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Spain: Financial Sector Assessment Program—Technical Note—Nonfinancial Equity Investments of Spanish Credit Institutions

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FINANCIAL SECTOR ASSESSMENT PROGRAM

SPAIN

TECHNICAL NOTE ON NONFINANCIAL EQUITY INVESTMENTS OF SPANISH CREDIT INSTITUTIONS

MAY 2006

INTERNATIONAL MONETARY FUND
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I. NONFINANCIAL EQUITY INVESTMENTS OF SPANISH CREDIT INSTITUTIONS

1. This note assesses the risk profile of the nonfinancial equity investments of Spanish credit institutions (CIs), based on a market-risk approach.[1] It is divided into five sections. First, we briefly introduce the main features of the current situation and indicate some of the problems which often arise when dealing with CIs' nonfinancial equity investments. Second, we present the evolution of non financial equity investments by CIs in Spain since 2002, illustrate their importance for the economy, and point out the implications of changes in the economic and institutional environment (e.g., Basel II and new accounting standards). Third, we analyze, using the value-at-risk (VaR) approach suggested in Basel II, the risk profile and implied capital absorption that nonfinancial equity investments held in the banking book may require for Spanish CIs. Fourth, we argue that while a severe shock to the current portfolio of nonfinancial equity investments may not have systemically important consequences, the impact on economic capital and profitability of individual CIs could still be quite significant. Finally, we recommend that the authorities enhance risk management practices and surveillance with special regard to CIs with a significant nonfinancial equity investment, encourage those CIs to adopt the market-based approach presented here rather than the IRB (internal rating based) based on PD/LGD. We also recommend enhancing regulation of all CIs to prevent any possible conflict of interests when CIs play the role of both lender and shareholder of companies at the same time.

A. Introduction

2. For several years, Spanish CIs have played a significant role not only as lenders but also as shareholders in firms of different sizes operating in the main sectors of the economy. These nonfinancial equity investments, which for simplicity we will refer to as "industrial participations," have produced positive economic returns for the CIs and probably also for the economy at large. CIs' shareholdings in several nonfinancial companies supported the privatization process that started in the early 1990s. In this context CIs provided financial and management support to strategic economic sectors. Moreover, the industrial participations have, so far, generally been profitable and have contributed to capital. However, the ratios of dividends-to-profits and of industrial participations-to-capital vary substantially across CIs: from 4 percent to 60 percent for the former; and from 6 percent to 88 percent for the latter.

3. From a conceptual viewpoint, industrial participations raise two key concerns: the perceived higher risk involved in this activity as compared to lending, and potential corporate governance issues related to conflict of interests.

4. CIs' industrial participations, while contributing to profits, can entail significant market, liquidity, and other risks. Some regulators suggest that: "*The* potential *risks and*

[1] Prepared by Renzo G. Avesani and Jorge Cayazzo (MFD). Silvia Ramírez (MFD) provided able research assistance.

returns of equity investment and merchant banking activities exceed those of many more traditional banking activities."[2] Preliminary analysis undertaken by the Basel Committee, as background work for the Basel II Capital Accord, also seems to confirm this view, while characterizing the Spanish stock market as displaying high volatility.[3]

5. As regards financial institutions' corporate governance, four main aspects involving potential conflicts of interest deserve close attention from both CIs and supervisors:

- Lack of appropriate arm's-length relations when the same person who has decision-making power in a CI deciding a loan also sits on the Board of an industrial company in which the CI has ownership;

- Possibility of misguided lending decisions of a CI to a participated company when the value of a significant capital participation might be at risk;[4]

- Possibility that a CI may have preferred status in the supply of services to a participated company which might result in distorted prices at the expense of other shareholders;

- Possibility of conflicts of interest and informational asymmetries for credit institutions relative to other debt and equity holders.

6. An internationally accepted regulatory framework to oversee industrial participations is not yet in place. On the one hand, many emerging-market countries have outright prohibitions against banks holding industrial participations (e.g., Chile, Argentina, Colombia, Costa Rica, Bolivia, Ecuador, and Indonesia). On the other hand, countries where industrial participations are allowed have generally adopted some prudential measures to control the corresponding risks, mainly the imposition of quantitative limits for this type of investment as a proportion of CIs' capital (Table 1). While most European industrialized economies adhere to the limits set by the Banking Directive of the European Union, many other economies impose much stricter limits. There are also countries, such as the UK, where a "moral suasion approach" has resulted in negligible holdings of industrial participations by banks. Finally, some countries have opted for allowing industrial participations but have prohibited banks to control participated companies (e.g., Czech Republic, Japan, Canada, and Malta).

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[2] Board of Governors of the Federal Reserve System, *Supervisory Guidance on Equity Investment and Merchant Banking Activities*, June 22, 2000.

[3] See Basel Committee on Banking Supervision, *Risk Sensitive Approaches for Equity Exposures in the Banking Book for IRB Banks.* Working Paper, August 2001, Table 1, p. 36 and Table 2, p. 37.

[4] For an evaluation of the conflict of interest argument see Randall S. Kroszner and Raghuram G. Rajan, *Is the Glass-Steagle Act Justified? A Study of the U.S. Experience with Universal Banking before 1933.* University of Chicago 1993.

Table 1. Limits on Equity Holdings as Proportion of Credit Institutions' Capital
(In percent)

	Individual	Aggregated
European Directive	15	60
Spain	15	60
Italy	3	15
USA	-	10
Australia	2.5	5
Jamaica	10	50
Canada	-	70
Sri Lanka	10	30
Israel	-	25
Cyprus	10	25
Mexico 1/	-	5

Source: IMF.
1/ The 5-percent limit is over total deposits and approximately equivalent to a limit of 30 percent over capital.

7. Given these considerations, the questions we address are:

- What risks would CIs face if the value of their equity holdings fell or became more volatile, e.g., because of lower economic growth?
- Are the conditions that motivated CIs' equity holdings still in place?
- What are the policy actions that a regulator/supervisor could take to contain/reduce the possible negative impact of CIs' involvement in the industrial sector?

B. Industrial Participations in Spain

8. The relationship between CIs and industrial firms has undergone three distinct phases.[5] In the first phase, from the end of World War II until the end of the 1970s, the CIs took a very active role in fostering the development of the industrial sector. The lack of privately owned capital induced the CIs and the government to fund the building of a large part of the country's industrial infrastructure. In the second phase, between the late 1980s and the early 1990s, fiscal adjustment and a drive for greater efficiency led to the privatization of many state-owned enterprises. The CIs were again in a leading position and in many cases became the "núcleo duro," i.e., the reference group of majority shareholders to whom the government transferred control of the different firms. In the third, and current, phase, industrial participations help CIs to offset the reductions in interest margins on loans.

[5] Rodrigo Echenique Gordillo y Joan David Grima Terre: Rentabilizar Las Inversiones Industriales, Estrategia del Santander Central Hispano, Economía Industrial #341, 2001.

9. In line with other large industrialized countries in Europe, industrial participations represent a significant proportion of CIs' regulatory capital in Spain (Table 2). However, the strong growth of stock market capitalization to GDP suggests that CIs could gradually divest their shares in nonfinancial companies without a substantial impact on equity prices (Figure 1).[6]

Table 2. Shares and Participations to Capital, 1995-2003
(In percent)

	Shares and participations to Tier 1 Capital								
Country	1995	1996	1997	1998	1999	2000	2001	2002	2003
Spain	...	...	...	...	83.4	104.1	102.4	106.3	103.0
Austria	87.0	88.8	102.7	109.0	137.9	142.4	139.1	148.9	146.8
Sweden	51.4	58.8	99.6	102.2	102.8	110.6	107.5	111.2	107.6
Switzerland	52.5	66.7	100.3	122.9	143.8	121.2	167.6	71.8	96.8
Portugal	72.8	83.6	90.0	74.0	80.6	83.9	81.6	80.6	81.7
Italy	31.6	34.4	36.2	42.3	50.5	55.4	53.3	55.4	60.5
New Zealand	13.5	19.0	9.7	10.4	6.0	5.4	8.1	6.8	28.1
Norway	26.9	31.4	35.9	34.2	17.4	19.9	20.6	15.9	16.4
Mexico	45.3	43.7	32.8	21.2	21.8	26.8	17.3	8.4	3.1
Turkey	23.2	21.5	22.7	28.4	108.5	159.6	6.9	5.0	4.3
Greece	...	...	...	...	...	...	...	...	...

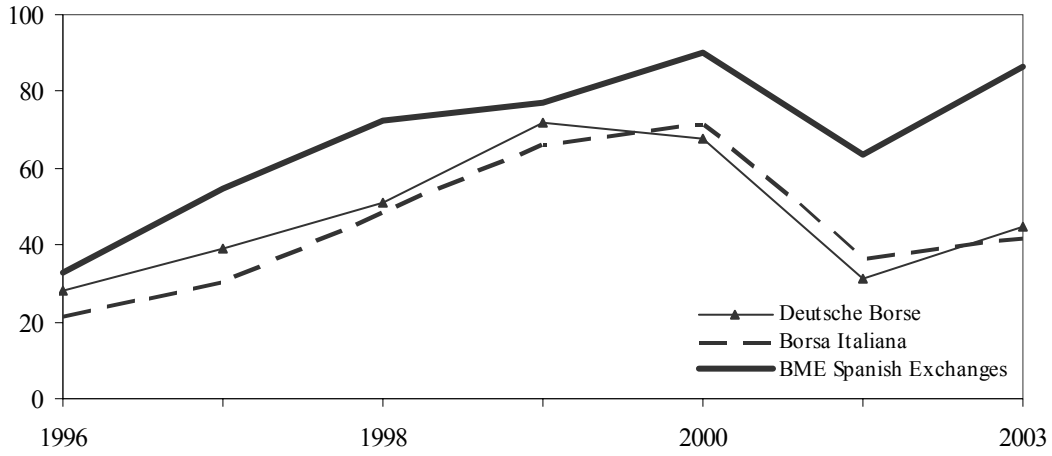
	Shares and participations to Regulatory Capital								
Country	1995	1996	1997	1998	1999	2000	2001	2002	2003
Spain	...	...	...	...	63.6	79.6	73.9	74.3	70.6
Switzerland	48.0	59.9	82.1	105.6	129.7	121.3	169.3	74.5	105.9
Austria	65.2	65.1	71.6	79.1	99.6	97.9	96.4	102.0	100.2
Sweden	34.5	38.5	67.4	66.9	70.7	73.6	70.0	75.4	75.0
Portugal	80.0	86.1	89.6	71.9	71.3	75.6	65.7	63.8	64.8
Greece	94.7	106.5	59.9	68.8	52.0	81.2	85.3	66.7	62.9
Italy	26.8	29.0	30.6	34.8	40.8	42.8	40.7	42.1	46.4
New Zealand	9.9	12.3	6.4	7.2	4.1	3.7	5.8	5.1	20.9
Norway	20.3	24.0	27.5	26.3	13.5	15.0	15.9	12.5	12.9
Turkey	19.3	18.8	21.0	26.7	111.3	126.9	7.0	5.6	4.5
Mexico	27.1	27.7	21.5	13.7	16.1	22.6	14.7	7.4	2.8

Source: OECD.

1/ Data correspond to all banks for Spain, Switzerland, Austria, New Zealand, Italy, and Norway and to commercial banks for all others.

[6] On average, the value of industrial participations held by the CIs in the sample was around 8 percent of total stock market capitalization at end-2004. For some individual CIs, the ratio was much higher.

Figure 1. Market Capitalization to GDP, 1996-2003 1/
(In percent)



Source: World Federation of Exchanges.
1/ Market Capitalization to Gross Domestic Product minus Gross Fixed Capital Formation.

10. Both commercial banks and savings banks have held significant portfolios of industrial participations and no clear trend can be detected in the ratio of those participations relative to regulatory capital for either group of institutions (Table 3).

Table 3. Evolution of Industrial Participations Relative to Regulatory Capital, 1996-2004 1/
(In percent)

Credit Institution	1996	1997	1998	1999	2000	2001	2002	2003	2004
Commercial Banks	40.0	39.1	38.2	47.9	45.4	41.7	43.7	45.6	55.4
Savings Banks	42.2	58.2	60.2	57.1	58.2	54.3	47.2	46.9	50.9

Source: Bank of Spain.
1/ Data reported is an average for the commercial and savings banks in the sample used for this analysis.

Distribution of participations among economic sectors

11. The distribution of participations among economic sectors indicates a similar behavioral pattern between commercial and savings banks. The main concentration of investment is in the energy sector, followed by telecommunications (Table 4), reflecting the results of the privatization efforts of the 1990s. Since early 2005, commercial banks have moved a sizable part of their investment from the energy to the telecommunications sector.

Table 4. Industrial Participations Distribution by Sector, 2004-05 1/
(In percent)

	Commercial banks 2/		Savings banks 3/	
Economic sector	Dec-04	Mar-05	Dec-04	Mar-05
Basic materials, industry and construction	6.8	7.4	11.9	11.8
Consumer goods	1.8	3.1	2.6	2.8
Energy	48.7	36.3	54.0	54.9
Consumer services	6.3	5.1	5.5	5.3
Financials and real estate	5.4	7.2	9.3	9.8
Technology and telecommunications	31.0	41.0	16.6	15.5
Total	100.0	100.0	100.0	100.0

Sources: Bank of Spain, Bloomberg, and IMF.
1/ In percent of total portfolio for each type of credit institution reported at fair value.
2/ Reported industrial participation portfolio values were €22.3 billion in 2004 and €23.2 billion in 2005.
3/ Reported industrial participation portfolio values were €25.8 billion in 2004 and €26.9 billion in 2005.

Importance of industrial participations in CIs' profits

12. For both commercial banks and savings banks, dividends from participations account for a substantial share of their total profits. In the case of savings banks that share has been steadily increasing (Table 5).

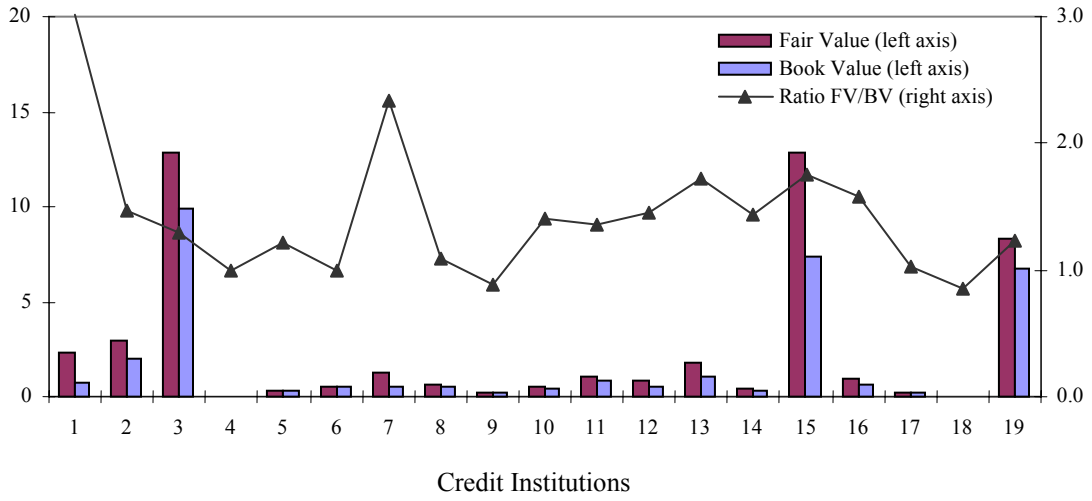
Table 5. Dividends to Total Profits, 1996-2004 1/
(In percent)

Credit institution	1996	1997	1998	1999	2000	2001	2002	2003	2004
Commercial banks	23.0	17.1	16.4	14.3	11.6	14.0	13.9	13.1	17.0
Savings banks	12.0	13.9	20.0	15.4	21.1	20.5	21.4	23.6	28.1

Source: Bank of Spain.
1/ Data are annual averages. Dividends are from both financial and nonfinancial participations.

13. The industrial participations of CIs have also provided strong capital appreciation. Fair values of industrial participations surpass their book values by an average of 30 percent (Figure 2). This provides an accounting buffer for the balance sheets of the CIs, should an adverse shock hit. However, from a financial point of view, these unrealized profits are already reflected in the market valuation of the CIs and in their economic capital.

Figure 2. Industrial Participations: Fair and Book Values, December 2004
(In billions of euros and in percent)



Source: IMF staff, based on data provided by the Bank of Spain.

14. The overwhelming majority of the participations are in listed companies: 82 percent for commercial banks and 84 percent for savings banks, which allows a transparent evaluation of the CIs' positions and also permits a rapid reduction of the exposure, should the need arise.

15. Only in a few cases (not relevant in terms of systemic stability) have CIs experienced losses with respect to the value of the original investment. Moreover, those institutions with the largest positions are also the ones with the biggest buffers.

Impact of new accounting standards and Basel II

16. The introduction of new accounting standards and of Basel II will tend to diminish the incentives for CIs to hold industrial participations. Until December 2004, Spanish accounting rules allowed a CI to hold participations below 20 percent of the firm's capital in the banking book and to be evaluated by the equity method. According to the new international accounting standards (IFRS) recently adopted by Spain, equity investments representing more than 20 percent of the voting power of the investee can be held in the banking book *(participaciones*). These investments should be valued either by the equity method (more than 20 percent but less than 50 percent of the voting power) or consolidated (more than 50 percent of the voting power). Investments of less than 20 percent of the voting power of the investee should be held in the banking book (*available for sale*) and should be fair valued, unless they lack a quoted price in an active market or their fair value cannot be reliably measured. In these cases they must be valued at amortized cost. Consequently, a significant change is that now banks can only book dividends coming from their equity investments (under the 20 percent threshold) while before they were allowed to book the proportional part of the profits of a participated company (equity method).

17. It will likely take several years before the full impact of the regulatory changes on individual credit institutions and on the system as a whole becomes apparent. However, in the transition period, owing to the application of the 20 percent threshold, a larger portion of the equity positions will be moved to the trading book and accounted for at fair value. Secondly, the more stringent capital requirements under Basel II will induce the transfer of equity investments from the banking book to the trading book. This will limit the ability of CIs to rely on unrealized capital gains to smooth out future losses. At the same time certain items of the balance sheet and of the profit and loss account will become more volatile, making industrial participations a less appealing asset.

C. The VaRs of the Equity Investments of the Major Credit Institutions

18. The analysis performed here focuses on the industrial participations of 19 CIs, representing 80 percent of the total industrial participation exposures of the banking system. In order to understand the possible vulnerabilities of the CIs, we conducted historical VaR analysis on the fair value of their equity portfolios. This analysis follows the recommendations of the Basel Committee as contained in the New Capital Accord of 2004.

Box 1. Equity VaR for Banking Books: the Basel II Recommendations 1/

VaR is the standard measure used by risk managers to evaluate the risk profile and the potential losses a portfolio of assets could incur at a certain confidence level for a given holding period. Since the Capital Accord amendment of 1996, VaR has been chosen by the Basel Committee as the basic measure through which the capital charges for market risk should be determined. For this purpose, banks are required to compute the VaR at the 99 percent confidence level over a 10-day holding period.

In the case of equity holdings kept in the banking book as a permanent investment, Basel II recommends, if a VaR approach is used, to apply a 99.5 percent confidence level on a holding period of three months. In proposing a higher confidence level and a much longer holding period, the Basel II document suggests that these exposures are of a different nature and bear a different set of risks with respect to other market exposures. This implies that the regulators are factoring in a longer and riskier disposal process for this type of investment. The organizational constraints, such as the time required by the authorization process to allow for the disposal of these positions, characterizes the risk profile of this portfolio as more akin to the loans portfolio (i.e., a banking book position) than to the trading one.

Finally, the Basel Committee indicates that the positions to be stressed should be measured at their fair value level or should take into account all the latent revaluation gains. "*As a general principle, the appropriate measure of exposures against which capital should be assessed is the value of an investment subject to loss that would directly impact regulatory capital. The Committee has long accepted that unrecognized and unrealized gains (or latent revaluation gains) on equity investment can act as a buffer against losses- as evidenced by counting a portion of these gains in Tier II capital under the existing Accord. This current Tier II treatment and any further recognition of unrealized gains in capital suggests using a gross concept of exposure that includes unrecognized and unrealized gains (or latent revaluation gains) where such gains are appropriately identified."*

1/ Supervisors may, for a maximum of ten years, exempt particular equity investments held at the time of the publication of this Framework from the IRB treatment. The exempted position is measured as the number of shares as of that date and any additional arising directly as a result of owning those holdings, as long as they do not increase the proportional share of ownership in a portfolio of companies.

19. The Basel II framework suggests that CIs whose exposures to equity investment are significant, must choose between applying, either a market-based or an Internal Rating Based (IRB) approach. The first is based on VaR estimations, the second is based on the estimation of probability of default (PD) and of loss given default (LGD). Given the lower speed at which the quality of a loan book evolves, and the complexities involved in their estimations, the PD/LGDs used for credit models are reviewed and updated only periodically, usually once a year. In contrast the parameters needed for VaR estimations (e.g., the equity volatility for quoted companies and the volatility of the appropriate stock market sector index for the nonquoted ones) are continuously available. Therefore, if the market-based approach is used, it would make risk monitoring more transparent and direct for both the banks and the supervisors.

20. Below we apply the market-based approach to evaluate the risk profile of the industrial participations. We focus on the impact of the shocks on the economic capital (or "risk-bearing capacity"), i.e., the level of capital needed by a CI to withstand financial shocks and yet continue operating as a viable financial institution, rather than on the accounting consequences.

Box 2: VaR and IRB Approaches to Equity Risk Evaluation in the Banking Book

Equity positions, especially when large, need constant monitoring, given the high volatility which characterizes stock markets. Basel II regulation allows banks to use either a market based approach (VaR) or an IRB, PD/LGD approach for the determination of the capital absorption of equity holdings in the banking book. The two approaches, if correctly applied, should produce similar results since they are very close in essence. In fact, even in the simplified Merton's approach, the PD is a function of leverage and asset volatility. In fact the *PD* can be defined as $PD = N(-d_2)$,

where *N()* is the cumulative normal distribution, and $d_2 = \frac{\ln\left(\frac{V_0}{F}\right) + \left(r - 1/2\sigma^2 T\right)}{\sigma\sqrt{T}}$ where V_0 is the value of the company assets at time 0, *F* is the face value of the debt (therefore V_0/F is the reciprocal of the leverage ratio), *r* is the risk free rate, σ is the asset volatility and *T* is the time horizon over which we evaluate the *PD*. In practice, market participants usually use equity volatility as a proxy for asset volatility.

Therefore, equity volatility (the base for VaR computation) and the PD are in a one-to-one relation and thus risk evaluation based on these two measures should coincide. To ensure consistency in the evaluation of the counterparts, Basel II requires that, if the IRB approach is used for the equity positions in the banking book, then the same approach should be applied to credit risk in the loan portfolio.

21. This exercise is, in principle, similar to running a stress test by assuming that the values of the different equities are subject to shocks that have been historically observed over a certain time period.[7]

22. As a starting point, we assume that the portfolio composition is the one observed as of December 31, 2004. This comprises 93 quoted companies and 206 nonquoted companies. As the analysis in the previous section shows, the nonquoted companies, even though much more numerous, represent only a relatively small portion of the total value of the portfolios' exposures.

23. For the quoted companies, it was possible to collect a complete set of individual stock prices starting from February 2002. In addition, since some of the participations were quoted in non-euro currencies, we also collected the corresponding exchange rates (euro vs. U.S. dollar, British pound, Brazilian real, and Mexican peso) in order to convert the stock price from the original quoted value to a euro-corresponding value.[8]

24. For the nonquoted companies, the values of the participations have been mapped to the six main sectors of the economy as represented by the sector stock market indices of the Madrid stock exchange. The sectors are: Basic Materials, Consumer Services, Consumer Goods, Energy, Financials, and Telecommunications. For these sectors, we collected the daily data of the stock market indices from December 31, 2004 to September 2005. Then we reconstructed the series back to May 2001 by collecting the quoted market prices of the firms that are part of each index, while maintaining the December 2004 indices weights. We then used the observed volatility of the different indices to shock the values of the individual nonquoted firms.

25. The period over which we were able to run our analysis contains the 2002 sizable shocks, which hit most financial systems in the aftermath of the Enron and WorldCom collapses. As such, it is a good benchmark against which to evaluate the evolution in the risk profile of a portfolio.[9]

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[7] This exercise shows the range of possible VaR values corresponding to different market conditions and sudden changes in the volatility of the equities that are part of the analyzed portfolio. While the log-normal distribution assumption used here for equity returns implies slimmer tails than usually observed and would result in lower VaR levels, the time period chosen (i.e., 2001/02-2005) records unusually large shocks which more than compensate for the effects of the distribution assumptions.

[8] For simplicity, and due to the limited amounts of exposures, we assumed that the few foreign currency positions were unhedged. This implies that at each point in time, a variation in the exchange rate *vis-à-vis* the euro would translate into a change in the value of the exposure.

[9] As suggested by the Basel Committee, "Given the long term nature of the banking book holdings the time period (over which the VaR analysis should be conducted) should be as long as possible and encompass at least a complete equity market cycle." Basel Committee on Banking Supervision, *Risk Sensitive Approaches for Equity Exposures in the Banking Book for IRB Banks.* Working Paper, August 2001. In fact, the very low volatility currently observed in the financial market could lead to a reduced perception of the level of risk embedded in a given portfolio.

26. We analyzed this set of data from three different perspectives. First, we looked at the aggregate picture, i.e., we analyzed the risk profile of a single portfolio containing all the equity exposures of the CI under consideration. Second, we looked at the exposures arising from each of the different sectors of the economy. Finally, we computed the equity VaR for each of the 19 banks in our sample. Since we are interested in evaluating the economic impact of possible shocks, the VaRs were computed in terms of total exposure and reported as a percentage of regulatory capital according to the Basel II definition.

27. The risk profile of the portfolio which aggregates all the participations in a single position, shows that the effect of the 2002 shock was quite strong (Figure 3). The average impact over the entire period on regulatory capital under the Basel II definition for all the institutions is 8.2 percent, while the corresponding impact on profits is 88 percent. Over the same period the worst impact is equivalent to 24.1 percent of regulatory capital or to 250.4 percent of 2004 profits and is observed for the *cajas* (Table 6).

Table 6. Summary of Stress Tests Results 1/
(In percent)

	Change in CAR 2/		CAR After Stress Test Scenarios		Loss in Percent of Profits	
	Average Impact 3/	Maximum Impact	Average CAR 3/	Worst CAR	Average Impact on Profits 3/	Worst Impact on Profits
Sampled Credit Institutions	-8.2		11.7		88.0	
Commercial Banks	-5.6	-8.2	11.9	9.9	57.1	116.1
Cajas	-13.3	-24.1	11.2	8.2	147.2	250.4

Source: IMF staff, based on data provided by the Bank of Spain.

1/ CAR before the shocks is 12.71 percent. The stress test scenario is the average VaR observed over the 2002-05 period as a percentage of 2004 regulatory capital.

2/ Loss in percent of own funds.

3/ For the sampled credit institutions, the average is weighted by credit institutions' own funds.

28. The analysis of the VaR at the economic sector level—where we can use a longer time series, shows, in addition to the 2002 events, the effect of another relevant shock: the impact of September 11, 2001 (Figure 4). In this exercise, the reported VaR and the corresponding capital absorptions are in general higher than those for the total portfolio, since by aggregating all the positions in quoted companies into the appropriate indices, we lose some of the diversification provided by the idiosyncratic behavior of individual stocks. From this analysis we were able to identify that, given the distribution of the equity positions among the different sectors and the volatility of the different indices, the highest contribution to the overall risk comes from the energy and telecommunications sectors.

Figure 3. Total VaR Results

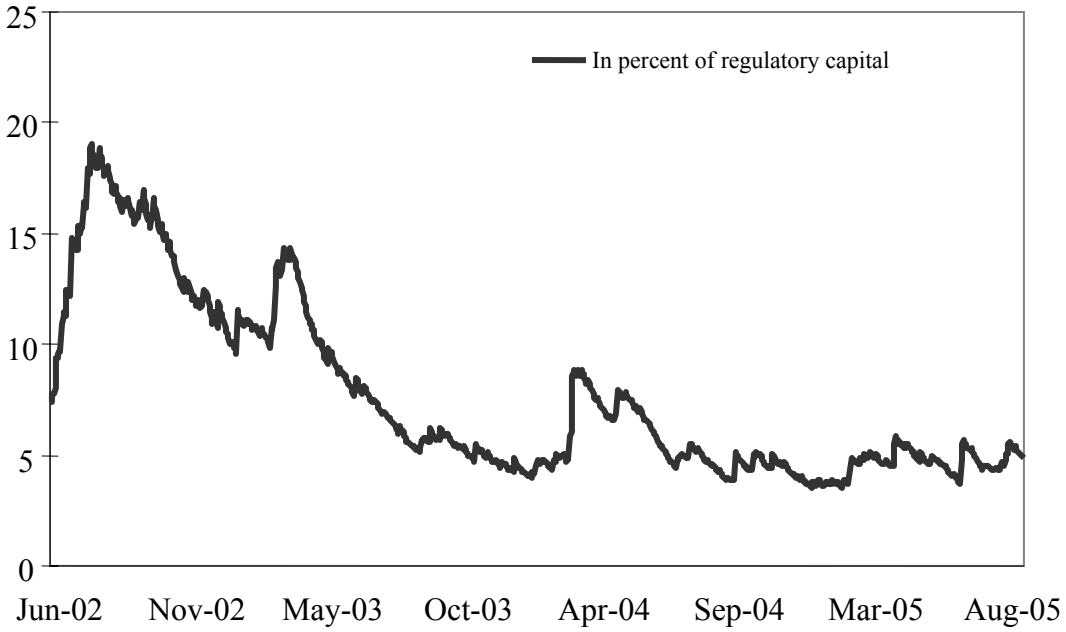
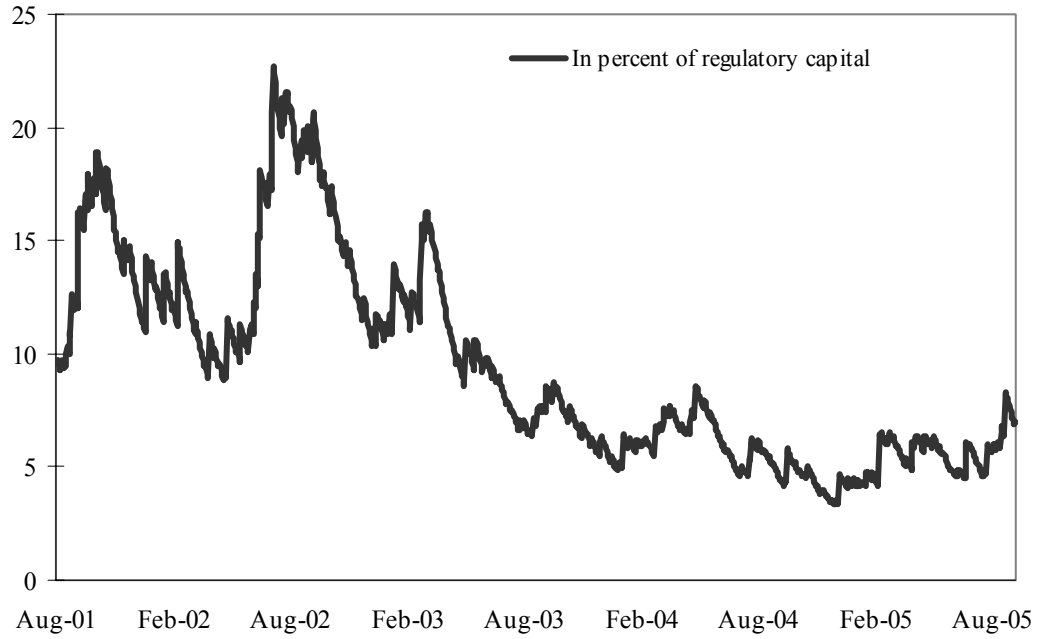


Figure 4. Sector VaR Results



29. Finally, we analyzed the evolution of the individual CI VaRs. As mentioned earlier, commercial and savings banks seem to have followed a similar strategy by investing primarily in the energy, telecommunications and financial/construction sectors. As a result, the response of each CI to the different shocks appears to follow very similar patterns (Figures 5 and 6). However, savings banks, given their relatively larger portfolio positions report a larger impact on capital and profits (Table 6).

Figure 5. Commercial Banks: VaR Results
(In percent of regulatory capital)

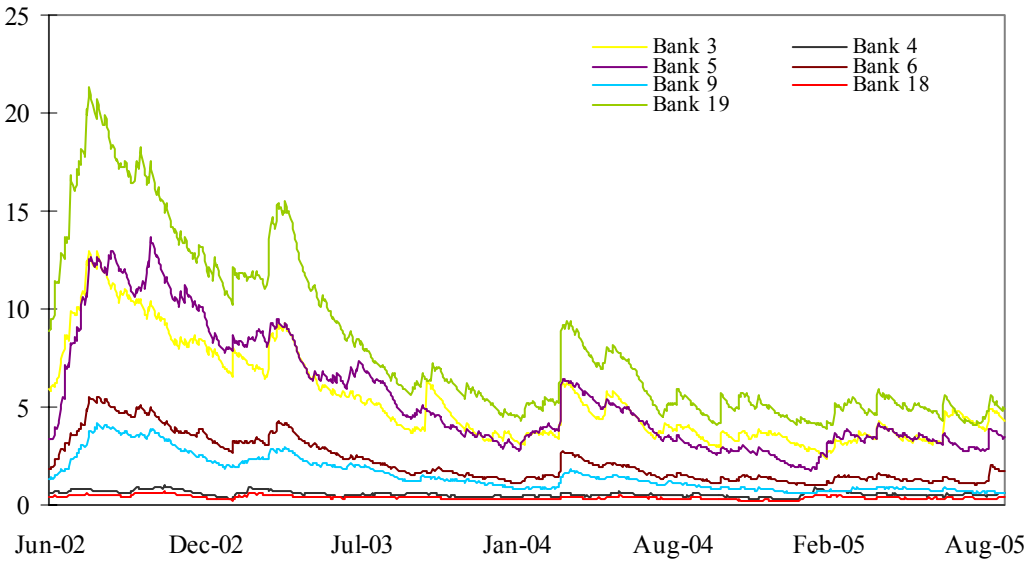
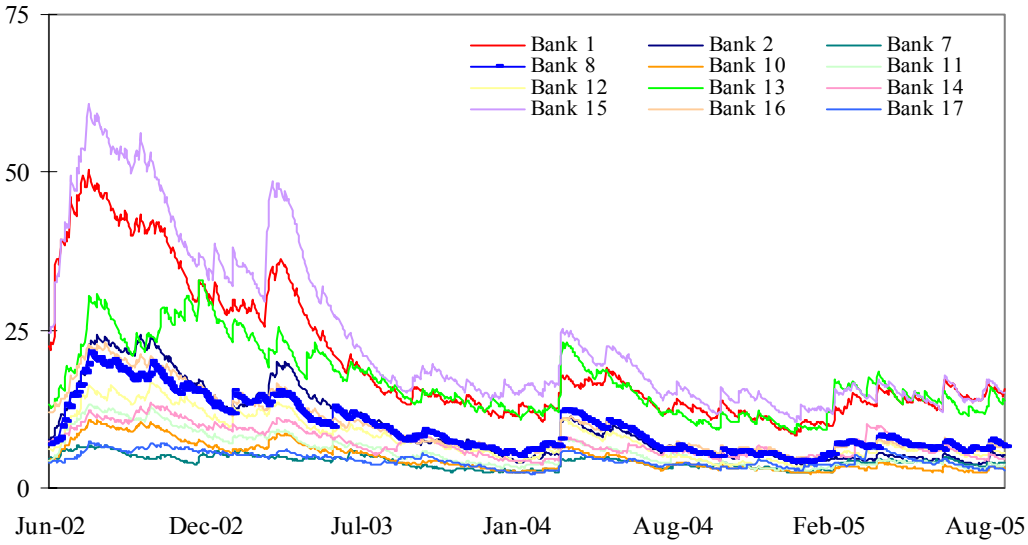


Figure 6. Savings Banks: VaR Results
(In percent of regulatory capital)



D. Conclusions

30. The analysis presented here suggests that the risks resulting from the current level of CIs' industrial participations require a high degree of monitoring. The profits from industrial participations that the CIs have shown in the last few years depend largely on the rapid growth in equity prices since 2002. The strategy followed by CIs, to compensate shrinking interest rate margins with dividends and capital gains from industrial participations, has been successful but may entail a higher level of risk.

31. The adoption of the new Basel II regulations will be more demanding in terms of capital requirements. At the same time, the application of the new IFRS will entail a one-off recognition of unrealized capital gains. After that, higher volatility in the balance sheets of the CIs should be expected. These changes combined will diminish the incentive for CIs to hold industrial participations

32. The analysis indicates that a sizable shock would probably not impair the viability of the system. Nonetheless, current exposures are such that considerable losses could be incurred by some smaller CIs.

E. Recommendations

33. The Bank of Spain (BE) is well aware of the risks stemming from the CIs' industrial participations and therefore has requested the CIs to enhance the monitoring of these investments. In this respect, we support the authorities' intention to require the adoption of the Basel II methodologies for industrial participations held in the banking book, as soon as Basel II comes into force.

34. Nonetheless, given the substantial changes that are taking place within the regulatory framework (Basel II and New IFRS) and to prepare for an adverse economic environment, it may be worthwhile to promote a deeper understanding and recognition of the risks involved. To this end, the BE may wish to consider**:**

- Introducing additional regulatory measures aimed at reducing industrial participations of credit institutions, such as implementing the most conservative approaches considered in Basel II for industrial participations. For the CIs with a larger and more complex book of industrial participations, the BE, while exercising its functions of internal model validation, should recommend the adoption of the market-based approach which, in addition to more demanding capital requirements than the IRB approach, provides a more adequate and effective monitoring tool. While we think that our proposal to use the VaR approach is the most appropriate from a technical point of view, we understand that for practical reasons (including comparisons with other European countries' approaches) the Bank of Spain may choose the PD/LGD approach, at least in an early phase of implementation.

- Introducing regulations to prevent CI directors or decision-making officer serving on the board of a nonfinancial company from taking part in the CI's operations vis-à-vis that company.[10]

[10] This type of prohibition can be found in the Chilean law governing pension funds (Articles 154 to 159 of Law 3.500).