently the national securities numbering agency. According to its powers under said law, the SFC decreed that the process of generating, assigning and distributing codes to all the securities issuers listed or applying to be listed at the Registro Nacional de Valores y Emisores (National Registry of Securities and Issuers, RNVE) will be exercised by Deceval. Codes are assigned under the international standards of the Association of National Numbering Agencies (ANNA).

These standards were finally implemented in 2010 due to the coordinated efforts of the Deceval, the BVC, the BR and securities issuers. They will allow Colombian se-

²⁸ They are documents that must be issued in the name of a determined person who can only trade and transfer them by written endorsement and delivery.

curities in international markets to be identified through the International Securities Identification Directory administered by the ANNA Service Bureau.

6.1 Trading Systems

Securities are traded through a multilateral transaction system operating according to the regulations and conditions stipulated by Resolution 400 of 1995 (today included in decree 2555 of 2010), the respective system regulations approved by the SFC and those adopted by the administering institution. Affiliated entities use the system for settling securities transactions and for distributing information on such transactions to the market.

In 2008, new regulations were issued on systems for receiving and registering information on securities transactions performed in the OTC market by the affiliates of such systems. At present, all securities transactions carried out in the OTC market must be registered through these systems.

Trading system administrators require that transactions be cleared and settled through the central securities depositories and the large-value payments system of the BR.

Trading of shares (variable income) and the trading and registry of standardized derivatives is carried out through the systems administered by the BVC. Meanwhile, instruments with credit content (fixed income) are traded and registered through different systems shown in Table 9.

Trading and registry systems are designed for the secondary market of securities. Regarding the primary market, it is important to mention that this operates through special modules in the BR or the BVC according to the type of instrument issued.

6.1.1 Government Securities

6.1.1.1 Primary Market

During 2010, public offerings were carried out for a total of COP 18.8 trillion, 1.6 trillion of which were instruments with credit content other than TES. From this total,

Table 9

FIXED INCOME SECURITIES TRADING AND REGISTRY SYSTEM ADMINISTRATORS	
<i>System</i>	<i>Administrator</i>
Sistema Electrónico de Negociación (SEN)	Banco de la República
Mercado Electrónico Colombiano (MEC)	Bolsa de Valores de Colombia
Tradition Securities Colombia	Tradition
ICAP Securities	ICAP
GFI Securities Colombia	GFI Group

Source: Superintendencia Financiera de Colombia.

81% (COP 1.3 trillion) was placed, which if added to the additional COP 0.9 trillion related to authorized public offerings from previous years, amounts to COP 2.2 trillion (USD 1,315 million).

Regarding public debt, article 4 of Law 51 of 1990 states that the Colombian government can issue, place and circulate TES for financing the budget or for replacing, at maturity, *títulos de ahorro nacional* (national savings securities) and *títulos de participación* (participation securities) issued before 1990. The TES can also be used for Treasury temporary operations in substitution of national credit quotas at the BR. Article 5 of the referred law empowers the Colombian government to restructure, consolidate and substitute the total national domestic public debt with the BR by means of a total or partial substitution by Treasury securities, which can be used for open market operations. This law also regulates other matters such as the characteristics of Treasury securities, issuance of public debt securities by the nation, local entities, districts, and their respective entities and decentralized bodies. Law 628 of 2000 empowers the Colombian government to issue class “B” TES on the faculties granted by Law 51 of 1990. Ministry of Finance Resolution 3781 of 2009 lays down the procedures for the placement of class “B” TES in the primary market. Table 10 shows the stock of public securities deposited at the DCV.

Table 10

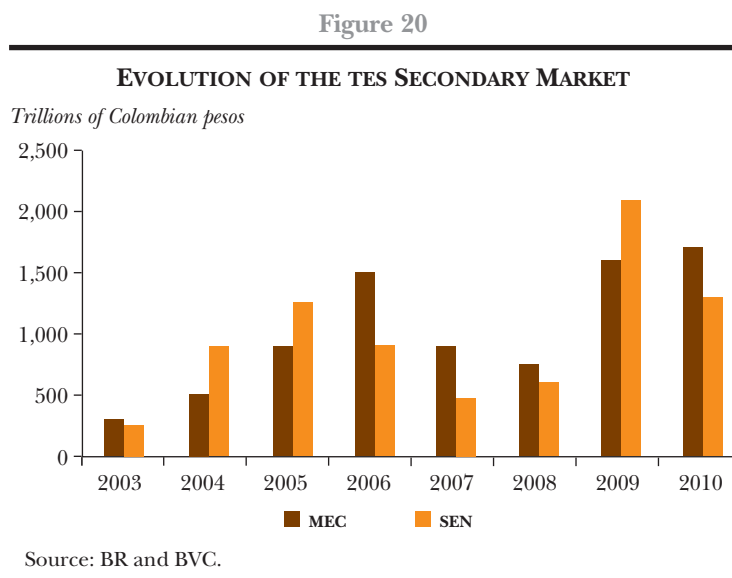
COLOMBIA'S PUBLIC DEBT			
(billions of COP and USD at the end of each year)			
<i>Year</i>	<i>COP</i>		<i>USD</i>
	<i>Current</i>	<i>Constant</i>	
2001	46,737.75	75,063.90	20
2002	56,744.53	85,185.11	20
2003	64,448.39	91,390.44	23
2004	72,675.61	97,679.24	30
2005	92,732.19	118,872.61	41
2006	98,905.79	120,689.22	44
2007	103,855.71	119,904.38	52
2008	114,220.55	122,469.77	51
2009	125,739.49	129,711.74	62
2010	142,326.61	142,326.61	74

Source: Depósito Central de Valores.

The TES account for 92% of Colombia's public debt, followed by debt reduction securities representing 2.7%. The remainder is made up of agriculture, severance, solidarity and fixed value bonds that do not participate in the secondary market.

6.1.1.2 Secondary Market

In 2010 the total market volume of TES, including transactions executed in MEC and the SEN, was COP 3,018.81 trillion, an 18.4% lower than that recorded in 2009. The fall was registered in the trading volume of the SEN system, which dropped 40%. In contrast, the MEC's trading volume increased 2.1% and its share of this market was 54.7%. Figure 20 illustrates the behavior of the market in annual terms.



6.1.2 Corporate Securities

6.1.2.1 Primary Market

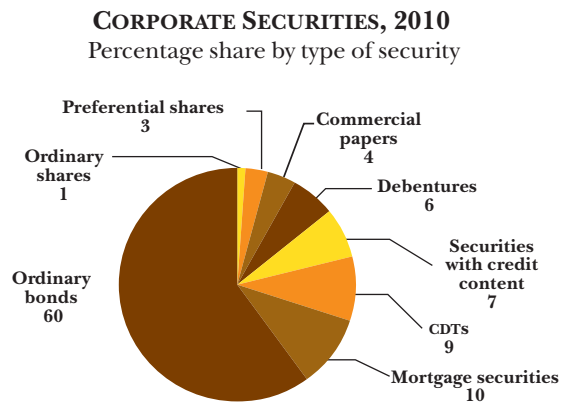
According to SFC figures, in 2010, public offerings of corporate securities totaling COP 17.2 trillion were approved, 97.1% of which corresponded to fixed income instruments and the remainder to variable income instruments. Resources amounting to COP 11.5 trillion, 66% of the total approved, were placed.

Furthermore, an additional COP 2.2 trillion was placed as a result of offerings authorized during previous years, meaning placement totaled COP 13.7 trillion (USD 7,210 million) at the end of the year. Figure 21 shows the distribution of securities placement.

6.1.2.2 Secondary Market

In the secondary private debt market fixed income instruments were traded for a total of COP 163.15 trillion, figure representing an increase of 14% compared to 2009. The distribution of the securities traded is shown in Figure 22.

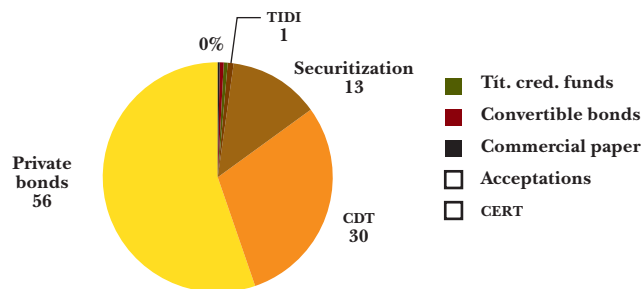
Figure 21



Source: BCV.

Figure 22

**PRIVATE FIXED INCOME SECURITIES TRADED
IN THE SECONDARY MARKET, 2010**
Percentage share by type of security



Note: TIDIS and CERTS are securities created by the nation for making tax returns to taxpayers and for granting subsidies to industrial sectors, respectively.

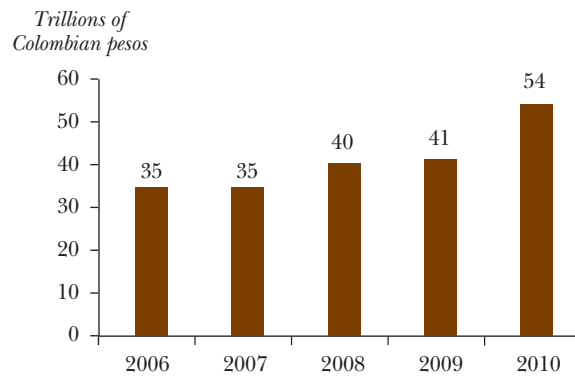
Source: BCV.

During 2010, operations totaling COP 54 trillion were carried out through the variable income securities trading system of the BVC (see Figure 23). Buy and sell operations accounted for 70% of this volume, while the remaining 30% was related to repo operations with shares.

In 2010, investment in the variable-income secondary market underwent significant changes. Foreign participation increased to 6.3% of the market with 84% growth in its trading volume. In the same way, the trading volume for the segment of individuals grew 50% during the year.

Figure 23

EVOLUTION OF THE VARIABLE INCOME SECONDARY MARKET

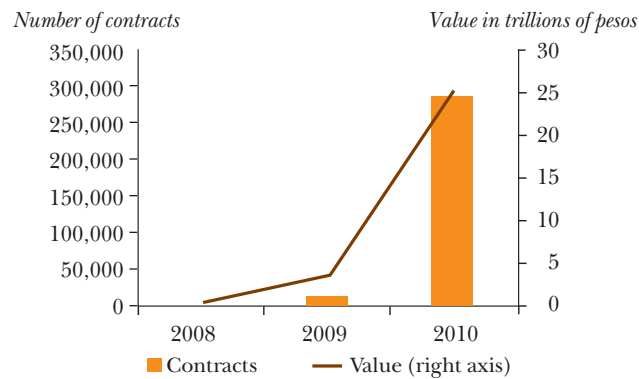


Source: Banco de la República.

The total volume of derivatives operations carried out during 2010 amounted to 287,492 contracts for a value of COP 25.1 trillion (see Figure 24). TES derivatives accounted for 54% of the volume traded, with an average daily trading volume of COP 53,934 million. Meanwhile, currency derivatives represented 45% with an average daily value of COP 46,419 million. The remaining 1% was taken up by individual shares futures contracts.

Figure 24

EVOLUTION OF STANDARDIZED DERIVATIVES TRADING VOLUMES



Source: Bolsa de Valores de Colombia.

6.2 Clearing and Settlement Systems

Clearing and settlement of securities is described by Law 964 of 2005 as an activity of the securities market. The law also defines transaction clearing and settlement

systems as the group of activities, agreements, norms, procedures and mechanisms aimed at confirming, clearing and settling securities transactions. The Law also stipulates that in order to be recognized as a clearing and settlement system such activities, agreements, norms, procedures and mechanisms must comply with regulations previously approved by the SFC.

Clearing and settlement systems in Colombia may be administered by institutions set up solely for such objectives, central counterparty risk clearinghouses, stock exchanges, stock exchanges for agricultural products or other commodities, the BR, central securities depositories, and other entities authorized by the Colombian government.

6.2.1 *Bolsa de Valores de Colombia*

Operations in the BVC are carried out through an electronic trading and registry system, and divided into three transaction modules: variable-income, fixed-income and standardized derivatives.²⁹

6.2.1.1 *Operating Regulations*

In order to be part of the markets administered by the BVC, those interested must submit their application to the bodies governing each market. In the fixed-income market this is the MEC committee, in the variable-income market it is the shares committee and in the standardized derivatives market it is the derivatives market technical committee. Each governing body operates according to the regulations approved by the SFC.

Depending on the market there are obligations regarding the clearing and settlement of the securities and funds involved. In the case of the fixed-income and standardized derivatives market, transactions are cleared and settled in other interconnected systems. Meanwhile, in the variable-income market clearing and settlement is carried out directly by the BVC.

6.2.1.2 *Participants*

The names given to intermediaries differ depending on the market where they participate. In the fixed-income market, intermediaries are referred to as *affiliates*, in the standardized derivatives market they are *members* and in the variable income market *brokers*. Those wishing to participate in this market must be legally competent to do so as follows:

- Fixed-income: All securities market intermediaries overseen by the SFC.

²⁹ As a result of the creation of the latter, the *mercado de operaciones a plazo de cumplimiento financiero* disappeared.

- Variable-income: SCB overseen by the SFC.
- Standardized derivatives: all intermediaries overseen by the SFC with the restrictions of the underlying market (fixed-income and variable-income). For currency derivatives only intermediaries classified as IMC according to JDBR norms may participate.

6.2.1.3 Clearing and Settlement Procedure

Transactions of securities with credit content are sent by the BVC to central securities depositories where they are held in custody and entered in the registration book under the name of the final beneficiary. From this moment onwards it is the responsibility of the depositories to fulfill the transactions received through their clearing and settlement systems. The same procedure applies to standardized derivatives sent to the CRCC.

As for equity instruments, the BVC is in charge of clearing and fulfilling transactions made in its system. In this case the Deceval is custodian of the securities and makes book entries of final beneficiaries under the stock exchange's mandate. When required, the BVC requests and administers guarantees through its own infrastructure interconnected with the depositories and the BR's large-value payment system.

6.2.1.4 Settlement

Settlement of transactions carried out in the different systems administered by the BVC varies according to the type of market they belong to.

Securities with a credit content (fixed-income): originate in the MEC system and are settled in securities or cash under a delivery-versus-payment environment, on a gross basis (DVP Model 1) with fulfillment on $t+0$. These securities are deposited in the DCV and the Deceval, which are responsible for settlement.

Equity instruments (variable-income): originate in the variable-income securities trading system and are settled under a DVP environment, on a gross basis in securities and a net basis in cash (DVP Model 2), with fulfillment on $t+3$. These instruments are deposited at the Deceval and the BVC is responsible for settlement.

Standardized derivatives operating in the BVC are settled by the CRCC through the BR's large-value payment system. In the case of derivatives contracts requiring delivery of the underlying assets, delivery is made through the central securities depositories.

6.2.1.5 Securities Lending

Participants may carry out securities lending operations through the systems administered by the BVC. In the variable-income market there are temporary securi-

ties transfers (TTV) and repos. Meanwhile, in the fixed-income market simultaneous transactions are more common.

The main characteristics of securities lending operations are described in Box 2.

6.2.1.6 Risk Administration Processes

All transactions made in the variable-income securities trading system are cleared in system administered by the BVC, without affecting the clearing and settlement mechanism employed in each transaction. Clearing and settlement of all operations cleared and settled on a net daily basis under the DVP environment (DVP Model 2) is fully carried out in the BVC's system.

Money market operations (repo and TTV) are settled on a delivery-versus-payment basis (DVP Model 1) and the BVC guarantees that operations are settled only after verification of sufficient available funds in the securities accounts and, where applicable, cash accounts of participants. The BVC also manages the Sistema de Ad-

Box 2

CHARACTERISTICS OF SECURITIES LENDING OPERATIONS CARRIED OUT IN THE BVC

<i>Characteristics</i>	<i>Repos</i>	<i>Buy-sell Back</i>	<i>Temporary securities transfers</i>
Term of transactions through securities trading systems	Transaction terms must be established according to BVC and securities trading system regulations.		
Term of transactions through securities trading systems	Terms must be agreed among the parties when the transaction is not made through the BVC or securities trading systems.		
Maximum initial term	The agreed term of the transaction can be no more than one year from the date the transaction was made.		
Initial amount	Can be calculated with a discount on the market price of the securities involved in the transaction.	Cannot be calculated with a discount on the market price of the securities involved in the transaction.	Term does not exist as such. Payment made by the receiver must be calculated according to BVC or securities trading system regulations, or agreed among the parties.
Restrictions on securities mobility	Restrictions may be established on the mobility of securities.	Restrictions may be established on the mobility of securities.	Restrictions may be established on the mobility of securities (when the receiver delivers securities to the originator).
Transaction unit characteristic	It is understood that all transactions constitute one single operation.		

Source: BVC.

ministración de Garantías (a system for guarantees administration, SAG) through which it evaluates and adjusts assets provided as guarantees to back such operations on a daily basis.

Finally, SCB that are members of the BVC have access to a guarantee fund exclusively aimed at responding to needs of their customers, including securities funds, for meeting obligations of delivery or securities or fund reimbursements they have taken on through the securities commission and administration contract.

As for operating risks, the BVC, in association with other infrastructures, has recovery and business continuity plans approved each year by the Risk Department. The main office is backed up by an alternative operational site (SAO) located in Bogotá.

6.2.2 Depósito Central de Valores

The DCV is a central securities depository administered by the BR for instruments issued, guaranteed or administered by the central bank mainly while acting as fiscal agent to the Ministry of Finance.

6.2.2.1 Operating Regulations

The JDBR is the body that establishes which entities may link up to the DCV as direct depositors. Direct depositors are the entities that can operate on their own behalf to subscribe rights and deposit physical certificates or that can intermediate subscription rights or deposit of physical certificates on behalf of third parties (individuals or firms). The following entities can be direct depositors: credit institutions, financial services companies, capitalization firms, insurance companies, stock exchanges, commodity exchanges, broker-dealers, investment firms, central securities depositories established in Colombia, large-value and retail payment systems administrators; securities, currency, derivatives and other financial assets clearing and settlement administrators; the BR, the DGTN of the Ministry of Finance, the Fondo de Garantías de Instituciones Financieras (Financial Institutions Guarantee Fund, Fogafin), entities with special regimes under Decree 663 of 1993 (Estatuto Orgánico del Sistema Financiero), multilateral credit bodies, and public entities administered by the BR that must exercise or maintain investments in instruments issued by the Colombian government. Any individual or firm not included in the group of direct depositors can be an indirect depositor provided they buy or own a security registered at the DCV.

All securities in the DCV are dematerialized. Securities with the same financial characteristics such as issuer, maturity date, interest rate and payment basis are considered fungible and are therefore identified by the same code called *issue number*. In this way, the holder of a security will appear as holder of part of the issue without identifying the individual instrument.

The main operations that can be carried out in the DCV are:

- Investment or constitution of subscription rights in primary issues.
- Transfer of securities among depositors.
- Buying and selling securities.
- Repos, buy-sell back operations and temporary transfer of securities with automatic buyback.
- Creation of pledges and other guarantees among depositors.
- Registry of seizures and other cautionary measures.
- Automatic capital and interest payments on securities registered at the DCV.

As of December 2010, the DCV administered instruments for a total value of COP 142.3 trillion, 92% of which were TES.

6.2.2.3 Participants

In the DCV there are currently 141 entities acting as direct depositors (banks, financial companies, commercial finance firms, broker-dealers, trust companies, and severance and pension fund managers), and 580,920 indirect depositors, which include individuals real sector firms, and public entities.

6.2.2.3 Clearing and Settlement

After transactions have been confirmed by the external systems (i.e., trading and registry systems) or, where applicable, by participants, the DCV proceeds to verify the balances in securities and cash accounts (the latter through the interface with the large-value payments system of the BR). After this process and the application of necessary risk controls, the DCV transfers the securities, recording the name of the final beneficiary in the registration books and ordering the large-value payments system to make the instant funds transfer. Finally, in operations that originate from an external system, the deposit is notification of the transfer.

6.2.2.4 Settlement

In the DCV transactions are settled on a delivery-versus-payment basis (DVP Model 1).³⁰ Since 1998 the DCV has provided settlement services to the SEN enabling it to automatically fulfill its operations. The DCV has also provided the same service to the MEC since 2001. The service has been extended to other trading infrastructures and public debt instrument registration transactions in Colombia.

³⁰ *Delivery versus Payment in Securities Settlement Systems*, BIS, 1992.

The DCV operates through a real time on-line connection, where each counterparty in an operation enters transaction data separately. The data of each counterparty's operations are then compared before settlement takes place and once book-entry is made the transaction is considered firm and irreversible. Settlement takes place in real time (continuous) and on a gross basis (transaction-by-transaction). Securities are delivered simultaneously upon receiving payment and the corresponding securities or funds are available immediately.

Since January 2006, the DCV has employed a mechanism called the *liquidity saving facility* based on an optimization algorithm for securities and funds. The objective of the mechanism is to settle the largest amount of transactions possible, while minimizing liquidity requirements at both legs of the operation by simulating a multilateral clearing process. Such process is subject to the availability of securities and funds in the respective accounts and to maintaining gross liquidity, i.e., on a transaction-by-transaction basis.

6.2.2.5 *Securities Lending*

In June 2008, the DCV introduced temporary securities transfers in order to reduce the risk of default in the operations settled at the DCV, increase liquidity in payments systems, make security portfolio management more efficient, reduce financial system operating volumes and generate additional revenues for investors.

6.2.2.6 *Risk Management*

Orders transferred and received by the DCV are accepted after verifying the availability of securities and, where applicable, funds in the participants' accounts, and that the respective book entries have been made in the accounts of both parties. Thus, partial operations resulting from shortfalls in the securities and/or funds in participants' accounts are not channeled through the system. If the required resources or securities are not available in the accounts, the DCV declares that the operation failed.

In the case of failed simultaneous, repo or securities lending transactions, if there is any difference between the final amount agreed in the operation and the market price of the securities on the date of failure, the party for whom such difference represents a credit balance is entitled to be paid such amount by the counterparty within a period of no more than five business days.

In all cases of failure, whether it occurs at the initial transfer operation or at reversal, notification is sent to the trading system, the securities transaction registry system or the external system, through which the transaction was received, as well as the supervisory institution and the corresponding self-regulating bodies.

As for temporary transfers of securities, if any of the parties default on their obligation, each of them will keep their ownership rights for the amount of funds and

securities they have received, having the right to hold them indefinitely, use them or redeem them at maturity. Thus, once failure has been declared, the DCV frees the securities received in exchange, crediting them to the participant who originated the transfer.

Notwithstanding the above, if the DCV reports the return of a temporary securities transfer that was not fulfilled, the non-compliant depositor must pay the compliant depositor compensation equal to one percent of the value of the transaction, calculated according to procedures laid down in the operating manual.

Regarding management of operational risk, the DCV has recovery and business continuity plans which are tested every year. In particular, it has contingency plans covering risk events related to technological failures, communication breakdowns with customers and access restrictions to its facilities. There are action plans for eliminating or mitigating each of these events. It is important to mention that the depository's technological infrastructure is backed up by two alternative centers, one in Barranquilla, which is used for backing up data, and another in Bogotá, which also serves as a work station and operating base for affiliates.

6.2.3 Depósito Centralizado de Valores de Colombia S. A.

The Depósito Centralizado de Valores de Colombia (Deceval) was established by Resolution 702 of July 4, 1993, and the Superintendencia de Valores (nowadays the SFC) authorized it to begin operating in April 1994. Deceval receives securities that are registered at the National Registry of Securities and Issuers.

6.2.3.1 Operating Regulations

Deceval operating regulations determine the legal entities that can act as direct depositors, currently banks, financial cooperatives, financial companies, savings and outsourcing corporations, trusts, stock exchanges, the Stock Exchange Guarantee Fund, SCBs, stock exchange members, pension funds managers, insurance companies, capitalization corporations, deposit general warehouses, commercial finance firms, factoring firms, reinsurance firms, financial cooperative bodies of superior level, mutual funds managers, public entities, other central securities depositories, society in general, issuers of securities registered at the National Registry of Securities or other entities fulfilling similar functions to the central securities depositories in other countries when legally authorized, Fogafin and the Fondo de Garantías de Entidades Cooperativas (Cooperative Entities Guarantee Fund, Fogacoop), and other constituted entities overseen by the SFC or similar institutions in other countries. Entities different from those mentioned may also be direct depositors if authorized by the Board of Directors of Deceval under objective criteria for the benefit of all the other institutions with such characteristics.

Deceval provides the following services: issues deposit, transfers between deposited securities, seizures, withdrawal of deposited securities, securities management and securities clearing and settlement.

As of December 2010, Deceval administered issues totaling COP 281.8 trillion, 67% of which were shares, followed by CDT with 13 percent.

By means of a securities deposit contract a company authorized to this end and acting on its own behalf or for a third party entrusts instruments to a company administering a central securities depository, which commits itself to have custody of them and manage them whenever the depositor requests and to register the liens and alienations informed to it by the depositor.

The securities deposit contract is perfected by endorsement of management and the delivery of the instruments to the company administering a central securities depository. Endorsement of management does not transfer ownership rights, and therefore the companies administering a central securities depository do not acquire ownership of the securities.

6.2.3.2 Participants

In Deceval there are currently 186 entities acting as direct depositors (banks, financial companies, commercial finance firms, broker-dealers, trust companies, and pension and severance fund managers) and 646,985 indirect depositors, which include individuals, real sector firms and public entities.

All individuals or firms that cannot directly access the depository's services may do so indirectly through a direct depositor.

6.2.3.3 Clearing and Settlement

Most clearing and settlement processes in the Deceval correspond to operations stemming from the BVC where the Deceval functions as a means for carrying out such processes. The latter were therefore described in section 6.2.1.3 of this document.

6.2.3.4 Settlement

When securities are sold through the Deceval's Integrated Information System (SIID, as in Spanish) or a trading and registry system on a delivery-versus-payment basis, Deceval blocks the securities until the purchaser places the same day funds through the large-value payments system of the BR in an account specially registered for carrying out such operations. Only after this condition is met does the depository carry out the transfer of ownership of the securities and funds.

Stock Exchange or trading and registry systems must report all the necessary information on the operations they handle in order for them to be accepted by the depository. At this moment the Deceval informs the direct depositors and the system

where the operation originated of the final transfer of securities and funds. If the operation cannot be fulfilled, Deceval reports the reasons to those involved.

6.2.3.5 Securities Lending

Deceval does not currently carry out securities lending.

6.2.3.6 Risk Management

Transfer orders received by the Deceval are accepted after the availability of securities and, where applicable, funds in the participants' accounts have been verified, and the corresponding book entries have been made for both parties. As a consequence, partial operations, resulting from lack of securities and/or funds in the accounts, are not processed. When the required resources or securities are not available, the Deceval declares the transaction failed.

In the case of failed buy-sell back, repo or securities lending transactions, it is the responsibility of the administrator of the trading or registry system where the operation originated to take the necessary measures for resolving the operation. All failures registered in the depository's system are reported to the administrator of the system that ordered the transfer, the parties involved, the SFC and the AMV.

Furthermore, in order to fulfill the obligation of securities clearing and settlement systems to reduce liquidity, counterparty and systemic risk, Deceval applies the following measures: *a)* a tariff, and *b)* the suspension or termination of the clearing and settlement contract when it wants to block an operation ordered by registration, trading or external clearing and settlement systems to the systems it administers.

For risk management directly associated with clearing and settlement, the Deceval has the Sistema para la Administración del Riesgo Operativo (an operational risk administration system, SARO). This system allows the identification, measurement and control of operational risk to be employed as a mechanism for strengthening systems that guarantee business continuity under normal conditions.

In addition, business continuity plans are being drawn up that focus mainly on developing operational contingency strategies for covering possible failures in human resources and physical facilities.

Finally, it is worth pointing out that the Deceval has a risk and compliance department in charge of preventing and controlling risks that could threaten the normal functioning of deposit transactions. Among other actions, risks and risk events that threaten processes are registered for constructing risk matrixes.

6.2.4 Cámara de Riesgo Central de Contraparte de Colombia

The Cámara de Riesgo Central de Contraparte de Colombia, CRCC is a private company mainly aimed at providing central counterparty clearing services for transac-

tions in order to reduce or eliminate the risks of default on the obligations deriving from such operations.

In the pursuit of its objectives, the CRCC can intervene as direct counterparty and/or administrate the clearing and settlement of different types of transactions such as cash, forwards of effective or financial fulfillment, repos, carousel, temporary securities transfers, short selling, buy-sell back operations and derivatives transactions carried out or registered in the exchanges, trading systems, over-the-counter operations or any other mechanism authorized by the clearinghouse. The CRCC currently acts as direct counterparty for clearing and settling operations in the standardized derivatives market of the BVC and part of the non-delivery peso/dollar forward market.

6.2.4.1 Rules and Participants

Entities subject to SFC inspection and oversight can be members of the CRCC after they have been accepted by such institution. Other members include intermediaries of any type of assets which have direct access to payment media and delivery as set out in the regulations; public entities legally empowered to use trading systems for carrying out treasury operations; the Nation through the MHCP and the BR; and foreign entities authorized to be members of external central counterparty risk clearing houses or similar institutions that are supervised by an entity like the SFC.

Members may use the clearinghouse under several different modes:

- Settling member with direct access to the clearing house for crediting and debiting the respective accounts in order to clear, settle and guarantee the transactions accepted, cleared and settled through the clearing house. A settling member can participate on its own behalf, i.e., for its own transactions, on behalf of non-settling members or third parties. Settling members can be individual (those acting on their own behalf and on behalf of third parties) or general (acting on their own behalf, on behalf of third parties or on behalf of one or various non-settling members).
- Non-settling member with direct access to the clearinghouse and whose transactions with it are carried out through a settling member. A non-settling member can approach a settling member on its own behalf, i.e., regarding its own transactions or on behalf of third parties.

6.2.4.2 Clearing and Settlement

In transactions where the CRCC acts as a central counterparty it becomes reciprocal creditor/debitor of the rights/obligations stemming from transactions previously accepted for clearing and settlement (through the novation of such obligations). It assumes this role with the parties that carried out the irreversible transaction, mean-

ing they maintain legally linked to the central counterparty and not between themselves. The CRCC manages risk to ensure the smooth functioning of the clearinghouse and the system. It defines the transaction limits and positions of the participants, administers the guarantees (money and other assets) demanded from participants regarding transactions accepted by the clearing house as counterparty, and clears and settles (under a multilateral net environment) positions on a daily basis.

6.2.4.3 Settlement

The CRCC performs two types of settlement, daily settlement and settlement at maturity. The former is related to obligations generated from maintaining an open position and from positions that closed during the day. Settlement at maturity defines the final obligation of delivering on the agreement and payment.

Daily settlement is carried out in the following three stages: 1) the clearinghouse delivers to the settling member information³¹ on transactions registered in the clearinghouse system before the start of each session on the next business day after the accepted transactions were carried out. The clearinghouse then proceeds to prepare the transfer orders for debiting or crediting to the accounts of settling members at the CUD; 2) the clearinghouse then sends the debit or credit transfer orders in the accounts of the BR's large-value payments system to each settling member or payment agent toward the payments system in accordance with automatic debit authorization granted by each of the clearinghouse members or payment agents; and, 3) once the daily settlement session has ended, settling members must deliver and collect the funds corresponding to daily settlement with identified third parties and non-settling members. Non-settling members must process the information supplied by the clearinghouse's terminals with information from its settling member in order to manage settlement in the same way as with its identified third parties.

Settlement at maturity is carried out as follows: *a)* determination of the asset to be delivered, *b)* delivery notification; *c)* calculation of the value of the funds the holder of the account with a net buying position must deposit; *d)* calculation of the algorithm for solving the process of asset delivery; and *e)* settlement. When settlement at maturity is for the differences that arise, the process is the same as that for described for daily settlement.

6.2.4.4 Risk Management

The mechanisms the CRCC has at its disposal for risk management differ according to their purpose, be it to reduce the probability of default or the impact of default when it occurs. The former classification includes the aim of the CRCC to have solid high

³¹ This information includes details on the status of their accounts, their identified third parties and the value of corresponding guarantees.

quality settling members. This is obtained through measures such as establishing and monitoring financial and operating requirements, as well as operational limits that allow control over the risk generated by participants' positions and changes in market prices. Such limits include:

- Open position limit (LPA), limiting the maximum amount generated against a member by a call to extraordinary guarantees due to possible extreme prices changes, including all the accounts they clear and settle (8% of the technical equity plus extraordinary and/or initial guarantees),
- Daily trading limit (LOD), the maximum exposure to risk that a member can have during a trading day without direct guarantee to the CRCC (1% of the technical equity plus other deposited guarantees),
- Latent delivery obligation limit (LOLE), which is determined by the total amount of sell positions at contract maturity due to the risk of default in the delivery of said positions (underlying).

The second type of mechanisms include those aimed at addressing default by a participant (security rings) which traditionally consist of spreads or guarantees, external liquidity sources and CRCC equity. In the case of the CRCC the first line of defense against default is the establishment of spreads or guarantees.

As for the process for managing delays or defaults, the CRCC considers a member with delay as one who fulfilled its obligations after the prescribed payment time but before 2:00 p. m. on the day of fulfillment. A member that defaults is one who makes payments after the referred time. The events that lead to this situation are:

- Non-payment of daily settlement and any item this includes during the established schedule of the daily settlement session.
- Non-payment of funds or non-delivery of securities in the schedule established for the settlement at maturity process.
- Non-constitution, adjustment, modification, widening or substitution of guarantees demanded by the clearinghouse in the schedule, time and manner established for each type of guarantee.

In the face of such events the clearinghouse manages delays by using credit lines with credit institutions, repos, funding, temporary transfer of securities with authorized entities, and any other mechanism for temporarily supplying liquidity and securities to cover the amount of funds or securities that were not delivered to the clearinghouse on time. Once liquidity and/or the securities of the clearinghouse's fulfillment accounts have been reestablished by any of the aforementioned means, the transfer orders will be made for deposit in the accounts of settling members and/or agents. When the clearinghouse system has satisfactorily processed all the regis-

tries of the different assets stemming from the orders handled by the CUD, DCV and Deceval, daily or at maturity settlement will be understood to have been completed. Delayed transactions will be identified in the system as fulfilled by the clearinghouse in the settlement report.

As a result of handling the delay, the clearinghouse will send the settling member which experienced delay the settlement of the items that correspond to it. On the one hand, the value of the non-executed settlement must be paid before 2:00 p. m., and on the other, the penalization costs must be settled as an extra charge to the result of the daily settlement session in process. In all cases the settling member that experienced delay must also reimburse the clearing house with any costs or securities it took on for handling the delay.

In cases of noncompliance by a third party or a non-settling member, the corresponding settling member or general settling member may request that the clearinghouse, as part of its management of said noncompliance, deactivate the accounts of the third party or process the request for the exclusion of the non-settling member from the clearinghouse system.

In cases of noncompliance by a settling member the CRCC proceeds as follows: *a)* formal communication is sent to the settling member's legal representative notifying them of the actions to be taken before the trading or registry system administrator with whom they have signed service agreements, and before the competent authorities; *b)* guarantees constituted in cash and securities by the noncompliant settling member are transferred to the clearinghouse's compliance account in line with procedures agreed with central securities depositories and the BR's payments system; *c)* once the guarantees have been transferred, the clearinghouse carries out the procedures for executing them in the market within the parameters of its risk administration policy; *d)* at the same time the clearinghouse transfers the position of the noncompliant settling member's accounts to the clearinghouse's account for carrying out the process of closing positions in order to reduce its exposure to risk; and *e)* once the noncompliant settling member's position is registered in the clearinghouse's account, it implements the process for closing positions taking into account market conditions and can establish a maximum term for such process.

The CRCC provides three types of guarantees: initial, daily and extraordinary. Their characteristics are as follows:

- Initial guarantees: settling members must deposit a minimum guarantee before the first transaction is accepted by the clearinghouse. Such amounts may differ for individual and general settling members.
- Daily guarantees: the procedure for estimating the amount of the daily guarantee for an account or a subaccount belonging to the same owner aims to simulate the total cost of settling the open position of each account or subac-

count and cover the risk of default. This simulation takes into account the distributions of loss and profit stemming from variations in market prices under extreme but probable conditions in line with the models for calculating risk stipulated by the clearing house.

- **Extraordinary guarantees:** this type of guarantee is requested for two reasons. The first is when a settling member surpasses any of the operating limits, and the second is for exceptional circumstances related to volatility in the markets where transactions are susceptible to being accepted or open positions considered as high risk by the clearinghouse or open sell positions with the risk of default at delivery settlement.

The CRCC has established details of the models, valuation methodology, the percentages or variation points for estimating default risk, the parameters used in such calculations and the characteristics of each clearing group or set of assets. Payment or margin calls resulting from adjustments caused by calculations of daily guarantees and the valuation of open positions must be exercised by members during the daily settlement phase described previously.

As for operational risk management, if the clearing session is interrupted due to technical problems that bring the whole network to a halt, the CRCC proceeds as follows: *a)* the administrator carries out a diagnosis of the technical failures, evaluating the option to activate the Alternative Computer Center³² as a contingency measure. In such cases it can declare a contingency status, informing the market of the new fulfillment schedules in coordination with the depositories; *b)* once the service has been re-established through the contingency system, members can carry out their normal fulfillment processes until the administrator considers it pertinent to end the contingency status; *c)* if it is clear that activation of the Alternative Data Center does not guarantee re-establishment of the service, all members will be informed in order for them to proceed to fulfill their transactions directly at the central securities depositories; *d)* if a transaction fails, the members involved must report it to the administrator no later than on the following business day in order for it to proceed according to the regulations. If the administrator is not informed, it will be free of the obligation to comply with the regulations, unless they are informed of it at any time by other media; and, *e)* the clearinghouse will implement the adjustments required through alternative mechanisms, reporting their amount to members in order for them to proceed to constitute and deliver them in the established manner and terms.

6.2.4.5 Securities Lending

The CRCC does not currently carry out securities lending.

³² The CCA is shared with the BVC and Deceval.

6.2.5 Cámara de Compensación de Divisas de Colombia S. A.

The Cámara de Compensación de Divisas de Colombia S. A. (CCDC) is a public limited company that administers clearing and settlement of foreign currency. It is regulated by the BR and overseen by the SFC.

The CCDC began operating in August 2007, introducing a safer and more efficient way to fulfill Colombian peso/US dollar cash transactions by carrying them out as spot and next day ($t+1$, $t+2$ and $t+3$) operations between foreign exchange market intermediaries. The most important characteristic of this system is that it reduces risks associated with payment of foreign exchange transactions, particularly principal, liquidity, market, operational and legal risks.

CCDC shareholders include the credit institutions and broker-dealers that are most active in the Colombian foreign exchange market, as well as the Bolsa de Valores de Colombia, the leading institution in electronic financial markets.

Credit institutions own 51% of the capital; broker-dealers, 24%; and the BVC, 25%.³³ Figure 25 shows the evolution of the average daily volume and settlement amount of CCDC transactions.

6.2.5.1 Rules and Participants

Members of the CCDC include IMCs, the MHCP-Dirección General de Crédito Público y del Tesoro Nacional and the Banco de la República. Any changes to its regulations must be approved by the SFC.

When a direct participant acts on behalf of its customers, the CCDC will not open or keep sub-accounts through direct participants (PD) in the name of these customers.

Among the specific requirements stipulated by the CCDC for being a direct participant are:

- Being a foreign exchange market intermediary.
- Having a deposit account in pesos at the Banco de la República.
- Having a deposit account for each eligible currency other than the peso at a foreign financial institution belonging to the respective authorized payments system.
- Having the operational and technological means required for permanent access to authorized control media.
- Having the operational, technical and functioning standards defined by the CCDC for the currency clearing and settlement system it operates.
- Satisfactorily demonstrating to the CCDC that the institution has at least the

³³ <https://www.camaradivisas.com>.

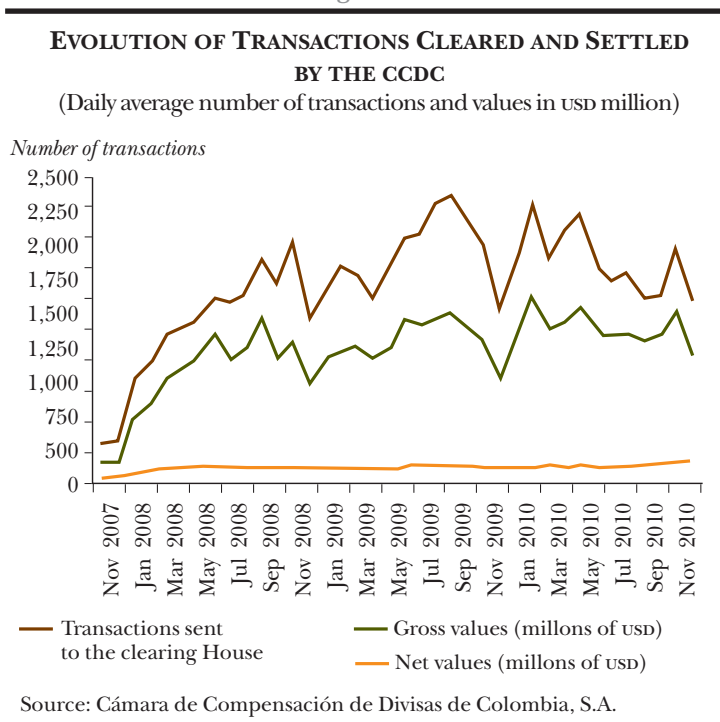
operational capacity to permanently access authorized media for controlling and exercising control, particularly the capacity to fulfill directly or through a nostro agent any request for guarantees, multilateral obligations payment programs and multilateral payment requests at the specified time.

- Satisfactorily demonstrating to the CCDC that the institution has proper contingency and continuity plans in case it or any of its nostro agents is unable to fulfill a guarantee request, payment program of multilateral obligations or multilateral obligation payment request at the specified time.
- Have money laundering and financing of terrorism risk management system.

6.2.5.2 Clearing and Settlement Process

The process starts with direct participants depositing guarantees in the clearing-house's accounts (Diagram 2). These guarantees provide participants with a multilateral quota for carrying out transactions during the day. Once the transactions have closed in the SET-FX trading and registry system, they are transmitted to the CCDC, which accepts them after they fulfill all of its risk controls. During the day the CCDC reports the net multilateral payment programs that each participant must carry out

Figure 25

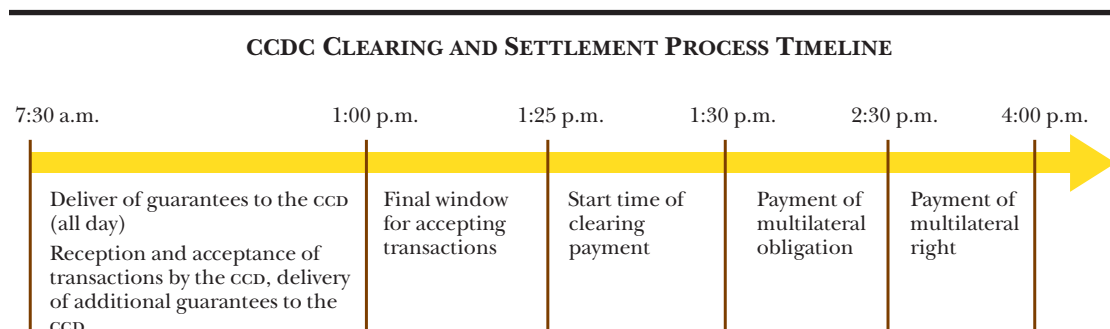


and, once reception of such obligations has been confirmed, the CCDC makes the corresponding payment.

6.2.5.3 Settlement

Settlement is carried out on a net deferred basis. As mentioned previously, as soon as the trading window is closed and all transactions have been received by the trading and registry system, the CCDC calculates the obligations and rights of each participant according to the transactions accepted, and publishes them in its system in order for participants to pay the corresponding obligations. They must make such payments to the CCDC's settlement accounts, which in the case of US dollars is a nostro account abroad and for Colombian pesos is a deposit account at the BR.

Chart 2



Source: Banco de la República.

After receiving the participants' obligations, the CCDC begins the process of paying their fees. In the same way as above, for US dollar payments it deposits the value of the fees in the accounts abroad identified by each participant, while payment in Colombian pesos it makes transfers to the deposit accounts at the BR.

6.2.5.4 Securities Lending

The CCDC does not have custody of securities or receive guarantees on them. It therefore does not have any securities portfolios with which to offer temporary lending programs.

6.2.5.5 Risk Management

The risk control mechanisms employed by the CCDC are: limits on foreign currency short positions (LPC, as in Spanish), multilateral quotas and positive operating account balances.

The LPC is the maximum value of a participant's exposure in a sell position for each currency. The limit is defined by taking into account a participant's technical equity and an exchange rate risk sensitivity factor defined by the SFC for the US dollar. The multilateral quota of each participant is the lowest value between the LPC and the value of resources committed with liquidity providers, which will be explained below. Finally, a positive operating account balance is the sum of all the balances of a participant's account exchanged into the base currency (US dollar).

The mechanisms defined for reducing the impact of delays or noncompliance by participants is as follows: establishing guarantees and the amounts committed with liquidity providers. Guarantees are aimed at covering volatility in foreign currencies, particularly fluctuations which would affect the CCDC's ability to cover liquidity shortfalls resulting from delays or noncompliance by its participants. In December 2010 the guarantee percentage was set at 6.5% of the LPC.

Resources committed with liquidity providers correspond to agreements made with banking institutions for supplying resources in the event of delays or noncompliance by one or various participants.

The CCDC responds to delays or noncompliance as follows:

- When it is detected that a participant has not fulfilled their payment program, their guarantees and those of the counterparties they dealt with during the day are retained, i.e., they will not be returned to the participants in the multilateral fee payment process.
- The CCDC then obtains the resources from one of its liquidity providers through a one-day swap. It is important to point out that the value of the counter-currency required to carry out the aforementioned transaction is the positive balance in the account of the participant with delay or noncompliance. As soon as the first part of the swap transaction has been executed, the CCDC will pay the fees and return the guarantees of the participants not involved in the delays or noncompliance.
- When a participant recovers or declares their noncompliance, the second part of the swap and, where applicable, the execution of guarantees will take place. The costs of the swap transaction are initially paid by the participant that originated the delay or noncompliance and, if necessary, the guarantees of said participant's counterparties will be executed. As of December 2010 there has not been any noncompliance.

In the event of payment delays or noncompliance under the established conditions of a multilateral obligations payment program or a request for multilateral obligation payment, the CCDC can: temporarily block new orders, multilateral obligation payments, multilateral fees payments and guarantee movements; charge fees, interest, obligations, costs and expenditures to said direct participant and any other ob-

ligation related to such amounts for the use of liquidity providers; request, execute and apply guarantees; calculate and distribute losses; temporarily reduce the limit on the total short position; temporarily reduce the LPC in one or several eligible currencies; report said delay or noncompliance to officials other than those exercising control over the respective direct participant by a letter addressed to the legal representative; inform the counterparties originating said delay or noncompliance and provide them with related data; and inform the BR and other competent authorities.

In order to cover problems or technical failures in its currency clearing and settlement system, the CCDC developed internally an application allowing it to feed transactions from the SET-FX trading and registry system and replicate the programming of payments for sending them later by email to its participants.

This application is capable of paying its participants' fees in US dollars and Colombian pesos.

6.3 Use of the Securities System Infrastructure by the Central Bank

With respect to the general framework it is important to mention that the Banco de la República has three liquidity facilities: *i*) macro liquidity (through open market operations) employed in implementing monetary policy, *ii*) liquidity for payments systems (intraday and overnight repos) aimed at easing liquidity problems in such systems, and *iii*) liquidity to support financial stability in its role as lender of last resort (transitory liquidity support) for solving temporary liquidity difficulties.

In practice the two first liquidity facilities are carried out with public securities, although securities issued by the BR³⁴ and instruments with a high quality credit content are currently authorized as admissible instruments. Therefore, all such operations originate in the DCV and for this reason the BR has implemented an interface between the DCV and the large-value payments system (CUD) through an automatic database connection. The latter guarantees that participants (financial entity/BR), depending on which leg they are at, receive or deliver a determined asset at the same time. This procedure encourages liquidity flow at both ends of the operation.

6.3.1 Open Market Operations

The main mechanism of the BR for intervening in the money market is the purchase and sale, both transitory (with a repurchase or resell agreement, i.e., a repo operation) and definitive (outright transaction), of public securities. Outright transactions are used when the BR intends to make a permanent monetary expansion or contraction, such as when increases in the demand of the monetary base due to an expansion of economic activity or a change in the money demand are observed.

³⁴ No securities issued as of December 2010.

The mechanism for the transitory purchase and sale of securities through repos is used when it is estimated that the excess supply or demand of the monetary base will be reversed in the short and medium term. These operations are also used to supply liquidity during unexpected shocks in the supply and demand of the monetary base.

The BR carries out these operations using the SEN and through auctions. The SEN is used for definitive expansion and contraction operations, while auctions are used for transitory and/or definitive operations.

The first case consists of making purchases or sales through the secondary market transactions system. Such transactions are made via the SEN which is a *blind* system where participants have no knowledge of who their counterparty is in the transaction (and therefore does not know what they are trading with the BR).

As for auctions, the BR uses Dutch auctions for expansionary and contractionary operations. In expansionary/contractionary operations all orders are placed in strict descending/ascending order according to their interest rate and offers with an interest rate higher/lower or the same as the cut-off rate are approved. Dutch auctions can also be carried out with prices. All the approved offers will have the same interest rate, price or cut-off spread. When the value of two or more offers for the interest rate, price or cut-off spread surpass the remainder of the amount of the auction, the remainder is distributed proportionally according to the value of the offers accepting partial approval.

Through the above-mentioned auctions the BR can therefore carry out securities purchase (sale) auctions in the secondary market. In such auctions the BR establishes the value at which it wants to buy or sell, and the types of securities. The amount of the auction depends on the objectives of monetary policy. The selection of securities depends on capital market considerations, taking special care to avoid excessively reducing the liquidity of a certain type of securities, and to avoid introducing distortions in the yield curve.

These operations are carried out through a mixed scheme of intervention which attempts to partially absorb shocks in the supply and demand of the monetary base through adjustments in interest rates. Operationally, four mechanisms of intervention can be identified:

- An expansionary auction of a predefined quantity and a minimum cut-off rate.
- A contractionary auction of a predefined quantity and a maximum cut-off rate.
- An expansionary window with no predetermined quantity and a fixed rate higher than the minimum auction rate.
- A contractionary window with no predefined quantity and a fixed rate which is lower than the maximum auction rate.

The amounts of expansionary and contractionary auctions are determined on the basis of estimates of the demand and supply of monetary base in the market. The implementation of monetary policy ensures that, in the absence of unexpected shocks, the interest rate will remain between the maximum rate of the contractionary auction and the minimum rate of the expansionary auction. The mechanism also guarantees that moderate shocks in the supply and demand of monetary base are balanced by increases or decreases in interest rates, while relevant shocks are balanced partially through changes in interest rates and partially through increases or reductions in the supply of monetary base. The BR currently carries out these types of operations daily for a maturity of one day. The rates as of December 2010 are shown in 12.

Expansionary and contractionary operations are carried out with specialized dealers called *agentes colocadores de operaciones de mercado abierto* (open market operation placement agents). For a transitory and permanent expansion, credit institutions pension funds, broker-dealers and trusts are included, as well as the social security institute, the DTN, Fogafin and public banks of rediscount such as Bancoldex, FEN, Finagro and Findeter.

Table 11

BR INTERVENTION INTEREST RATE	
December 2010	
Window contraction rate	2%
Maximum contraction rate ¹	2,96%
Minimum expansion rate	3%
Window expansion rate	4%

Source: Banco de la República.
¹ At December 30, 2010, there was no auction.

Repos are executed under the purchase modality with an agreement to resell public debt securities exclusively. The most commonly used securities are the TES B, the agricultural development securities (TDA) issued by Fogafin and other public internal and external debt instruments. All repos are admitted to the operation at their present value, applying a discount (*haircut*) to their face value and, in some cases, also applying a spread over the reference market rate. In the case of TES B and external debt instruments, no spread is applied and the haircut is the lowest, going from 2% up to 3%. Meanwhile, the bonds of Fogafin carry a haircut of 10 per cent.

Finally, it is important to mention that the Colombian Treasury holds various (156) non-remunerated accounts at the BR. Due to the large volume and value of operations of the Treasury in the payments system, its operations frequently alter the

money supply. The sequencing of inflows and outflows of funds in the Treasury account also has an impact on the availability of intraday liquidity for the payments system. Therefore, in recent years, significant efforts have been made to ensure that the flow of Treasury operations does not negatively affect the intraday liquidity of other financial intermediaries and the capital market.

6.3.2 Payments System

Liquidity facilities are aimed at fostering the smooth functioning of payments systems, which is considered necessary for proper liquidity provision and the orderly functioning of the economy's domestic and external payments. Thus, fulfilling the objectives of the BR as the monetary authority. The BR eases liquidity problems in the large-value payment system by offering the following facilities: intraday repos, conversion of overnight repos into an intraday repo and overnight repos for the clearing. Intraday repos began operating at the end of 1998. It is employed by intermediaries to cover liquidity shortages during one day of transactions. Overnight repos began in 2001 and operate through two mechanisms: conversion of overnight repos into intraday repos, generated automatically at the end of each business day when the institution does not cancel the intraday repo, and the overnight repo for shortfalls in cheque clearing, which is used to cover shortfall in the deposit accounts held at the BR by authorized entities participating in cheque clearing carried out by the central bank.

6.3.3 Lender of Last Resort

The BR carries out its function of lender of last resort by providing liquidity facilities to the financial system (discount window). These facilities are used especially when financial institutions face temporary liquidity problems, but still comply with the requisites and limits established by the SFC. Due to the unforeseeable nature of these operations they are not taken into account when defining monetary policy strategy. In addition, the intervention rates of these credit operations are higher than those of the money market in order to eliminate any possibility of arbitrage between open market operations and the funding obtained through the discount window. The current interest rate on such liquidity facilities is equal to the window rate plus 375 basis points.

The liquidity facilities operate based on the scheme of rediscount of securities stemming from financial investments and the loan portfolio (commercial, consumer, and mortgages). For the first case, not only public debt securities but also other types of securities are accepted, including investments in other financial institutions, bonds and securitized items, provided they are rated as investment grade. The loan portfolio must also have a high rating, as defined by the SFC.

To support its function as lender of last resort the BR monitors the risks faced by the financial system (market, credit and liquidity), employing value at risk analysis and stress testing. It also identifies the policy actions that can be implemented by its Board of Directors or other entities, such as the SFC, aimed at deepening financial stability and encouraging improvements in the competitiveness and efficiency of financial institutions.

STATISTICAL TABLES

The series A of tables are statistics regarding payment and securities clearing and settlement in Colombia. They were prepared according to the common methodology of the Western Hemisphere Payments and Securities Clearing and Settlement Forum (WHF). However, there are some differences from the methodology due to the availability of data. The series B are more general statistics related to the financial sector.

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Series A: Payments and Securities Clearing and Settlement Statistics

Table A.1

	BASIC STATISTICAL DATA									
	End of the year									
	2001	2002	2003	2004	2005	2006	2007	2008	2009 ^a	2010 ^b
Population (millions)	40.8	41.3	41.8	42.4	42.9	43.4	43.9	44.5	45.0	45.5
GDP (billions of USD)	98.2	97.8	94.6	117.2	146.6	162.8	207.4	244.6	235.8	288.9
GDP per capita (USD)	2,406.2	2,366.8	2,261.6	2,765.9	3,417.5	3,750.8	4,721.7	5,503.7	5,243.3	6,347.8
Exchange rate (end of period)	2,291.2	2,864.8	2,778.2	2,389.8	2,284.2	2,238.8	2,014.8	2,243.6	2,044.2	1,914.0
Exchange rate (average)	2,299.8	2,508.0	2,877.5	2,626.2	2,320.8	2,358.0	2,078.4	1,966.3	2,156.3	1,897.9

Source: DANE - Dirección de Síntesis y Cuentas Nacionales.
Notes: ^a provisional figure, and ^b preliminary figure.

Table A.2

	SETTLEMENT MEDIA USED BY NON-BANKS									
	End of the year, in billions of COP									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Notes and coins	8,349.0	10,014.0	12,006.9	13,836.1	16,308.9	20,076.5	22,288.2	24,266.5	25,789.5	29,769.5
Deposits at the BR by individuals	20.0	25.0	17.2	33.2	14.9	10.1	16.0	3.7	8.3	41.9
Current account deposits	10,388.0	11,634.0	13,010.0	15,278.0	17,984.0	20,451.0	23,022.0	24,313.2	26,967.4	32,321.1
Savings deposits	19,176.6	23,044.6	26,374.2	32,618.2	40,760.8	48,918.8	54,706.7	59,932.7	65,748.0	78,306.1
Held at credit institutions	19,176.6	23,044.6	26,374.2	32,618.2	40,760.8	48,918.8	54,706.7	59,932.7	65,748.0	78,306.1
Narrow money supply (M1 ^a)	18,737.0	21,635.6	24,918.3	29,113.7	34,292.6	40,527.5	45,362.3	48,708.8	52,756.3	62,090.6
Broad money aggregate (M3 ^b)	68,572.5	74,199.6	83,153.9	97,097.8	112,551.5	131,490.3	156,603.6	183,382.8	197,481.9	220,063.9

Source: Banco de la República.
Notes: ^a M1 includes notes and coins plus current account deposits held at banks. ^b M3 includes cash and liabilities subject to reserve requirements such as current account deposits at banks, quasi-money (savings deposits and term deposits of the financial system) and others.

Table A.3

SETTLEMENT MEDIA USED BY DEPOSIT TAKING INSTITUTIONS
End of the year, in billions of COP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Reserves held at the BR by banks	3,299.0	4,090.6	4,607.7	5,424.1	6,495.2	6,955.3	10,126.4	11,926.5	13,755.3	15,105.5
Of which:										
Cash	2,020.0	2,374.0	2,781.0	2,885.1	3,345.1	4,396.5	5,189.1	6,278.4	6,523.6	6,979.8
Deposits	1,279.0	1,716.6	1,826.7	2,538.9	3,150.1	2,558.8	4,937.2	5,648.0	7,231.7	8,125.7
Free reserves held at the BR	123.6	146.5	136.8	159.1	298.6	225.8	295.7	291.2	263.4	303.5

Source: Banco de la República.

Table A.4

INSTITUTIONAL FRAMEWORK		
End of the year, 2010		
	<i>Number of institutions</i>	<i>Number of branches</i>
<i>Total financial system</i>	220	na
Credit establishments	62	na
Banks	16	3,681
Commercial banks	16	3,681
Financial companies	3	na
Commercial finance	25	na
Financial cooperatives	6	na
Superior level cooperative bodies	1	na
Special official institutions	11	na
Financial services companies	54	na
Trust companies	26	na
Deposits general warehouses	5	na
Pension and severance fund managers	6	na
Other special financial institutions (BR)	1	na
Insurance industry	103	na
Capitalization companies	5	na
Insurance companies	54	na
Insurance and reinsurance intermediaries	44	na

Source: Superintendencia Financiera de Colombia.
Note: na stands for non-available figures.

Table A.5

	BANK NOTES AND COINS									
	End of the year, in billions of COP									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Notes and coins issued</i>	10,348.55	12,363.07	14,770.76	16,688.42	19,639.78	24,462.97	27,461.40	30,541.26	32,304.68	36,707.37
Notes	9,990.8	12,013.3	14,398.3	16,278.9	19,178.5	23,925.1	26,841.6	29,875.4	31,588.1	35,914.7
Of which:										
COP 50,000	2,032.1	3,329.7	4,746.4	6,056.9	7,924.5	11,682.5	14,768.2	18,318.5	20,731.6	24,656.9
COP 20,000	5,329.9	6,053.6	6,920.6	7,569.1	8,530.8	9,294.1	8,924.6	8,405.1	7,634.9	7,796.3
COP 10,000	1,916.3	1,832.3	1,897.6	1,797.7	1,867.4	1,988.7	2,043.8	1,932.5	1,939.6	2,078.0
COP 5,000	434.2	444.6	440.3	424.9	366.5	405.9	449.0	515.8	528.2	566.9
COP 2,000	250.4	233.0	249.1	270.0	304.1	329.1	393.8	419.1	446.2	479.9
COP 1,000	12.6	104.8	129.0	145.2	170.3	209.8	247.1	269.3	292.7	321.6
Other lower-value denominations	15.3	15.2	15.2	15.1	15.1	15.0	15.0	15.0	15.0	15.0
Coins issued	357.7	349.8	372.4	409.5	461.2	537.9	619.8	665.8	716.6	792.7
Of which:										
COP 5,000	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
COP 1,000	86.2	50.7	32.7	23.9	19.7	17.6	16.7	16.0	15.6	15.5
COP 500	129.4	145.1	169.6	200.6	241.4	294.3	346.9	376.4	411.9	448.4
COP 200	57.2	60.1	68.7	72.7	82.5	98.5	117.9	126.0	135.1	165.2
COP 100	37.1	43.8	48.4	56.5	58.5	64.6	71.9	78.7	84.0	92.6
Other lower-value denominations	47.5	49.7	52.8	55.6	58.9	62.7	66.1	68.6	69.7	70.8
Notes and coins held by banks	2,020.0	2,374.0	2,781.0	2,885.1	3,345.1	4,396.5	5,189.1	6,278.4	6,523.6	6,979.8
Notes and coins held outside banks	8,329.0	9,989.0	11,989.7	13,803.0	16,294.0	20,066.4	22,272.2	24,262.8	25,781.1	29,727.6

Source: Banco de la República.

Table A.6

	CASH DISPENSERS, ATMS AND EFTPOS TERMINALS									
	End of the year									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ATMs and cash dispensers										
Number of networks	3	3	3	3	3	3	3	5	5	5
Number of terminals	5,402.0	5,431.0	5,583.0	5,888.0	5,960.0	6,766.0	7,697.0	8,577.0	9,274.0	11,496.0
Volume of transactions (in millions)	339.5	367.2	396.3	426.8	444.0	487.8	528.0	488.6	478.1	470.8
Value of transactions (in billions of COP)	24.4	27.0	32.3	36.8	45.6	57.4	71.2	96.5	102.1	114.8
EFTPOS										
Number of networks	1	2	2	2	2	2	2	5	5	5
Number of terminals	51,500.0	54,000.0	54,000.0	55,000.0	61,492.0	77,256.0	82,926.0	113,532.0	138,374.0	157,291.0
Volume of transactions (in millions)	95.6	115.8	120.0	112.0	129.3	148.6	161.9	191.5	206.1	230.0
Value of transactions (in billions of COP)	7.0	8.3	10.3	12.6	14.9	18.4	21.3	48.0	37.2	44.0
Credit card transactions										
Volume of transactions (in millions)	29.7	33.8	39.1	52.7	60.3	70.2	78.4	81.2	96.4	110.3
Value of transactions (in billions of COP)	5.0	5.9	7.1	8.6	10.2	12.6	14.3	15.3	17.7	21.1

Source: Asobancaria.

Table A.7

	NUMBER OF PAYMENT CARDS IN CIRCULATION									
	End of the year									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cards with a cash withdrawal function	7.8	8.3	8.7	9.8	10.9	12.0	13.9	15.3	14.8	15.0
Cards with a credit/debit function	9.8	10.5	11.1	12.4	14.0	16.0	18.8	20.6	22.0	22.8
Of which:										
Debit cards	7.8	8.3	8.7	9.8	10.9	12.0	13.9	15.3	14.8	15.0
Credit cards	2.0	2.1	2.3	2.6	3.1	4.0	5.0	5.3	7.2	7.7
Cards with a check-guarantee function	na	na	na	na	na	na	na	na	na	na
Retailer cards	na	na	na	na	na	na	na	na	na	na
Stored value cards	na	na	na	na	na	na	na	na	na	na

Source: Asobancaria and SFC.

Note: na stands for non-available figures.

Table A.8

	INDICATORS OF USE OF PAYMENT INSTRUMENTS OTHER THAN CASH									
	Volume of transactions in millions									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cheques issued ¹	81.04	76.61	71.71	65.59	59.82	60.51	55.54	48.34	40.65	36.34
Paper based transfers, low value	na	na	na	na	na	na	na	na	na	na
Electronic transfers, low value	5.19	8.25	11.08	14.57	18.84	23.63	47.19	78.08	83.69	83.69
Of which:										
Direct debit ²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.04
Direct credit ³	5.19	8.25	11.08	14.57	18.84	23.62	47.19	78.06	83.65	83.65
Interbank transfers, large value	0.72	0.92	1.07	1.55	2.11	2.34	1.90	1.74	2.02	2.09

Source: Banco de la República and Asobancaria.

Notes: na stands for non-available figures. ¹ Includes those cleared in the electronic cheque clearing system and other Cedec payment instruments. ² Correspond to those carried out through the ACH-Cenit. ³ Correspond to those carried out through the ACH-Cenit and ACH-Colombia.

Table A.9

INDICATORS OF USE OF PAYMENT INSTRUMENTS OTHER THAN CASH										
Value of transactions, in trillions of COP										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cheques issued ¹	305.28	308.94	311.57	321.02	332.12	373.97	404.65	400.63	393.21	389.77
Paper based transfers, low value	na	na	na	na	na	na	na	na	na	na
Electronic transfers, low value	56.27	70.65	88.96	124.81	160.30	202.59	292.65	354.66	411.11	495.53
Of which:										
Direct debit ²	0.00	0.02	0.04	0.03	0.03	0.03	0.09	0.40	0.29	1.78
Direct credit ³	56.27	70.64	88.92	124.79	160.27	202.56	292.56	354.26	410.82	493.75
Interbank transfers, large value	1,446.17	2,230.40	2,456.17	3,585.12	5,084.61	5,880.91	5,110.64	6,029.76	7,964.63	8,165.64

Source: Banco de la República and Asobancaria.
 Note: na stands for non-available figures. ¹ Includes those cleared in the electronic cheque clearing system and other Cedec payment instruments. ² Correspond to those carried out through the ACH-Cenit. ³ Correspond to those carried out through the ACH-Cenit and ACH-Colombia.

Table A.10

PAYMENT INSTRUCTIONS HANDLED BY SELECTED INTERBANK TRANSFER SYSTEMS										
Volume of transactions, in millions										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cenit ¹	0.2	0.4	0.6	0.8	1.1	1.3	2.3	6.5	6.8	7.6
Cedec ²	81.0	76.6	71.7	65.6	59.8	60.5	55.5	48.3	40.6	36.3
ACH Colombia	5.0	7.9	13.2	16.7	20.3	26.2	44.8	71.6	89.9	99.9
Deceval ³	1.6	1.8	2.1	2.3	2.7	2.5	2.6	2.7	1.9	1.6
Sistema Atlas DCV ⁴	0.9	1.2	1.0	1.4	1.9	2.2	1.5	1.3	1.6	1.6
Interbank transfers, large value (CUD ⁵)	0.7	0.9	1.1	1.5	2.1	2.3	1.9	1.7	2.0	2.1

Source: Banco de la República and ACH Colombia.
 Notes: ¹ ACH National Electronic Interbank Clearing includes direct debits and credits. ² In addition to cheques clearing by the Electronic Check Clearinghouse (Cedec), includes those carried out in the BR's clearinghouses. ³ Central Securities Depository in Colombia. ⁴ Central Securities Depository. ⁵ Current Account System.

Table A.11

PAYMENT INSTRUCTIONS HANDLED BY SELECTED INTERBANK TRANSFER SYSTEMS

Value of transactions, in trillions of COP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cenit ¹	32.19	32.82	37.23	48.26	56.66	58.34	72.67	82.22	100.57	113.77
Cedec ²	305.28	308.94	311.57	321.02	332.12	373.97	404.65	400.63	393.21	389.77
ACH Colombia	24.08	37.83	51.73	76.56	103.63	144.25	219.99	272.44	310.55	381.75
Deceval ³	105.04	155.10	272.15	381.89	416.20	630.81	675.67	749.92	551.43	950.91
Sistema Atlas DCV ⁴	1,008.17	1,554.94	2,107.35	3,905.46	4,103.85	4,906.25	3,555.87	3,689.73	5,908.98	5,295.48
Interbank transfers, large value (CUD ⁵)	1,446.17	2,230.40	2,456.17	3,585.12	5,084.61	5,880.91	5,110.64	6,029.76	7,964.63	8,165.64

Source: Banco de la República and ACH Colombia.

Notes: ¹ACH National Electronic Interbank Clearing includes direct debits and credits. ²In addition to cheques clearing by the Electronic Check Clearinghouse (Cedec), includes those carried out in the BR's clearinghouses. ³Central Securities Depository in Colombia. ⁴Central Securities Depository. ⁵Current Account System.

Table A.12

SECURITIES AND ACCOUNTS REGISTERED AT CENTRAL SECURITIES DEPOSITORIES

Registries	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DCV										
Number of securities	na	na	3,814	3,812	3,964	4,203	4,380	4,041	3,333	3,063
Number of participants	292	153	148	153	146	146	140	142	140	141
Number of accounts	349,504	365,677	376,203	389,162	448,976	465,220	508,563	535,704	553,816	580,920
Number of foreign investors	na	na	na	na	na	na	na	na	na	na
Deceval										
Number of securities	793	845	811	910	888	822	722	718	746	5,458
Number participants	195	181	189	191	176	180	181	242	264	346
Number of accounts and subaccounts	235,386	270,686	322,432	365,577	411,812	668,385				
Number of foreign investors	441	648	808	674	715	753	1,140	5,916	7,262	8,614

Source: Banco de la República and Deceval.

Note: na stands for non-applicable data.

Table A.13

SECURITIES HOLDINGS AT CENTRAL SECURITIES DEPOSITORIES										
Nominal value at end of the year, in millions of COP										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Deceval	13,267.7	27,145.8	32,281.2	48,772	96,928	93,883	138,390	142,619	204,058	281,767
Government bonds	1,681.4	1,681.4	1,927.9	2,173	2,892	2,641	2,551	4,725	6,600	7,441
Corporate bonds	1,923.9	1,923.9	5,939.6	6,751	10,331	14,957	17,958	18,574	25,929	32,013
Shares	7,620.0	7,620.0	9,494.2	11,806	21,333	47,457	81,435	69,932	119,778	189,140
CDTs	1,409.3	1,409.3	9,006.0	10,687	13,180	18,621	27,144	40,199	40,966	37,035
Others	633.1	633.1	778.1	865	1,036	10,207	9,303	9,188	10,784	16,139

Source: Banco de la República and Deceval.

Table A.14

TRANSFER INSTRUCTIONS HANDLED BY SECURITIES SETTLEMENT SYSTEMS										
Volume of transactions										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DCV (in billions of transactions)										
Government securities ¹	469,173	603,774	668,150	1,017,482	1,439,246	1,775,276	1,094,999	769,391	1,187,071	1,216,312
Corporate debt	na	na	na	na	na	na	na	na	na	na
Shares	na	na	na	na	na	na	na	na	na	na
Others	na	na	na	na	na	na	na	na	na	na
Deceval ²										
Government securities	256,005	116,520	108,401	223,410	154,562	103,730	130,323	128,661	103,730	54,663
Corporate debt	134,318	148,556	399,032	519,030	764,976	763,550	902,317	926,369	415,103	605,927
Shares	1,206,802	1,562,144	1,574,433	1,582,494	1,814,736	1,605,281	1,600,379	1,627,233	1,342,401	916,467
Cash guarantees	na	na	na	na	na	0	2,404	21,196	20,665	24,288

Source: Banco de la República and Deceval.

Notes: ¹ Includes transactions with securities cleared through the CUD large-value payments system as well as those that were not. ² Only includes transactions for changing or transferring ownership. Note: na stands for non-applicable data.

Table A.15

TRANSFER INSTRUCTIONS HANDLED BY SECURITIES SETTLEMENT SYSTEMS

Value of transactions, in trillions of COP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DCV										
Government securities ¹	868.6	1,042.7	1,223.1	2,006.4	2,649.6	3,894.0	2,625.3	2,754.8	4,664.5	4,318.4
Corporate debt	na	na	na	na	na	na	na	na	na	na
Shares	na	na	na	na	na	na	na	na	na	na
Others	na	na	na	na	na	na	na	na	na	na
Deceval ²										
Government securities	14,795.3	14,483.5	15,403.5	21,463.8	36,464.6	22,637.7	29,791.8	44,142.6	91,962.6	77,624.6
Corporate debt	82,601.4	118,631.5	214,073.9	312,851.2	328,377.5	504,729.7	531,238.7	577,735.4	291,490.3	797,204.6
Shares	7,640.7	21,980.0	42,669.7	47,574.8	51,358.6	103,444.2	114,582.4	127,635.4	167,173.5	74,978.6
Cash guarantees	na	na	na	na	na	0.0	55.6	403.4	803.7	1,099.6

Source: Banco de la República and Deceval.

Notes: ¹ Includes transactions with securities cleared through the CUD large-value payments system as well as those that were not. ² Only includes transactions for changing or transferring ownership. Note: na stands for non-applicable data.

Table A.16

PARTICIPATION IN SWIFT BY DOMESTIC INSTITUTIONS										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total SWIFT users										
Of which:	31	32	32	30	24	23	26	30	33	37
Members	23	23	24	22	18	16	16	19	21	21
Sub-members	na	na	na	3	2	na	na	na	na	na
Participants	na	na	na	5	4	na	na	na	na	na
Memo:										
Total SWIFT users in the world	7,199	7,465	7,527	7,667	7,863	8,105	8,332	8,830	9,281	9,705
Of which:										
Members	2,241	2,203	2,312	2,280	2,229	2,288	2,281	2,276	2,356	2,344
Sub-members	3,027	3,079	3,051	3,019	3,060	3,120	3,196	na	na	na
Participants	1,931	2,183	2,164	2,368	2,574	2,697	2,805	na	na	na

Source: Users Association of SWIFT.

Note: na stands for non-available figures.

Table A.17

SWIFT MESSAGE FLOWS TO/FROM DOMESTIC USERS										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total messages sent										
Of which: (in thousands)	555	na	na	866	na	2,865	1,428	1,574	1,576	1,659
Category I	300	na	na	374	na	na	na	na	na	na
Category II	102	na	na	196	na	na	na	na	na	na
Total messages received										
Of which (in thousands)	888	na	na	1,034	na	2,865	1,558	1,602	1,336	1,346
Category I	233	na	na	389	na	na	na	na	na	na
Category II	23	na	na	67	na	na	na	na	na	na
Domestic traffic	575	628	649	866	na	na	na	na	na	na
Global swift traffic, in millions	1298.67	1533.91	2047.56	2299.07	2518.29	2864.54	3501.16	3854.58	3760.31	4031.94

Source: Users Association of SWIFT.

Note: na stands for non-available figures.

Series B: General Statistics

Table B.1

	NUMBER OF FINANCIAL ENTITIES									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total financial system	84	78	74	73	63	61	60	67	68	64
Banks	27	28	28	28	21	17	16	18	18	19
Of which										
Public banks	4	4	4	4	3	2	1	1	1	1
Private banks	23	24	24	24	18	15	15	17	17	18
National banks	18	19	19	19	15	11	10	11	11	12
Foreign capital banks	9	9	9	9	6	6	6	7	7	7
Branches of foreign banks	na	na	na	na	na	na	na	na	na	na
Non-bank financial entities	57	50	46	45	42	44	44	49	50	45

Source: Superintendencia Financiera de Colombia.

Table B.2

	NUMBER OF CHEQUING, SAVINGS AND TIME DEPOSITS ACCOUNTS ¹									
	End of the year, in thousands									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total financial system	24,691.7	26,372.0	26,679.6	29,320.2	32,617.1	35,443.8	36,674.0	38,589.2	40,968.3	40,293.9
Total banks	22,852.0	26,095.5	26,297.1	28,825.0	32,057.6	34,899.2	35,806.5	37,534.1	39,763.0	39,023.2
Of which										
Public banks	6,347.0	6,248.0	6,240.3	6,995.9	7,325.0	5,627.6	3,435.1	3,639.1	5,695.8	6,603.1
Private banks	16,505.1	19,847.4	20,056.8	21,829.1	24,732.7	29,271.6	32,371.5	33,895.0	34,067.2	32,420.0
National banks	19,909.4	22,969.2	23,528.3	26,018.5	29,325.8	29,801.3	30,382.7	31,593.5	32,424.1	32,249.8
Foreign capital banks	2,942.6	3,126.3	2,768.8	2,806.4	2,731.8	5,097.9	5,423.8	5,940.6	7,338.9	6,773.4
Branches of foreign banks	na	na	na	na	na	na	na	na	na	na
Non-bank financial entities	1,839.6	276.5	382.5	495.2	559.5	544.6	867.4	1,055.1	1,205.3	1,270.8

Source: Superintendencia Financiera de Colombia.

Notes: ¹ Includes current accounts, savings accounts and term deposit certificates (CDTs and CDATS), na stands for non-applicable data.

Table B.3

	ASSETS									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Billions of COP									
Total financial system	103,013.1	108,815.4	118,202.8	136,940.6	157,404.1	181,193.7	213,847.8	248,427.0	268,580.3	305,005.5
Total banks	71,968.7	76,756.3	84,880.2	98,797.6	118,357.5	136,896.7	159,787.9	186,144.9	202,117.3	242,589.5
Of which										
Public banks	13,157.7	14,556.0	15,584.3	17,205.6	18,163.1	16,484.4	9,965.0	10,850.1	12,569.2	14,609.3
Private banks	58,811.0	62,200.3	69,295.9	81,592.0	100,194.4	120,412.3	149,822.9	175,294.9	189,548.1	227,980.2
Cooperative banks	na	na	na	na	na	na	na	na	na	na
National banks	53,177.7	62,546.8	69,512.0	81,192.5	96,970.8	107,504.8	124,999.4	145,473.6	160,964.1	194,663.7
Foreign capital banks	18,791.0	14,209.5	15,368.2	17,605.2	21,386.7	29,391.9	34,788.6	40,671.3	41,153.2	47,925.8
Non-bank financial entities	31,044.4	32,059.1	33,322.6	38,142.9	39,046.7	44,297.0	54,059.9	62,282.1	66,463.1	62,416.0
Financial corporations	8,901.7	8,387.7	7,118.0	8,507.9	5,323.9	3,667.5	3,845.2	3,946.6	6,847.4	7,165.4
Financing companies	3,319.4	3,984.3	5,249.1	7,581.2	10,565.2	14,575.6	19,523.7	22,907.1	22,746.6	16,873.1
Superior level cooperative bodies	54.4	57.1	57.8	56.8	55.8	74.2	91.6	287.8	324.4	372.2
Financial cooperatives	306.8	354.1	375.5	433.7	550.8	689.6	2,184.5	2,692.4	3,010.7	3,478.4
Special official institutions ¹	18,462.1	19,275.8	20,522.2	21,563.3	22,551.0	25,290.1	28,414.9	32,448.2	33,533.9	34,526.8

Source: Superintendencia Financiera de Colombia.

Notes: ¹This category includes public development entities: Bancoldex, Findeter, FEN, Finagro, Icetex, Fonade, Fogafin, Fondo Nacional del Ahorro, Fogacoop, FNG and Caja de Vivienda Militar. na stands for non-applicable data.

Table B.4

	DEPOSITS									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Billions of COP									
Total financial system	56,960.0	60,215.1	66,056.6	79,940.7	93,269.6	110,825.6	131,534.0	154,839.5	165,450.0	180,852.9
Total banks	49,501.7	52,657.5	57,565.0	69,375.6	81,712.6	96,915.8	111,902.9	132,198.8	141,293.1	157,550.3
Of which										
Public banks	8,546.0	9,247.6	9,696.7	11,193.1	12,185.3	10,682.3	6,191.3	7,186.6	7,918.1	9,085.1
Private banks	40,955.7	43,409.9	47,868.3	58,182.6	69,527.3	86,233.5	105,711.6	125,012.3	133,375.0	148,465.1
National banks	37,394.5	43,718.1	47,824.1	57,405.1	67,261.8	76,255.9	87,129.3	103,593.1	113,694.2	125,657.4
Foreign capital banks	12,107.2	8,939.4	9,740.9	11,970.5	14,450.8	20,659.9	24,773.6	28,605.8	27,598.9	31,892.8
Non-bank financial entities	7,458.3	7,557.6	8,491.6	10,565.1	11,557.0	13,909.8	19,631.1	22,640.7	24,156.9	23,302.6
Financial corporations	3,586.3	3,103.7	2,460.3	2,900.7	2,183.3	1,071.4	1,020.1	1,082.7	1,303.6	1,611.5
Financing companies	1,997.7	2,247.1	2,599.8	3,615.8	5,046.4	6,776.5	10,048.7	11,212.6	11,025.3	8,624.0
Superior level cooperative bodies	37.5	44.0	44.4	41.2	36.2	53.2	63.7	65.3	104.6	149.8
Financial cooperatives	199.4	228.4	244.4	287.0	363.5	462.9	1,074.3	1,338.0	1,563.5	1,871.1
Special official institutions ¹	1,637.4	1,934.5	3,142.7	3,720.4	3,927.6	5,545.8	7,424.3	8,942.1	10,160.0	11,046.2

Source: Superintendencia Financiera de Colombia.

Notes: ¹ This category includes public development entities: Bancoldex, Findeter, FEN, Finagro, Icetex, Fonade, Fogafin, Fondo Nacional del Ahorro, Fogacoop, FNG and Caja de Vivienda Militar.

Table B.5

	EQUITY									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total financial system	5,166.9	5,670.2	5,399.4	5,947.6	6,243.1	6,314.0	6,569.3	7,139.3	7,747.6	7,757.7
Total banks	2,274.3	2,435.0	2,471.8	2,480.8	2,466.0	2,133.8	1,982.4	2,261.9	2,447.7	2,550.0
Of which										
Public banks	642.5	632.5	632.5	632.5	733.9	410.0	160.0	160.0	160.0	160.0
Private banks	1,631.8	1,802.5	1,839.3	1,848.3	1,732.1	1,723.8	1,822.4	2,101.9	2,287.7	2,390.0
National banks	1,702.7	1,751.2	1,754.4	1,763.4	1,843.6	1,469.5	1,315.8	1,457.7	1,519.6	1,600.4
Foreign capital banks	571.6	683.9	717.4	717.4	622.4	664.3	666.6	804.2	928.0	949.7
Non-bank financial entities	2,892.6	3,235.2	2,927.6	3,466.8	3,777.1	4,180.2	4,586.9	4,877.4	5,299.9	5,207.7
Financial corporations	665.7	446.6	107.5	112.3	59.4	156.9	157.0	157.1	159.2	162.6
Financing companies	315.7	320.5	353.2	413.7	495.3	605.0	722.7	953.9	1,143.9	837.3
High level cooperative bodies	9.0	9.3	8.7	9.8	18.6	18.3	16.9	36.7	31.5	32.0
Financial cooperatives	63.6	66.5	61.4	61.0	66.0	70.7	199.0	291.1	310.0	328.6
Special official institutions ¹	1,838.6	2,392.3	2,396.8	2,870.0	3,137.9	3,329.2	3,491.3	3,438.6	3,655.4	3,847.1

Source: Superintendencia Financiera de Colombia.

Notes: ¹ This category includes public development entities: Bancoldex, Findeter, FEN, Finagro, Icetex, Fonade, Fogafin, Fondo Nacional del Ahorro, Fogacoop, FNG and Caja de Vivienda Militar.

Table B.6

LOANS TO THE NON-FINANCIAL SECTOR
Millions of USD

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total financial system	87,764	92,619	102,764	118,388	135,403	157,159	186,206	217,084	230,324	261,556
Total banks	64,690	69,119	76,090	88,080	104,698	121,579	141,567	164,957	175,727	211,141
Of which										
Public banks	12,212	13,450	14,335	15,575	16,272	15,069	9,266	10,021	11,447	13,431
Private banks	52,478	55,669	61,755	72,505	88,425	106,510	132,301	154,936	164,280	197,710
National banks	47,757	56,327	62,379	72,446	85,459	95,052	110,085	128,300	139,371	168,600
Foreign capital banks	16,933	12,792	13,711	15,634	19,239	26,527	31,482	36,658	36,356	42,541
Non-bank financial entities	23,074	23,500	26,674	30,308	30,705	35,580	44,639	52,127	54,596	50,415
Financial corporations	7,346	6,856	5,489	6,224	3,572	1,779	1,692	1,565	3,662	3,711
Financing companies	2,742	3,335	4,514	6,683	9,453	13,182	17,730	20,610	20,125	14,642
High level cooperative bodies	50	52	53	51	42	59	75	123	159	200
Financial cooperatives	228	259	281	329	425	546	1,899	2,285	2,559	2,979
Special official institutions ¹	12,709	12,998	16,338	17,020	17,213	20,014	23,243	27,545	28,091	28,883

Source: Superintendencia Financiera de Colombia.

Notes: ¹ This category includes public development entities: Bancoldex, Findeter, FEN, Finagro, Icetex, Fonade, Fogafin, Fondo Nacional del Ahorro, Fogacoop, FNG and Caja de Vivienda Militar.

Table B.7

CURRENT ISSUES IN INTERNATIONAL CAPITAL MARKETS					
As of July 12, 2010					
<i>Issue date</i>	<i>Issuances</i>	<i>Original currency</i>	<i>Maturity (years)</i>	<i>Amount issued (USD)</i>	<i>Spread¹</i>
25-feb-00	11.75% 20	USD	20	500	585
08-mar-00	11.75% 20 (reopening 1)	USD	20	250	
17-mar-00	11.85% 28	USD	28	22	630
14-aug-01	11.75% 20 (reopening 2)	USD	19	325	672
21-nov-01	10% 12	USD	10	500	588
21-dec-01	10% 12 (reopening)	USD	10	400	483
09-jul-02	10.5% 10	USD	8	507	0
09-dec-02	10.75% 13	USD	10	500	695
28-jan-03	10.375% 33	USD	30	500	634
16-apr-03	10.75% 13 (reopening 1)	USD	10	250	593
11-jul-03	10.375% 33 (reopening 1)	USD	30	135	440
21-jan-04	8.125% 24	USD	20	500	369
20-sep-04	8.25% 14	USD	10	500	435
24-feb-05	TES Global 12% 15	COP	10	325	20 (below TES curve)
17-may-05	FRN 13 Libor 3M + 355	USD	5	335	
19-jul-05	8.25% 14 (reop 1)	USD	10	500	314
21-sep-05	8.125% 24	USD	20	500	323
16-nov-05	FRN 15 Libor 3M + 180	USD	10	400	
21-dec-05	TES Global 12% 15 (reop 1)	COP	10	250	29 (above TES curve)
28-dec-05	1.94% 12	JPY	7	200	
13-mar-06	TES Global 12% 15 (reop 2)	COP	10	238	15 (above TES curve)
27-jul-06	7.375% 17	USD	10.5	1,000	240
16-aug-06	TES Global 12% 15 (reop 3)	COP	10	300	10 (below TES curve)
19-sep-06	7.375% 37	USD	31	1,000	
08-nov-06	7.375% 37 (reop 1)	USD	31	468	241
28-jun-07	TES Global 9,85% 27	COP	20.01	1,000	
15-jan-08	7.375% 17 (reop 1)	USD	9.03	650	222
15-jan-08	7.375% 37 (reop 2)	USD	29.68	350	229
13-jan-09	7.375% 19	USD	10.18	1,000	503
18-nov-09	JPY 2,42% 19 Guarantee JBIC	JPY	10.03	500	93 (over JPY SWAP)
21-apr-09	7.375% 19 (reop 1)	USD	9.91	1,000	459
20-oct-09	6.125% 41	USD	31.24	1,000	200
14-apr-10	TES global 7.750% 21	COP	11	800	83 (below TES)
12-jul-10	TES global 7.750% 21 (reop 1)	COP	10.76	500	93 (below TES)

Source: Ministerio de Hacienda y Crédito Público.

Note: ¹ When no reference value is shown the spread is over USA Treasury securities of the same maturity.

Table B.8

	ALADI, COLOMBIA OPERATIONS									
	Value of transactions, in millions of USD									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Colombia: total exports ¹	12,329.9	11,975.4	13,128.5	16,788.3	21,190.4	24,391.0	29,991.3	37,625.9	32,853.0	39,819.5
Exports to ALADI countries										
In USD	3,420.1	2,962.4	2,576.0	4,218.4	5,286.4	5,828.2	8,837.9	10,879.6	8,387.5	7,260.8
% of total exports	27.7%	24.7%	19.6%	25.1%	24.9%	23.9%	29.5%	28.9%	25.5%	18.2%
Received through ALADI	90.9	64.6	48.7	957.8	1,623.2	2,218.4	4,503.0	4,941.4	1,858.8	99.3
% of exports to ALADI	2.7%	2.2%	1.9%	22.7%	30.7%	38.1%	51.0%	45.4%	22.2%	1.4%
% of total exports	0.7%	0.5%	0.4%	5.7%	7.7%	9.1%	15.0%	13.1%	5.7%	0.2%
Total value of transactions made by ALADI member countries, received	1,466.1	918.2	703.4	2,402.0	4,106.5	6,230.8	11,398.2	12,657.4	7,063.4	5,169.3
Colombia's participation in ALADI transactions	6.2%	7.0%	6.9%	39.9%	39.5%	35.6%	39.5%	39.0%	26.3%	1.9%
Colombia: total imports ²	11,996.6	11,897.2	13,025.7	15,648.7	19,798.9	24,534.0	30,815.7	37,155.4	31,187.8	38,350.6
Imports to ALADI countries										
In USD	3,097.8	3,350.3	3,692.3	4,718.6	6,257.4	8,153.3	9,757.3	10,121.6	8,439.6	10,761.0
% of total imports	25.8%	28.2%	28.3%	30.2%	31.6%	33.2%	31.7%	27.2%	27.1%	28.1%
Payments through ALADI	34.5	34.7	21.6	15.2	18.7	25.5	25.6	21.6	12.7	12.8
% of imports to ALADI	1.1%	1.0%	0.6%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.1%
% of total imports	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
Total value of transactions made by ALADI member countries, paid	1,466.1	918.2	702.3	2,402.0	4,106.5	6,233.8	11,403.8	12,657.4	7,063.4	5,169.3
Colombia's participation in ALADI transactions	2.4%	3.8%	3.1%	0.6%	0.5%	0.4%	0.2%	0.2%	0.2%	0.2%

Source: Figures for total imports and exports were provided by the Departamento Administrativo Nacional de Estadística, DANE, and the Dirección de Impuestos y Aduanas Nacionales, DIAN. Figures for imports and exports to ALADI countries came from the BR's Technical and Economic Information Department, External Sector. Figures for transactions received and paid through ALADI were supplied by the Latin American Integration Association (ALADI).

Notes: ¹ Corresponds to the FOB value of exports. ² Corresponds to the CIF value of imports.

GLOSSARY

In January 2001 the Committee on Payments and Settlement Systems (CPSS) of the Bank for International Settlements (BIS) published the first edition of a glossary that included payment and securities clearing and settlement terms. This glossary can be found on the BIS web page: www.bis.org. The Western Hemisphere Payments and Securities Clearing and Settlement Forum (WHF), based on the glossary produced by the CPSS, has also produced a uniform glossary of terms in English and Spanish with the objective of avoiding unnecessary proliferation of terms and definitions. This glossary can be found on the WHF web page: www.forodepagos.org.

LIST OF ABBREVIATIONS

ACH	Automated clearinghouse
ALADI	Latin American Integration Association
AMV	Autorregulador del Mercado de Valores (stock market self-regulator)
Asobancaria	Asociación Bancaria y de Entidades Financieras de Colombia (Colombian banking and financial institutions association)
Asobolsa	Asociación de Comisionistas de Bolsa de Colombia (Colombian association of stock exchange brokers)
Asofiduciaria	Asociación de Sociedades Fiduciaria (association of trust companies)
Asofondos	Association of Pension and Severance Fund Administrators (Asociación Colombiana de Administradoras de Fondos de Pensiones y Cesantías)
ATM	Automated teller machine
Bancoldex	Banco de Comercio Exterior de Colombia, S. A.
BIS	Bank for International Settlements
Boceas	Bonos Convertibles en Acciones (debentures)
BR	Banco de la República
BVC	Bolsa de Valores de Colombia (Colombian Stock Exchange)
CCDC	Cámara de Compensación de Divisas de Colombia (Colombia's clearinghouse for foreign currency)
CDT	Term deposit certificate
Cedec	Compensación Electrónica de Cheques (electronic cheque clearinghouse)
Cenit	Cámara de Compensación Electrónica Nacional Interbancaria Automatizada (national automated interbank electronic clearinghouse)
COP	Colombian peso

CRCC	Cámara de Riesgo Central de Contraparte de Colombia (central counterparty risk clearinghouse)
CUD	Sistema de Cuentas de Depósito (deposit accounts system)
DCV	Depósito Central de Valores (central securities depository)
Deceval	Depósito Centralizado de Valores de Colombia, S. A. (central securities depository of Colombia)
DGCPTN	Dirección General de Crédito Público y del Tesoro Nacional (General Directorate of Public Credit and National Treasury)
DIAN	Dirección de Impuestos y Aduanas Nacionales (Directorate of Tax and National Customs)
DSP	Departamento de Sistemas de Pago (Payment Systems Department)
DTN	Dirección del Tesoro Nacional (National Treasury)
DVP	Delivery versus payment
FEN	Financiera Energética Nacional (National Financial Energy Corporation)
FIFO	First in first out
Finagro	Fondo para el Financiamiento del Sector Agropecuario (fund for the financing of the agricultural and fishing sector)
Findeter	Financiera del Desarrollo Territorial (financial entity for regional development)
Fogacoop	Fondo de Garantías de Entidades Cooperativas (guarantee fund for cooperative entities)
Fogafin	Fondo de Garantías de Instituciones Financieras (guarantee fund for financial institutions)
GMF	Gravamen a los Movimientos Financieros (tax on financial movements)
Icetex	Instituto Colombiano de Crédito Educativo y Estudios Técnicos en el Exterior (Colombian institute of educational credit and technical studies abroad)
IMC	Foreign exchange market intermediaries
JDBR	Junta Directiva del Banco de la República (Central Bank's Board of Directors)
RTGS	Real time gross settlement system
MEC	Mercado Electrónico Colombiano (Colombia's electronic market)
MHCP	Ministerio de Hacienda y Crédito Público (Ministry of Finance)
OTC	Over the counter
GDP	Gross domestic product

POS	Point of sale
PSE	Proveedor de servicios electrónicos (electronic services provider)
RNVE	Registro Nacional de Valores y Emisores (national register of securities and issuers)
SAG	Sistema de Administración de Garantías (guarantee administration system)
SAO	Alternative operating site
SARO	Sistema para la Administración del Riesgo Operativo (operational risk administration system)
SCB	Sociedad Comisionista de Bolsa (brokerage firm)
Sebra	Sistema Electrónico del Banco de la República (electronic system of Banco de la República)
SEN	Sistema Electrónico de Negociación (electronic trading system)
SET-FX	Electronic currency market transactions system (Sistema electrónico de transacciones del mercado de divisas)
SFC	Superintendencia Financiera de Colombia
Simev	Sistema Integral de Información del Mercado de Valores (integral stock market information system)
SOI	Sistema de Operaciones Internacionales (international operations system)
TDA	Títulos de desarrollo agropecuario (agricultural development securities)
TES	Títulos de Tesorería (Treasury securities)
TRM	Tasa de cambio representativa de mercado (market exchange rate)
TTV	Transferencias temporales de valores (temporary securities transfer)

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