



FINANCIAL STABILITY REPORT

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BANCO DE LA REPÚBLICA
(CENTRAL BANK OF COLOMBIA)

BOGOTÁ. D, C., COLOMBIA

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A NOTE TO THE READER

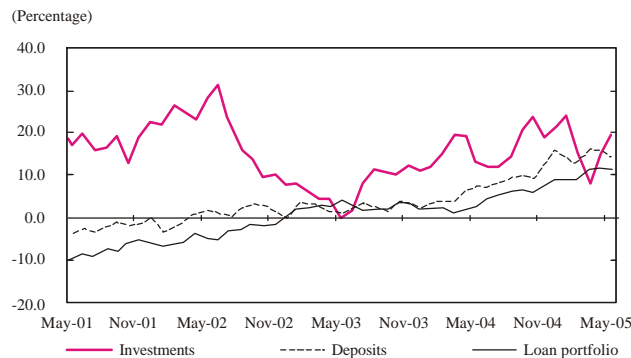
This seventh edition of the *Financial Stability Report* of July 2005 contains some changes compared to previous editions.

In the first place, the *Financial Stability Report* once again has become an independent publication rather than being a special section of the *Revista del Banco de la República* (the Central Bank's Report). Secondly, a new format or way of presenting the information is used: the first section describes the financial system, and it includes debtor exposure, loan portfolio and asset quality. Thus, when describing the financial situation of the debtors, we are only dealing with their *condition*. And in the third place, a new section that analyzes the various risks faced by the financial system has been included.

EXECUTIVE SUMMARY

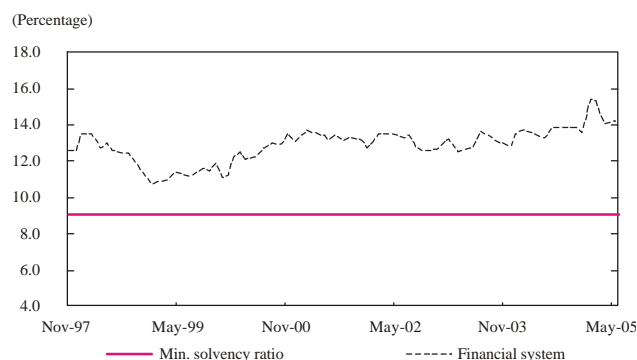
Favorable external and internal conditions have made possible the continued solid expansion of the Colombian Financial System during the first months of 2005. Evidence of this is the accelerated growth of deposits, gross loans and investments held by the banking and non-banking financial institutions.

REAL ANNUAL GROWTH OF THE MAIN BALANCE SHEET ACCOUNTS



Financial margins have increased as a result of deposit recomposition toward less expensive funding sources and because of a major expansion of loans with higher interest rates (consumer). The enhanced financial intermediation and the decrease in non-performing loan levels also speak well of the financial system's profitability. This has notably strengthened the capital gearing of banking institutions, placing capital adequacy ratios at historically high levels.

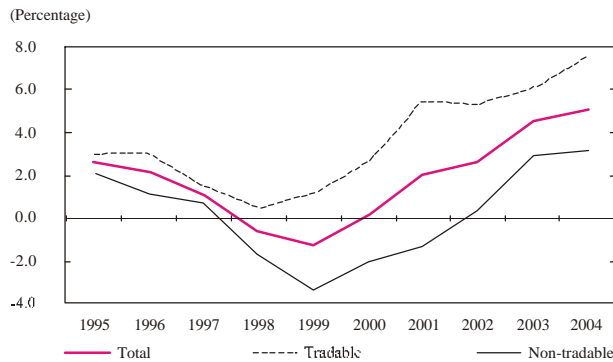
SOLVENCY RATIO



The financial system’s low level of non-performing loans is the effect of systematic improvements in the financial situation of the system’s private debtors. As far as the private non-financial corporate sector is concerned, there has also been a surge in sales which coupled with lower operating costs, have meant notable increases in profitability and capital strength. With respect to external liabilities, businesses continue to rely on domestic funding rather than external financing sources. Overall, this has implied a lesser financial burden and hence lower vulnerability.

In the case of households, financial conditions have improved, mainly due to higher employment rates and because of the real growth of wages within industry and trade. This is the main reason for the credit growth granted to households, particularly consumer credit.

PROFITABILITY INDICATOR



Source: Corporations and Securities Superintendency and Banco de la República.

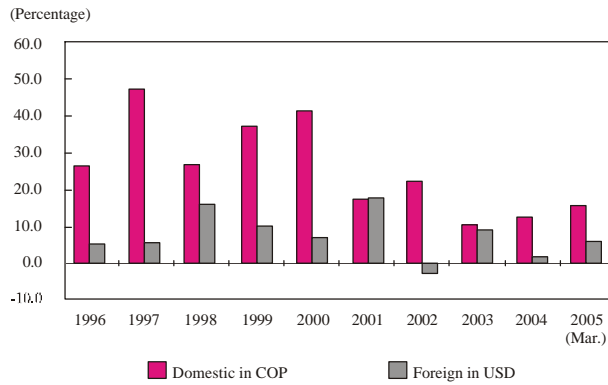
With regard to the future, agents’ outlook continues to be maintained towards a positive perspective. In effect, entrepreneurs are optimistic about the growth of the economy, the improvement of business conditions, the availability of credit, and the development of new investment projects. Households themselves believe that their economic situation will improve further and that it is a good time to acquire durable goods. These results show that the demand for credit could very well continue expanding in the months to come.

The private sectors’ good situation and the better provisioning for non-performing loans by the banks suggest that credit risk does not represent a significant problem to financial stability in the short run.

The main risk to the aforesaid stability lies on the public debt front, although the recent pension reform and the lower interest-rate levels have helped to reduce it. The Government’s indebtedness process has involved replacing external for internal debt and increasing the greater participation of investments on financial institutions’ balance sheets, which has entailed a higher exposure of public debt to market risk.

As a result of the increased exposure, the balance sheets of institutions are more sensitive to changes in investment value. Thus, progress on regulations governing the measurement and monitoring of such changes should continue so as to improve market risk management. In this connection, a workgroup has been set up by the Banking Superintendency and the *Banco de la República* to work on these topics.

ANNUAL NOMINAL GROWTH OF THE NFPS DEBT



Source: Banco de la República.

To sum up, the financial system enjoys conditions that favor stability and growth. Both the external and internal macroeconomic aspects have been positive and debtors have improved their capital structure position, which has meant lower credit risk. However, the greater participation of investments within institutional assets has increased their exposure to market risk and so there is a need to focus on topics addressing this particular risk.

The Board of Governors of the *Banco de la República*



FINANCIAL STABILITY

REPORT

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I. MACROECONOMIC ENVIRONMENT

Exogenous and endogenous conditions favor the Colombian economy. The performance prospects of macroeconomic variables -important for a healthy financial system and its debtors- continue to be positive.

A. INTERNATIONAL ENVIRONMENT

The external situation continues to favor Colombia. In effect, 2005 is expected to show sustained worldwide growth, under a controlled inflation scenario¹, after a good performance in this respect throughout 2004. With regard to Colombia's trade partners, the growth rate is expected to be lower during 2005, but that it will continue at relatively high levels (Table 1). In the case of the United States, the outlook for growth in 2005 should be moderate, even though its GDP growth forecast was revised downwards, while growth rates similar to those in 2004 are expected for the rest of the trading partners during 2005.

The international financial markets have experienced relative calm, after the overhanging air of uncertainty at the beginning of the year. The calm came after the Fed made several announcements, suggesting that the adjustments to its reference interest rate would continue to be gradual in the near future. Recent data on basic inflation and expectations for a lower growth of the US economy seem to explain this policy stand. This situation has allowed the emerging country risk premiums to stabilize, reaching historical lows during the past five years (in the case EMBI+). (Graph 1)

All of the above suggest that the good external conditions favoring the Colombian economy throughout 2004 continued during the first half of this year. This lessens the probability of having abrupt adjustments in such important variables as the exchange rate, country risk, or the terms of trade—all of

¹ International Monetary Fund (IMF), World Economic Outlook, April 2005.

TABLE 1

DEVELOPMENT OF GROWTH FORECASTS

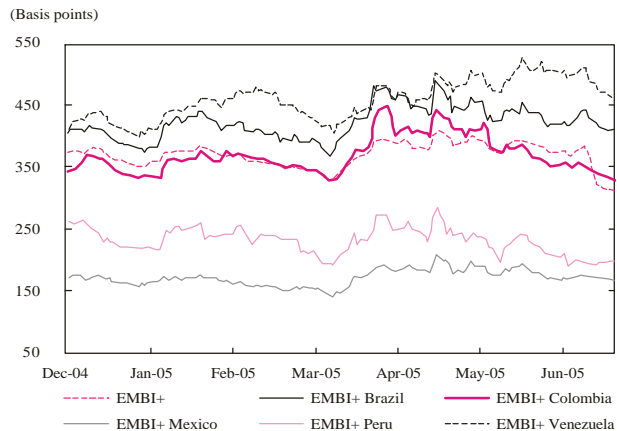
	2004 Observed	2005	
		May	June
Main partners			
United States	4.4	3.7	3.4
Ecuador	6.5	3.4	3.5
Venezuela	17.3	5.5	5.6
Others			
Euro zone	1.8	1.9	1.9
Japan	2.6	1.0	1.0
China	9.5	8.6	8.9
Peru	5.1	4.7	4.7
Mexico	4.4	3.9	3.9
Chile	5.9	5.8	5.8
Argentina	9.0	6.8	6.8
Brazil	5.2	3.7	3.6
Bolivia	3.6	3.3	3.5
Total trade partners (*)	7.7	4.1	4.0

(*) According to non-traditional exports.

Source: Datastream - Consensus and Banco de la República.

GRAPH 1

EMBI+ SPREAD FOR SOME LATIN AMERICAN COUNTRIES (2004-2005)



Source: Bloomberg.

TABLE 2

INTERNATIONAL PRICES FOR EXPORT PRODUCTS

	Average			May 2005
	2002	2003	2004	
WTI Oil (USD per barrel)	26.12	31.12	41.42	49.85
Australian coal (USD per ton)	27.06	27.84	54.70	53.06
Nickel (USD per ton)	6,772.00	9,629.00	13,823.25	16,932.00
Coffe (US cents per lb.)	65.16	69.45	84.20	129.01
Gold (USD per troy ounce)	310.00	363.50	409.23	421.90

Source: World Bank - Pinksheet.

which can impact the country's financial system or affect the balances of its main trading partners.

B. DOMESTIC SITUATION

Turning to our domestic situation, the economy is expected to follow a growth pattern similar to that seen throughout 2004. It will be led by investment, construction, and high international prices for commodities (Table 2). During the last months, private consumption has increased as a result of the higher employment, the greater earnings coming from the coffee sector, among others, and the higher stock prices. Private investment is also showing positive signs, as seen from the higher imports of capital goods during the first quarter of the year. This situation has caused the real rates of both consumer and commercial credit/loans to reach high levels. In addition, public expenditure is anticipated to grow due to lags in the performance of last year's budget.

All of the above has taken place in a context of abundant liquidity, thanks to an ease in the monetary policy stance, which has caused interest rates to achieve historically low levels. This greater liquidity has been made possible without jeopardizing the inflation target for 2005.

The good domestic situation, coupled with the abundant liquidity coming from international markets, has resulted in an important flow of external financing

(Graph 2) —all this, together with the favorable internal monetary situation has caused both the credit and deposit-taking markets of the Colombian financial system to become buoyant during the past months.

To conclude, the internal and external situations referred to above suggest a clear and favorable macroeconomic path ahead that will provide stability to the Colombian financial system in the ensuing months.

GROSS CAPITAL FLOWS

(As a percentage of GDP)



Source: Banco de la República.

II. FINANCIAL SYSTEM

A solid expansion of the financial markets continues, as evidenced by the accelerated credit and investment growth of the intermediaries. This is equally backed up by a similar growth in funding sources, for both in the case of deposit-taking as well as equity capital.

A. CREDIT INSTITUTIONS

We will now refer to the evolution of institutional credit indicators, focusing on performance in the last quarter of 2004 and in the first months of 2005. To that end, a study will be made of the main trends of the balance sheet, the system exposure, debt quality, and the intermediaries' profitability and capital strength.

1. Evolution of the main elements of the balance sheet²

a. Asset positions

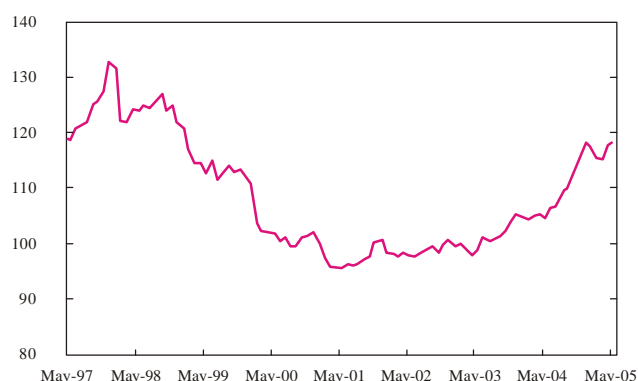
The assets of banking institutions during the second half of 2004 were quite buoyant, achieving in December a value similar to that recorded at the beginning of 1999 (in real terms). They reached COP119 trillion (t)* (Graph 3) in May, which was equivalent to a real annual growth of 13.2%, notwithstanding a marked setback during the first quarter of 2005.

A similar performance was seen by two main asset components: loans and investments. Starting from the second semester of 2004, the former showed

GRAPH 3

ASSETS OF BANK INSTITUTIONS

(In trillions of COP, March 2005)

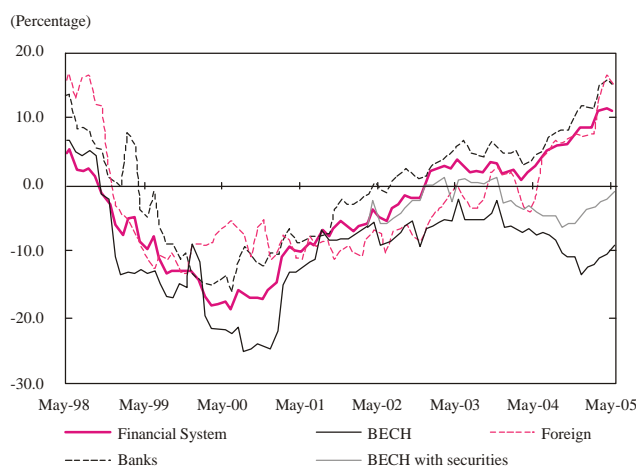


Source: Banking Superintendency. Banco de la República calculations (BR).

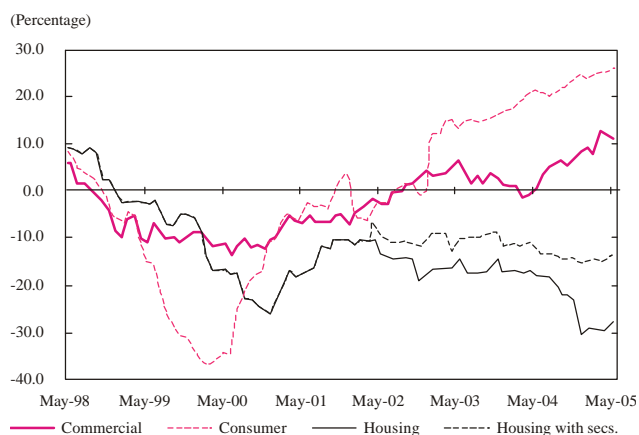
² Assets analyzed do not include the Institute for Industrial Promotion (*Instituto de Fomento Industrial (IFI)*).

* COP stands for the Colombian peso.

**ANNUAL REAL GROWTH OF GROSS LOAN PORTFOLIO
BY TYPE OF INTERMEDIARY**



BY LOAN TYPE



Source: Banking Superintendency and Banco de la República.

the highest real growth rate since 1998 (Graph 4). It actually reached levels close to 12%³ in May 2005. Upon analyzing credit by type of intermediary, two important facts are worth noting: first, foreign bank portfolios continued to maintain their high level of dynamism, as described in our previous Financial Stability Report (*Reporte de Estabilidad Financiera*). Their real annual growth rate (15.2%) was almost four percentage points (pp) above the one attained by domestic institutions, and similar to the rate achieved by the commercial banks—the group of financial intermediaries that has consistently demonstrated the best credit dynamics. Second, the mortgage banks (BECH) (including securitizations), although diminishing in real terms (-0.9%), are showing a less and an ever increasingly less negative performance.

The trends described above reflect the trend of the main types of loans. Obviously, there is a marked difference between the performance of mortgage loans and other types of loans. While the first is falling 13.5% per annum in real terms in May 2005 (27.6%, without securitization), there is a remarkable growth of the commercial, consumer, and microcredit loans, showing annual real growth rates of 11.1%, 25.9% and 61.6% respectively. (Graph 4)

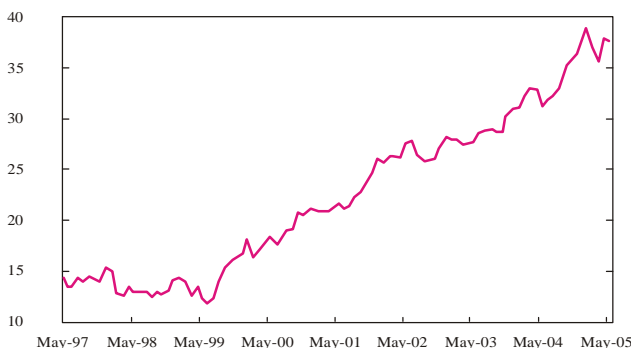
On the other hand, an analysis of the investments of banking institutions showed an important growth after the TES price crisis in April 2004, which lasted until February 2005, when a stress scenario hit the public debt markets. In particular, the closure of positions in February as agents anticipated changes in the Fed’s interest rates, and the price reductions in March 2005 brought a sharp fall in the value of investments held by the banking institutions. However, between April and May upward revisions took place which allowed real annual growth rates to reach 19.7% that May—a similar level to those seen since the second semester of 2003. (Graph 5)

³ Growth rates relate to extended credit portfolios (leasing and securitizations). They are not affected during the first quarter of the year by the seasonal factors, because we are dealing with annual variations.

GRAPH 5

INVESTMENTS OF BANKING INSTITUTIONS

(In trillions of COP, March 2005)

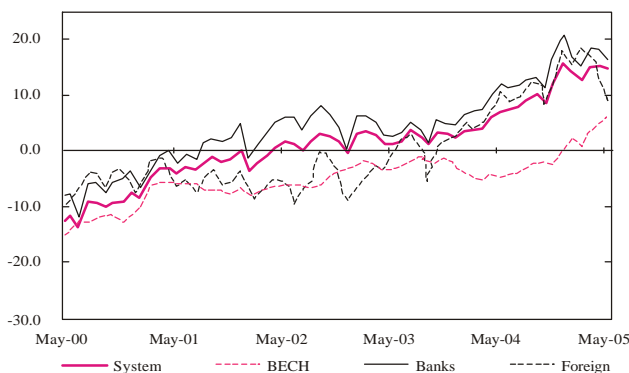


Source: Banking Superintendency and Banco de la República.

GRAPH 6

ANNUAL REAL GROWTH OF DEPOSITS

(Percentage)

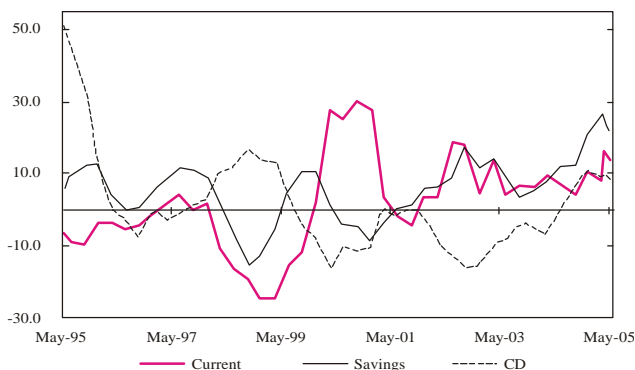


Source: Banking Superintendency and Banco de la República.

GRAPH 7

ANNUAL REAL GROWTH OF DEPOSITS BY DEPOSIT TYPE

(Percentage)



Source: Banking Superintendency and Banco de la República.

b. Liability positions

The remarkable growth seen in the two asset components referred to above also took place with regard to the deposit-taking aspect of banking institutions, which reached COP83.5 trillion in May 2005, showing a real annual average growth rate of 14.7% during the past six months. In real terms, this amount is similar to that seen before the crisis of the financial system. This growth is not evenly distributed among the various types of financial intermediaries, and continues to be led by the commercial banks (a real annual growth of 16% in May). In addition, we should note that the deposit-taking activities of the BECH have achieved positive real annual growth rates in the year-to-date, something which had not taken place since the beginning of 1998. May was particularly outstanding as this real annual growth rate reached 6.5%. On the other hand, deposit-taking foreign institutions, which had achieved a greater growth than the total achieved by the whole system, decelerated between April and May 2005, reaching this last month a growth rate of 8.6%, half of what had been registered during the first quarter of the year. (Graph 6)

This dynamic performance shown by deposit-takers is reflected in the growth of their main components. Savings accounts continue leading with an average of 21.6% in real annual growth rates between November 2004 and May 2005. Although certificates of deposits show less activity, they have nevertheless achieved real average annual growth rates of 10% during the period already mentioned. This is really outstanding when you consider that such CDs had not attained a positive real growth during the past five years. (Graph 7)

2. Financial system's exposure to its debtors

The amount owed by the main debtors of the Colombian financial system reached COP89.6

⁴ The exposure of the financial system to its main debtors is the sum the sum of the loan portfolio and voluntary investments in non-participation securities in the balance sheet of banking institutions.

trillion in April 2005⁴, a figure that exceeded last year's (same month) by 12.5% in real terms. Its participation among total assets has tended to stabilize since the middle of 2004. In April of 2005 it came to 76.2% (Table 3).

Analyzing exposure by type of debtor, we found that private non-financial corporate sector indebtedness was the most dynamic component, going beyond 16% per annum in real terms, as a result of the recovery of the commercial loans during the first quarter of 2005.

As pointed out in previous editions of the Financial Stability Report, public sector indebtedness continues to grow even more rapidly vis-à-vis total debt. For April 2005, it showed a real annual growth of 15%, mainly due to the buoyancy of Government debt securities, notwithstanding the brief stress period⁵ experienced by the public debt market between March and April 2005, but which stabilized at the end of this month. Should the dynamic trend of accumulating Government debt securities continue, the financial system's exposure to the public sector is also expected to increase.

⁵ During this period, the Colombian financial system closed TES B (Government securities) positions in response to increases in the interest rates above the ones previously expected after ensuing Fed announcements. This trend however was reversed because of the stability of the public debt market due to the rates observed and then the agents increased their holdings in public bonds again.

TABLE 3

FINANCIAL SYSTEM'S EXPOSURE TO ITS MAIN DEBTORS

Type	April 2004		April 2005		Real growth Percentage
	Trillions of COP March 2005	Percentage	Trillions of COP March 2005	Percentage	
Public sector					
Loan port.	4.9	6.1	4.6	5.1	(6.1)
Securities	21.4	26.9	25.6	28.6	19.8
Total	26.3	33.0	30.2	33.8	15.0
Corp. non-financial private sector					
Loan port.	30.6	38.4	35.5	39.6	16.1
Securities	0.3	0.4	0.5	0.5	65.0
Total	30.9	38.7	36.0	40.1	16.5
Sector hogares					
Loan port.	21.2	26.6	21.1	23.6	(0.3)
Consumer	10.9	13.7	13.6	17.1	24.9
Mortgage	10.1	12.6	7.1	8.9	(29.2)
Securitizations	1.3	1.6	2.3	2.5	73.7
Total	22.5	28.2	23.4	26.1	4.0
Total amount of exposure	79.7	100.0	89.6	100.0	12.5
Amount of exposure over assets		75.9		76.2	0.0

Source: Banking Superintendency and Banco de la República.

Concerning household debt, there is a contrast between mortgage loan performance and that of consumer loans. While the latter shows a growth rate far beyond the amount of total exposure (25%), the fall of the mortgage loan portfolio, including securitizations, came to 17.4% per annum in real terms in April 2005. Thus, household debt increased only by 3.2%.

Consequently, the above performance shows that household debt lost participation in the total exposure, which came to 26.1% in March 2005, 2 pp less than the same month last year. In addition, an internal recomposition of household debt has been observed, which is beginning to concentrate mostly in the consumer loan portfolio (58% in April).

3. Debt quality and provisioning

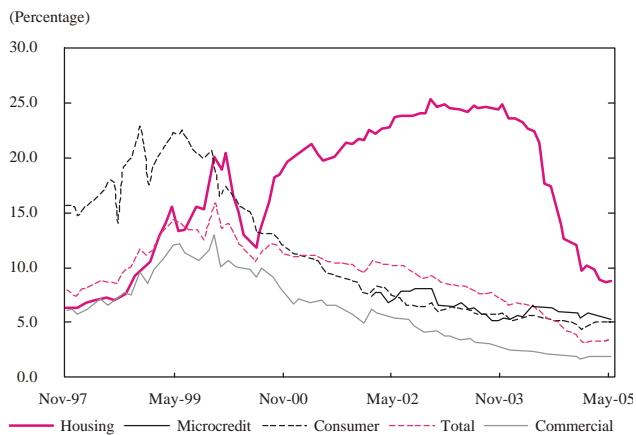
The reduction of the ratio of non-performing loans to the gross loans referred to in previous editions of the Financial Stability Report continued during the second half of 2004, reaching the lowest amount (3.2%) in the past 10 years. Since then, this indicator has fluctuated around its historic minimum; it came to 3.4% in May 2005. When discriminating among the different types of credit, differences in the recent evolution of the loan quality indicator levels can be observed. (Graph 8)

Thus, in May the quality of the mortgage loan portfolio reached a level of 8.9%, which is higher than that exhibited by the commercial (1.9%), consumer (4.9%) and microcredit (5.3%) portfolios. However, the mortgage loan portfolio shows a sharp fall (13 pp) compared to May 2004. The quality indicator remains stable for the rest of the credit types; hence, a process of convergence with regard to the risk profile of the different debtors of the financial system is evident.

A similar reading can be made of the portfolio risk profile of the various financial intermediaries. In May, the participation of the non-performing loan portfolio within the gross portfolio came to 6.4%, in the case of BECH, and to 2.6% in the case of banks (Graph 9). Although a difference of more than 3 pp remains, this corresponds to a third of that registered one

GRAPH 8

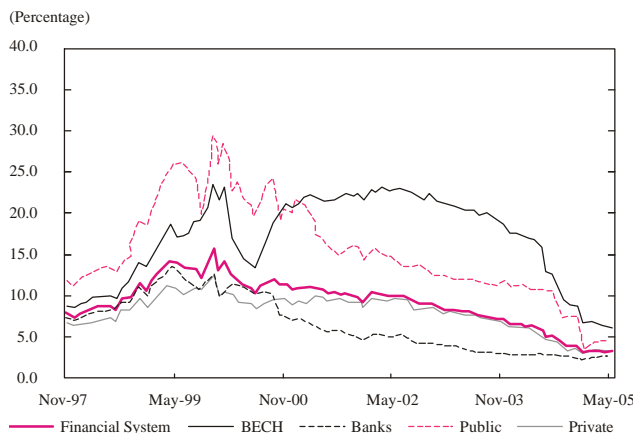
LOAN PORTFOLIO QUALITY BY TYPES



Source: Banking Superintendency and Banco de la República.

GRAPH 9

LOAN PORTFOLIO QUALITY BY TYPE OF INTERMEDIARY



Source: Banking Superintendency and Banco de la República.

year ago. This process is made even clearer if we compare public and private entity indicators, which came to 4.4% and 3.3%, respectively.

The convergence process previously described is mainly due to improvements in the risk profile of mortgage loans, associated with a reduction in the stock of BECH 's non-performing loans, by means of three main courses of action: the securitization of the June and October 2004 non-performing loan portfolio; the sale of an important portion of the worst rated mortgage loan portfolio to *Central de Inversiones (CISA)* by public entities; and the penalization of part of the portfolio to improve institutions' balance sheets.

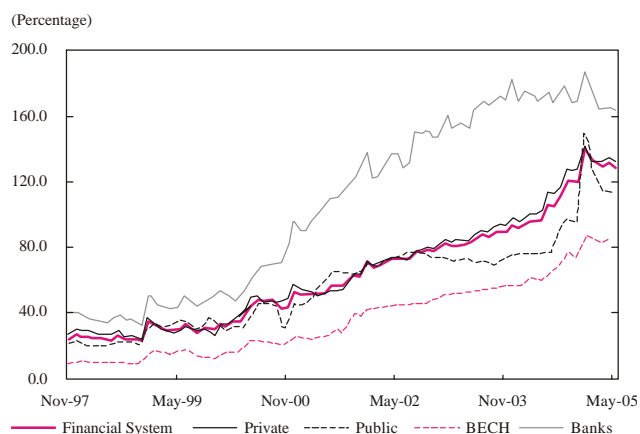
As a result of the above, we are able to note that the risk profile of the household portfolios has improved substantially, due to the improvement in quality performance of the mortgage loan portfolio. However, the stabilizing downward trend of consumer loan indicators combined with the high growth rates being reached in the consumer portfolio makes it necessary to keep a close look over debtors' payment capacity and so reduce the risks that would jeopardize this type of portfolio in the future.

Although the growth of corporate portfolio exposure has recovered during recent months, the likelihood of it deteriorating seems small, mainly because growth is not rapid, like that of the consumer loan portfolio, and also because of the historically low credit risk it represents. On the other hand, the swift expansion of the consumer and microcredit loan portfolios could be reasons for concern in the future. If such a growth is associated with less restrictive policies on credit approvals by financial intermediaries, the quality of the portfolio could well be affected. (Graph 10)

Despite what we have just analyzed, the high provisioning levels shown by the portfolios diminish the aforementioned worries. The provisioning index in particular (calculated as the ratio of provisions to non-performing loans) increased 9 pp between November 2004 and May 2005, reaching a level of 129% during this last month. This performance is seen right across the board. However, we should note that the BECH have lower provisioning levels than the total system (82%), and that the existing gap has increased to the point of reaching 47 pp in May 2005, almost 10 points more compared to the same month last year. Additionally, provisioning by public entities is less active and, with the exception of December 2004⁶, has shown

GRAPH 10

PROVISIONING: PROVISIONS / NON-PERFORMING LOANS

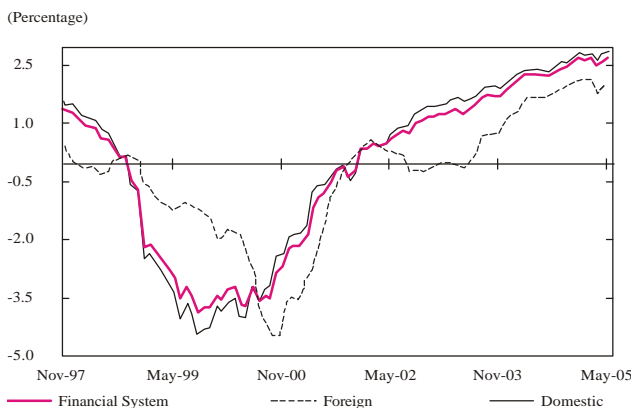


Source: Banking Superintendency and Banco de la República.

⁶ This abnormal performance has to do with the selling of a significant portion of the worst quality portfolio of these institutions and therefore the fall associated with provision expenses.

GRAPH 11

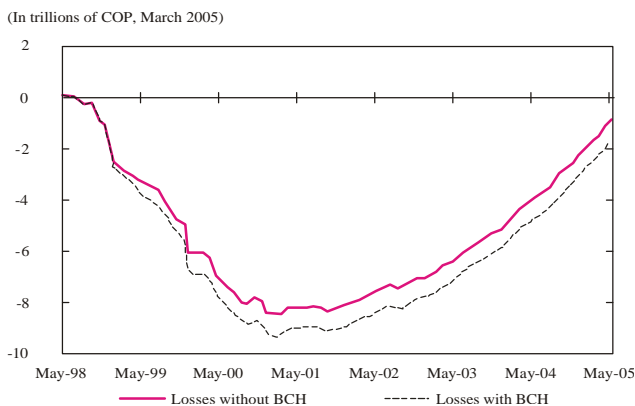
ASSET PROFITABILITY



Source: Banking Superintendency and Banco de la República.

GRAPH 12

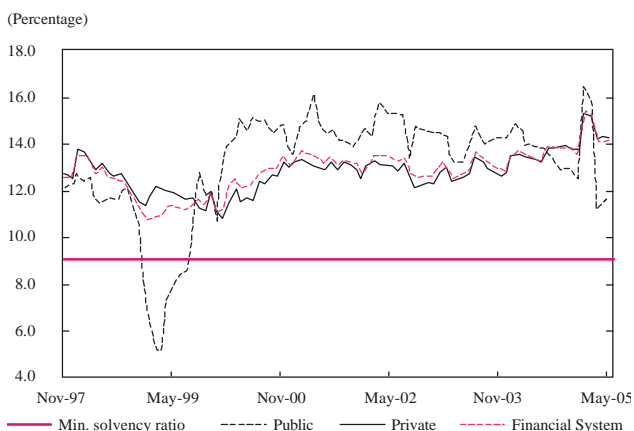
FINANCIAL SYSTEM'S ACCUMULATED LOSSES SINCE 1998



Source: Banking Superintendency and Banco de la República.

GRAPH 13

SOLVENCY RATIO



Source: Banking Superintendency and Banco de la República.

increases below those for the rest of the system.

4. Profitability and solvency

The upward trend of profitability shown by credit institutions throughout 2004 seems to have halted during December. Since then the return on assets (ROA) has fluctuated around 2.7%, with a slight fall in March 2005, associated with the losses due to valuations changes in government debt securities. ROA of foreign and domestic banks has converged to the system's total, but the gap between both of these groups remains, reaching 1.9% and 2.9% respectively, in May. (Graph 11)

Over the past 12 months, profits came to COP3 trillion in May 2005, a figure 30% above the one attained in May 2004, and almost 50% higher than before the crisis. We should clarify however, that notwithstanding the good profitability performance by the sector, the accumulated results since 1998 remain negative. In other words, the profits gained since 2001 have not yet reached the amounts lost during the years of the crisis (Graph 12). In May, the financial system's balance indicated losses in the amount of COP1.7 trillion (COP0.9 trillion if we do not include the Mortgage Bank (*Banco Central Hipotecario, BCH*)).

This good profitability performance is consistent with the consolidation of financial solvency. The capital adequacy ratio of credit institutions was above 14% during the first five months of 2005—5% above the minimum level required by the Banking Superintendency (Graph 13). Furthermore, this level was similar to the maximum levels attained between 1995 and 1997, although at the time capital was not required to offset market risks, as it is now. Public institutions, as opposed to other subgroups of intermediaries in the financial system, have shown a downward trend in their capital adequacy ratio (solvency), to 11.7% in April 2005, one of the lowest levels since 1999.

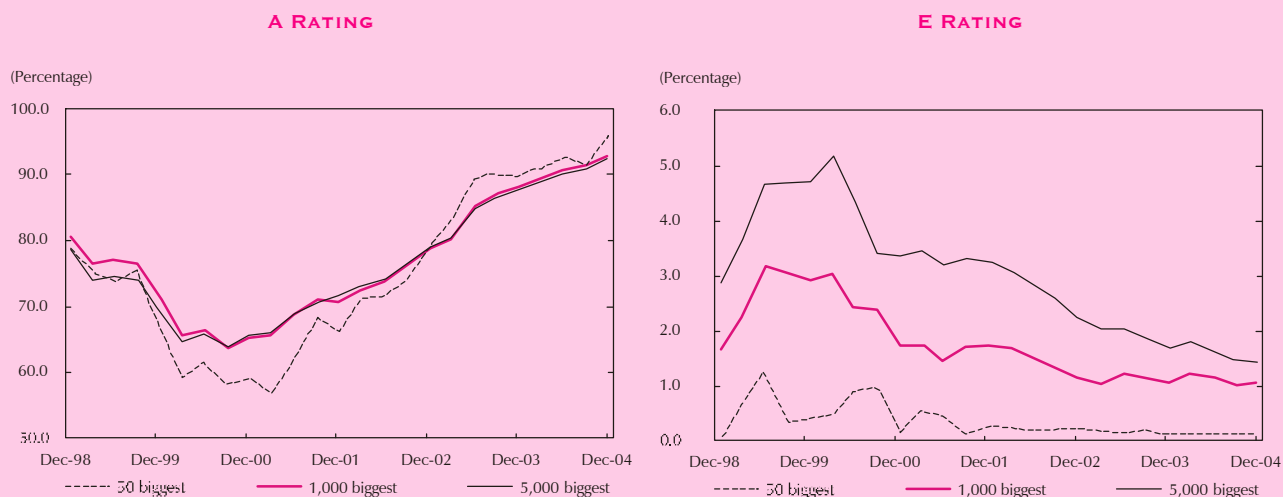
In any case, the current capital adequacy ratio level does not pose restrictions to maintaining the growth tendency of loan portfolios for credit institutions. The good performance in deposit-taking also guarantees funding for these types of operations.

CONCENTRATION AND LOAN QUALITY OF THE PRIVATE NON-FINANCIAL CORPORATE SECTOR

In December 2004, the concentration of the private commercial loan portfolio had only a slight fall, compared to the same month in 2003. The percentage of the commercial loan portfolio in the hands of the 50 major private corporate debtors, which was equal to 20.7% in 2003, fell to 18.5% in 2004; the same happened with the 1,000 biggest debtors for whom the concentration decreased from 64.5% to 62.1%, and with the 5,000, for whom the concentration diminished from 81.9% to 80.5%.

The loan portfolio quality for the main debtors continued to improve in December 2004. The proportion of loans type A for the 5,000 major debtors reached 92.2%, whilst the proportion of loans type E fell to 1.4%. (Graph R1. 1)

GRAPH B1.1
DEVELOPMENT OF PORTFOLIO QUALITY BY DEBTORS



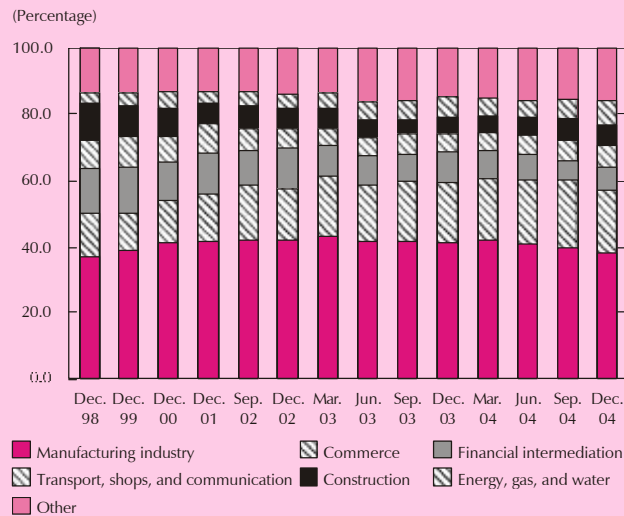
Source: Banking Superintendency and Banco de la República.

The distribution of private commercial loans divided by economic sectors showed a slight change in December 2004. Both industry and transport reduced their participation, whereas construction and the energy, gas, and water sector increased theirs. (Graph R1. 2).

The performance of loan quality by economic sectors showed an increase in the type A loan for all sectors except for the commerce sector; and a decrease in the type E loans. Note the construction sector's performance, showing a fall of type E loans throughout 2004.

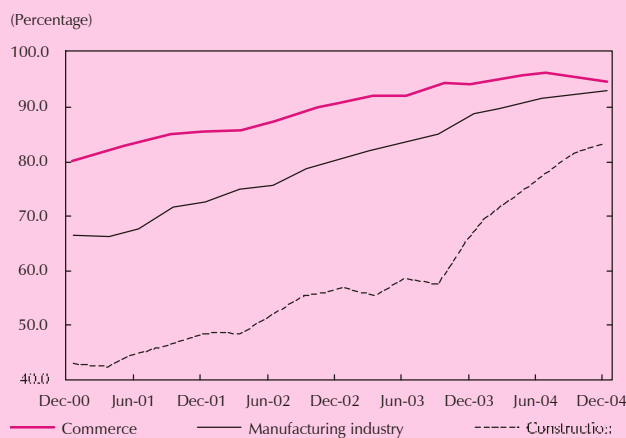
GRAPH B1.2
PRIVATE COMMERCIAL LOAN PORTFOLIO BY ECONOMIC SECTORS

PRIVATE COMMERCIAL LOAN PORTFOLIO COMPOSITION BY ECONOMIC SECTORS

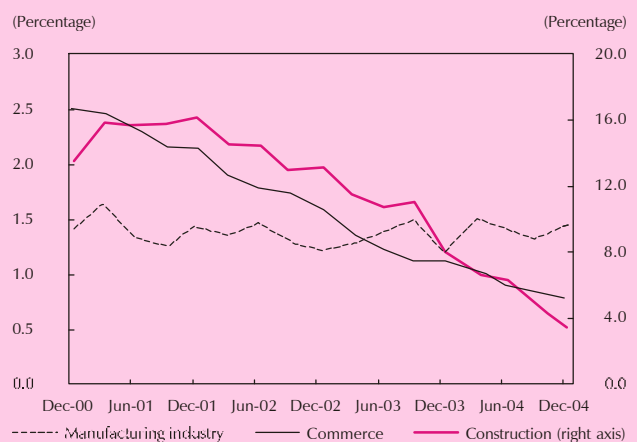


DEVELOPMENT OF PRIVATE COMMERCIAL LOAN PORTFOLIO BY ECONOMIC SECTORS

A RATING



E RATING



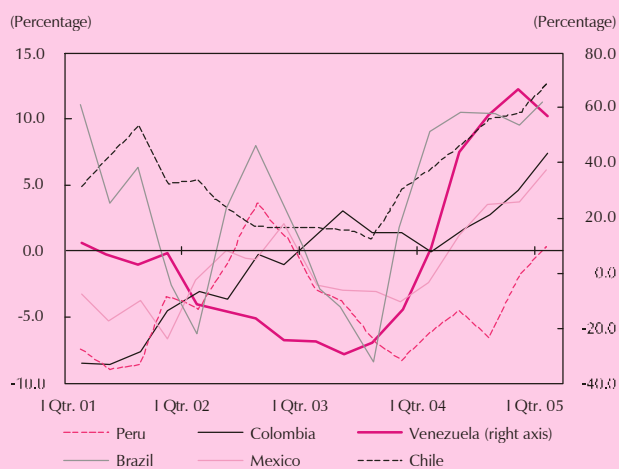
Source: Banking Superintendency and Banco de la República.

INTERNATIONAL COMPARISONS WITH SOME OF THE FINANCIAL SYSTEM'S INDICATORS

In this box an analysis of some indicators of the Colombian banking system and those of other Latin American countries is made¹. The purpose here is to compare our efficiency, profitability, and loan quality indicators of our system against international standards.

Concerning loan portfolios, Colombia and Mexico showed upturns starting in 2004, as did Venezuela in even greater measure, growing at a real annual rate of 67.2% in December, as a result of the economic recovery after the 2003 crisis. The process began at the end of 2003 both in Brazil and Chile and, after Venezuela, these countries showed the highest growth rates. In December 2004, Peru was the only country that did not achieve a real positive growth rate in its loan portfolio. (Graph B2.1)

GRAPH B2.1
ANNUAL REAL GROWTH RATE OF THE GROSS LOAN PORTFOLIO



Source: Banking Superintendency of each country, Central Bank of Brazil, and Banco de la República.

For the majority of countries, the loan acceleration process continued during the first quarter of 2005. The only exception was Venezuela, although it still maintains a very high growth rate. Peru achieved its first positive growth rate since 2002.

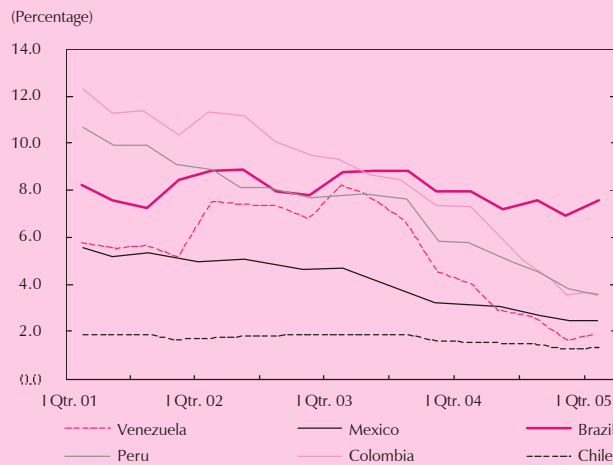
The non-performing indicator shows a considerable decrease for Colombia, Mexico, Peru and Venezuela. In the last case, though the non-performing loans have fallen, the decrease shown by the indicator is mainly due to the increase in the overall loan portfolio.

¹ Brasil, Mexico, Chile, Peru, and Venezuela.

For March 2005, Colombia and Peru's indicator came to 3.6%, which is above the values exhibited by Mexico, Chile and Venezuela. The non-performing loan indicator in Chile and Brazil has remained stable in recent years, fluctuating around 1.6% for Chile, and 7.9% for Brazil. The latter country continued to deteriorate during the first quarter of 2005. (Graph B2.2)

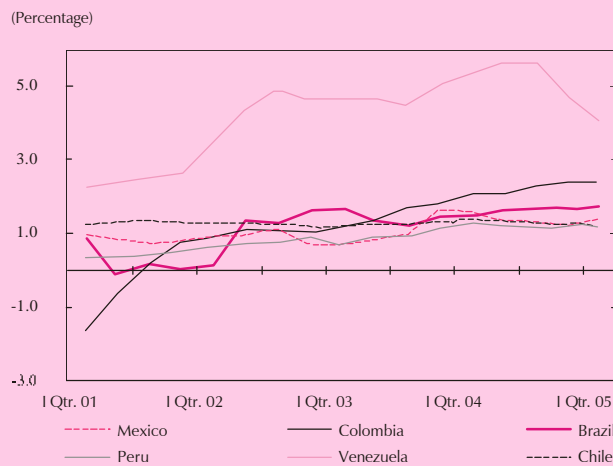
The Colombian banking system's profitability increased during 2004 and remained at 2.4% during the first quarter of 2005. Colombia showed the highest profitability when compared to the other banking systems², which had earnings below 2% during the first quarter of the year. (Graph B2.3)

GRAPH B2.2
LOAN PORTFOLIO QUALITY: NON-PERFORMING / GROSS LOAN PORTFOLIO



Source: Banking Superintendency of each country, Central Bank of Brazil, and Banco de la República.

GRAPH B2.3
ASSET PROFITABILITY: NET PROFIT / ASSET

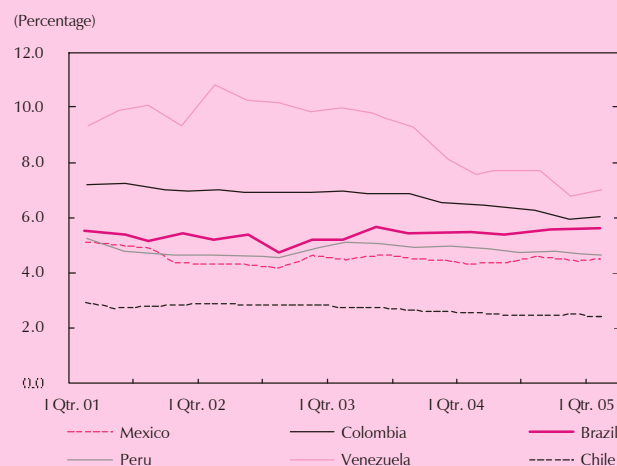


Source: Banking Superintendency of each country, Central Bank of Brazil, and Banco de la República.

² Except Venezuela, which had an asset yield equal to 4% in March 2005.

The efficiency indicator (operational costs/average assets) has remained constant during the last year for all countries. Chile shows an average indicator of 2.6% during the past four years; Mexico, Peru and Brazil's oscillates between 4% and 5%, and Colombia's stands around 6.7%. Although the efficiency of Colombia's banking system has improved, operational costs still represent an important percentage of assets, when compared to the rest of the countries analyzed. The highest indicator (less efficiency) is Venezuela's, where it reached levels close to 7% in March 2005, and to 9%, on the average, in recent years. (Graph B2.4)

GRAPH B2.4
EFFICIENCY: OPERATIONAL AND LABOR COSTS / ASSETS



Source: Banking Superintendency of each country, Central Bank of Brazil, and Banco de la República.

Bank interest margins, considered as another efficiency indicator, show similar results (Table R2.1). For Colombia, the implicit rate margin (Margin 1) shows an increase from 2002 to 2005; however, the value in March 2005 (8.4%) is below the same month in 2004 (8.5%). Colombia is positioned below the average value of its peers in Latin America.

Colombia's gross financial margin (Margin 2) increased during the period from 2002 to 2005, but decreased substantially in March 2005 (8.4%), compared to the same month in the previous year (8.8%). In this case, Colombia is above the average of its Latin American peers. The cases of Brazil and Venezuela are worth noting: the former for having a very high stock of assets, accompanied by a very low loan portfolio/asset ratio, which prevents the financial earnings compared to assets from being higher; in the case of the latter country, for showing a higher asset growth with respect to the one obtained by the difference between financial earnings and expenditures.

In short, the Latin American banking systems enjoy a favorable picture. The portfolio recovery that began in 2003 continued in 2005, accompanied by an improvement in

their quality indicators. In recent years, return on assets indicator has remained positive, while the efficiency indicator has remained more or less constant, although high (a lower efficiency) in the case of Colombia.

TABLE B2.1
INTERMEDIATION MARGINS

Country	Margin 1		Margin 2	
	2002	2005	2002	2005
Brazil	18.39	16.26	4.02	5.25
Chile	4.39	3.83	4.81	4.22
Colombia	7.78	8.43	8.01	8.41
Mexico	4.55	6.94	4.41	5.36
Peru (*)	7.53	9.14	5.32	5.63
Venezuela	20.34	11.99	11.79	7.41
Average	10.50	9.43	6.39	6.05

(*) Margin 1 includes commissions.

Margin 1 = (interest earnings / loan portfolio) - (interest expenditures / liabilities with cost).

Margin 2 = (Financial earnings - financial expenditures) / assets.

Source: Banking Superintendency of each country, Central Bank of Brazil, and Banco de la República.

B. NON-BANKING FINANCIAL INSTITUTIONS

In this section of the Financial Stability Report we analyze the country's most important non-banking financial institutions: the pension fund (AFPs), the life insurance companies, and the ordinary common funds (FCOs) and special common funds (FCEs), managed by the trust funds. Table 4 shows their importance and growth in the last two years.

1. Pension Funds (AFPs)

a. Portfolio growth

The value of the funds managed by the AFPs has maintained its growth trend. They represented COP37.0 trillion in February 2005. The real annual growth rate of the portfolio value managed by these institutions came to 20.8%. This has been partly due to the increase in active fund members, which reached 2.8 million in December 2004, which meant a 12% annual increase. Another factor which helps explain this behavior has been their profitability performance. For the obligatory pension funds, effective annual returns came to 10.96% over the past three years, a profitability that is 5.75 pp greater than the minimum required. In the case of the severance

INVESTMENT PORTFOLIO, BANKING INSTITUTIONS

	2002		2003		2004	
	Trillions of COP	GDP Percentage	Trillions of COP	GDP Percentage	Trillions of COP	GDP Percentage
Bank institutions						
Investments	24.93	12.2	28.81	12.5	36.93	14.4
Loan portfolio	46.40	22.7	49.77	21.6	56.11	21.9
Total banking institutions	71.33	34.9	78.58	34.2	93.03	36.3
Non-bank financial institutions						
Compulsory pensions	15.67	7.7	20.34	8.8	26.44	10.3
Voluntary pensions	2.96	1.5	3.77	1.6	4.49	1.8
Severance	2.341	1.2	2.74	1.2	3.19	1.2
General insurance	2.12	1.0	2.47	1.1	2.84	1.1
Life insurance	2.78	1.4	3.55	1.5	4.38	1.7
FCO	3.39	1.7	3.98	1.7	4.52	1.8
FCE	1.25	0.6	1.83	0.8	1.93	0.8
Stock brokers (*)	1.45	0.7	1.30	0.6	1.67	0.7
Total non-banking financial institutions	32.03	15.6	39.98	17.38	49.4	19.3
Total	103.36	50.5	118.56	51.58	142.43	55.6

(*) Funds managed.

Source: Banking Superintendency, Corporations and Securities Superintendency, DANE, and Banco de la República.

payment, their profitability during the past two years came to 6.45%, compared to the required real minimum of 2.33%.

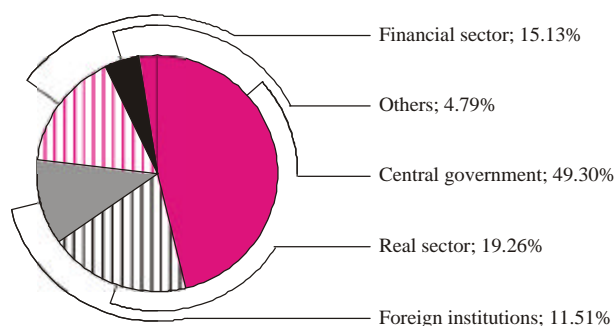
b. Portfolio composition

1) Classified by type of asset and counterparty

Since the last Financial Stability Report, the portfolio composition of AFPs has suffered few changes. Exposure to the Central Government remained practically unchanged and accounted for 49.3% of the total portfolio (Graph 14). On the other hand, there were marginal changes that indicated a slight increase of exposure to the real sector and the foreign sector⁷.

GRAPH 14

PORTFOLIO COMPOSITION OF AFPs ACCORDING TO COUNTERPARTY EXPOSURE, FEBRUARY 2005



Source: Banking Superintendency and Banco de la República.

⁷ Investments abroad were equivalent to 11.0% of total AFP portfolio on September 2004.

The AFP portfolio composition varies across the different funds. In the case of the severance payment funds, their exposure to the public sector is greater than that of the voluntary and obligatory pension funds. For the former, the government debt securities of the portfolio account for 67%, followed by the real sector, financial sector, and external sector. For the pension funds, government debt securities accounted for 47.5% for the obligatory and 43.7% for the voluntary pension funds.

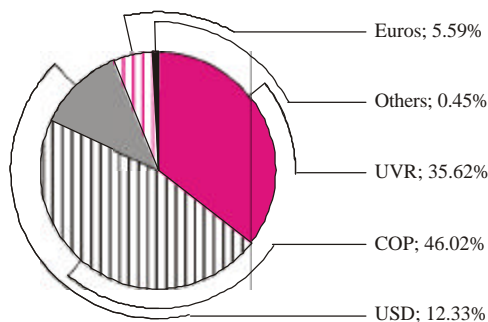
2) Portfolio decomposition by duration and currency

In February 2005, the portfolio composition by type of currency showed some changes with respect to our last edition of the Financial Stability Report. The share in COPs increased from 38.3% to 46.0% between

September 2004 and February 2005. Asset participation of real value units, known as UVRs, showed a slight decrease during the same period. These two components make up the majority of AFP portfolios (Graph 15). Despite the high exposure to UVRs, it is worth recalling that the AFP liabilities are indexed to inflation, which reduces the risk to the latter denomination. The USD participation went from 18.1%, in September 2004, to 12.3% in February 2005, which confirms the downward trend of the past few months mainly as a result of the revaluation of the COP.

GRAPH 15

AFP PORTFOLIO BY DURATION AND CURRENCY, FEBRUARY 2005

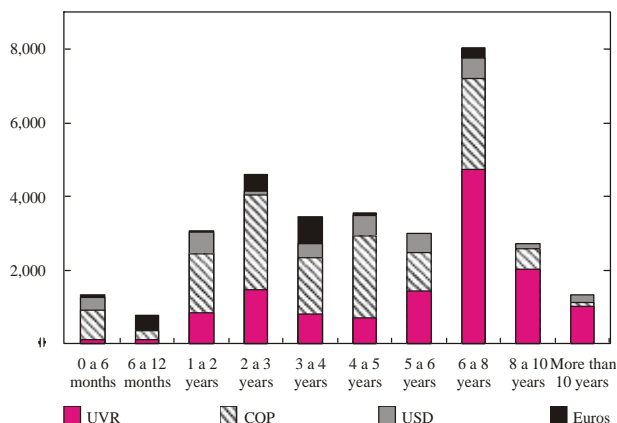


Source: Banking Superintendency and Banco de la República.

GRAPH 16

AFP PORTFOLIO BY DURATION AND CURRENCY, FEBRUARY 2005

(In billions of COP)



Source: Banking Superintendency and Banco de la República.

It is worth noticing that although the USD participation has diminished, this currency continues to be the main foreign currency to which the AFP portfolios are exposed. The decline in the USD share has been accompanied by a lower exchange rate risk. In the case of compulsory pension funds, the percentage of the uncovered portfolio went down to 8.1% in February 2005, and it continues to maintain its downward trend. This percentage for the same month last year came to 13.5%. For the voluntary pension funds, the exposure fell from 28.1% to 13.9% during the same period. For the severance payment funds, it fell from 12.8% to 7.7%.

The high concentration in investments with terms less than 10 years continues to be a particular characteristic of AFPs' portfolios (Graph 16); in effect, 95.8% of the investments have a maturity date of less than 10 years. This contrasts with the

high concentration of fund members who are under 40 years of age⁸. The development of both private and public financial instruments with longer maturities will help the AFPs to adjust their portfolio duration to that of the retirement age of their members.

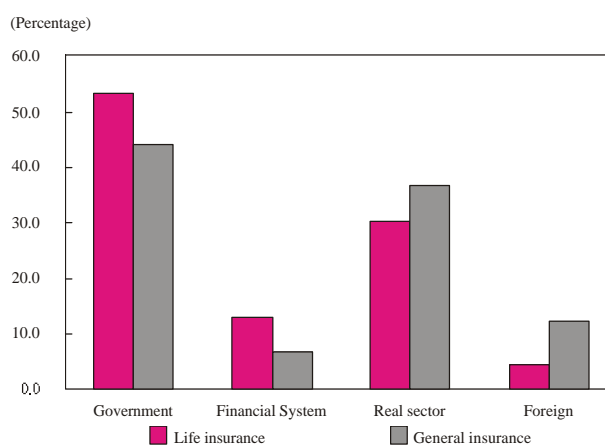
2. Life insurance

After the AFPs, insurance companies are the most important institutional investors. In March 2005, life insurance assets came to COP5.64 trillion, and those of general insurance reached COP5.32 trillion. Throughout 2004, earnings through premiums received were in the order of COP2.35 t and COP3.63 t, respectively, which implied real growth rates of 4.39% and -2%. In the year to date, premiums paid (by the insured) came to COP0.57 t and to COP0.81 t, respectively. An important share of the funds gained through the placement of premiums is invested with the financial system and in the capital market, as a back-up of the reserves needed to meet possible events. In March 2005, the investment portfolio of life insurance companies reached COP4.62 t, 1.21 times more than the technical reserves. In the case of general insurance companies, their investment portfolio rose to COP2.8 t, an equivalent to 1.14 times above the technical reserve⁹. In terms of minimum capital, life insurance companies have 2.95 times the minimum required, while general insurance companies have 3.33 times the requirement.

As shown in Graph 17, the main debtors from the insurance sector are the Government with 53% for life insurance and 44% for general insurance, and the real sector with 30% and 37%, respectively. When analyzing exposure at the company level, several are characterized by having a high concentration of risk in one of these debtors. In the case of life insurance, the most exposed companies were those exposed to Government paper. Several institutions have more than 60% of their portfolio invested in public debt paper, which makes them vulnerable to price fluctuations. Concerning general insurance, we also found institutions with a high exposure to public debt instruments, real

GRAPH 17

INVESTMENT PORTFOLIO, GENERAL AND LIFE INSURANCE COMPANIES, MARCH 2005 (COP 7.5 TRILLION)



Source: Banking Superintendency and Banco de la República.

⁸ In February 2005, 75.2% of compulsory memberships to the pension funds were people under 40 years of age.

⁹ Currently, some general insurance companies have an investment/reserves ratio under 80% which they must fulfill by December 2005, according to Decree 094, Art. 2, dated 2000. At December 2004, participation of these companies, as a percentage of total premiums issued, was in the order of 10.5%.

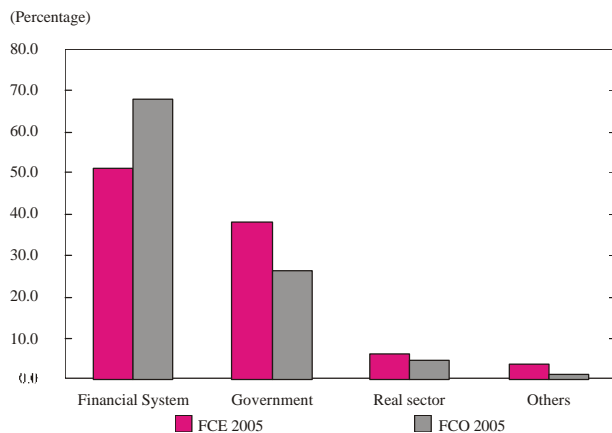
sector issues, and those issued abroad¹⁰. Those corporations that have an important share of their portfolios invested in paper issued by the real sector, are usually part of financial groups and, hence, invest a substantial proportion of their resources in their group's enterprises. Although there is a limit to investing in one single issuer, the high exposure of some companies to the Colombia's General Stock Exchange Index (IGBC) can be a relevant issue should this index show unfavorable movements.

3. Ordinary common funds (FCOs) and special common funds (FCEs)

Trust companies/funds manage investment assets different from pension funds in the amount of COP11.1 t approximately. These types of trust institutions, which account for 23.8% of total assets administered by the trust companies, have closer ties with the financial system and the capital market. In March 2005, the FCO portfolio came to COP4.75 t, while the FCE reached COP2.0 b.

GRAPH 18

INVESTMENT PORTFOLIO OF FCOs AND FCEs, MARCH 2005, (COP 6.75 TRILLION)



Source: Corporations and Securities Superintendency, and Banco de la República.

During 2004, the FCO portfolio grew 7.6% in real terms, while the FCE's had little growth. Contrary to other institutions, most of these trust funds are exposed to the financial sector, which accounts for 68% of the FCO portfolios and 51% for the FCE portfolios (Graph 18). Exposure to the financial system is basically under certificates of deposit (CD). These represent 54.5% of the FCO portfolios and 32.8% of the FCE portfolios. Exposure includes bonds issued by the system's financial institutions, as their other option. The other important debtor is the Government, with 26% and 38% participation, respectively. TES Government instruments only represent 9.39% of the FCO portfolios and 12.1% of the FCE portfolios.

¹⁰ Note that those companies that have a large portion of their portfolio denominated in foreign exchange do not specialize in earthquakes which require by law investments outside the country.

III. THE FINANCIAL SYSTEM'S BORROWERS, CURRENT SITUATION

A. PRIVATE NON-FINANCIAL SECTOR

This section makes a follows up on this particular sector and identifies vulnerabilities that may put at risk the stability of the financial system. The analysis is based on financial statements submitted to Corporate and Securities Superintendencies¹¹.

The asset profitability and indebtedness indicators we will now analyze were included in previous editions of the Financial Stability Report and were identified as determinants of weaknesses of Colombian corporations¹².

1. Profitability¹³

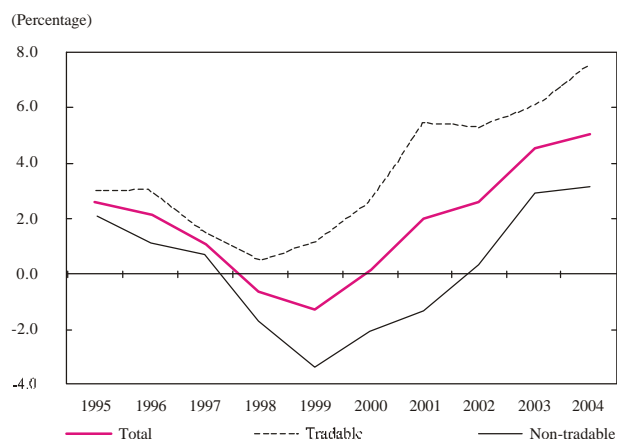
Because of the financial crisis, the asset profitability or return on assets indicator was positive vis-à-vis the negative results during the second half of the 1990s¹⁴.

¹¹ The sample used comprises of an average of 8,476 corporations over the 1995-2004 period. These were classified as producers of tradable and non-tradable goods, depending on the economic sector to which they belong, as well as their size according to the value of their sales per year. Among the tradable goods we have agriculture, cattle, game [wild animals, birds or fish hunted for food or sport] and forestry, fishing, mining and quarrying, and the manufacturing industry. The remaining sectors pertain to those producing non-tradable goods. To determine the size of the corporation we took into account the sales value, as follows: 10% of the corporations with the biggest sales were classified as big corporations, and 60% of the corporations with the lowest sales were considered as small. Further, in order to facilitate the comparative analysis of some figures, a homogeneous sample of corporations is used, comprising those who continuously reported data during the complete period.

¹² Martínez, Óscar (2003). “*Determinantes de fragilidad de las empresas colombianas*”, (Fragility determinants of Colombian enterprises) in *Borradores de Economía, Banco de la República*, No. 259.

¹³ The return on assets indicator is equal to the profits before tax/total assets ratio. It measures

PROFITABILITY INDICATOR



Source: Corporations and Securities Superintendency, and Banco de la República.

In December 2004, returns were at 5.1%, 0.5 above the 2003 result. Taking it by sectors, producers of tradable goods improved returns reaching 7.6% in December 2004; the returns from producers of non-tradable goods were more moderate and equal to 3.2% in December, although these returns showed an upward trend. (Graph 19)

Differences regarding the asset profitability indicator are explained by a more favorable composition of sales and profits for the producers of tradable goods and by the different results in costs and expenses. First, if we take a homogenous sample of corporations, sales of tradable goods these represented 60.1% of total corporate sales, and profit before taxes came

to 76.8%. Second, producer sales of tradable goods grew above costs, administrative expenses declined, and sales expenses grew slightly. Third, producers of non-tradable goods experienced similar changes in sales and costs, but the administrative and sales costs jointly increased. The differences between these two caused their asset profitability levels to vary during 2004; we should note that profits before taxes of tradable and non-tradable producers grew by 185% and 44.6% respectively. (Table 5)

Margins of earnings confirmed these results. The gross and operational margins grew for all corporations and for producers¹⁵ of tradable goods. The gross margin decreased for non-tradable producers, making evident the differences between the two groups.

When the sample was divided by size, the results revealed the trend previously noted. The asset profitability of the big corporations grew by 6% in December 2004, and the medium- to small corporations by 3.6% and 1.7% respectively. As noted in previous Reports, although the smaller corporations had the lowest asset profitability levels in 2004; it was this group of corporations that showed the highest increase.

To conclude, sale's growth and efficiency improvements during 2004 meant positive profits and returns on assets above the levels achieved

the capacity of a firm to yield profits with a level of funds, which includes stockholder capital and indebtedness with the creditors.

¹⁴ The return on assets came to -0.6%, -1.2% and 0.2% in 1998, 1999 and 2000 respectively.

¹⁵ The gross margin is equal to the gross profits/operating income ratio; and the operating margin is equal to operational profits/operating income.

before the crisis and, hence, this sector was again on good standing in response to the satisfactory growth climate of the Colombian economy during 2004.

TABLE 5

COMPOSITION OF THE PROFIT AND LOSS STATEMENT
HOMOGENEOUS SAMPLE (3,381 CORPORATIONS)

	In trillions of COP						Percentage of sales					
	1995	1997	1999	2001	2003	2004	1995	1997	1999	2001	2003	2004
Total												
Operational income	37.1	54.5	60.9	87.3	109.6	122.3	100.0	100.0	100.0	100.0	100.0	100.0
(-) Sales cost	27.1	39.7	43.1	63.1	79.7	88.2	73.2	72.8	70.7	72.2	72.7	72.1
Gross profit	9.9	14.8	17.8	24.3	29.9	34.1	26.8	27.2	29.3	27.8	27.3	27.9
(-) Administrative expenses	3.9	5.8	6.8	8.0	9.5	9.8	10.6	10.7	11.2	9.2	8.7	8.0
(-) Sales costs	3.9	5.9	7.3	9.9	11.9	13.2	10.5	10.7	12.1	11.3	10.9	10.8
Operational profits	2.1	3.1	3.6	6.4	8.4	11.1	5.7	5.8	6.0	7.3	7.7	9.1
(+) Net non-operational income	(0.2)	(1.0)	(1.6)	(0.9)	(1.1)	(1.6)	(0.5)	(1.9)	(2.6)	(1.0)	(1.0)	(1.3)
Profit before tax	1.9	2.1	2.1	5.5	7.3	9.5	5.1	3.9	3.4	6.3	6.7	7.8
(+) Adjustments for inflation	0.5	0.9	0.1	0.0	0.8	0.8	1.3	1.7	0.1	0.0	0.7	0.6
(-) Taxes	0.8	1.1	1.2	1.9	3.1	3.8	2.0	1.9	1.9	2.2	2.8	3.1
Final profits	1.6	2.0	1.0	3.6	5.0	6.5	4.4	3.7	1.6	4.1	4.5	5.3
Tradable												
Operational income	23.9	33.9	38.2	53.0	66.6	73.6	100.0	100.0	100.0	100.0	100.0	100.0
(-) Sales cost	17.4	24.4	26.7	37.6	47.4	51.7	73.0	71.9	70.0	71.0	71.2	70.3
Gross profit	6.4	9.5	11.5	15.4	19.2	21.9	27.0	28.1	30.0	29.0	28.8	29.7
(-) Administrative expenses	2.2	3.2	3.9	4.3	5.2	5.2	9.1	9.3	10.1	8.1	7.9	7.0
(-) Sales costs	2.8	4.1	4.8	6.0	7.2	7.9	11.6	12.1	12.4	11.3	10.8	10.7
Operational profits	1.5	2.3	2.9	5.1	6.8	8.9	6.3	6.7	7.5	9.6	10.2	12.0
(+) Net non-operational income	(0.1)	(0.8)	(1.2)	(0.6)	(0.9)	(1.5)	(0.3)	(2.3)	(3.1)	(1.1)	(1.4)	(2.1)
Profit before tax	1.4	1.5	1.7	4.5	5.8	7.3	6.0	4.4	4.3	8.5	8.8	9.9
(+) Adjustments for inflation	0.3	0.6	0.0	(0.0)	0.5	0.5	1.3	1.7	0.1	(0.0)	0.8	0.7
(-) Taxes	0.6	0.8	0.9	1.4	2.3	2.9	2.4	2.2	2.3	2.7	3.5	3.9
Final profits	1.2	1.3	0.8	3.0	4.0	5.0	4.9	3.9	2.1	5.7	6.1	6.7
Non-tradables												
Operational income	12.9	20.6	22.7	34.4	43.0	48.8	100.0	100.0	100.0	100.0	100.0	100.0
(-) Sales cost	9.5	15.3	16.4	25.5	32.3	36.5	73.8	74.4	72.0	74.1	75.2	74.8
Gross profit	3.4	5.3	6.4	8.9	10.7	12.3	26.2	25.6	28.0	25.9	24.8	25.2
(-) Administrative expenses	1.7	2.6	3.0	3.7	4.3	4.7	13.3	12.8	13.1	10.7	10.0	9.6
(-) Sales costs	1.1	1.8	2.6	3.9	4.8	5.4	8.2	8.5	11.4	11.4	11.1	11.1
Operational profits	0.6	0.9	0.8	1.3	1.6	2.2	4.6	4.3	3.5	3.8	3.8	4.6
(+) Net non-operational income	(0.1)	(0.2)	(0.4)	(0.3)	(0.2)	(0.0)	(1.1)	(1.2)	(1.6)	(0.7)	(0.5)	(0.0)
Profit before tax	0.5	0.6	0.4	1.0	1.4	2.2	3.5	3.1	1.9	3.0	3.4	4.5
(+) Adjustments for inflation	0.2	0.4	0.0	0.0	0.2	0.2	1.4	1.7	0.2	0.0	0.6	0.5
(-) Taxes	0.2	0.3	0.3	0.5	0.8	0.9	1.4	1.5	1.3	1.3	1.8	1.8
Final profits	0.5	0.7	0.2	0.6	0.9	1.6	3.5	3.3	0.7	1.7	2.1	3.2

Source: Corporations and Securities Superintendency, and Banco de la República.

2. Indebtedness¹⁶

The total debt indicator continued its downward trend for all corporations, reaching 34.1% in December 2004. This constant fall since 2002 was experienced both by the producers of tradable and non-tradable goods. This trend has persisted since the year 2000.

The decrease shown by the total debt indicator, which is made up of the homogeneous sample, was due to the greater growth of total assets (3.5%), in real terms, vis-à-vis total liabilities (0.8%). Liabilities continued to diminish, losing importance within the balance sheet because of the slow growth of short-term financial obligations and those with suppliers, as well as the decrease in long-term financial obligations. Bond participation varied slightly as part of the liabilities. Although short-term bonds grew 21.7% in December 2004, this amount was still rather low. Among noncurrent liabilities, long-term bonds, second to financial obligations, grew only by 0.5% between 2003 and 2004¹⁷. (Table 6)

The financial indebtedness indicator behaved similar to the total indebtedness indicator. For all corporations it fell to 11.5% in December 2004; for corporations producing tradable goods to 12.7%; and, those producing non-tradable goods to 10.5%. (Graph 20)

According to the financial debt maturity analysis of the homogenous group of corporations, financial indebtedness continued falling and reached the lowest level during the period analyzed, as a result of the slow growth of short-term financial obligations and the 7% decrease in long-term financial obligations.

According to the division between domestic and external financial obligations of the homogenous group, the external obligations decreased from COP4.1 t to COP3.4 t between December 2003 and December 2004. Domestic financial obligations fell slightly from COP16.1 t to COP15.9 t during the same period¹⁸. Consequently, its share was 82.3% of the total in 2004. Producers of tradable and non-tradable goods experienced a similar change

¹⁶ We used two indicators to analyze indebtedness. The first, measured through the total liabilities/total assets ratio, represents total indebtedness with domestic (labor obligations) and external creditors at the sign off (financial obligations, suppliers, accounts payable, taxes and bonds). The second is calculated based on total financial obligations/assets and includes debt with Colombia's financial system, with international institutions and other obligations; this indicator allows us to determine a company's debt composition by currency, if it is domestic and, if so, the creditor institution(s) with which it deals with.

¹⁷ The complete sample confirms these results. Assets grew above liabilities and short-term financial obligations; they grew slightly with suppliers. The decrease in long-term financial obligations was much greater than for the homogeneous sample, showing a real decrease of 19.2% between 2003 and 2004.

¹⁸ Domestic financial obligations are divided between those with credit institutions and other obligations.

BALANCE SHEET COMPOSITION
HOMOGENEOUS SAMPLE (3,381 CORPORATIONS)

	In trillions of COP of March 2005			Percentage			Percentage growth	
	2002	2003	2004	2002	2003	2004	2003	2004
Asset								
Current asset								
Available	3.3	3.9	4.0	6.5	7.6	7.3	18.2	2.6
Investments	4.6	4.7	5.8	9.0	9.2	10.6	2.2	24.3
Debtors	26.1	25.1	26.4	51.7	49.5	48.3	(4.0)	5.1
Inventory	15.7	16.2	17.7	31.0	32.0	32.3	3.4	8.9
Deferred	0.9	0.9	0.8	1.8	1.7	1.5	(6.2)	(2.4)
Total current asset	50.5	50.7	54.6	100.0	100.0	100.0	0.3	7.8
Non-current asset								
Investments	21.1	24.4	25.3	22.5	25.4	26.1	15.8	3.7
Debtors	4.1	3.1	2.7	4.3	3.3	2.8	(22.7)	(13.4)
Prop., plant and equipment	24.5	24.3	24.7	26.1	25.3	25.4	(1.1)	1.9
Intangibles	4.1	4.2	4.1	4.4	4.4	4.2	1.2	(1.9)
Deferred	7.4	6.3	5.5	7.9	6.5	5.6	(15.6)	(13.0)
Other assets	0.4	0.5	0.7	0.4	0.5	0.7	24.8	43.5
Valuations	32.2	33.3	34.2	34.3	34.7	35.2	3.4	2.8
Non-current total asset	93.8	96.0	97.2	100.0	100.0	100.0	2.4	1.2
Total assets	144.4	146.7	151.8				1.6	3.5
Liability								
Current liabilities								
Financial obligations	11.0	11.1	11.4	30.9	30.4	30.1	0.7	2.6
Suppliers	10.6	11.0	11.0	29.8	30.0	29.1	3.3	0.3
Accounts payable	6.3	6.4	7.0	17.7	17.5	18.6	1.2	10.2
Taxes	2.8	2.7	3.0	7.9	7.5	8.0	(2.6)	10.3
Labor obligations	1.1	1.1	1.1	3.0	2.9	2.9	(0.1)	4.1
Estimates and provisions	1.5	2.0	2.0	4.4	5.4	5.2	26.2	(0.1)
Deferred	0.6	0.6	0.5	1.8	1.6	1.2	(9.5)	(20.2)
Other liabilities	1.3	1.4	1.4	3.7	3.7	3.7	3.5	3.8
Bonds and securities	0.3	0.4	0.4	0.8	1.0	1.2	34.5	21.7
Total current liabilities	35.6	36.5	37.8	100.0	100.0	100.0	2.6	3.6
Non-current liabilities								
Financial obligations	10.9	9.1	8.0	52.5	44.8	41.1	(16.3)	(12.2)
Accounts payable	2.5	2.2	2.4	11.9	10.9	12.5	(9.9)	10.0
Labor obligations	0.2	0.1	0.1	0.8	0.7	0.7	(6.0)	(14.5)
Estimates and provisions	2.9	3.0	2.9	13.9	14.8	15.1	4.8	(2.8)
Deferred	1.7	1.6	1.6	8.0	8.1	8.3	(0.3)	(2.2)
Other liabilities	0.4	0.5	0.6	2.0	2.2	3.1	7.9	34.6
Bonds and securities	2.3	3.7	3.8	11.0	18.4	19.3	64.4	0.5
Total non-current liabilities	20.7	20.3	19.5	100.0	100.0	100.0	(1.9)	(4.2)
Total liabilities	56.3	56.8	57.2				0.9	0.8
Capital	88.1	89.9	94.6				2.1	5.2

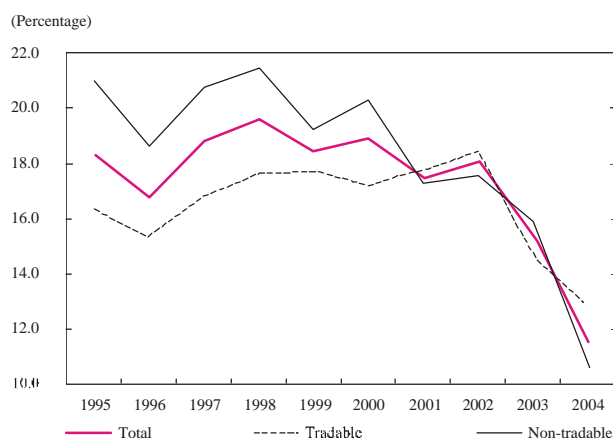
Source: Corporations and Securities Superintendency, and Banco de la República.

in the composition of financial obligations. The former however maintained a higher debt portion with international institutions (22%) than the latter (8.6%). (Table 7)¹⁹

Analyzing the results of financial obligations with external lenders, USD decreased only by 2.8% per year in real terms, which is less than the COP data and implies that the decrease was largely due to the COP revaluation during 2004.

GRAPH 20

FINANCIAL DEBT INDICATOR



Source: Corporations and Securities Superintendency, and Banco de la República.

Concerning domestic financial obligations with loan institutions, these remained constant (COP14.1 t) between 2003 and 2004, because of the increase in financial obligations with the commercial financial corporations and the BECH, and because of the decrease with financial corporations²⁰. If we break

¹⁹ The result shows that external financial obligations for the total number of business enterprises decreased. An important portion of this decrease was the result of the COP revaluation. Domestic financial obligations, as opposed to the homogeneous sample, had a real annual growth of 1.7%.

²⁰ Concerning the complete sample, financial obligations with credit institutions increased from COP21.2 t to COP22.2 t due to the larger number of producers of tradable and non-tradable goods.

TABLE 7

COMPOSITION OF FINANCIAL OBLIGATIONS
HOMOGENEOUS SAMPLE (3,381 CORPORATIONS)

	In trillions of COP of March 2005					Percentage participation			Percentage growth			
	Total	Foreign	Domestic			Foreign	Domestic			Total	Foreign	Domestic
			Total institutions	Bank institutions	Other institutions		Total institutions	Bank institutions	Other institutions			
Total												
2002	21.9	5.4	16.4	14.3	2.1	24.8	75.2	87.1	12.9			
2003	20.2	4.1	16.1	14.1	1.9	20.3	79.7	87.9	12.1	(7.7)	(24.6)	(2.2)
2004	19.4	3.4	15.9	14.1	1.8	17.7	82.3	88.4	11.6	(4.1)	(16.4)	(0.9)
Tradable												
2002	15.2	4.4	10.8	9.7	1.1	28.9	71.1	89.9	10.1			
2003	13.7	3.5	10.3	9.4	0.9	25.2	74.8	91.3	8.7	(9.6)	(21.1)	(5.0)
2004	13.1	2.9	10.2	9.4	0.9	22.0	78.0	91.6	8.4	(4.4)	(16.5)	(0.3)
Non-tradable												
2002	6.7	1.0	5.7	4.6	1.0	15.7	84.3	81.7	18.3			
2003	6.5	0.6	5.8	4.8	1.1	9.9	90.1	81.9	18.1	(3.4)	(39.2)	3.2
2004	6.2	0.5	5.7	4.7	1.0	8.6	91.4	82.8	17.2	(3.5)	(15.7)	(2.1)

Source: Corporations and Securities Superintendency, and Banco de la República.

this down by economic sectors, agriculture, trade, construction, and transport increased their obligations with the domestic financial system, but industry, services and other sectors reduced them. (Table 8)

Analyzing by size, all corporate groups reduced their total and financial indebtedness, with the big corporations showing the greatest decreases in December 2004, while the medium sized show the highest indebtedness levels among the three types of groups since 2003.

Briefly, corporate liabilities in the balance sheet were reduced as a result of the decrease in financial obligations. Although bonds exhibited considerable increases, yet amounts issued continue being small and limited to just some corporate groups. The lesser dynamics of corporate liabilities is consistent with the increasing tendency of resorting to internal funds as represented by equity, which showed a real increase of 5.2% between 2003 and 2004.

3. Corporate expectations

Banco de la República's expectations survey gathers the perception of entrepreneurs with regard to macroeconomic variables, such as production, credit availability, and the exchange rate. The April 2005 survey showed that GDP was expected to grow by 3.9% in 2005 and 4% in 2006 (Graph 21). Comparing these results with previous surveys it was found that expectations for 2005 have adjusted downwards, i.e., 4.2% growth for 2005, according to the October 2004 survey, compared to 4.3% from the April 2005 survey.

According to the *Fedesarrollo's* opinion survey, entrepreneurs have a better perception of the economic performance of corporations for the next six

TABLE 8

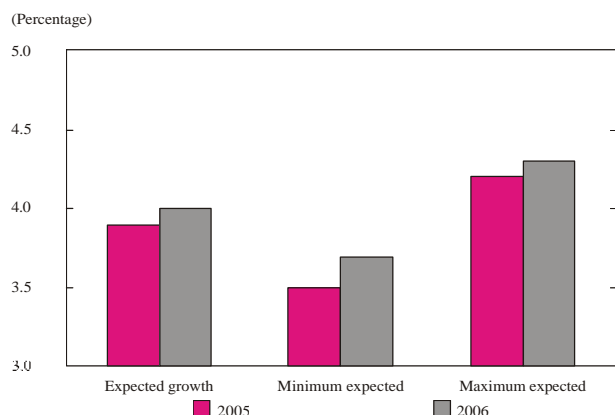
COMPOSITIONS OF FINANCIAL OBLIGATIONS BY ECONOMIC SECTORS
HOMOGENEOUS SAMPLE (3,381 CORPORATIONS)
(IN BILLIONS OF COP - MARCH 2005)

	Banks		CF		CFC		BECH		System Total	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Agriculture and mines	633.2	793.5	67.6	83.8	20.7	23.5	3.4	1.7	724.8	902.6
Manufacturing	7,005.1	6,866.6	1,352.7	1,181.3	346.8	410.1	15.6	4.7	8,720.3	8,462.7
Commerce	2,248.7	2,301.2	199.6	279.4	186.1	186.3	13.7	22.4	2,648.0	2,789.3
Construction	257.3	291.1	63.9	52.8	22.9	29.9	65.3	77.2	409.4	451.0
Transport	97.9	114.9	11.0	12.4	3.4	2.4	0.3	0.1	112.5	129.9
Other services	1,003.8	1,029.2	153.6	66.2	36.7	23.9	17.4	11.5	1,211.6	1,130.8
Others	245.5	180.9	49.0	31.7	19.7	13.4	1.5	2.1	315.7	228.1
Total	11,491.4	11,577.5	1,897.3	1,707.7	636.4	689.5	117.2	119.6	14,142.3	14,094.3

Source: Corporations and Securities Superintendency and Banco de la República.

GRAPH 21

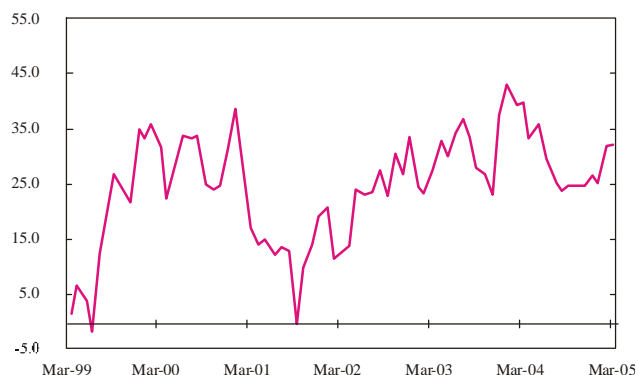
GDP EXPECTED GROWTH IN 2005 AND 2006



Source: Expectations survey, April 2005. Banco de la República.

GRAPH 22

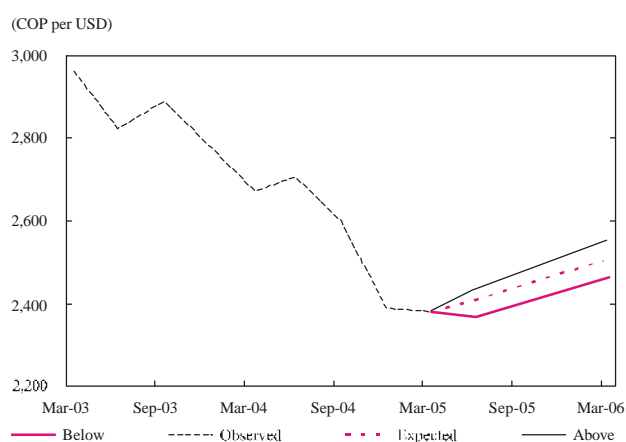
A FIRMS EXPECTED ECONOMIC SITUATION (BALANCE SHEET)



Source: Business opinion survey, March 2005. Fedesarrollo.

GRAPH 23

OBSERVED AND EXPECTED TRM



Source: Expectations survey, April 2005. Banco de la República.

months. The index, which fell from January to August 2004 and which remained constant up to the end of 2004, started to rise during the first months of 2005 until it reached the levels of mid 2004. (Graph 22)

The March 2005 joint industrial opinion survey carried out by the Association of National Industries (ANDI), showed that most industrial activity during 2005 continued having good results on production and sales, a high installed capacity, and normal levels of orders and inventories.

These positive results confirm that the 2004 growth trend continued during the first months of 2005. In fact, 60.1% of those surveyed revealed that corporations are going through a good phase currently, while only 1.4% answered that their situation could worsen in the short run. Concerning the question on investments, 60% are planning on developing investment projects or are actually implementing them—all pointing to technological modernization, enlargement of plants, replacement of equipment, and productivity diversification. In the majority of cases, they are funding their projects from internally generated funds, as well as resorting to increases in external and internal indebtedness.

The low demand, the cost and supply of raw materials, and the uncertainty surrounding the exchange rate are the main problems facing industrialists. In this connection, Colombian industry has been implementing strategies to improve its productivity levels and so be able to respond to this variable's changes.

Notwithstanding the fall in the exchange rate to COP2,332 per USD in May 2005, entrepreneurial response to the *Banco de la República's* expectations survey revealed an increase for the next months, reaching COP2,402 per dollar in June and COP2,473 for December, and COP2,507 for March 2006. (Graph 23) Although expectations on the exchange rate continue above the actual rate established, agents have nonetheless taken into

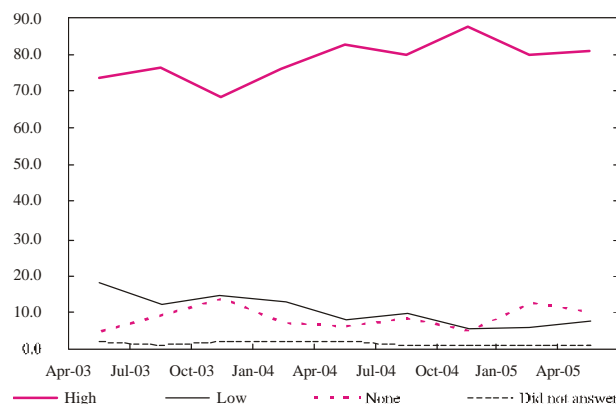
account the recent stability of the exchange rate, as seen from the April 2005 survey.

As to credit availability, 81% of those surveyed in April 2005 considered it to be high, and only 7.6% thought it was low. As to expectations for the following six months, 76.3% believe it will remain at the same level and 12.5% believe it will improve. These results are below those of the October 2004 survey, 87.7% of which answered that credit availability was high at that moment, and 21% revealing that it would improve during the following six months. (Graph 24)

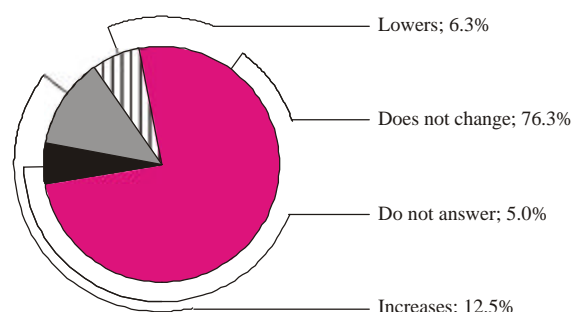
The results showed that corporations capitalized on the good performance of the economy during 2004. Sales growth, which together with the positive outcome in running costs, meant achieving substantial profits and the resulting strengthening of their balance sheet. The decrease in corporate leverage continues to reveal a reliance on internally generated funds as opposed to turning to external sources of financing. Entrepreneurs continue being positive about the growth of the economy, and about the situation and the availability of credit.

PERCEPTION OF LOAN AVAILABILITY

CURRENT PERCEPTION OF LOAN AVAILABILITY



DEVELOPMENT OF LOAN DISPOSABLE OVER THE NEXT SIX MONTHS



Source: Expectations survey, April 2005. Banco de la República.

CORPORATE RESULTS AT MARCH 2005

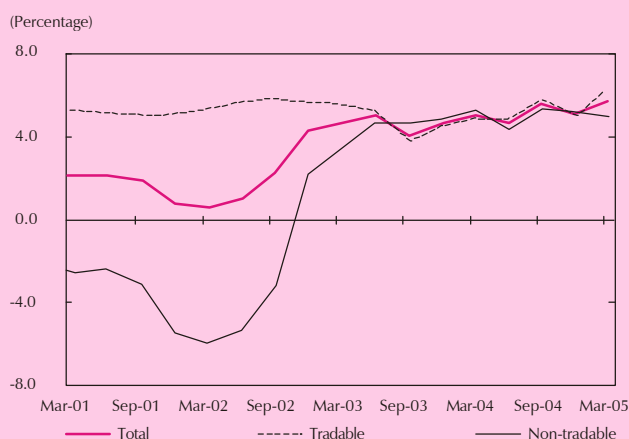
The March 2005 follow up on corporations was based on the quarterly data provided by the Securities Superintendency. The total sample was based on all the corporations that reported data; the homogeneous sample was made up of all those who jointly reported information in March 2004 and in March 2005¹. It should note that this group

¹ In March 2005, 116 corporations reported information to the Securities Superintendency, and the homogeneous sample comprised of 108 enterprises. The enterprises comprising the complete sample as well as those from the homogeneous sample were classified as producers of tradable and non-tradable goods, using the same criteria for the December 2004 sample.

of corporations is not a representative sample of the total corporate private sector corporations, as it is made up only of the big corporations that have registered with the National Securities Record Office.

The December 2004 Financial Stability Report looked at the influence of the communications sector on total corporate results. Separating these effects, asset profitability or returns on assets for the grand total of corporations decreased to 5% in December 2004 and to 4.9% for producers of tradable goods. It remained constant at 5.2% for those of non-tradable goods. In March 2005, asset profitability for the total number of corporations, including producers of tradable goods, reached all time highs of 5.6% and 6.2% respectively², and fell to 4.9% for producers of non-tradable goods. (Graph B3. 1).

GRAPH R3.1
PROFITABILITY INDICADOR (*)



(*) Does not include the communications sector.
Source: Corps and Secs. Superintendency and Banco de la República.

The lower asset profitability of producers of tradable goods in December 2004 was due to the marked growth of non-operational expenses vis-à-vis income, which meant that profits before taxes fell; profits varied little with producers of non-tradable goods because of the joint fall in income and non-operational expenses, which kept the asset profitability unchanged.

In March 2005, the total of corporations as well as producers of tradable goods showed an increase in asset profitability, as a result of the slight increase in overall expenditures,

² For the complete sample (i.e., the one which includes the communications sector), return on assets increased by 4.8%, in December 2004 and by 5.2% in March 2005. With reference to our text, the results remained unchanged for the producers of tradable goods and they increased by 4.6% in December and decreased by 4.2% in March for the producers of non-tradable goods.

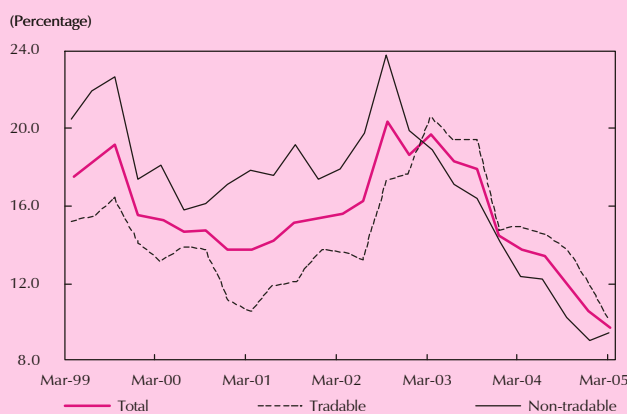
particularly financial expenses. The fall in asset profitability of non-tradable producers was also due to the performance of the non-operational items³.

Total indebtedness continued falling among the total number of corporations and among the producers of tradable and non-tradable goods⁴. In March 2005, the total liability indicator, as a proportion of assets, showed a slight recovery because of the greater activity of the short-term accounts payable, which caused liabilities to grow above the assets during the first quarter of the year.

According to the homogeneous sample, bonds and commercial paper also increased. The short-term ones rose above those long-term, particularly from the producers of tradable goods; however, the long-term ones continued showing a higher participation among the non-current liabilities vis-à-vis the lower financial obligations.

Financial indebtedness decreased similarly to total indebtedness, although it rose slightly among the producers of non-tradable goods in March 2005. The decrease of 38% in long-term financial obligations between March 2004 and the same month in 2005, caused the decrease in total financial liabilities. Although short-term financial obligations increased during the past year, their share in total short-term liabilities fell close to two percentage points. (Graph B3. 2).

GRAPH R3.2
FINANCIAL DEBT INDICATOR



Source: Corps. & Secss Superintendency and Banco de la República.

A better understanding of financial indebtedness can be achieved by analyzing the composition of financial obligations of the homogeneous sample of corporations. This

³ In March 2005 the results were similar with or without the communications sector.

⁴ The debt indicator analysis was carried out having in mind the complete sample.

data revealed that lower total financial obligations were due to the lower indebtedness with foreign institutions. These obligations decreased from COP4.2 t to COP2.6 t between March 2004 and March 2005, hence external obligations had a lower participation within the total, down from 48.7% to 37.5%⁵. Domestic financial obligations fell during the year from COP4.4 t to COP4.3 t, because of the decrease in financial obligations with the country's financial system and other types of obligations.

In summary, there was lower asset profitability in December 2004 among corporations under the surveillance of the Securities Superintendency because of the marked increase in non-operational expenses, but increased again because of the moderate growth in March 2005. The year's short-term liabilities grew slightly during the first quarter of the year because of the accounts payable, but financial obligations continued decreasing because of the lower indebtedness with foreign institutions.

⁵ Although financial obligations with foreign credit institutions decreased as a result of the COP revaluation during 2004, the USD decrease was considerable and equal to 30% between March 2004 and March 2005.

Box 4

BUBBLE IN ASSET PRICES

As in previous reports, an analysis is made of the bubble indicators¹ for asset prices in Colombia, particularly the mortgage and securities markets.

The first section examines the evidence of a bubble in the mortgage market for different income levels (or strata), making use of price indices for used, new, and rented housing based on Jaramillo (2004). The second section analyzes the bubble indicator for the stock exchange market, using the same methodology presented in past editions of the Financial Stability Report.

I. The mortgage market

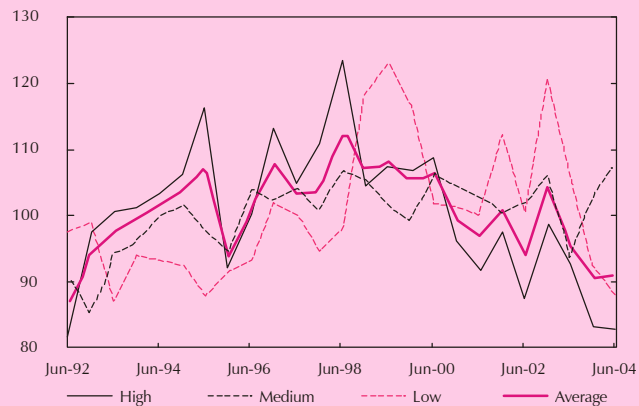
Both the general bubble index as well as the index by strata (income levels) suggest that there is no evidence of an over-evaluation (overheating) of the real estate market. (Graphs B4.1, B4.2 and B4.3) We should note however that, different from other strata, the middle

¹ The bubble indicator was built on the basis of price to equity analysis. The methodology is based on comparing the asset price index with its corresponding returns index. This is then compared with its long-term mean with the purpose of having an evaluation of the degree of excess or valuation defect shown by the market in question.

stratum indicator showed a recovery during the first half of 2004. Furthermore, these new indicators reveal that the bubble reverse of the 1990s for the real estate market took place between 1998 and 1999, and not in 1995, as shown by the old indicator² as well as the computation with the price index for used real estate (or known here as IPVU)³

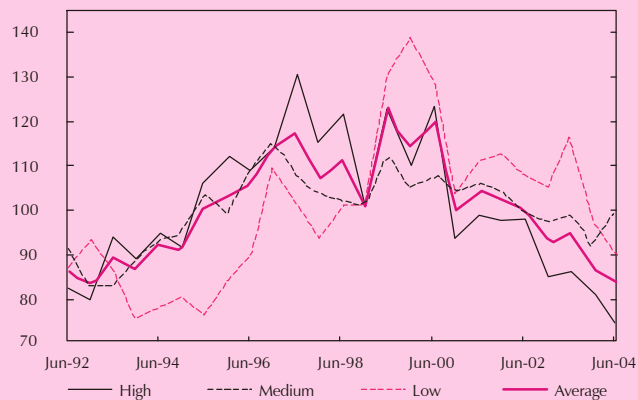
On the other hand, the strata indicators suggest that the bubble was stronger for the new real estate market than for used real estate (Graphs R4. 1 y R4. 2). This can be explained given the embedded costs involved in the construction business⁴, which do not allow for immediate price adjustments. Thus, should the suppliers overestimate an asset's price, such price stickiness produces an even stronger bubble for this market.

GRAPH R4.1
BUBBLE INDICATOR BY STRATUM (IPVU)



Source: Jaramillo (2004), and Banco de la República calculations.

GRAPH R4.2
BUBBLE INDICATOR BY STRATA (IPVN)



Source: Jaramillo (2004), and Banco de la República calculations.

² Calculation based on the housing price index from DANE and on the rent index from DNP.

³ See Financial Stability Report dated June 2004, page 53.

⁴ For example, builders have publicity and commercial costs which do not allow prices to be adjusted immediately.

GRAPH R4.3
DNP'S BUBBLE INDICATOR (IPVN)



Source: DANE, National Planning Dept (DNP), and Banco de la República.

Breaking down the analysis by stratum, revealed that the upper strata experienced the most pronounced bubble during the 1990s (Graphs B4. 1 and B4. 2). Specifically, strata 5 was the most affected by the reverse process of the bubble during the crisis⁵. Its strong leverage, the fall in real estate prices, high mortgage interest rates, and the growing unemployment experienced by the heads of families contributed to increased default rates. All these factors put together implied an increase in the levels of delinquent loans and the handing over of the collateral.

In the case of the middle strata, the bubble was less pronounced, suggesting that these were the most efficient among them all⁶. Thus, the effect of price decreases was milder than for the upper stratum.

Finally, the lower strata bubble indicators showed a different pattern performance both before and after the crisis. Prior to the crisis, it revealed the lowest bubble indicator, both for new and used homes. This can be explained by the technological innovations in place, which put pressure on mortgage prices to fall. After the crisis, these lower strata showed the highest bubble indicator among all, which is partly related to the house subsidies offered, thereby increasing demand and prices.

II. The stock market

The stock market, which showed unprecedented growth since the middle of 2003, experienced a sharp fall in March 2005. This was a reflection of local investor

⁵ See Topics on Financial Stability of this edition.

⁶ In this context, efficiency implies better market data inflow allowing prices to remain at their long-term mean. This efficiency can be explained by looking into the depth of the market since a large portion of the population and housing concentrate in these strata.

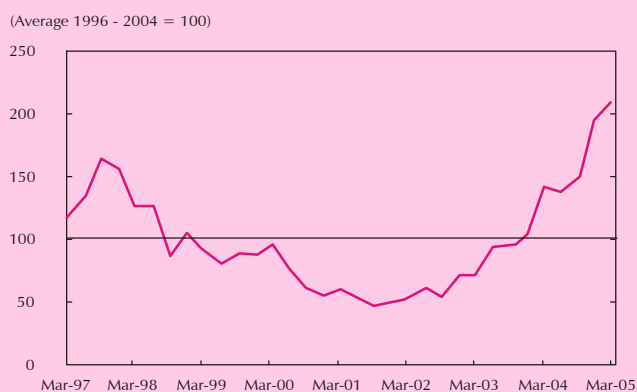
expectations as a result of announcements of possible inflationary pressures in the US and expectations of a rise in interest rates by the Fed, which implied a rechanneling of capital flows and, hence, the reason for the abrupt fall in both the stock exchange and the secondary public debt market prices during the month of March.

As soon as the uncertainty ceased regarding the Fed's reference rate in April, the stock exchange recovered from its fall to reach and maintain levels above those reported during 2004.

This performance, which is partly a response to macroeconomic fundamentals, can also be due to a possible market speculative bubble. To ascertain this, the ratio IGBC (the exchange's indicator)/return on assets ratio of the exchange's listed firms⁷ was constructed. Graph B4. 4 depicts the result.

As pointed out in our last edition of our Financial Stability Report, the stock exchange does reveal the presence of a bubble. Although the overvaluation levels (slightly above 200%) may seem excessive, attention should be centered on the IGBC trend⁸. We should note that such levels have been mainly led by the strong growth of the IGBC, which has had an average annual growth of 63% during the past three years.

GRAPH R4.4
IGBC/CAPITAL YIELD INDEX



Source: Colombia's Stock Exchange, and Banco de la República calculations.

⁷ This indicator is calculated as follows: 1) Based on information from the Securities Superintendency, we built the operational profit/property, staff, and equipment ratio; 2) we take this ratio's mobile average of the last 8 quarters and then it is weighted by the amount of fixed capital of the firm as a proportion of the sample's total capital stock, and 3) information is added and negative aspects are removed, since these are the least that pertain to the stock market and therefore do not form part of the IGBC.

⁸ The level of the indicator is influenced by three factors: 1) the size of the sample that takes all the downward slope of the economic cycle (1998-2001) and only a part of the upward slope before 1997; 2) the sample is biased as it only includes the more actively traded stocks listed under the Securities Superintendency, and 3) the greater depth of this market. The latter has generated a more propitious environment both for greater participation of institutional investors (e.g., pension funds) as well as foreign capital. For a more complete explanation of these factors, see the Financial Stability Report, December 2004.

To conclude, although there may not be evidence of a price bubble in the mortgage market, the stock market does show signs of an over-evaluation. Specifically, we should note the favorable performance of the IGBC, which continues to be above the return on assets of firms listed in the exchange. This trend may be induced by significant capital inflows as well as the stronger confidence of domestic investors.

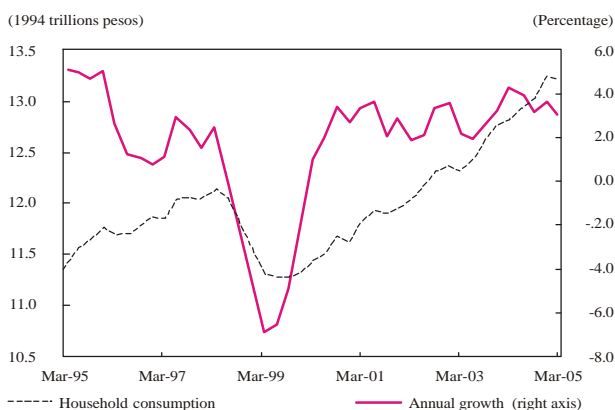
This development of the Colombian stock exchange, based on significant amounts of capital inflows, may imply that the indicator we have built is representative of a phenomenon at the aggregate level, since a large portion of the external investment inflows have sought to seek gains from firms not listed in the Colombian Stock Exchange. Finally, stable interest rates and low inflation rates have had a positive influence on stocks prices.

Reference

Jaramillo, S. *Precios inmobiliarios en el mercado de vivienda en Bogotá 1970-2004*. (Bogota Real estate Market Prices, 1970-2004) Document CEDE No 42, *Universidad de los Andes*, 2004. Available in <http://economia.uniandes.edu.co/documentocede2004-42.htm>

GRAPH 25

HOUSEHOLD CONSUMPTION (UNSEASONABLE SERIES)



Source: DANE and Banco de la República.

B. HOUSEHOLDS

1. Households' financial situation

Household expenditure has shown a favorable performance since the beginning of 2000, maintaining real growth close to 3%. Household expenses grew by 3.2% during the first quarter of 2005. Although it was below the 3.7% reported for the last quarter of 2004, it is still an important real expenditure increase (Graph 25). Greater consumption was due to the positive outcome of spending in durable goods (16.5%) as well as in non-durable and services (1.9% and 2.1% respectively), during the first quarter of 2005.

The dynamics of household spending is partly related to the labor market's good performance. Unemployment for the 13 main cities continued to report the lowest levels for all months of 2005. Unemplo-

yment for May 2005 was at 13.9%, 1 pp below the one in May 2004—the lowest level since the continuous household survey started (or ECH) for that month (Graph 26). Subemployment started the year having the same trend, revealing the lowest rates since the ECH measurement started. In May, however, this indicator was 1.3 pp above the same month in 2004.

The 2005 employment rate started below the 2004 levels due to the stagnation of employed people during the first couple of months in 2005 and to the marginal increase of the working age population. By March, however, this indicator was showing a favorable trend, reaching levels close to the same month in 2004. The trend continued during the following two months, which placed the May rate at 0.6% above the same month the previous year. (Graph 27)

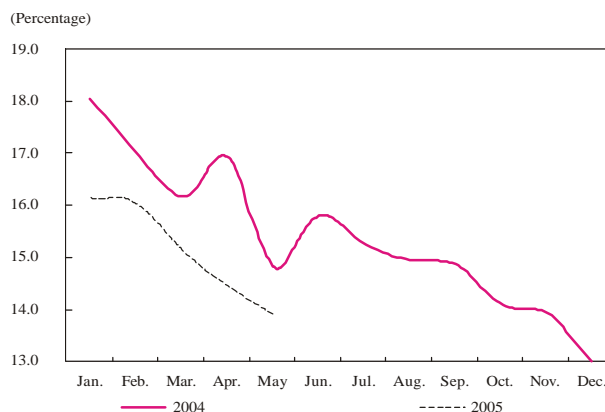
Real salaries showed a positive performance over the last 12 months. Retail industry sale salaries were particularly outstanding, after their significant growth in 2004. At the start of 2005 there was a slowdown in their growth, but they continue to maintain levels close to 5%. Manufacturing salaries did not experience the outstanding growth witnessed for most part of 2002, but they continued to maintain real positive growth rates, reinforcing the notion of a better financial situation for workers. (Graph 28)

In general, labor market conditions seem to favor households, particularly revealed by the evolution of employment rates since April and the lowest unemployment rate for the latter since the ECH began. This trend, together with wage performance, seems to sustain households' payment capacity.

2. Prospects

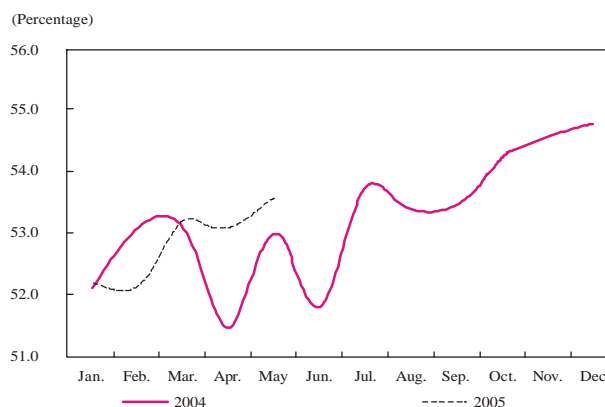
Household expectations as to the state of the economy, as measured by *Fedesarrollo's* index, are

UNEMPLOYMENT RATE



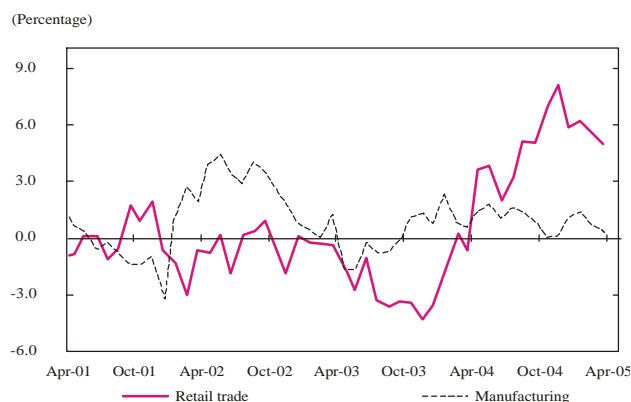
Source: DANE and Banco de la República.

EMPLOYMENT RATE



Source: DANE and Banco de la República.

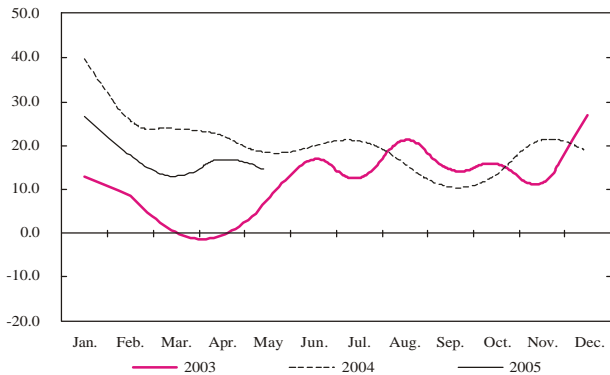
ANNUAL GROWTH OF THE REAL WAGE AND SALARY INDEX BY INDUSTRY



Source: DANE and Banco de la República.

GRAPH 29

CONSUMER EXPECTATIONS INDEX



Source: Fedesarrollo.

below the levels of the early months of 2004. In fact, expectations have revealed a less optimistic perspective since the middle of 2004, fluctuating between 5 and 10 points below the levels recorded in previous years (Graph 29). However, the gap between the 2005 and 2004 levels seems to be closing.

The home purchase perception index continued showing the growing trend that began since the last quarter of 2004. It reached all time highs since its inception back in November 2001. (Graph 30)

GRAPH 30

**HOUSING PURCHASE PERCEPTION INDEX (*)
(BALANCE)**



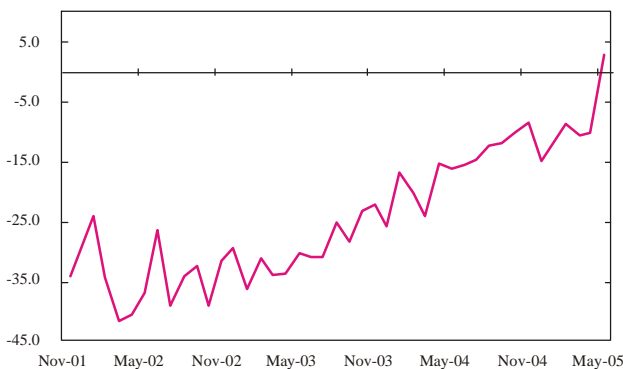
(*) Percentage of households who believe it's a good moment to buy, less the percentage of them who believe it's a bad moment.
Source: Fedesarrollo and Banco de la República.

The durable goods purchase perception index grew substantially in May 2005 due to the growing trend in the indicator for vehicle purchases. The latter had remained relatively stable since December 2004. The furniture purchase perception index, which includes other big items, also showed a growing trend during the first months of 2005. This index has maintained a positive balance during the sample survey. (Graph 31)

The relative improvement of the durable goods purchase index, together with the growth in household expenditures during the last quarter of 2004 and the active sales of electric appliances, furniture, and vehicles during the first months of 2005 explains to a great extent the reason for the expansion enjoyed by the consumer loan portfolio. Should the present conditions persist, we envisage this pattern to continue.

GRAPH 31

**DURABLE GOODS PURCHASE PERCEPTION INDEX (*)
(BALANCE)**

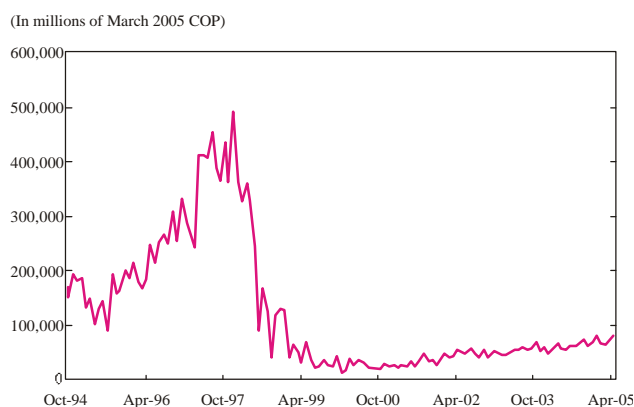


(*) Percentage of homes that believe it's a good time to buy a car and other significant goods (electric appliances and furniture), less the percentage of them who believe that it's a bad time.
Fuente: Fedesarrollo and Banco de la República.

On the other hand, the mortgage loan portfolio presents a less clear picture. In real terms, disbursements for home purchases increased by 43% year-to-year in April 2005—the highest level of the past six years. But they are still much below the levels reached during the years before the construction crisis (Graph 32). The best performance was that of disbursements for new housing (not for low-cost housing (or *vivienda de interes social (VIS)*)), which had a 34% growth rate during the last quarter of 2004 versus the same period in 2003.

On the other hand, approved construction licenses fell in April and interrupted a slight growing trend seen during the first three months of the year. These approved licenses for construction fell by 17% between March and April 2005. If we take into account the area approved for the last twelve months, versus April 2004, the fall is close to 9%. Further, analysts tend to agree that a structural change has taken place as to the way people finance their housing, as more importance is given to private savings (AFC accounts), remittances from abroad, and short-term consumer credit.

MONTHLY DISBURSEMENTS FOR HOUSING PURCHASES



Source: Colombian Institute of Savings and Mortgage (or ICAV).

C. NON-FINANCIAL PUBLIC SECTOR (NFPS)

1. NFPS aggregate debt

In March 2005, NFPS gross debt as a percentage of GDP decreased compared to the same month in 2004, settling at 57.2%. We owe this to the fact that NFPS external debt diminished as a result of the exchange rate revaluation. In effect, foreign debt in USD as well as internal debt increased by 6% per annum and 10.3% per annum in real terms respectively (Table 9).

TABLE 9

NFPS TOTAL DEBT 1/

	In billions of COP			As a percentage of GDP 3/			Participation		Nominal growth 4/			
	Internal 2/	External	Total	Internal	External	Total	Internal	External	Internal COP	External COP	External USD	Total
Dec-95	9,928.6	12,017.8	21,946.4	11.8	14.2	26.0	45.2	54.8				
Dec-96	12,679.4	12,926.6	25,606.0	12.6	12.8	25.4	49.5	50.5	27.7	7.6	5.7	16.7
Dec-97	18,774.3	17,608.6	36,382.9	15.4	14.5	29.9	51.6	48.4	48.1	36.2	5.9	42.1
Dec-98	23,946.4	24,448.4	48,394.8	17.0	17.4	34.4	49.5	50.5	27.5	38.8	16.5	33.0
Dec-99	32,928.0	32,879.2	65,807.2	21.7	21.7	43.4	50.0	50.0	37.5	34.5	10.7	36.0
Dec-00	46,653.2	41,965.2	88,618.4	26.7	24.0	50.7	52.6	47.4	41.7	27.6	7.3	34.7
Dec-01	54,905.1	50,795.7	105,700.9	29.1	27.0	56.1	51.9	48.1	17.7	21.0	17.8	19.3
Dec-02	67,838.4	61,974.8	129,813.2	33.2	30.5	63.7	52.3	47.7	23.6	22.0	(2.4)	22.8
Dec-03	75,078.0	65,883.0	140,961.0	33.0	28.9	61.9	53.3	46.7	10.7	6.3	9.6	8.6
Dec-04	84,263.7	59,778.7	144,042.4	33.4	24.0	57.4	58.5	41.5	12.2	(9.3)	2.2	2.2
Mar-05	88,735.4	59,149.0	147,884.4	34.3	22.9	57.2	60.0	40.0	15.8	(6.0)	6.0	6.0

1/ Does not include IFI.

2/ We are including the capitalization bonds of public banks within the Government's domestic debt.

3/ We are using the GDP of the last 12 months for the quarterly data.

4/ For March 2004, we are relating to the March 2003 variation.

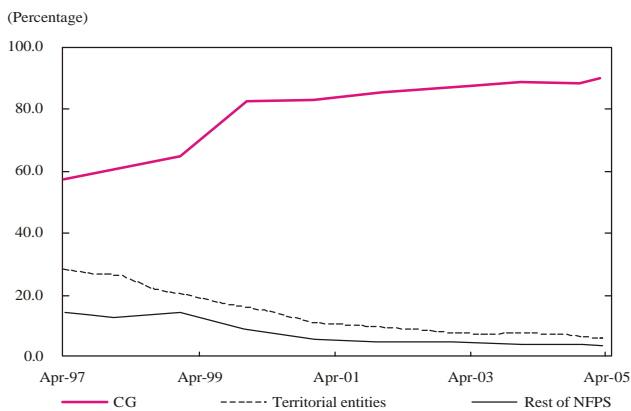
Source: Banco de la República.

On the other hand, in March 2005 external debt continued to lose prominence among total debt, whereas internal debt increased. The first accounted for 40% and the second for 60%. This can be due in part to the revaluation of the exchange rate, as it promotes debt buy-back and a resorting to public domestic funding, given the favorable situation of the Colombian economy and liquidity availability. We should note however that the greater internal debt by the Government, the greater the exposure of the financial system to market risk, since financial intermediaries are the ones that absorb the highest portion of this debt. It is worth mentioning that the recent pension reform does lessen the pressures on the public sector's debt sustainability.

2. Central government debt (CGD)

GRAPH 33

DEVELOPMENT OF THE CENTRAL GOVERNMENT'S (CG) GROSS DOMESTIC DEBT ACCORDING TO BORROWER



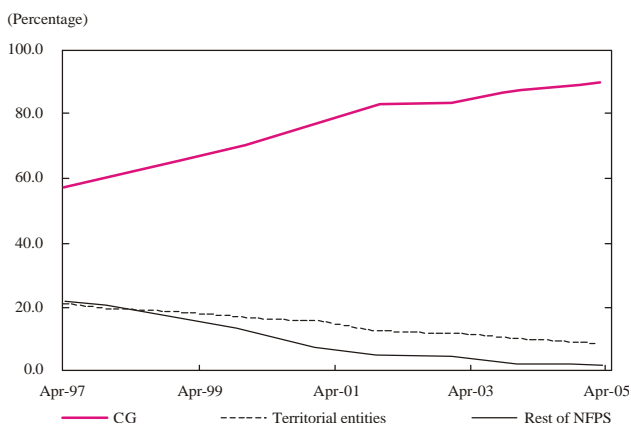
Source: Banco de la República.

In March 2005, the CGD had a real annual increase of 3.1% as a result of the greater internal debt, despite lower foreign obligations as a result of the appreciation of the exchange rate. We should mention that total CGD accounts for 89.6% of the NFPS debt.

As far as the Government's internal debt is concerned, it had a real annual increase of 12%—a growth not seen since 2002. (Graph 33) This breaks the moderate trend²¹ shown by internal indebtedness since 2003. This increase in internal debt meant that bond participation as a part of total internal debt increased. In fact, in March 2005 these bonds accounted for 95.7% of the total.

GRAPH 34

DEVELOPMENT OF THE NFPS'S GROSS DOMESTIC DEBT ACCORDING TO BORROWER



Source: Banco de la República.

Concerning external debt, the Government had a real annual decrease of 7.9%, as a result of the appreciation of the exchange rate, since debt in USD increased 9% per year. (Graph 34)

External debt participation with multilateral agencies marginally decreased in March 2005, accounting for 37.9% of total debt, due to the loan prepayment in the amount of USD1,250 million (m) which the Government had contracted with the Interamerican Development Bank (IDB).

²¹ Internal debt growth has been moderate when compared to the average real annual growth of 25.5% between 1995 and 2002.

FINANCIAL CONDITIONS OF NEWLY SECURED LOANS

Period	Amount agreed (In millions of USD)	Average duration		Average Interest rate (Nominal Percentage)
		Grace (years)	Amortization (years)	
1991	2,507	6.0	12.8	7.5
1992	847	4.2	14.7	7.8
1993	1,526	3.4	12.2	6.9
1994	1,715	4.0	10.9	7.3
1995	1,715	2.7	9.1	6.8
1996	3,489	1.5	8.5	7.8
1997	2,331	1.3	10.6	8.0
1998	3,104	1.2	7.1	8.2
1999	3,861	2.4	8.9	10.0
2000	3,192	1.1	9.5	11.8
2001	6,441	2.1	9.4	9.5
2002	2,042	1.5	7.8	7.8
2003	4,629	3.5	8.3	5.9
2004	3,364	3.3	10.7	6.8

Source: Banco de la República.

This meant that bond share increased (56%) on the same date. The remaining 6% relates to debt with bilateral, commercial banks, and suppliers.

As can be seen from Table 10, the Central Government (CG) contracted foreign currency loans for USD3,364 m in 2004. As to the terms and conditions of these loans, the average grace period was lowered marginally, while average amortizations and interest rates increased.

3. CG's debt/income ratio

Although the CG's debt/income ratio fell considerably in March 2005 compared to the same month in 2004, it had an upsurge during the first quarter of 2005 (Table 11). This was mainly due to the notable increase in internal debt, a real annual increase of 12%, although this increase took place at the same time domestic interest rates lowered²².

External debt had a real annual decrease of 7.9%, largely due to the appreciation of the exchange rate, since the USD foreign debt grew by 9% per annum.

CG PAYMENT CAPACITY

Year	In billions of COP		
	CG debt	Income	Debt / incomes
1995	11,559.8	9,599.9	120.4
1996	14,452.3	12,140.3	119.0
1997	21,778.2	15,237.5	142.9
1998	31,232.0	16,880.2	185.0
1999	47,916.0	20,164.6	237.6
2000	70,677.3	23,196.7	304.7
2001	88,689.0	28,941.8	306.4
2002	110,578.6	31,459.1	351.5
2003	123,635.1	35,798.3	345.4
2004	128,408.3	40,911.7	313.9
Mar-05	132,852.3	41,581.4	319.5

Source: Banco de la República.

²² The 10 year spot rate fell 141 bp between March 2004 and the same month in 2005.

IV. THE EFFECTS OF CHANGES IN MACROECONOMIC VARIABLES UPON THE FINANCIAL SYSTEM'S RISKS

From Section II of our Report, we can conclude that the financial system has been mainly characterized by the considerable growth of its main asset components, supported by increased deposits and an expansion in equity. Credit risk has also maintained a historically low level which does not pose immediate threats to the system's strengths.

In spite of this favorable picture, there are potential weaknesses that reveal themselves as a result of changes brought about by some of the most important macroeconomic variables. The purpose of this section is to analyze the impact of a shock on the aforementioned variables, focusing on the risks facing the financial system.

For this purpose, we will carry out a sensitivity analysis²³ oriented to defining the losses associated with increased credit and market risks, as a result of adverse scenarios related to interest rates, the exchange rate, and economic activity.

A. CREDIT RISK

Chapter II of the Report reveals the good condition of the non-performing loans indicator. Changes in the macroeconomic environment, however, may

²³ The sensitivity exercises evaluate the effect of a change in a specific variable, without considering the latter's interaction with other variables.

change this trend as they affect borrowers' payment capacity. This would mean a greater exposure of the financial system to credit risk.

In order to quantify the cost of changes in macroeconomic variables, we will now show a series of exercises that compute the additional expenditure related to provisioning that banking corporations would have to make in the face of adverse variable movements.

1. Household credit

The quality of the mortgage and consumer loan portfolios depends on households' borrowing capacity or its ability to repay loans. At the same time, such quality is affected by household income and by interest rates. In what follows, we will analyze the effect of changes in each of the factors which influence non-performing loans during a time horizon of one year.

The cost of a dampening of economic activity, close to a third of that experienced during the crisis at the end of the 1990s, implies an additional provisioning by the system equivalent to COP34 billion (b), in the case of the consumer loan portfolio, and COP10 b for the mortgage loan portfolio. Although these are small amounts, if we compare them with the profits made during recent months, such provisioning represents 21% and 12% of the expenses undertaken for this concept respectively during 2004²⁴.

If we are to take up the international recommendation for developing economies, we would consider an interest rate increase scenario of 200 basis points (bp). For the consumer loan portfolio, the exercises done reveal that this increase would have a cost of COP74 b in additional provisions, which is equivalent to 45% of current provisioning expenses²⁵.

2. Credit to the private corporate sector

The quality of commercial credit is directly related to the corporate sector's profits. To assess the performance of this loan portfolio during stress situations, we built several scenarios where corporate returns are affected by changes in the macroeconomic environment.

²⁴ During 2004, the financial sector's provisioning expenses reached 1.3% of portfolio stock. These calculations assume that all portfolio qualities undertake provisioning at the same rate. For other references on the level of provisioning see *Anticyclical provisioning scheme in Colombia*, in *Special Topics on Financial Stability*, at the end of this Report.

²⁵ For the case of the mortgage loan portfolio, the direct effect of an increase in interest rates on the portfolio quality is not clear, since these credits are indexed to the UVR.

When breaking down the non-performing loans indicator by sectors, we found the following sectors to be the most sensitive to changes on returns: agriculture, livestock, game, forestry, and the construction sector. The least sensitive sectors were education and real estate, entrepreneurial, and leasing activities. We will now show our main findings concerning the aggregate commercial loan portfolio.

First, the effect of an increase in interest rates depends on a firm's level of indebtedness. In this case, we used data on domestic financial obligations reported in corporate balance sheets, including data on financial expenditure flows taken from the profit and loss statement. Increases of 200 bp in interest rates caused the firm to have further financial expenses and lessened profits. Lower returns can result in a greater non-performing loans portfolio. This meant an increase of COP18.9 b in provisions on the financial system's balance sheet—an increase of 5.1% in provisioning expenses vis-à-vis what was seen in 2004.

Second, the higher USD appreciation would affect business enterprises that have loans in this foreign currency²⁶. Nonetheless, many firms safeguard themselves against such exchange rate variations by acquiring financial assets in USD. In this exercise, we have taken into account their net liability position in foreign exchange²⁷. Two unfavorable scenarios were construed for the exchange rate: an increase of COP48 associated with the maximum implicit devaluation in FX forward contracts for December 2005 and an increase of COP620 coherent with the 2002 devaluation.

Since Colombian business enterprises have a net liability position, increases in the exchange rate negatively affect their yield. The final effect of the fall in yield associated with the first shock would imply an increase of COP8.6 b in provisions by the financial system, which accounts for a 2.3% increase in this expenditure. However, when considering a worst case scenario, the increase in provisions by the financial system would be COP102.1 b, which is equivalent to a 27.6% increase in this expenditure.

In addition, when considering producers of tradable and non-tradable goods separately, we found that the non-performing loans indicator of the latter is more sensitive to changes in profit levels. On applying the

²⁶ For this exercise, we only took into account the balance sheet loss effect due to valuation.

²⁷ For the liability position of firms, we used the short-term financial obligations and foreign exchange suppliers; whereas we only considered the clearing current accounts for the asset position. Note that these accounts represent only a portion of the foreign exchange assets held by Colombian firms. These are used as an approximation to calculate firms' net positions, given this availability of data.

same shocks to the exchange rate (COP47.8 and COP620), the results were as follows: 1) In the case of producers of tradable goods, the new provisions made are equal to COP2.2 b and COP25.8 b respectively (0.6% and 7% of 2004's provisioning expenses); and, 2) In the case of the non-tradable producers, additional provisioning is equal to COP4.8 b and COP59.6 b respectively (1.3% and 16.1% of 2004's provisioning expenditures).

Lastly, when faced with a real sales decrease of 3% (a close approach to a dampening of economic activity) profits before taxes plummeted and there were even losses in some sectors. This situation is conveyed to the balance sheet of the financial system through an increase in non-performing loans and, hence, in provisioning, which would increase by COP269.5 b, causing current provisioning expenditures to increase by 72.9%.

These possible changes in macroeconomic variables may put any firm or corporation in a difficult situation in terms of profitability and hence affect the strength of the financial system as a whole. However, the magnitude of the effect would depend on the current state of a firm and the size of the shocks.

The above exercises show that credit risk, under the scenarios analyzed, is not a big menace to the short-term stability of the financial system. However, we should bear in mind that these exercises do not take into account the correlation of shocks on variables. Thus, it is important to keep a close watch on this type of risk, as adverse economic conditions can trigger the appearance of various scenarios simultaneously.

B. MARKET RISK

Although credit risk maintains its importance when analyzing the stability of the financial system, the favorable situation of the main debtors makes other types of risk more relevant in the short run. Particularly, the effect of interest rate changes on the valuation of the system's investments has demonstrated to be a real source of weakness. As a large percentage of the financial system's investments are in Government debt securities, we will now proceed to make an exercise that seeks to quantify the market risk of these Government securities. We should note that the realization of such risk during certain periods brought about brief episodes of instability during August 2002, April 2004 and March 2005.

1. The secondary market of TES B (Government securities)

The share levels of financial investments, with particular preference for Government debt securities, are considered one of the major changes that bank

balance sheets have experienced during the past ten years²⁸. Diverse institutional and economic factors have promoted the high preference for these securities²⁹.

This asset recomposition has two implications. On the one hand, it reduces the exposure of the financial system to credit risk, since it contributes to portfolio diversification. On the other, it makes the value of an institution's loan portfolio more vulnerable to changes in interest rates, thereby increasing the exposure of the financial system to market risk.

However, this greater risk exposure of financial intermediaries has been accompanied by preventive measures taken by the Banking Superintendency, which in 2002 created a capital requirement to offset such market risks, though it has not proved totally reliable. In the first place, this measure has become procyclical due to the importance given to recent price volatilities when computing capital requirements, so that institutions have to contribute more funds when markets go through an adverse time—when the greatest losses take place. Second, the weight of market risks with regard to the capital adequacy ratio remains at low levels³⁰ although, as we have seen from our findings, market risk is an increasingly important factor to be taken into account when we refer to the vulnerabilities of the financial system.

a. Exposure of the financial system to the TES B market

The increasing participation of Government debt instruments within a financial institution's balance sheet makes it needful to set up an exercise that focuses on public debt security valuation at market prices. This allows us, in the first place, to quantify the Government debt stock held by financial institutions³¹ at market prices; and, in the second place, to analyze a possible scenario of valuation losses of public debt instruments when facing changes in interest rates. For this purpose, we took data from the TES B government securities, since these are the most common public debt instruments within the financial system's portfolio.

²⁸ These securities accounted for around 21% of assets in 2004, while in 1999 and 1994 they accounted for no more than 7% and 2% respectively.

²⁹ With regard to the first, we talk about the development of the domestic public debt market; concerning the second, there is the economic recession at the end of the 1990s, which led credit institutions to invest more in securities.

³⁰ Incorporating market risk within the capital adequacy ratio implied a fall in the indicator of 1.7% in May 2005 (from 16.5% to 14.3%).

³¹ This is a useful exercise because it allows us to have a measurement which goes beyond the limitations of balance sheet data reported and sent to the Banking Superintendency, where you'll find, because of certain regulations, a mixture of securities valued at market prices and others which are not.

To make the above valuation we used the market price for each public debt security, which is the average price of the previous day's trades of this Government Issue, weighted by the amount of each trade.

In order to determine the price of untraded securities on a specific date, we resorted to the valuation curve's implicit data (built with securities traded that day) as well as the security's computed margin of a past trade³². Through our valuation curve we defined a discount [forward market] rate which, when added to the margin, is used to discount the flows that make up a security and so determine its price. In addition, to compute possible losses when encountering interest rate changes, we used the key rate durations, as put forth by Thomas Ho's (1992)³³ computation methodology.

On carrying out the exercise on May 27, 2005, we were able to determine that credit institutions had COP20.1 trillion (t) in TES B securities at market prices, 13% above the amount for November 2004 (Table 12). At the same time, the non-banking financial sector showed a higher exposure to public debt instruments, as it has increased its market priced balance by 26% during the same period (Table 13). For both groups, most of their public debt portfolios are made up of fixed rate (COP) denominated bonds, while varia-

³² The margin is calculated only if the security has had a price fix (on some past date). Having this price we are able to calculate the return rate for the specific security. The difference between this rate and the one given by the valuation curve represents the margin, which remains constant until the security goes through a price fixing.

³³ Thomas, S.Y. Ho. Key Rate Durations: Measures of Interest Rate Risks. In: *The Journal of Fixed Income*. Vol. II, n.º 2, September, 1992.

TABLE 12

**TES B BALANCES VALUED AT MARKET PRICES, BANKING INSTITUTIONS
(IN MILLIONS OF COP)**

	In COP	Variable rate	In UVR	Total
Balances as of 27 May 2005				
Commercial banks	13,154,458	992,987	4,796,953	18,944,398
Specialized commercial loan and leasing cos.	48,029	1,177	6,347	55,554
Specialized cooperatives	6,236	0	0	6,236
Financial corps.	762,810	36,352	274,165	1,073,326
Total banking institutions	13,971,534	1,030,515	5,077,465	20,079,515
Balances as of 19 November 2004				
Commercial banks	11,703,977	1,298,681	3,752,898	16,755,556
Specialized commercial loan and leasing cos.	55,193	0	6,344	61,537
Specialized cooperatives	12,074	1,166	0	13,240
Financial corps.	814,247	46,929	51,160	912,335
Total banking institutions	12,585,491	1,346,776	3,810,401	17,742,669

Source: Banco de la República.

ble rate (VR)³⁴ public instruments account for the least portion of their portfolios, as result of the Ministry of Finance's decision to stop the issue of the latter.

Balance increases at market prices were due to higher TES B stocks (quantity effect) in the economy, as well as to their appreciation (price effect). However, we should note that the quantity effect explains close to 80% of the total variation, which clearly shows the strong upsurge in public debt holdings by the financial system. (Table 14)

³⁴ The only securities with a variable rate in the market are those which are indexed (to the CPI).

TABLE 13

TES B BALANCES VALUED AT MARKET PRICES, NON-BANKING FINANCIAL SECTOR
(IN MILLIONS OF COP)

	In COP	Variable rate	In UVR	Total
Balances as of 27 May 2005				
Stock exchange broker	196,653	5,538	113,645	315,836
Insurance and capitalization cos.	1,284,933	211,604	554,472	2,051,009
Pension and severance funds	8,290,800	561,208	3,385,795	12,237,803
Trust Cos.	2,388,682	732,558	926,266	4,047,507
Total non-banking financial sector	12,161,069	1,510,908	4,980,178	18,652,155
Balances as of 19 November 2004				
Stock exchange brokers	162,672	3,553	119,511	285,736
Insurance and capitalization cos.	727,201	251,070	640,321	1,618,592
Pension and severance funds	4,335,576	739,316	4,029,798	9,104,689
Trust Cos.	2,310,334	739,374	762,992	3,812,700
Total non-banking financial sector	7,535,782	1,733,313	5,552,622	14,821,717

Source: Banco de la República.

TABLE 14

TES B HOLDINGS' VARIATIONS
(IN MILLIONS OF COP)

	Variation by quantities	Variation by prices	Total variation
Total banking institutions	1,886,530	450,316	2,336,846
Commercial banks	1,770,611	418,231	2,188,842
Specialized commercial loan and leasing cos.	(8,511)	2,528	(5,983)
Specialized cooperatives	(6,407)	(598)	(7,004)
Financial corps.	130,836	30,155	160,991
Total non-banking financial sector	3,039,165	791,273	3,830,437
Stock exchange brokers	29,777	324	30,100
Insurance and capitalization cos.	325,114	107,303	432,417
Pension and severance funds	2,559,038	574,076	3,133,114
Trust cos.	125,237	109,570	234,807

Source: Banco de la República.

As can be seen from Table 15, the higher TES B capital balances amounted to around COP1.9 t for the financial sector during the period considered, largely represented by the higher holdings of commercial banks. On the other hand, we should point out the higher balances of the pension and termination funds, increasing their TES B holdings close to COP2.5 t (Table 16) during the period analyzed.

b. Sensitivity to TES rate increases

Increases both in balances as well as in valuations at market prices point out two important effects: first, they reflect the greater depth of the public debt

TABLE 15

TES B CAPITAL BALANCES OF BANKING INSTITUTIONS
(IN MILLIONS OF COP)

	In COP	Variable rate	In UVR	Total
Balances as of 27 May 2005				
Commercial banks	11,454,433	836,329	4,455,680	16,746,441
Specialized commercial loan and leasing cos.	39,578	1,000	5,877	46,454
Specialized cooperatives	5,259	0	0	5,259
Financial corporations	658,413	30,702	254,526	943,642
Total banking institutions	12,157,684	868,031	4,716,083	17,741,797
Balances as of 19 November 2004				
Commercial banks	10,382,301	1,141,630	3,451,900	14,975,830
Specialized commercial loan and leasing cos.	49,136	0	5,829	54,966
Specialized cooperatives	10,666	1,000	0	11,666
Financial corporations	724,012	41,677	47,117	812,806
Total banking institutions	11,166,115	1,184,306	3,504,846	15,855,268

Source: Banco de la República.

TABLE 16

TES B CAPITAL BALANCES, NON-BANKING FINANCIAL SECTOR
(IN MILLIONS OF COP)

	In COP	Variable rate	In UVR	Total
Balances as of 27 May 2005				
Stock exchange brokers	172,635	4,608	105,837	283,080
Insurance and capitalization cos.	1,087,775	179,063	521,177	1,788,014
Pension and severance funds	6,979,670	472,148	3,136,940	10,588,758
Trust cos.	2,026,483	615,405	848,986	3,490,874
Total non-banking financial sector	10,266,563	1,271,224	4,612,940	16,150,726
Balances as of 19 November 2004				
Stock exchange brokers	139,250	3,236	110,818	253,304
Insurance and capitalization cos.	652,484	221,161	589,255	1,462,900
Pension and severance funds	3,695,959	642,773	3,690,987	8,029,720
Trust cos.	2,012,613	654,109	698,916	3,365,638
Total non-banking financial sector	6,500,306	1,521,279	5,089,977	13,111,561

Source: Banco de la República.

secondary market as seen from the increased holdings of these securities by the financial system; additionally, although it is clear that the increases in balances valued at market prices dominate because of their significant quantity component, we cannot set aside the effects of price changes.

For this reason, we considered it necessary to quantify possible losses due to valuation changes of these securities³⁵. In Table 17, we show the likely losses that the financial system could suffer when facing a parallel increase of 100 bp³⁶ on the TES B spot curve³⁷. We should note here that this exercise supposes that financial institutions do not adjust their portfolios when facing an adverse situation and that they are not aware of the possibility of being able to sell some of their securities before the full force of the shock materializes.

Bearing in mind these assumptions and given the durations of current securities on May 27, 2005, credit agencies could experience losses valued at COP502 b, 94% of which would pertain to the commercial banks. The non-banking financial sector could well report losses up to COP553 b.

- ³⁵ The valuation exercise at market prices includes all TES B securities held by agents. This implies that losses due to valuation changes also include securities held until maturity; hence, these losses may be overvalued by those agents having a relatively high proportion of such investments.
- ³⁶ For UVR and variable rate TES, we assume an increase in the margin over the reference rate (UVR and CPI respectively). If inflationary expectations increase, the fixed rate securities would be the only ones to suffer losses.
- ³⁷ Estimated losses are linear to parallel shocks on the spot curve. In this way, a shock *n times* greater (lesser) would imply losses *n times* greater (lesser) to those reported.

TABLE 17

LOSSES DUE TO VALUATIONS (*)
(IN MILLIONS OF COP)

	In COP	Variable rate	In UVR	Total
Total banking institutions	(294,519)	(34,240)	(173,506)	(502,265)
Commercial banks	(276,787)	(33,134)	(163,440)	(473,361)
Specialized commercial loan and leasing cos.	(924)	(35)	(273)	(1,233)
Specialized cooperatives	(99)	0	0	(99)
Financial corporations	(16,710)	(1,071)	(9,793)	(27,573)
Total non-banking financial sector	(316,484)	(53,022)	(183,124)	(552,630)
Stock exchange brokers	(4,327)	(196)	(3,769)	(8,292)
Insurance and capitalization cos.	(31,104)	(7,504)	(23,288)	(61,896)
Pension and severance funds	(225,413)	(21,802)	(131,376)	(378,592)
Trust cos.	(55,640)	(23,519)	(24,691)	(103,850)

(*) For each parallel 100 basis point increase in the interest rate.
Source: Banco de la República.

To determine the magnitude of the losses due to valuation changes suffered by institutions making up the financial system, we proceeded to find out the percentage those losses represented within the total portfolio value. We then went on to quantify the effect of those losses on credit institutions' returns, starting from the percentage of losses these would account for among their total annual profits on April, 2005. The latter computation gives us an idea how solid these institutions are in terms of returns, to be able to meet potential losses due to market risks, while the former gives us an idea how big those percentage losses are for a given portfolio.

Table 18 shows the percentage loss due to valuation changes over the value of the investment portfolio. It is worth noting that the market risk is greater among the non-banking financial institutions vis-à-vis credit institutions, reflecting the high portfolio sensitivity of the former. On the other hand, the pension and the severance payment funds have the highest degree of market risk exposure, because of their sensitivity to prolonged interest rate shocks. This is because of the long-term nature of their activity and, hence, one would expect that a significant portion of their investments would be kept till their maturity so that as a result they would not incur all the expected losses.

A 100 bp increase in interest rates would represent commercial bank losses accounting for 19% over their total annual profits. (Table 19) This percentage is above the 14% found for a similar exercise carried out in 2003³⁸, when the financial system was not reporting profits as high as the current ones

³⁸ Gómez, José Eduardo; Janna, Michel; Martínez, Jimmy; González, Juanita. *Efectos de choques en tasas de interés sobre la rentabilidad y solvencia de bancos y BECH*. In *Subgerencia Monetaria y de Reservas del Banco de la República*, May 2003.

TABLE 18

LOSSES DUE TO VALUATIONS (*)
AS A PERCENTAGE OF THE TES B PORTFOLIO

	In COP	Variable rate	In UVR	Total
Total banking institutions	2.11	3.32	3.42	2.50
Commercial banks	2.10	3.34	3.41	2.50
Specialized commercial loan and leasing cos.	1.92	2.94	4.31	2.22
Specialized cooperatives	1.58	0.00	0.00	1.58
Financial corporations	2.19	2.95	3.57	2.57
Total non-banking financial sector	2.60	3.51	3.68	2.96
Stock exchange brokers	2.20	3.54	3.32	2.63
Insurance and capitalization cos.	2.42	3.55	4.20	3.02
Pension and severance funds	2.72	3.88	3.88	3.09
Trust cos.	2.33	3.21	2.67	2.57

(*) For each parallel 100 basis point increase in interest rates.
Source: Banco de la República.

**PROFIT RESISTANCE OF BANKING INSTITUTIONS
AGAINST A 1% INCREASE IN THE TES B RATES**

	Losses due an increase in the TES B rate (In millions of COP)	Profits of the last 12 months (Apr. 2005) (In millions of COP)	The percentage of profits lost with a 1% increase in the TES B rate
Total banking institutions	(502,265)	2,941,908	17.07
Commercial banks	(473,361)	2,471,470	19.15
Special commercial loan and leasing cos.	(1,233)	167,367	0.74
Specialized cooperatives	(99)	17,973	0.55
Financial corps.	(27,573)	285,097	9.67

Source: Banco de la República.

(COP1,353 b for credit establishments, out of which COP833 b pertain to the commercial banks). This implies that the market risk has increased rapidly during the past two years, even at a greater speed than bank profits themselves.

Furthermore, a previous study at the disaggregated level¹⁷ revealed that with a parallel increase of 100 bp in interest rates, 5 out of 25 banking institutions would suffer losses due to valuation of more than 40% of their profits, showing the strong exposure to this type of risk by some financial intermediaries.

To conclude, the balance sheet recomposition of financial institutions in favor of greater investments in Government debt instruments as part of their total portfolio has revealed the potential danger that market risk poses today to the financial system as a whole. Notionally, should TES B interest rates increase unexpectedly by 100 bp, all the financial system would suffer considerable losses, with most of the burden borne by the commercial banking sector.

Although these potential losses do not seem to have an excessive aggregate impact, since they only account for 19% of last year's total profits; we should point out however that this percentage is above that of two years ago (14%), when banking sector profits were less than half of today's. On the other hand, it is clear that at the disaggregated level 20% of the commercial banks would suffer losses by more than 40% of their profits due to valuations. This result highlights the importance of continuing to improve the current monitoring systems in order to counteract market risks and so prevent future episodes of financial stress.

³⁹ Gómez, Esteban; Janna, Michel; Avella, Mauricio. *Sensibilidad del sistema financiero a choques en las tasas de los títulos de deuda pública (TES)*. In: *Subgerencia Monetaria y de Reservas del Banco de la República*, May 2005.



TOPICS ON
FINANCIAL STABILITY

AN ANALYSIS OF BANKING MERGERS IN COLOMBIA

Dairo Estrada*

I. INTRODUCTION

In recent years, different mergers have taken place both in the financial and manufacturing sectors. These processes have raised questions as to the policies implemented with regard to trade offs between profits via efficiency and those related to social costs, given the presence of greater market power. If profits due to efficiency surpass the resulting social losses as a result of increased market power, mergers then may be of interest from the economic and antitrust perspective.

This analysis will look at mergers from different angles: first, mergers can improve cost efficiencies; second, they can improve the efficiency of benefits that involve combining raw materials and superior products¹, and third, they can provide greater price setting benefits by exercising market power. A greater concentration or participation of business enterprises within the market can provide the basis for intermediaries to establish higher rates for their goods or services, or to lower deposit rates without having efficiency improvements.

Unfortunately, not many studies have analyzed the gains associated with bank mergers. Furthermore, not many have dwelt on the price changes when mergers take place. Price changes reveal the effects of mergers on market power, plus the effects on prices due to higher bank operational efficiency. In this study, the role of mergers is analyzed with regard to their efficiency in benefits and market power. This analysis is based on data taken from the Colombian financial system over the 1996-2004² period.

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¹ Akhavein *et al.* (1997), and Berger Mester (1997) explain how the concept of benefit efficiency is a more global concept than that of cost efficiency, as it takes into account cost and income effects on selecting the products vector which remain fixed when considering cost efficiency.

Section II shows some international evidence. Section III expands on the efficiency measure in benefits. Section IV discusses the results of the efficiency measurements and the effects of mergers. Section V analyzes the competition effects associated with mergers. Section VI concludes with some final remarks.

II. INTERNATIONAL EVIDENCE

Mergers and takeovers have changed significantly in recent years. In the United States, the number of banks fell from 16,000 to around 8,000 during the 1980-2003 period. The fall sparked a consolidation process, including bringing about merger processes that have rationalized some participating market institutions³.

This consolidation process in the US has been primarily due to the impact of technology and geographic integration. There were 3,517 mergers over 1994-2003; 1998 was the peak year for mergers—a historical year for the US in this respect. There were 493 mergers, involving nearly 14% of assets, (Table 1). In the European Union, the number of credit institutions fell from 12,256 to 9,285⁴ over the 1985-1997 period.

² At the international level, cost efficiency gains as a result of mergers are relatively scarce. Some empirical studies suggest average bank deviations against the frontier on the cost function at a level of 20%-25%. See Savage (1991), Shaffer (1993), and Berger and Humphrey (1992).

³ See Rhoades (2000).

⁴ European Central Bank (ECB), (1999).

TABLE 1

MERGERS, ASSETS, DEPOSITS, AND BRANCHES ACQUIRED (*)

Year	Mergers	Assets	Percentage	Deposits	Percentage	Branches	Percentage
1994	475	187,012	3.8	143,651	4.4	3,932	5.1
1995	475	254,851	4.9	186,968	5.5	4,981	6.5
1996	446	406,695	7.5	292,740	8.4	6,549	8.5
1997	422	311,871	5.3	230,148	6.1	5,687	7.3
1998	493	836,970	13.3	580,972	14.7	11,351	14.3
1999	333	276,643	4.2	186,440	4.6	3,477	4.3
2000	255	200,963	2.8	98,190	2.2	2,693	3.3
2001	231	359,495	4.6	236,067	5.0	4,958	6.0
2002	203	150,186	1.8	92,102	1.8	1,914	2.3
2003	184	88,330	1.0	66,950	1.2	1,741	2.1
Total	3,517	3,073,016		2,114,228		47,283	

(*) Data in millions of USD, except for percentages.
Source: Pilloff (2004).

A recent study by IDB adequately describes some general features related to merger processes. It analyzes the differences that have arisen among the various mergers, comparing Latin America with the developed countries: in developed countries mergers took place among the local banks and as a result of reactions to different market situations, while in developing countries, mergers took place as a result of the entry process of foreign banks or as a response by regulatory agencies to crisis periods and financial instability⁵.

A. Market power and policies on competition

Traditionally, financial sectors have not paid much attention to competitive aspects. In some developed countries, including the US, the banking sector is not strictly controlled by antitrust policy. In some cases, mergers only require the approval of the regulatory agency, but not from the antitrust authority. The main objective of the authorities has been to maintain the stability of the financial system. In the past, market power was the means through which financial firms could increase their value, which could be seen as a way of preventing financial intermediaries from taking riskier positions. Recently, regulatory agencies have given greater importance to the aspect of competition through antitrust policies that have application on merger processes. Some countries like Australia, Canada, Italy and Switzerland have approved merger processes without hampering competitiveness.

From the above, antitrust policies have suffered significant changes. In emerging markets, these policies have started to play a greater role in merger processes, but there are still some points that remain unsolved: first, the geographical sphere of products and services has to be defined, incorporating the consolidation processes of the financial system; second, there should be a closer look at how mergers affect or create barriers to entry in financial markets; and, third, the globalization process, which allows for trading to and from abroad, creates difficulties in applying the antitrust policies internationally. Differences in rules among countries can also create inconveniences on the follow up and surveillance of the financial market with reference to its policies on competition. Last, there are still difficulties when regulators work to promote competitive activities without endangering the stability of the financial system. Based on information from several developed countries, Table 2 illustrates the main characteristics of banking systems in relation to their policies on competition.

⁵ See IDB (2004), for more detailed reading on bank consolidation processes in Latin America.

TABLE 2

ANTITRUST POLICIES OF VARIOUS BANKING SYSTEMS

Country	Implementation	Laws
Australia	Two aspects are considered by the ACCC at the time of a merger: 1. The market share of the firm after the merger. (15%) 2. The share of the four biggest firms in the country, which cannot be above 75%. If these percentages are surpassed, the ACCC takes into account other factors if it is to authorize or not the merger. Mergers are not allowed among the four biggest firms.	Governed by the Trade Practices Act (1974). Can prohibit merger Governed by the Trade Practices Act (1974). Can prohibit merger processes that endanger market competition. The Australian Competition and Consumer Commission (ACCC) is in charge of supervision.
Belgium	The CBF has a three month period to analyze merger processes. In recent years, no merger requests have been rejected, and both the Commission and Council on Competition have accepted the opinions of the CBF.	Based on Law 5 dated August 1991 concerning competition (Revised in 1999), under the Commission on Competition, the Service on Competition and the Council on Competition. Each sector also has its own regulatory body. The Commission for Banking and Finance (CBF), and the Banking Superintendency cover the financial sector.
Canada	The Competition Act establishes criteria on approval of mergers based on efficiency (cost reduction) so as to produce fund savings. The Competition Bureau analysis is based on the "Merger Enforcement Guidelines as Applied to a Bank Merger" (1998). In general terms, a firm cannot have more than a 35% share in the market after the merger. The four biggest firms cannot have more than a 65% share and those that merge cannot possess more than 10%.	It is under the Competition Bureau, a federal agency that defines the geographic and product markets. It reviews mergers under the rules and regulations established under the Competition Act, Sect. 93.
European Union	Most of the merger processes between 1991 and 2000 have taken place at the local level and the Commission's intervention has been minimal.	Merger Law (1990), revised in 1997. Small mergers belong to the territorial prescriptive jurisdiction of each country. The European Commission is in charge of making sure that the law on mergers is enforced and intervenes on issues affecting the EU as a whole.
France	The CECEI has not stopped any merger process. In 1998, when the CIC was privatized, the acquisition effect was studied by four institutions mainly from the viewpoint of market share. In 1999, the BNP-SocGen-Páribas Affair was analyzed regarding market share.	Under the EU Merger Commission. The <i>Comité des Etablissements de Crédit et des Entreprises d'Investissement</i> (CECEI) takes part at the local level.
Germany	The Bundeskartellamt has four months to analyze a merger. The concentration after the merger is analyzed bearing in mind the competition with the other local and foreign firms.	The Act in place prohibits barriers on competition (<i>Gesetz gegen Wettbewerbsbeschränkungen</i>). The Bundeskartellamt is in charge of merger surveillance in agreement with the European Commission's standards. These are also subject to domestic supervision.
Italy	The Bank of Italy established five guiding factors on banking performance and, at times, it has fixed rates on territorial products and markets in agreement with the Association of Italian Banks.	The Central Bank of Italy established antitrust guidelines based on 33 files: 16 on consolidation, 5 on abusing a predominant market position, and 12 on agreements against competition. Predominant geographical markets and product positions are analyzed.
Spain	Should a resulting merger have a market share above 25% or a sales volume above 40 billion pesetas, a report, usually taking no more than a month, is prepared to approve the merger. If the Government is hesitant about a merger, it may seek the opinion of the Court and then will decide.	The Law on Competition # 16/1989, Art. 14 through 18. It is applicable to the local markets outside the consideration of the European Commission.
United States	Mergers are analyzed from the HHI index level and variations function. Increases above 200 points or above 1800 points lead to reviews carried out by the DOJ. Mergers among banks are also subject to reviews by the federal bank enforcement body, as well as by the government of each State. It uses the same DOJ standards. In some merger cases, banks have accepted the closing of some of their local branches to avoid having a predominant position in some particular region.	Governed by the Department of Justice (DOJ) and the Federal Trade Commission. The DOJ is in charge of analyzing mergers involving financial intermediaries.

Source: G-10 (2001).

In the case of Colombia, we should note that the financial system has no clear policies in defense of competition, except for one mandate established under the Financial System's Organic Statute, Art. 58, D, with reference to bad practices:

When the new or absorbing institution, as a result of a merger, maintains or sets unjust prices, limits services, or hinders, restricts or falsely represents free competition in the markets in which it participates, whether acting through its head office or affiliates, and, in its opinion, does not take the necessary and sufficient measures to prevent any of the aforementioned. It is understood that none of these hypothetical situations apply when the absorbing or new business enterprise meets less than twenty-five per cent (25%) of its related markets.

Chapter XIV, part 3, 1, Rules on Competition, when referring to the regulations on competition and consumer protection, reads that:

Prohibited are all contracts or agreements, or decisions to associate, or practices agreed among entrepreneurs, which directly or indirectly have the purpose or effect of hindering, restricting or misrepresenting the free play of competition within the financial and insurance system.

Our Banking Superintendency, based on the Statutes, Art. 58 above, has made careful studies of each merger case already approved or that is undergoing approval.

The Superintendency has also requested and received the cooperation from the *Banco de la República* via the research work I have carried out in determining the market definition and the resulting competitive conditions when surpassing the 25% mark.

III. MEASUREMENT OF EFFICIENCY GAINS

To determine how mergers affect the efficiency in terms of benefits, an estimate based on the Colombian financial system was done for the 1994-2004 period. In the analysis, I am including the four main types of financial intermediaries: commercial banks (CB), specialized mortgage banks (BSMP), financial corporations (FC) [investment banks], and commercial financing corporations (CFC) [specialized commercial banks]. Following Akhavein *et al.* (1997) methodology, I have computed the efficiency measurement variation associated with the merger, as a variation in the efficiency measurement of the corporation that has merged against the weighted average efficiency measurements of the participating corporations before the merger.

Both, the specification and estimation of the efficiency measure are based on the stochastic frontier analysis by adopting a translog

TABLE 3

EFFICIENCY MEASURES BY TYPE OF INTERMEDIARY (*)

	Total	Banks	BECH	CF	CFC
Alternative benefit function					
Number	102	33	13	27	29
Max.	0.96	0.96	0.95	0.84	0.95
Min.	0.27	0.27	0.42	0.48	0.49
Mean	0.73	0.71	0.82	0.65	0.78
Median	0.73	0.71	0.89	0.64	0.81
Variance	0.01	0.01	0.01	0.01	0.01
Measurement equality test					
<i>t-stat</i>		13.73	2.84	1.67	0.19
<i>p-value</i>		0.00	0.00	0.10	0.85

(*) The interval for the efficiency measures within the alternative benefit function comes to (0,1).

function⁶. The efficiency evaluation takes values on the (0,1) interval, where 1 represents the level of a fully efficient individual bank.

Data from the main mergers among financial intermediaries was taken from the 1994-2004 period. Within the sample, I compared individual banks before the merger and the resulting bank after the merger.

This is consistent with the idea that mergers may show improvements in efficiency, which are related to the new merger coordination policies and to the possibility of there being economies of scale in the banking industry. The resulting better efficiency from the mergers is not immediately seen; in fact, they may take several periods, because of adjustment costs (legal, consulting, labor, claims paid and other costs) at the moment of the merger⁷.

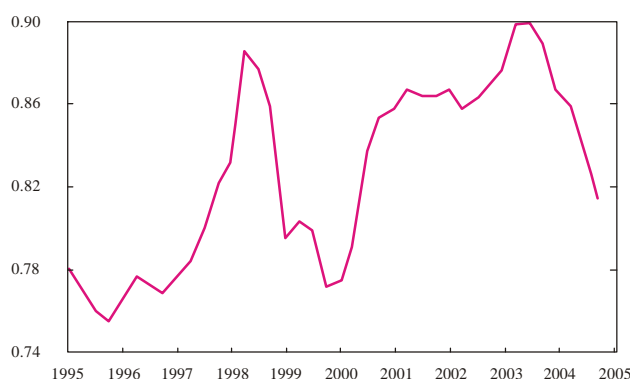
IV. MERGER EFFECTS ON EFFICIENCY

From Table 3, the mean of the efficiency evaluation comes to 0.73, for the whole system.

The BECH show on average the highest levels of efficiency (0.82), while the the FCs have the lowest level (0.63); the mean equality tests for the different

GRAPH 1

TEMPORARY EFFICIENCY



Source: Banking Superintendency. Calculations from the author.

⁶ See Humphrey and Pulley (1997); Berger and Mester (1997), and Estrada and Osorio (2004).

⁷ Berger and Humphrey (1992) found that for the first three years after the merger, costs are not significantly important in such a way that these costs do not create a strong bias when analyzing the effects of a merger.

types of banks convey a certain level of heterogeneity, especially when we compare the CBs with the FCs and the CFCs. (Table 3)

Graph 1 depicts the efficiency evaluation performance during the period. Note the negative impact of the financial crisis on efficiency from 1998 to 1999.

Early on in this period, the efficiency levels came to 0.767 if we take the average of the first five quarters (Dec.1994-Dec.1995), while efficiency reached 0.845 if we take the last four quarters (Sep. 2003-Sep. 2004), which accounts for a growth of 10.1% during the last 10 years.

During this period, the Colombian financial system has gone through several mergers, the most outstanding being the *Banco de Colombia* and *Cafetero* mergers. Graphs 2 and 3 illustrate how the merger processes increased the level of efficiency of the resulting banks. In the case of the *Banco de Colombia*, it revealed a better benefit efficiency of 10%, while *Bancafé* gained 5%⁸. These findings do not contradict other studies showing that efficiency gains may be given when mergers take place, and that these gains are not as much when these mergers are relatively small in size.

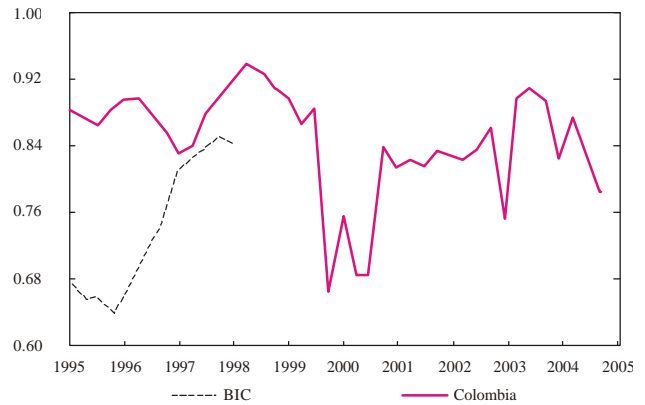
V. MERGERS AND COMPETITION

Recently, Panetta and Focarelli (2004), and Sapienza (2002) found that there can be mixed effects when mergers take place. The short and long-term effects can differ from each other when there is a different temporary response from the efficiency and market power factors. These authors found that Italian bank mergers brought about negative effects on the short-term consumer prices, while the long-term effects were favorable. Thus, the market power effect prevailed in the short term, while the efficiency effect on prices prevailed over the long term.

Other studies on the US and Europe conclude that mergers seem to have had a favorable effect on the growth of banking competition⁹.

GRAPH 2

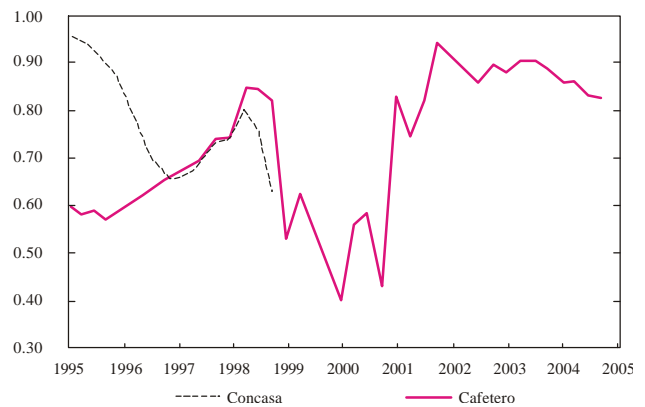
LEVELS OF EFFICIENCY BY THE BANCO DE COLOMBIA



Source: Banking Superintendency. Calculations from the author.

GRAPH 3

LEVELS OF EFFICIENCY BY BANCAFÉ



Source: Banking Superintendency. Calculations from the author.

⁸ To carry out this analysis, the data on the efficiency in benefits was included for the merged bank and the creditor bank after the period of financial crisis was over.

⁹ See Krozner and Stadhan (1999) in the case of America.

From a theoretical perspective, the explanation that concentration does not positively relate with a reduction in competition coincides with the version of the competitive debatable markets. This suggests that if there are no entry barriers, the presence of future competitors imposes discipline on established banks and creates a situation of future competition, even though mergers cause a fall in the number of banks currently in the market.

In analyzing the degree of competition, I used the Colombian deposit market, based on what has been known as the new empirical analysis of industrial organization (NEIO)¹⁰.

To estimate the structural form, requires the deposit supply function, the marginal cost function, and the relevant selection of explainable variables. I have considered the following linear specifications:

$$D_i = a_0 + a_1 r_i^D + a_2 r_{-i} + a_3 E_i$$

$$MCD_i = \partial C_i / \partial D_i = ACD_i = b_0 + b_1 D_i + b_2 w_i^E + b_3 w_i^K + b_4 \text{Effi} - b_5 (D_i / r_{-i})$$

Where D_i are the deposits of each financial intermediary; r_i^D is the interest rate offered by each bank for deposits; r_{-i}^D pertains to the rate offered by the

¹⁰ See Bresnahan (1987) for a revision of the focus: New Empirical Industrial Organization (NEIO). This analysis is based on an unfinished research project related to the level of competition in the Colombian deposits' market carried out by the author.

TABLE 4

DEPOSITS MARKET IN COLOMBIA (*)

	SF		Banks		CF		CFC	
	Coef.	Std error	Coef.	Std error	Coef.	Std error	Coef.	Std error
Supply for deposits								
Dependent variable D_i								
a_0	15.52	0.01	15.79	0.02	12.83	0.03	14.10	0.02
r_i^D	0.15	0.02	0.80	0.03	2.15	0.06	0.49	0.05
E_i	0.53	0.00	0.47	0.00	1.07	0.00	0.91	0.00
r_{-i}^D	-0.32	0.02	-1.18	0.03	-2.58	0.06	-0.24	0.04
Demand for deposits								
Dependent variable MC_i								
b_0	7.77	0.05	7.23	0.09	2.78	0.16	8.09	0.08
D_i	0.57	0.00	0.51	0.00	0.76	0.01	0.71	0.00
w_i^K	-0.02	0.00	-0.07	0.00	-0.02	0.01	0.03	0.00
w_i^L	-0.17	0.00	-0.05	0.01	-0.10	0.01	-0.33	0.00
Effi	0.53	0.01	0.35	0.01	0.01	0.07	0.36	0.01
D_i / r_{-i}	-0.90	0.00	-0.86	0.00	-0.87	0.01	-0.97	0.00

(*) The (G.L.S). Random Individual Effects Estimation method was used. See Biorn (1999).

remaining intermediary present in the sector; E_i are the employees of each bank, which measures the size of the bank. On the other hand, MCD_i is the marginal cost, ACD_i is the mean cost; w_i^E is the labor cost; w_i^K is the price of physical capital; and Eff_i is the estimated efficiency evaluation referred to from the previous section.

Having included its own interest rates as variables and those of other intermediaries all fits well with the conjectural analysis proper of this focus (NEIO). *Ceteris paribus*, deposits should respond positively to their own price and negatively to the price of the remaining intermediaries.

Table 4 shows the results from estimating the system's simultaneous equations over the 1995-2004 period, including quarterly data. A preliminary look tells us that there are no big differences in the results obtained from the financial system as a whole and those derived when dividing by type of intermediary. As far as the supply of deposits is concerned, all parameters are statistically significant and in conformity with theoretical intuition.

The hypothetical conjured variable ended up with the expected sign and significance, not only with reference to the financial system's estimates as a whole, but also when we considered various subsectors. This parameter is negative and close to zero in the majority of cases and shows that we cannot say that there is a high collusive power in the deposits market of participating banks.

This result opposes the idea that mergers generate greater market power, which would provoke banks to pay lower interest rates on deposits.

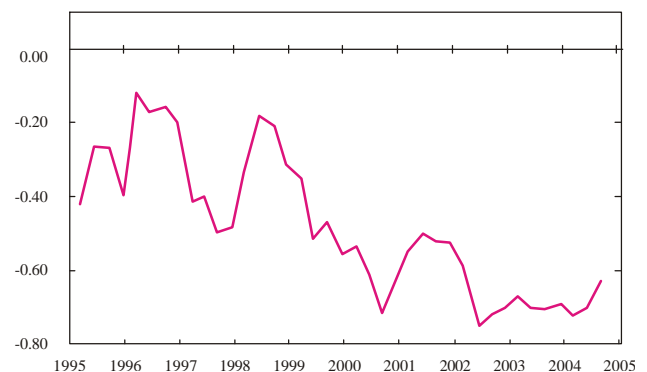
Graph 4 shows the relation between the HHI index and the rates paid on deposits for the same period. As seen, there is an inverse ratio between the deposits market concentration index and deposit interest rates.

VI. CONCLUSIONS AND RECOMMENDATIONS

If we focus on the banking sector's competitive situation, as opposed to what has been found in other studies carried out on Europe, the US and Canada, we cannot say that there is evidence of monopoly or oligopoly activities carried out by the Colombian financial intermediaries after the mergers. On the other hand, when considering the effects of mergers on efficiency, this study reveals that, for the alternative benefit function, efficiency data improves in regard to the most important mergers undertaken in recent years.

GRAPH 4

THE DEPOSIT RATE AND HHI CORRELATION



Source: Banking Superintendency. The author's calculations.

In this context, an in-depth analysis on competition and the effect of mergers on the following points are deemed necessary:

1. Identifying relevant markets.
2. Based on the fact that competition makes reference to the price behavior of firms in a particular market, Cetorelli (1999) points out that upon analyzing the impact of concentration on prices, two factors should be borne in mind: the existence of alternative funding sources and the degree of market response or the easiness with which potential competitors can enter the market—factors which contribute to lessening the potential impact of concentration resulting from mergers.
3. The financial integration-competition ratio. Mergers and acquisitions provoke financial integration not only at the national but at the international level through free trade agreements and the incorporation of electronic banking and, hence, no longer requiring the geographical closeness between clients and banks.
4. Market power determinants. Although this study approaches the structure of the Colombian banking market, it needs, for the sake of further completion, factors more directly related to market power, as well as with variables that represent specialization, institutional form, the regulatory environment on competition, and the entry barriers both at the local and national level in order to explain the market power we are referring to.

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ANTICYCLICAL PROVISIONING SCHEME FOR COLOMBIA

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Fernando Pineda
David Salamanca*

Ample studies have been made and documented on the close relationship between the financial system's performance and the rhythm of economic activity. Many authors have noted how credit market conditions can not only affect the level of the most important real variables, but also their volatility¹. Imperfections within the credit market make it very procyclical; hence, an unexpected shock would cause said market to propagate and amplify the shifts brought about by economic variables.

The financial system's response to the various phases of the cycle is characterized by high credit growth during the upswing phase and its rationing during the downswing. This behavior is related to the financial system's tendency to underestimate the credit risk during the upturn and to overestimate it during the downturn phase². This wrong perception of risk creates distortions in the incentives for financial institutions to lend, makes credit excessively volatile, which negatively affects corporate and investment funding, and conveys a climate of instability, thereby transmitting the instability to the real sector.

Furthermore, financial institutions generate high profits during the cycle upswing, which are distributed among their stockholders, to be followed by a crisis during the downswing, with the ensuing possibilities of bankruptcy, state intervention, or government support at the expense of the national budget. Thus, this argues for the need to set up an anticyclical provisioning scheme to lower profit volatility throughout the economic cycle.

The purpose of this document is to determine the impact of having an anticyclical provisioning system in Colombia similar to the one in place in Spain. The simulations put forth in this document suggest that credit institutions would

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¹ Bermanke *et al.* (1999).

² Borio *et al.* (2001).

have to pay a high price in terms of having lower profits during the upturn phase. However, if no anticyclical reserves are created during the upswing phase, the opportunity of using these reserves as a cushion against losses during the most adverse phase would be lost.

I. CREDIT RISK ALONG THE CYCLE

The increased demand for loans, which surges during an economic expansion, is generally met by financial institutions. These high loan growth rates are fed by a general wave of optimism. This bubble grows and is fed by high asset prices (and hence by the face value of the loan guarantees and the wealth of debtors), by less restrictive loan policies, and by increased competition among institutions in order to not lose market participation, among other reasons. This excessive abundance of funding during periods of high economic activity involves little or no assessment of risks by loan institutions in approving, for example, projects which would not have been considered viable under different circumstances. But, because of the favorable economic conditions and the debtors' positive payment capacity, these loans have not yet entered into arrears nor has any specific provisioning been made. In fact, it is during these boom periods that credit institutions are characterized not only by the high growth of loan disbursements but also by low provisioning levels and high reported profits.

To the extent that economic indicators begin to deteriorate, along with debtors' repayment capacity, then the loan risks that the credit institutions acquired during the upswing phase will also materialize. Non-performing loans and provisioning levels will also increase, which will negatively affect the returns and capital adequacy ratios of these credit institutions. The financial system's usual responses to this situation are often optimal on the individual level, but not on the collective level. Credit restrictions by these institutions (whether it be to capitalize themselves or to redirect their portfolios toward less risky assets at that moment) end up being quite severe and prolong the recessive phase of the cycle, as the link between savings and investments breaks, hindering the channeling of funds and limiting corporate funding.

Since credit institutions use provisioning to protect themselves against expected potential losses, its above described procyclical characteristics (high during recessions and low during an economic boom) is not consistent with the perception that the greatest risk exposure comes during the upturn phase. The rating systems used do not adequately identify the risks incurred during the boom phase. Only years later, when these risks materialize, are they borne and provisions made. This is why a wrong valuation of risk is made over time, since the current practice is to determine provisions according to the deterioration of the portfolio (*ex post* calculation) instead of taking into account the future potential risks on assets (*ex ante* calculation).

The new proposals on provisions made in the Basle agreement do not take into account the aforementioned perception of risks. These proposals focus on measuring credit risk and classifying lenders using models that are internal or external to the institution, taking as a reference the probability of default within a horizon of one year. Although the credit may be classified correctly, the determination of the actual quantity for provision will continue to depend on the phase of the economic cycle. The assumption that using historical data will cause loans to be well classified (minimum one complete cycle) does not correct the distortions that arise from making low provisions during periods of economic boom, when the probability of default is less, and then making excessive provisions during times of recession.

This inconsistency has also been found in Colombia. The Banking Superintendency's accounting requirements which refer to specific provisioning are based on the levels of portfolio in arrears and/or rated B, C, D, or E, without taking into account the latent risk in a current healthy portfolio. From another angle, the general provisions calculated as 1% of the gross portfolio are insufficient to cover variations in the cycle, as has been seen on past occasions. The new Risk Management System (SARC) currently in use by the financial system's institutions, clearly reveals the need to make anticyclical adjustments, but does not specify the methodology to be used³. We are proposing here that these adjustments be made based on anticyclical provisions.

II. ANTICYCLICAL PROVISIONS⁴

Spain implemented anticyclical provisions in July 2000, to correct the trend of making little provision during boom times and excessive provision during periods of recession⁵. The Bank of Spain designed an anticyclical provisioning fund (known as the *Fondo de Insolvencias Estadísticas*). The purpose of this fund is to provide coverage for the potential risks on total portfolio, which do not necessarily become non-performing loans, and so supplement the general provisions requirement, based on the historical experience of homogeneous risk categories. This statistical provisioning covers the expected losses of the non-deteriorated loan portfolio throughout the whole cycle, as opposed to the specific provisions made to cover the risk of loans that have already deteriorated.

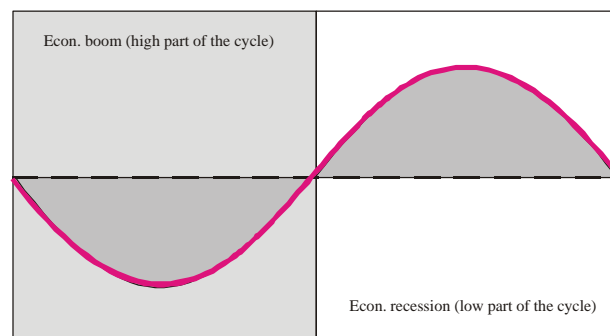
Statistical provisions are calculated by taking the difference between the latent losses and specific provisioning. (Figure 1) To calculate the latent losses you may use internal models to determine, on the basis of an institution's history, the specific provisions-gross portfolio (coefficient **a**) average ratio throughout

³ See León (2003) and Bermúdez (2003) for information on SARC.

⁴ See Fernández de Lis *et al.* (2000) and Poveda (2000) for a description of the statistical provisions.

⁵ Implemented through Bank of Spain's Circular # 9/1999.

STATISTICAL, SPECIFIC PROVISIONS, AND LATENT LOSSES RATIO THROUGHOUT THE CYCLE (*)



Statistical provisions
 Specific provisions
 Latent losses

(*) In order to have constant latent losses, as shown above, we assume that the loan portfolio for category *i* for the whole cycle does not vary against the average of loan portfolio *i* of the previous cycle ($C_{i, prom} = C_i$), in which case the latent losses will be equal to the average provisions made for risk category *i* throughout the previous cycle ($P_{Prov_{i, prom}}$).

the previous cycle, according to homogeneous risk category, to be multiplied by the current amount subject to exposure. Institutions that have not developed their own internal model should take the exposure coefficients by risk types, which are imposed by the regulator, to calculate the latent losses (standard model). In both cases, it is very important to include historical data for at least one whole economic cycle in order to calculate these (a) coefficients. Therefore, the latent losses of risk category *i* at time *t* will be calculated as:

$$(1) \text{ Latent losses}_{it} = a_i \cdot C_{it}$$

Where:

$a_i = \sum(\text{Prov}_{i,t} / C_{i,t}) / n =$ (quotient average between specific provisions and gross portfolio in risk category *i* along the previous cycle).

C_{it} = category *i* portfolio in time *t*.

i = portfolio categories: mortgage, consumer, and commercial.

When the difference between the latent losses and specific provision is positive, the amount is registered as an expense in the profit and loss statement (P&L) against an increase in the anticyclical provisioning fund⁶. This usually tends to happen during boom periods, when the level of latent losses is greater than the level of specific provisions (which tend to be small during this part of the cycle). On the other hand, when this difference is negative, the amount of statistical provisioning is registered as an income item in the P&L statement against a decrease in the anticyclical fund. This situation is common during periods of economic recession—when the loan portfolio deteriorates. Here the levels of specific provisions are quite high and so the accumulated funds in the provisioning fund have to be used. Thus, the statistical provisioning offsets the cyclical effect of specific provisions on the P&L statement.

Both the latent losses and, hence, the statistical provisions should be calculated for each of the pre-established homogeneous risk categories. When statistical provisions are positive and funds are added to the fund, these will not be tax-deductible in the P&L statement. They will be tax-deductible only when the statistical provisions are negative.

⁶ If the latent losses are calculated during a period of one year and statistical provisions are done on a quarterly basis (as in the case of Spain), statistical provisions are then calculated as the difference between a quarter of the latent losses and the quarterly accumulated specific provisions.

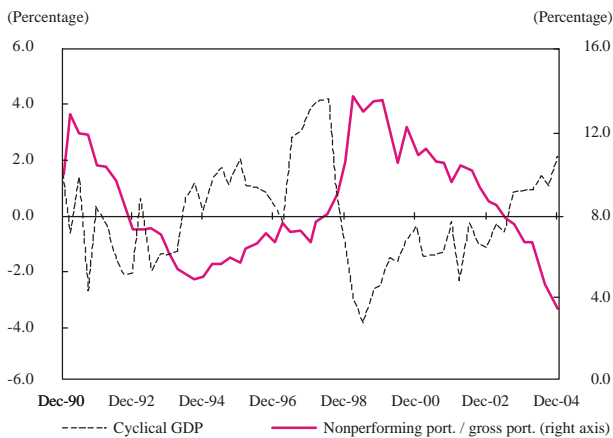
The anticyclical provisioning fund has a ceiling which is based on the latent risk shown throughout the previous cycle. This ceiling is determined under the assumption that the intensity of the next phase of recession will be similar to that of the previous cycle⁷. An institution will not need to make further statistical provisions upon reaching this ceiling. In the case of Spain, this upper limit is equivalent to three times the latent losses per year.

Thus, statistical provisioning is preventive in nature and should only be implemented during economic booms. In effect, the anticyclical provisioning fund should be supplied with funds during these upswing periods.. The benefits of having this fund will be seen during the next cycle; thus, this will serve to balance off the high levels of specific provisioning made during the economic downswing and, during the upturn, agents will not be able to increase their lending without making a higher contribution toward provisioning.

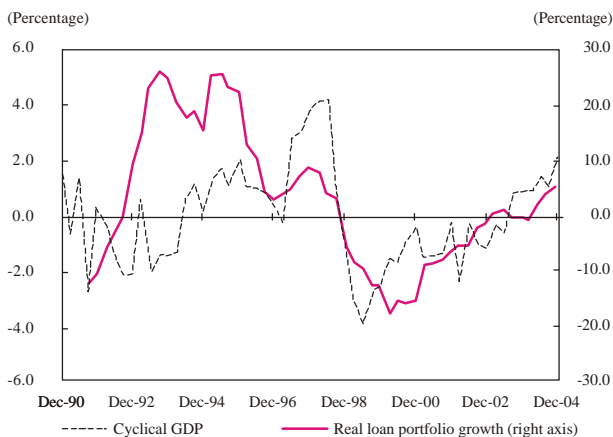
GRAPH 1

CYCLICAL GDP COMPONENT (*)

QUALITY OF LOAN PORTFOLIO



REAL LOAN PORTFOLIO GROWTH



(*) GDP's cyclical component is the difference between the observed and the potential GDP, using the Hodrick-Prescott filter. The quality of the loan portfolio was calculated as the quotient between the non-performing loan portfolio and the gross loan portfolio of bank institutions. The growth of the loan portfolio was calculated as the annual variation of the net loan portfolio of banking institutions.
Source: DANE and Banking Superintendency, and calculations from the authors.

The primary advantage in establishing this type of fund is that it reduces the financial system's procyclical trend while at the same time it promotes a healthy management of exposure and, hence, reduces the system's risk of a financial crisis. To reduce the sensitivity to the cycle is to reduce the volatility of provisions and also its impact on deepening the losses of financial institutions; it not only contributes to lowering public mistrust because of a sound financial system, but also lessens what has been called the *privatization of profits* (during boom times) and *the socialization of losses* (during recessions).

III. THE COLOMBIAN CASE

A. The cycle

In Colombia, particularly during the 1990s, the procyclical character of higher lending levels and loan portfolio quality (loan portfolio and asset quality) was observed. The GDP's growth phase during the 1990s was characterized by a low level of provisions as a percentage of the portfolio. The situation took a turn for the worse from 1998 to 2000, when the portfolio deteriorated rapidly and was reduced in real terms (an effect which lasted until the end of 2002). (Graph 1)

⁷ If this assumption holds, there will be enough funds in the anticyclical provisioning fund to face the next recession. However, if it is really severe, the fund's resources will not be able to cover the specific provisions that will have to be made.

With the purpose of applying an anticyclical provisioning system, we took a period of 8 years (1994 to 2001), which was consistent with the GDP cycle duration observed for Colombia.⁸

B. The parameters

The aim of this exercise is to estimate the latent losses and the amount of statistical provisions to be applied by the loan institutions. We will carry out a simulation exercise, where we will apply the parameters dating back to 1994 and then determine the impact this system will have both in terms of profits and the indicators of the returns for each year.

From the accounting data provided by loan institutions, we estimated parameter a_i of equation (1) for each of the homogeneous risk categories, i.e., commercial, consumer (including microcredit), and mortgage loans, for the Colombian case. For these categories, we took the average quotients from 1994 to 2001 between specific loan portfolio provisions from the P&L ($Prov_i$) and the gross loan portfolio (C_i). However, the P&L statement's provisions account is not broken down by credit types, therefore specific provisions for category i were estimated as⁹

$$\text{Spec. Port. Prov.}_i = (\text{P\&L net port. Prov.} - \text{general P\&L prov.}) * b_i$$

$$b_i = (\text{Prov. balance}_i / \sum_i \text{Prov. balance}_i)$$

where the P&L net portfolio provisions are defined as the P&L portfolio provisions less P&L portfolio recoveries. The P&L estimate of general provisions was based on the regulations effective as of August 1999¹⁰.

According to the results of estimating a_i parameters in the case of Colombia, the category with the most latent risk in the previous cycle was that of consumer loan and microcredit with $a_{\text{consumer}} = 4.2\%$ (Table 1). In other words, for each COP100 in gross portfolio consumption and microfinance, institutions' P&L provisioning was COP4.2 throughout an average year from 1994 to 2001. With regard to the commercial portfolio, the average provisions made for each COP100 came to COP2.3. In both cases, we can observe how

⁸ Fernández *et al.* (2000)

⁹ The P&L provisions were used and not those coming from the balance sheet, since they first directly affect an institution's profits. From an accounting viewpoint, the P&L provisions are not equivalent to the variations of balance sheet provisions, since the latter can decrease because of the duly authorized value penalizations and a reversion in provisions.

¹⁰ From this date, institutions had 36 months to make provisions of 1% of its gross portfolio. Hence, the general P&L provisions were:

Between August 1999 and August 2002 $\Rightarrow 1\%$, gross port. for Dec, # months from August 1999 / 36 after August 2002 $\Rightarrow 1\%$, (gross port. for Dec._{*i*} - gross port. For Dec._{*i-1*}).

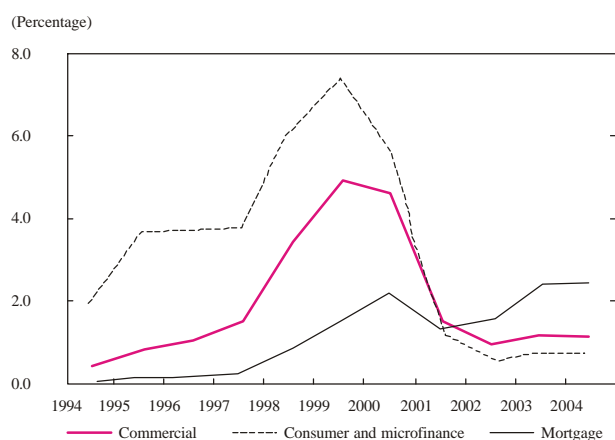
TABLE 1

DEVELOPMENT OF PROVISIONING AS A PROPORTION OF THE LOAN PORTFOLIO BY TYPE a_{it} AND a_t

	Dec-94	Dec-95	Dec-96	Dec-97	Dec-98	Dec-99	Dec-00	Dec-01	Dec-02	Dec-03	Dec-04	Average
Commercial	0.5	0.9	1.1	1.5	3.4	5.0	4.7	1.5	1.0	1.2	1.2	2.3
Consumer and microfinance	2.0	3.7	3.7	3.8	6.1	7.5	5.6	1.2	0.6	0.7	0.7	4.2
Mortgage	0.1	0.2	0.2	0.3	0.9	1.6	2.2	1.4	1.6	2.4	2.5	0.9
Total loan portfolio	0.8	1.4	1.4	1.6	3.2	4.4	4.1	1.4	1.1	1.4	1.3	2.3

Source: Banking Superintendency and calculations from the authors.

GRAPH 2

DEVELOPMENT OF PROVISIONING AS A PROPORTION OF THE LOAN PORTFOLIO BY TYPE (a_{it})

Source: Banking Superintendency and calculations from the authors.

each year's provisions/gross portfolio (a_{it}) ratio increased over the 1998 - 2000 period and demonstrates the procyclical aspect of provisioning in the case of Colombia. (Graph 2)

The results from estimating the latent losses for the mortgage portfolio were the lowest for the three types. Bearing in mind that much of the financial sector's crisis worsened because of problems associated with the mortgage portfolio, the reduced a_{mortgage} parameter is a reflection of the regulation on provisions for this type of portfolio¹¹. This parameter has two problems: first, its calculation was not based on a complete cycle (the mortgage portfolio has not completed the cycle) as can be seen from the level of P&L provisions between 1994 and 2001 (Graph 2); and second, that it might be overestimated as a

result of the securitization of a portion of the mortgage loan portfolio from 2002 to 2004.

C. Simulation exercises

In the first section we will calculate the effect that the introduction of statistical provisions would have on loan profits for the 1994 – 2004 period. In the second, there is a break down of results by loan establishment types, discriminating according to commercial, consumer, and mortgage portfolios.

1. *Comprehensive exercise over the 1994 – 2004 period.* Once we determine a in Table 2, we can simulate what would have happened during the previous cycle if we had applied the anticyclical provisions.

¹¹ For this type of portfolio a percentage provision of between 1% and 30% is created for the guaranteed part of the loan and 100% over the non-guaranteed part of the loan due to changes in guaranty.

EFFECT OF ANTICYCLICAL PROVISIONING ON PROFITS

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
In billions of COP											
a. Average gross loan portfolio	17,334	25,282	33,643	42,485	51,273	51,948	48,602	47,148	48,172	51,287	55,560
b. Specific provisions	137	356	474	683	1,629	2,232	2,038	672	519	683	714
c. Latent loss = $a \cdot a$ 1/	396	577	768	970	1,170	1,186	1,109	1,076	1,099	1,170	1,268
d. Statistical provisions = $c - b$ 2/	259	221	294	286	(459)	(601)	0	404	580	487	554
e. Anticyclical provisioning fund 3/	259	480	774	1,060	601	0	0	404	984	1,471	2,025
Percentage											
f. Statistical provisions / Capital	6.9	4.1	4.0	3.1	(4.7)	(6.9)	0.0	4.4	6.1	4.7	4.6
g. Ut / Pat (observed)	16.6	11.6	11.3	9.0	(17.2)	(33.4)	(20.5)	3.4	9.6	16.8	23.2
h. Ut / Pat adjusted = $g - f$	9.7	7.5	7.3	5.9	(12.5)	(26.5)	(20.5)	(1.1)	3.5	12.1	18.6
i. Statistical provisions / profits	41.4	35.0	35.6	34.2	27.3	20.8	0.0	131.6	63.2	28.1	19.7

1/ a = 2.3%, according to Table 1.

2/ When negative, the fund begins to replenish.

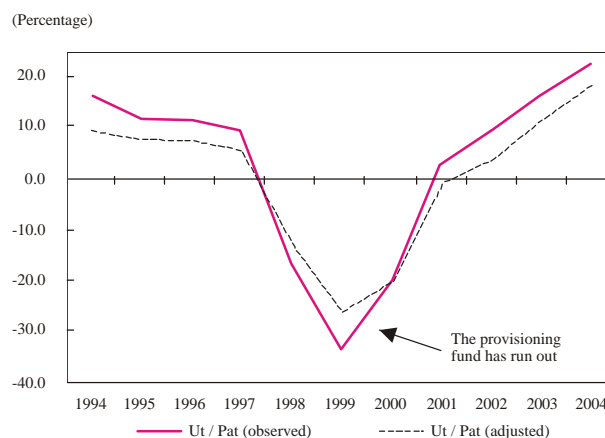
3/ It is the statistical provision for the period plus the accumulated of previous periods.

We have shown those results in Table 2, from which we can draw the following:

- i. Statistical provisions turn negative from 1998 onwards, hence losses start to fall (they become earnings in the P&L against a decrease in the anticyclical provisioning fund). The provisioning fund however proves insufficient and runs out during the following year (line e). This fact lessens the cushion effect in 1999, which is lost by the year 2000.
- ii. This scheme reduces the losses during critical years, on the order of 27% in 1998 (line i), from 17% of the equity (line g) to 13% (line h). For 1999, loss decreases were reduced by 21% and by 0% for the year 2000. (Graph 3)
- iii. Statistical provisions consumed sums of above 34% of the profits during the years prior to the crisis. This meant that entities could not avail themselves of their total profits, as more than one third of them would have had to be set aside to cover the risks during the next recessionary phase of the cycle.
- iv. The reason why the provisioning fund turned out to be insufficient is as follows, remember that the latent losses of year t are

GRAPH 3

EFFECT OF THE ANTICYCLICAL ADJUSTMENT ON PROFITS



Source: Banking Superintendency, and calculations from the authors.

calculated as a *gross portfolio t . Nevertheless, applying a to the 1994 portfolio is not the same as applying it to the 1998 portfolio, whose amount was three times greater. Therefore, the statistical provisions for the first part of the cycle (1994 to 1997) were short in order to balance out the large amount of lending. Thus, the provisioning fund could only cushion adequately if there were no excessive lending.

- v. Since booms tend to be accompanied by a high lending portfolio, the $a=2.3\%$ turns out to be underestimated. We therefore have to find an a' that will prevent the provisioning fund from running dry during a crisis. From the simulation we have determined that a' should be 2.8%. These results are shown in Table 3.

From this Table we can see that the anticyclical provisioning scheme reduces the losses for 1998, 1999 and 2000 by about 10%, 29% and 41% respectively. To replenish the fund more than half of the pre-crisis profits should be channeled into it.

Whether a be 2.8% or 2.3%, or even lower, is a consideration that depends on whether the next crisis is going to be as deep as the previous one, and if the cycle will repeat itself once the previous one has ended. There is no objective tool that allows us to make this quantification. An optimistic position held by the authorities could reduce the estimated a for the next cycle to half of what was observed for the previous cycle, as in the case of Spain. The reasons for being optimistic are due to the lessons learned during the past crisis, which have led to stricter regulations on higher provisioning and capital requirements, as well as credit evaluation models, etc. Thus, the scheme starts with an a of 2.3%, a value that will have to be monitored over time, as it will be suscepti-

TABLE 3

THE EFFECT OF ANTICYCLICAL PROVISIONS WITH $a = 2.8\%$

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
In billions of COP											
a. Average gross loan portfolio	17,334	25,282	33,643	42,485	51,273	51,948	48,602	47,148	48,172	51,287	55,560
b. Specific provisions	137	356	474	683	1,629	2,232	2,038	672	519	683	714
c. Latent loss = $a*a$ 1/	484	705	939	1,185	1,431	1,450	1,356	1,316	1,344	1,431	1,550
d. Statistical provisions = $c - b$ 2/	347	350	465	502	(198)	(782)	(682)	644	825	748	836
e. Anticyclical provisioning fund 3/	347	697	1,162	1,664	1,465	683	1	645	1,469	2,217	3,053
Percentage											
f. Statistical provisions / Capital	9.2	6.4	6.4	5.4	(2.0)	(9.0)	(7.6)	7.1	8.6	7.2	6.9
g. Ut / Pat (observed)	16.6	11.6	11.3	9.0	(17.2)	(33.4)	(20.5)	3.4	9.6	16.8	23.2
h. Ut / Pat adjusted = $g - f$	7.4	5.2	4.9	3.6	(15.2)	(24.4)	(12.8)	(3.7)	1.0	9.5	16.3
i. Statistical provisions / profits	55.5	55.3	56.3	60.0	11.8	27.0	37.3	209.7	89.9	43.1	29.7

1/ $a = 2.8\%$.

2/ When negative, the fund begins to replenish.

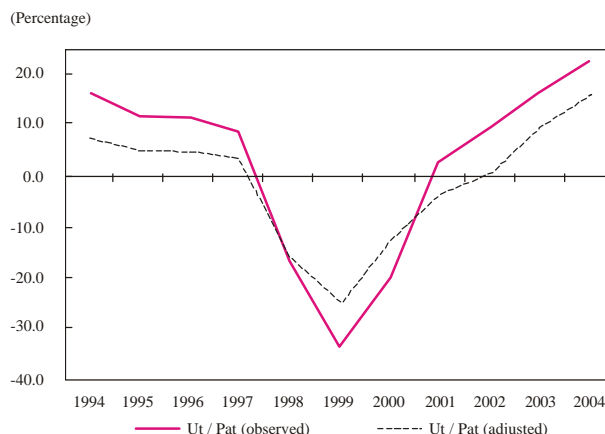
3/ It is the statistical provision for the period plus the accumulated of previous periods.

ble to later changes. Further on, some suggestions will be made in order to establish the statistical provisioning scheme to govern the next cycle. (Graph 4)

2. *The exercise for 2004 is divided by entity and portfolio type.* Table 1 shows the estimates for a_i in the portfolio for consumer, commercial, and microfinance. With these parameters we are able to construct Table 4, where we can see the burden of statistical provisions on 2004 profits.

The implementation of statistical provisions for the last year would have reduced commercial bank profits by 36% (line 4c), and those of financial corporations (FC) [or investment banks] as well as those of the commercial financing corporations (CFC) [or specialized commercial loan corporations] by 19%. Thus, the banks' equity profitability would have decreased from 26% to 16% (line 4a and 4b), and that of the CFs and CFCs from 16% to 13%.

THE EFFECT OF ANTICYCLICAL ADJUSTMENT ON PROFITS, WITH $\alpha = 2.8\%$



Source: Banking Superintendency and calculations from the authors.

TABLE 4

CALCULATIONS FOR STATISTICAL PROVISIONS, 2004

	Banks	BECH	CF & CFC
In billions of COP			
1. Commercial loan port. $\alpha = 2.3\%$			
a. Gross average loan port.	26,011	4,163	5,184
b. Specific provisions	252	76	65
c. Latent loss	603	96	120
d. Statistical provisions	351	20	55
2. Consumer and microfinance port. $\alpha = 4.2\%$			
a. Ave. gross loan portfolio	8,884	1,861	891
b. Specific provisions	52	18	7
c. Latent loss	374	78	38
d. Statistical provisions	322	60	30
3. Mortgage port. $\alpha = 0.9\%$			
a. Ave. gross loan portfolio	992	7,572	0
b. Specific provisions	21	227	0
c. Latent loss	9	66	0
d. Statistical provisions	(13)	(161)	0
Percentage			
4. Effect on yield and profits			
a. Ut / Pat (observed)	25.6	23.6	16.5
b. Ut / Pat (adjusted)	16.3	27.2	13.4
c. Statistical provisions / profits	36.3	(14.9)	18.9
5. Transition: yield and profits			
a. Ut / Pat (adjusted)	16.2	20.1	13.4
b. Statistical provisions / profits	36.9	14.8	18.9

Source: Banking Superintendency and calculations from the authors.

The specialized mortgage loan banks (or known in Colombia as the BECH) show negative provisioning, as these banks are making provisions for their mortgage portfolio above their historical level (latent losses), and so would not have to make statistical provisioning. On the other hand, hypothetically speaking, should the anticyclical provisioning fund have had sufficient funds, the latter would have made a contribution to the P&L, allowing the BECH to have made profits of above 15% compared to those of 2004.

We should be cautious as to how we interpret this result, as the P&L mortgage portfolio parameter related to gross loan portfolio provisions suffers from the drawbacks mentioned in the previous section.

IV. IMPLEMENTATION SCHEME

A. Transition mechanism

To have BECH make statistical provisioning, and so follow in the steps of the rest of the financial system, we do well to take advantage at this juncture of their well-to-do P&L and set up a transition mechanism by which the negative component of statistical provisioning (in this case the mortgage component) would not be computed when calculating total statistical provisions (Table 4, line 5b). Thus, only the positive components would be computed (commercial and consumer)—as the sum representing 15% of BECH profits.

We can reach a similar result if we build statistical provisioning funds for each of the homogeneous risk categories. This strategy is particularly useful if we bear in mind that the resulting a parameter for the mortgage portfolio is subject to a number of different kinds of problems. Further, it is well worth having separate funds under a scenario where the portfolio cycles are out of phase, as was witnessed between the mortgage portfolio and the remaining categories. This would avoid the use of provisions earmarked to cover one kind of expected losses for a portfolio to help solve the extraordinary provisions of another portfolio type.

B. Size of the fund for provisioning

The size of the fund at the beginning of the recessionary cycle must be sufficiently large to cover the excesses on specific provisions for latent losses during the 4 years of recession. This difference pertains to the shadowed area on the right hand side of Figure 1. We found that it was equivalent to more than 2 times the 1997 latent losses when we quantified said area with an a of 2.3% between 1998 and 2001. Thus, the maximum size of the fund would be 2 times the latent losses. Once this level has been reached, there would be no need to make additional statistical provisions. We should note that the general provision of 1% currently required would no longer be necessary as it would be part of the fund anyway.

C. Gradual implementation : a maximum limit on profits

As shown in Table 4, the banks' statistical provisions would consume 36% of their profits. This percentage gives us an idea of the large efforts these banks would have to make to face the next recessionary cycle. The very magnitude of the needed effort by the banks does not make this proposed scheme all that viable. To reduce the impact this would have, we can limit the banks' maximum efforts to 15% of their profits. In other words, if a financial institution is required to make a statistical provisioning of 40% of its profits, it would be allowed to make a minimum provisioning using 15% of their profits.

An additional advantage of the above suggestion is that institutions would make provisions according to their own cycle, which does not always coincide with the general cycles. Thus, if the system is going through a boom and some financial institutions are experiencing losses, the provisioning scheme would not worsen these losses. The scheme actually adapts itself to the particular cycles of institutions. A *proxy* of the aforementioned cycle would be represented by the profit path.

The disadvantage of implementing such a limit is that the period required to replenish the fund is extended. If banks take 2.4 years to complete the fund with an a of 2.3% (assuming that the 2004 parameters repeat themselves in the future, and that the 1% requirement in general provisions is part of the fund), it would take 6 years to complete the fund with a limit of 15% over profits.

III. CONCLUSIONS AND RECOMMENDATIONS

From the start of the 1990s expenses on provisions made by the financial system clearly showed a cyclical pattern. These provisions attained their minimum levels during credit boom times giving added dynamism to the portfolio, whereas they became one more obstacle to a recovery in lending during the recessionary phase.

This not only reflects an inappropriate identification of risks by financial institutions but it also promotes perverse behavior, and privatizes profits from risk taking on the upward slope of risk, as well as socializing losses when the financial system becomes vulnerable because of a crisis.

The alternative proposal put forth by this paper is to set up an anticyclical provisioning fund that will take into account portfolio risks at every phase of the cycle. In essence, this scheme entails making contributions when specific provisions (associated with risks that have materialized) are below the mean of the previous cycle, and it also involves making withdrawals from the fund when the provisioning requirements exceed the aforementioned level. As a result, the contribution of provisions in deepening the troughs in the profits cycle would be annulled.

Through the exercises above we were able to determine that for the cycle between 1994 and 2001, the average levels of specific provisions to the gross portfolio came to 2.3%, 4.2% and 0.9% for the commercial, consumer, and mortgage portfolios respectively. This last parameter attracts our attention and may reflect the effect of a structural change on this market's risk conditions, which suggests the information should be treated cautiously.

Since the cushion effect of having an anticyclical provisioning scheme for the profits cycle only works if a reserve is in place before the downswing of the cycle, the scheme needs to be in place during the upward phase of the curve so that there is sufficient time to feed the fund.

Having analyzed the figures on provisioning levels for the commercial and consumer portfolios, it is well worth implementing the scheme as soon as possible because specific provisions are way below the mean of the previous cycle.

However, the effort required by the financial system to implement the scheme is quite large in terms of profits reduction (36% in the case of the commercial banks in 2004). Thus, having a transition system that sets a ceiling on the contributions to the fund may be an alternative. We should note however that any measure toward this aim would limit the cushioning effect that a provisioning scheme would have on the profits cycle.

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