SPANISH DYNAMIC PROVISIONS: MAIN NUMERICAL FEATURES

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This article contains a detailed numerical analysis of the Spanish dynamic provision, both at the whole system level and at the level of different groups of banks. In general terms, the maximum amount of general or dynamic provisions accumulated at the peak of the lending cycle was almost €26 billion. In relative terms, a coverage of 1.1% of the credit portfolio and of almost 1% of total assets was achieved at that peak. Currently, general provisions are almost depleted to prove that they were designed as an automatic mechanism to be used as a macro-prudential countercyclical tool.

In terms of risk weighted assets, dynamic provisions reached 1.5% of credit risk weighted assets at the peak of the cycle which is around half way from the maximum countercyclical capital buffer designed for Basel III. The fact that MoU group 1 and group 2 banks had accumulated at its peak €7,000 million euro of general or dynamic provisions has reduced in an equivalent amount the public capital injections required by these banks. The amount saved in this counterfactual exercise is close to 1% of the Spanish GDP.

1 Introduction

The Spanish dynamic provision, originally known as statistical provision was introduced in Spain in July 2000 as a supervisory instrument to improve the coverage of credit risk that existed at that time (generic and specific provisions). As this provisioning system was highly pro-cyclical, the final aim of the dynamic provision was to strengthen the solvency of the Spanish financial institutions in the short and medium term by reducing that procyclicality.

This report coincides in time with the current debate which focuses on the need to design and implement macro-prudential policies which seek the stability of the banking system as a whole and its interaction with the real economy. In this context, countercyclical tools have emerged naturally as a way of alleviating high procyclicality of financial systems (e.g. Basel III countercyclical capital buffer), however their implementation requires a calibration and in this field the experience in Spain with the dynamic provision can be considered useful.

The dynamic provision is an instrument of macro-prudential nature, that together with specific provisions, is intended to cover the expected loss of a portfolio. The former covers unidentified yet latent losses, while the latter covers incurred losses specifically identified in a certain loan.

The simple and transparent mechanism of this provision applies at the banks' level. Briefly, it consists of two sets of elements: the first set applies to the growth of the credit portfolio (new credits), and the second set (that of counter-cyclical nature) is determined by comparing the average specific provision for the entire system of the last credit cycle with the current specific provision of each bank. Additionally, the provisioning fund thus generated has a floor and a cap to ensure a minimum supply and avoid excess thereof, respectively.

Thereare three important milestones in the life of the dynamic provision in Spain:

(i)   its initial implementation and accumulation of funds in the third quarter of 2000,

(ii)   its modification taking place in the first quarter of 2005 to comply and to be consistent with the international financial reporting standards (IFRS), and

(iii) the depletion of the stock of general provisions together with the elimination of the existing floor in the last quarter of 2008 to allow banks to weather the current crisis with higher loss absorbency capacity. Its main effect came by allowing savings on fiscal outlays to take place, therefore reducing the amount of public aid received by some institutions during this difficult period.

2 Main numerical features of the dynamic provision

This report elaborates on the most notable numerical features of the Spanish dynamic provision. As commented in the introduction, dynamic provisions were first set up in Spain in 2000 (commonly known at that time as statistical provisions), and were modified in 2005. Since then, formally, the provision took the name of general provision, while more informally it has been called dynamic provision. The formal change in name also corresponds to its new formulation to comply and to be consistent with IFRS. Precisely, when IFRS came into effect at the beginning of 2005, the provisioning system was slightly changed with respect to the original one.

As a reminder, the basic formula describing how the flow of the dynamic or general provision (both terms will be indistinctively used to refer to the same concept) is calculated, is as follows:

$$\text{General provision} = \alpha \Delta \text{ Credit} + (\beta \text{Credit} - \text{Specific provision})$$

where Credit is the stock of loans at the end of period t and ΔCredit is the variation of credit from end of period t-1 to end of period t (positive in a lending expansion, negative in a credit crunch). Parameters α and β are set by the Banco de España and allow to discriminate among six different credit risk categories of loans.

The above formula is just a simplification of the real one. Banco de España, based on historical information of credit losses, identifies six risk buckets, or homogeneous groups of risk, to take into account the nature and risk of different types of credit products (distinct credit segments of homogenous loan portfolios), each of them with a different α and parameter.

The groups (in ascending order of risk) are the following:

i) Negligible risk: includes cash and public-sector exposures (both loans and securities) as well as interbank exposures;

ii) Low risk: made up of mortgages with a loan-to-value (LTV) ratio below 80% and exposures to corporations with A rating or higher;

iii) Medium-low risk: composed of mortgages with an LTV ratio above 80% and other collateralized loans not previously mentioned;

iv) Medium risk: made up of other loans, including unrated or below-A rated corporate exposures and exposures to small and medium-sized firms;

v) Medium-high risk: consumer durables financing; and finally,

vi) High risk: credit card exposures and overdrafts.

The values for α are (moving from lower to higher risk levels): 0%, 0.6%, 1.5%, 1.8%, 2%, and 2.5%; and those for β are the following: 0%, 0.11%, 0.44%, 0.65%, 1.1%, and 1.64%.

The final formula to be applied by each bank is therefore:

$$\text{dot.gen}_t = \sum_{i=1}^{6} \alpha_i \, \Delta C_{it} + \sum_{i=1}^{6} \left(\beta_i - \frac{\text{dot.espe}_{it}}{C_{it}} \right) C_{it} = \sum_{i=1}^{6} \alpha_i \, \Delta C_{it} + \left(\sum_{i=1}^{6} \beta_i \, C_{it} - \text{dot.espe}_t \right)$$

where dot.gen is the dynamic provision set aside in period t, dot.espe is flow of specific provisions set aside in period t, C is the stock of loans at the end of period t, and ΔC its variation from end of period t-1 to end of period t.

2.1 TOTAL SYSTEM NUMERICAL FEATURES

Based on individual data, the main charts that set in context the dynamic provision are the following:

Table 1 shows how the stock of the general provision for the entire system of deposit institutions[1] has evolved along time since its inception in 2000. It must be noted the structural change affecting this provision that took place in 2005 as commented before (data for end-2004 were already reported by banks using the new definition of the general provision and as such is presented).

Before 2004 the stock of general provisions is presented in the table as the sum of the statistical provision plus the so-called generic provision existing at that time and applied to normal credits granted during the period (new loans).

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1 Data presented in this paper is based on an individual basis recollecting only domestic business (business in Spain) the focus of which the general provision is based on.

STOCK OF GENERAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND CREDIT RISK RWAs   TABLE 1

Date	Stock of General Provision (a) (m€)	Credit Exposures (b) (m€)	%	Credit Exposures (c) (m€)	%	Total Assets (m€)	%	RWA (Credit) (m€)	%
2000/12	6,518	587,763	1.11%	541,233	1.20%	1,122,857	0.58%	781,229	0.83%
2001/12	9,063	662,134	1.37%	612,264	1.48%	1,227,209	0.74%	851,535	1.06%
2002/12	10,902	728,702	1.50%	685,481	1.59%	1,305,196	0.84%	878,091	1.24%
2003/12	13,880	853,939	1.63%	796,625	1.74%	1,463,261	0.95%	969,031	1.43%
2004/12	14,933	1,396,180	1.07%	974,185	1.53%	1,702,156	0.88%	1,210,278	1.23%
2005/12	18,209	1,729,815	1.05%	1,208,368	1.51%	2,071,543	0.88%	1,452,756	1.25%
2006/12	23,107	2,030,690	1.14%	1,514,780	1.53%	2,415,746	0.96%	1,775,846	1.30%
2007/12	25,836	2,302,266	1.12%	1,729,981	1.49%	2,825,122	0.91%	2,020,213	1.28%
2008/12	20,129	2,401,172	0.84%	1,772,496	1.14%	3,070,302	0.66%	1,804,387	1.12%
2009/12	10,411	2,399,729	0.43%	1,681,722	0.62%	3,090,315	0.34%	1,827,388	0.57%
2010/12	6,993	2,354,828	0.30%	1,621,439	0.43%	3,070,930	0.23%	1,786,640	0.39%
2011/12	4,878	2,254,761	0.22%	1,491,681	0.33%	3,158,246	0.15%	1,708,434	0.29%
2012/12	3,292	2,162,464	0.15%	1,299,904	0.25%	3,098,908	0.11%	1,484,043	0.22%

SOURCE: Banco de España.

a Before 2004 the stock of general provisions is computed as the sum of the statistical provision plus the so-called generic provision existing at that time and applied to normal credits conceded during the period (new loans). This generic provision consisted of applying a 0.5 % charge on new mortgage loans and a 1.0 % on the rest of new loans. In 2000, just before statistical provisions were set aside, the generic provision amounted to €5,300 million.
b Credit exposures subject to the application of general provisions.
c Credit exposures subject to the application of general provisions excluding those exposures with no risk, i.e., exposures assigned a zero weight (negligible risk) for general provision.

From that table it can be seen that during the accumulation period the stock of provisions raised up to almost €26,000 million. The depletion period, starting in 2008, left almost empty the existing stock (€3,000 million). In percentage terms, the fund decreased up to 87% with respect to its peak.

Chart 1, compares the evolution of the stock of general provisions with that of specific provisions. At the same time, it shows the difference between the initial statistical provision (2000-2004) and the general provision (from 2005 onwards).

Chart 2, presents the coverage percentage of the stock of specific and general provisions. The former is applied to the amount of impaired loans and the latter only to normal credits (i.e. credits upon which the general provision is applied). As commented before, the reduction in coverage that appears in 2004 is due to the new definition of the general provision. Since the end of 2004 the interbank exposures were also included in the category of risks subject to general provisions resulting in an increase in the base upon which the general provision was calculated without increasing the provision fund as these exposures were assigned a zero weight (see this effect more clearly in Table 1 column credit exposures subject to the application of general provisions).

Chart 3, shows the coverage of non-performing loans, NPL, when all provisions (specific plus general) are taken into consideration. It can also be observed the breakdown between general and specific provisions and their respective coverage of NPLs. It is evident from this chart the significant coverage of NPL that existed during the early 2000s peaking close at a 250% coverage.

To have the complete picture of the evolution of the main banking elements, Chart 4 presents the credit cycle in Spain. It shows the growth path of credit exposures during the last decade as well as the change in trend for the non-performing loans. Form that chart it is evident as the economic cycle turned negative that growth for credit exposures came to a halt and also evident is the abrupt increase in non-performing loans for banks.

EVOLUTION OF CREDIT PROVISIONS OVER TIME   CHART 1
Millon € (a)
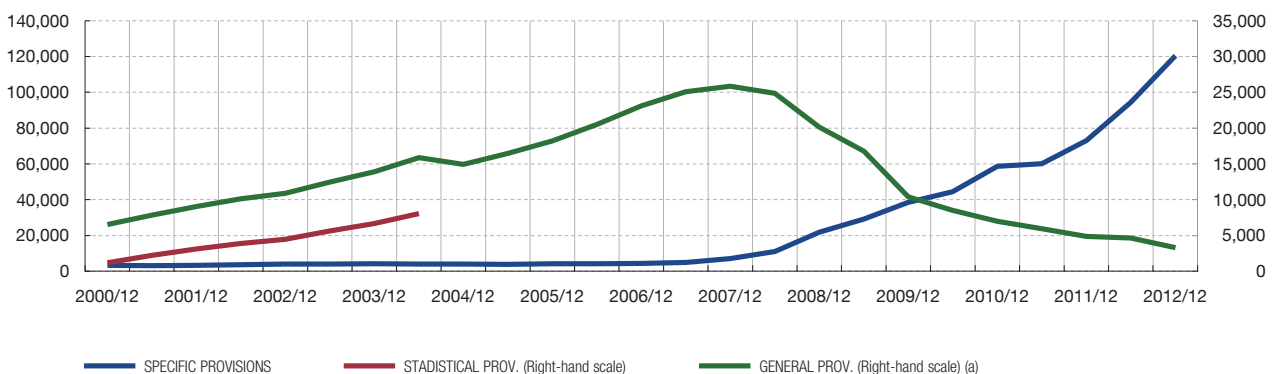
SOURCE: Banco de España.

a   General provisions before end-2004 are represented in this figure as the sum of the statistical provision plus a generic provision applied to normal credits conceded during the period (new loans). This generic provision consisted of applying a 0.5% charge on new mortgage loans and a 1% on the rest of new loans. The black dotted line represents the original statistical provision that came into force in 2000. As commented in the text, in 2005 both provisions, statistical and generic, were unified into an only one: the current general provision. The slight downward adjustment that can be seen in the figure corresponds to the technical refinements included in the definition and mechanics of the general provision to comply and to be consistent with IFRS. It is necessary to remember the important pressure existing at that time by accounting standard setters claiming on the adequacy of this provision to the accounting rules. Additionally, further pressure from banks came in the form of the high coverage that credit portfolios showed at that time (see Chart 3).

PERCENTAGE COVERAGE OF CREDIT PROVISIONS (a)   CHART 2

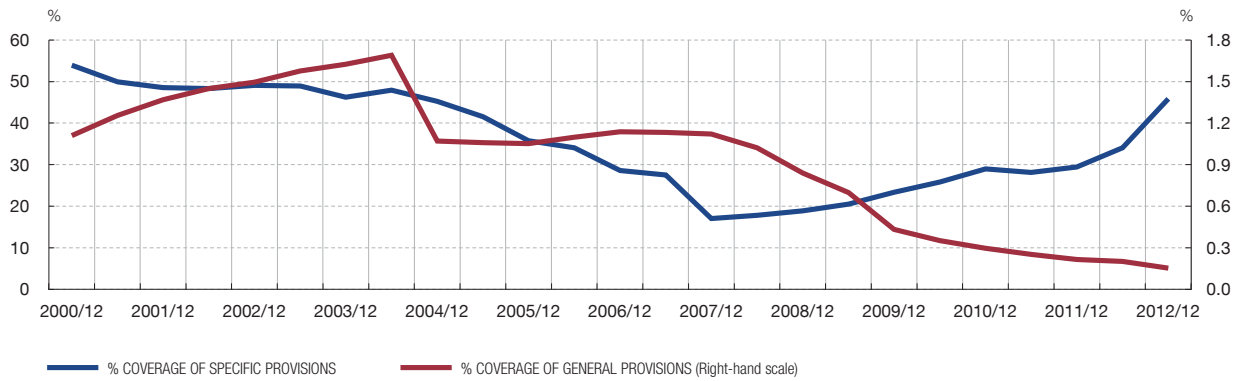% COVERAGE OF SPECIFIC PROVISIONS   % COVERAGE OF GENERAL PROVISIONS (Right-hand scale)

SOURCE: Banco de España.

a General provisions before end-2004 are computed as the sum of the statistical provision plus a generic provision applied to normal credits conceded during the period (new loans). The reduction in coverage that appears in 2004 is due to the new definition of the general provision. Since the end of 2004 interbank exposures were also included in the category of risks subject to general provisions. Therefore, it resulted in an increase in the base upon which the general provision was calculated without increasing the provision fund as these exposures were assigned a zero risk weight.

PERCENTAGE COVERAGE OF TOTAL NPL   CHART 3

% COVERAGE OF TOTAL NPL (Specific+ General)   COVERAGE FROM GENERAL   COVERAGE FROM SPECIFIC
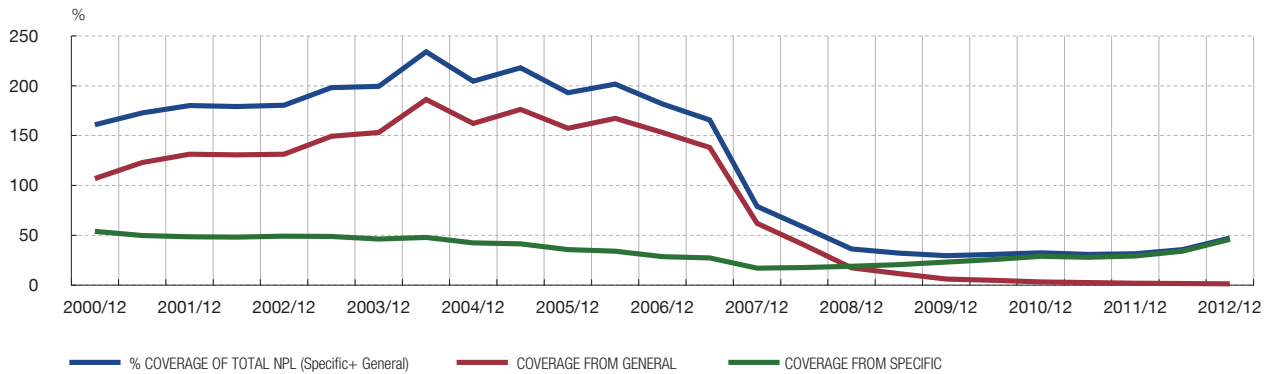
SOURCES: Banco de España.

CREDIT CYCLE: CREDIT EXPOSURES VERSUS NPLs   CHART 4
Million Euros

CREDIT EXPOSURES   NPL (Right-hand scale)
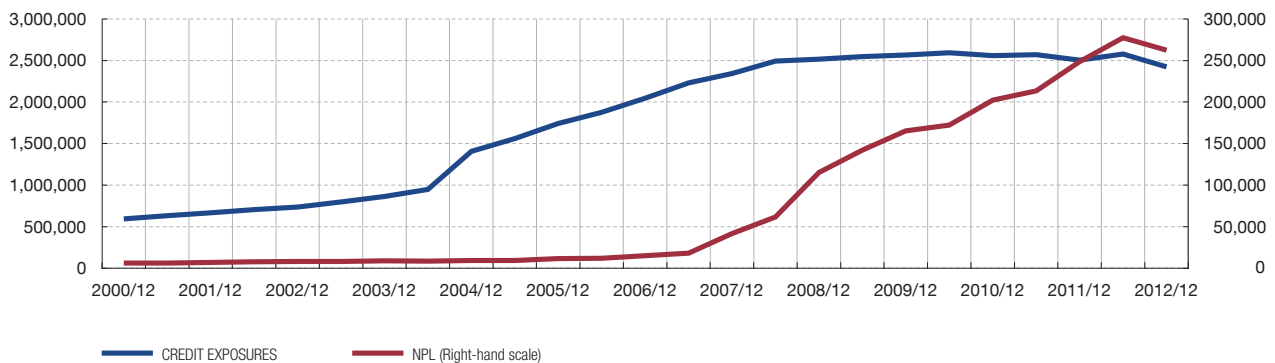
SOURCE: Banco de España.

In setting up the context, it is also worth noting the relative weight that the general provision represents in terms of other relevant balance sheet items. In this respect, Table 1 presents, during the periods of accumulation and depletion of general provisions, how the stock of this provision compares with the stock of credit over which the provision pivots, with that

same stock of credit but excluding those credit exposures assigned a zero weight (no-risk exposures), with the amount of total assets, and with credit risk weighted assets (RWAs).

In this vein, it can be seen that the stock of general provisions, at the peak of the lending cycle, amounted up to 1.1% of the total stock of credit upon which it was calculated (1.5% credit with positive weight). In terms of assets, during peak years, provisions almost represented 1% of total assets (0.96%). As commented before, it can be appreciated how the change in the definition of the base upon which general provisions were calculated (interbank exposures included within the base of calculation of the general provision), implies a sudden increase in this base in 2004. However, as this increase was due to the inclusion of exposures with zero weight, the volume of exposures only subject to positive weights (fourth column) is not affected in such a way.

To finalize the broad context into which general provisions are set, Table 2 presents the overall stock of credit provisions (specific plus general) and its weight in terms of total credit exposures, total assets and total RWAs.

Table 3, compares the general provision with the specific provision and also shows its relative weight over total credit provisions. Related to this point, it can be appreciated for the accumulative phase the dominant position of the general provisions on the overall chart of total provisions (a peak of nearly 85% of total provisions).

Contrarily, during the depletion phase (2008 onwards), it is the specific provision which accounts for most of the weight in total provisions as expected, that is, if the countercyclical nature of the general provision is borne in mind (less than 3% of total provisions). The formula discussed above and their associated alpha and beta parameter provides an automatic mechanism to accumulate and to release general provisions which is the key

STOCK OF TOTAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND TOTAL RWAs   TABLE 2

Date	Stock of Total Provision (a) (m€)	Credit Exposures (b) (m€)	%	Total Assets (m€)	%	RWA (Total) (m€)	%
2000/12	9,806	593,858	1.65%	1,122,857	0.87%	828,229	1.18%
2001/12	12,410	669,027	1.85%	1,227,209	1.01%	902,925	1.37%
2002/12	14,982	737,009	2.03%	1,305,196	1.15%	923,406	1.62%
2003/12	18,068	862,995	2.09%	1,463,261	1.23%	1,013,010	1.78%
2004/12	18,854	1,405,397	1.34%	1,702,156	1.11%	1,252,994	1.50%
2005/12	22,345	1,741,392	1.28%	2,071,543	1.08%	1,532,783	1.46%
2006/12	27,426	2,045,772	1.34%	2,415,746	1.14%	1,858,652	1.48%
2007/12	32,940	2,343,911	1.41%	2,825,122	1.17%	2,094,768	1.57%
2008/12	41,855	2,516,320	1.66%	3,070,302	1.36%	2,051,378	2.04%
2009/12	48,973	2,564,898	1.91%	3,090,315	1.58%	2,064,372	2.37%
2010/12	65,703	2,557,180	2.57%	3,070,930	2.14%	2,045,500	3.21%
2011/12	77,981	2,503,223	3.12%	3,158,246	2.47%	1,944,622	4.01%
2012/12	123,683	2,424,850	5.10%	3,098,908	3.99%	1,714,409	7.21%

SOURCE: Banco de España.

a Total provisions: sum of specific and general provision.
b Credit Exposures subject to the application of general and specific provisions.

BREAK-DOWN OF CREDIT PROVISIONS   TABLE 3

(m€)

	Stock of Specific Provision	Stock of General Provision	Total Provisions	% General Provision over Total Provision
2000/12	3,288	6,518	9,806	66.47%
2001/12	3,347	9,063	12,410	73.03%
2002/12	4,080	10,902	14,982	72.77%
2003/12	4,187	13,880	18,068	76.82%
2004/12	3,921	14,933	18,854	79.20%
2005/12	4,136	18,209	22,345	81.49%
2006/12	4,319	23,107	27,426	84.25%
2007/12	7,104	25,836	32,940	78.43%
2008/12	21,726	20,129	41,855	48.09%
2009/12	38,563	10,411	48,973	21.26%
2010/12	58,711	6,993	65,703	10.64%
2011/12	73,103	4,878	77,981	6.26%
2012/12	120,391	3,292	123,683	2.66%

SOURCE: Banco de España.

IMPACT TO THE FLOW OF GENERAL PROVISIONS ON THE P&L ACCOUNTS   CHART 5

FLOW OF GENERAL PROV./ PPP   FLOW OF GENERAL PROV./ PBT (Right-hand scale)
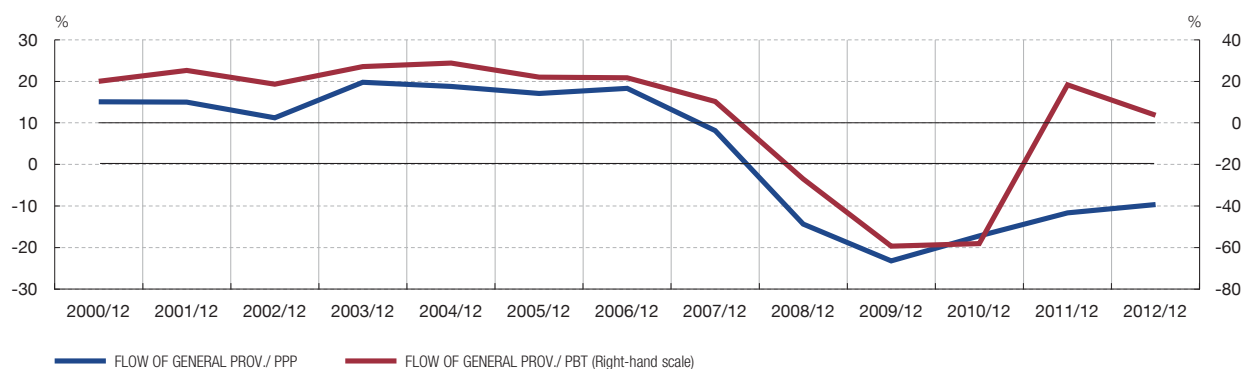
SOURCE: Banco de España.

element of its macro-prudential usefulness. It is also clear that the mechanism is transparent as a result of being a rule-based instrument both in the upswing and in the downturn[2].

It may also be interesting to have an idea of how demanding for banks' results general provisions have been. In other words, it is worth noting to quantify the impact of general provisions on the profit and loss account (P&L), that is, how many resources from banks' benefits these provisions detracted every year (or contributed to in case of periods of recession).

For the entire system of deposit institutions, it can be seen (Chart 5) how the flow of general provisions detracted, during the expansionary years between 15% and 20% of pre-provisioning profit (PPP). Nevertheless, during the depletion period, it contributed

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2 In some circumstances, the progressive decumulation mechanism could be, to some extent, slowed down if a sharp and sudden crisis would imply very high specific provisions that would make the general provision disappear very quickly.

to ameliorate the pre-provisioning chart up to 24%. In terms of profits before taxes, (PBT) the impact is even higher, with an impact of up to 29% in good times and a contribution of around 60% in bad times.

Another main element of the general provision is its limits. Table 4 provides the following information: the stock of dynamic provisions, the maximum limit per year, the difference between the actual provision and the theoretical limit, and the amount of provision that could still be set aside if the maximum limit would apply instead of the actual level of provision existing in each period (in percentage of the maximum limit). For coherence purposes, in this table before 2005 the stock of general provision only includes the so-called statistical provision. Otherwise, the calculation and consideration of limits would make no sense.

According to the charts presented, it can be said that, for the entire system of deposit institutions, the maximum limit was never reached, although this has to be taken with certain caution because all computations have been made using the aggregate chart for the system as a whole and no the individual chart of each bank. As a result of this aggregation, there are discrepancies with respect to the exact number that would be obtained if other aggregation was used or if banks were analyzed one by one.

With the above caveat in mind, it can be said that it was in 2004, 2005 and 2006 when the stock of existing provisions was closest to the maximum limit but yet a 5% (around €1 billion) away from it. Regarding the minimum limit, it was eliminated in 2008, providing banks additional room of maneuver to deal with the increase in losses that they started to experience as the crisis began.

Another interesting element of the general provision is the distribution of exposures across the six different categories of risk. Table 5 shows this distribution.

LIMITS SET ON THE GENERAL PROVISION   TABLE 4

(m€)

	General provision (a)	Max. limit	Difference: Distance to the limit	% left to reach the max.
2000/12	1,184	7,312	6,127	83.80%
2001/12	3,117	8,053	4,936	61.29%
2002/12	4,464	8,678	4,215	48.57%
2003/12	6,645	9,596	2,951	30.76%
2004/12	14,933	15,509	786	5.07%
2005/12	18,209	19,028	993	5.22%
2006/12	23,107	24,322	1,411	5.80%
2007/12	25,836	27,768	2,087	7.52%
2008/12	20,129	27,837	7,779	27.95%
2009/12	10,411	25,692	15,347	59.74%
2010/12	6,993	24,656	17,702	71.80%
2011/12	4,878	22,533	17,654	78.35%
2012/12	3,292	19,798	16,506	87.15%

SOURCE: Banco de España.

a For coherence purposes, before 2005 general provision only includes the so-called statistical provision. Otherwise, the calculation and consideration of limits would not make any sense.

In this table it can be noticed how the different types of exposures have evolved over time. In particular, the so-called no-risk exposures increase their weight over total exposures from almost 8% to almost 40% in 2012 (note that from 2004 onwards interbank exposures were included in this category enlarging the weight of this group when compared with the rest of categories). In addition to that, medium-low and medium risk exposures over total exposures decreased their relevance in banks' credit portfolios moving from 16% and 37% to 11% and 17% respectively.

Table 6 provides information in terms of the distribution of the general provision across categories of risk. In that respect, it can be seen that due to the assigned values of α and β to the different categories (increasing in risk) and the distribution of exposures as presented

DISTRIBUTION OF EXPOSURES ACCORDING TO CATEGORIES OF RISK   TABLE 5

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	7.9%	29.8%	16.2%	37.0%	7.5%	1.5%
2001/12	7.5%	31.5%	17.3%	34.7%	7.3%	1.5%
2002/12	5.9%	33.2%	19.8%	33.3%	6.3%	1.4%
2003/12	6.7%	33.9%	24.0%	28.9%	5.1%	1.3%
2004/12	30.5%	26.0%	18.6%	20.9%	3.1%	0.9%
2005/12	30.3%	26.8%	20.0%	19.5%	2.7%	0.8%
2006/12	25.5%	26.9%	22.5%	21.6%	2.7%	0.8%
2007/12	24.9%	27.2%	22.7%	21.6%	2.7%	0.8%
2008/12	26.2%	28.8%	20.7%	21.1%	2.4%	0.8%
2009/12	30.0%	29.5%	19.1%	18.8%	1.9%	0.7%
2010/12	31.2%	29.7%	17.4%	19.2%	1.8%	0.8%
2011/12	33.9%	29.4%	15.2%	19.2%	1.6%	0.7%
2012/12	39.9%	27.3%	11.1%	17.4%	3.6%	0.7%

SOURCE: Banco de España.

DISTRIBUTION OF GENERAL PROVISION ACCORDING TO CATEGORIES OF RISK   TABLE 6

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	7.2%	15.6%	53.6%	18.1%	5.5%
2001/12	–	7.8%	17.1%	51.4%	18.1%	5.6%
2002/12	–	8.4%	19.9%	50.4%	15.9%	5.4%
2003/12	–	9.1%	25.6%	46.4%	13.6%	5.4%
2004/12	–	17.0%	32.3%	41.5%	6.9%	2.3%
2005/12	–	17.3%	35.3%	39.3%	6.0%	2.1%
2006/12	–	16.2%	36.7%	39.5%	5.5%	2.1%
2007/12	–	16.3%	36.8%	39.5%	5.4%	2.0%
2008/12	–	18.0%	35.2%	39.5%	5.5%	1.9%
2009/12	–	21.2%	34.8%	36.3%	5.6%	2.0%
2010/12	–	22.5%	29.9%	39.3%	5.7%	2.7%
2011/12	–	22.9%	27.6%	42.0%	4.8%	2.7%
2012/12	–	21.3%	19.5%	45.3%	9.3%	4.6%

SOURCE: Banco de España.

in the previous table, it is the medium-risk category which presents the largest proportion of provisions in terms of the total amount of general provisions. Then, the medium-low and the low risk categories appear in subsequent importance.

Table 7 presents the coverage of exposures with general provisions per category of risk and how it has evolved along time. In this vein, it can be seen how, as the crisis gained momentum, the coverage of exposures, depending on the categories of risk in which they were classified, changed. It is also shown the current situation (end-2012) in terms of coverage that normal credit presents according to the different categories of risk.

To put Table 7 charts into perspective, it is important to realize that, for instance, according to Table 1, in December 2007, at the peak of the accumulation of dynamic provisions, the coverage of credit exposures with general provisions was 1.5%. This coverage ranges from 0.7% to 2.8% for the five risk categories, consistently with the risk profile of each of them.

Finally, a simple but useful exercise can be carried out by comparing the maximum amount of general provision fund created per category of risk and the losses (proxied by provisions for non-performing loans) that each category of risk experienced during the current crisis. This is done by comparing the accumulated flow of specific provisions set aside during the period 2008-2012 with the maximum amount of general provision that each category of risk accumulated during the boom period. This comparison is presented in Table 8.

This exercise is the best proxy for a final assessment that cannot be carried out now and that consists of comparing the total final losses in each risk category with the amount of general provisions accumulated, together with the amount of exposures in each risk category.

Until the crisis is completely over and all the losses are fully materialized, it is not possible to carry out a fully-fledged assessment of dynamic provision coverage performance. In this regard, the current exercise presented in this paper could be biased in two directions: upwards if provisioning requirements continue to increase in the future, or downwards as a result of recoveries from realization of collateral and late repayments made by borrowers.

COVERAGE OF EXPOSURES ACCORDING TO CATEGORIES OF RISK   TABLE 7

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	0.0%	0.7%	0.1%	0.5%	0.7%
2001/12	–	0.1%	0.5%	0.7%	1.2%	1.7%
2002/12	–	0.2%	0.6%	0.9%	1.5%	2.3%
2003/12	–	0.2%	0.8%	1.2%	2.1%	3.1%
2004/12	–	0.7%	1.8%	2.1%	2.4%	2.9%
2005/12	–	0.7%	1.9%	2.1%	2.3%	2.9%
2006/12	–	0.7%	1.8%	2.1%	2.3%	2.9%
2007/12	–	0.7%	1.8%	2.0%	2.2%	2.8%
2008/12	–	0.5%	1.4%	1.6%	1.9%	2.1%
2009/12	–	0.3%	0.8%	0.8%	1.2%	1.2%
2010/12	–	0.2%	0.5%	0.6%	1.0%	1.0%
2011/12	–	0.2%	0.4%	0.5%	0.7%	0.8%
2012/12	–	0.1%	0.2%	0.3%	0.3%	0.8%

SOURCE: Banco de España.

TABLE 8

Accumulated Specific Provisions (2008-2012). Million €

Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
187,968	31,457	47,063	75,262	22,508	5,995	6,489

Accumulated Specific Provisions (2008-2012) over Credit exposure (end-2012)

Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
8.7%	5.3%	19.7%	20.0%	28.7%	41.2%	0.8%

Maximum Provision Fund Accumulated per category of risk. Million €

Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
25,837	4,194	9,448	10,137	1,387	515

Coverage of Provisions derived from NPLs with stock of General Provision per category of risk

13.7%	13.3%	20.1%	13.5%	6.2%	8.6%

SOURCE: Banco de España.

Turning to Table 8, it can be seen how the accumulated flow of specific provisions for the total credit portfolio generated from 2008 to 2012 raised up to almost €188,000 million. Taking into account that the maximum general provision fund (stock) amounted to almost €26,000 million, the potential coverage of losses in terms of generated specific provisions can be said to be at 13.7%.

Bearing the above in mind, it can be appreciated to what extent the necessary specific provisions, accumulated for the different categories of risk for the period cited above, have theoretically been covered by the general provision. Whereas, the medium-low risk category reached a coverage above 20%, the medium-high risk category only reached a coverage of 6.2%.

It is also interesting to notice that accumulated specific provisions as a percentage of the total exposure, 8.7%, is increasingly spread across risk categories depending on the implicit risk assumed for each one. Clearly, the perception of risk assumed for each risk category in the design of the general provision is justified according to the specific provisions made during the current crisis (5.3% for the low risk category and 41.2% for the highest risk category, Table 9).

In terms of the current Basel III countercyclical capital buffer (a maximum of 2.5% of RWA), the general provision at its peak as conceived ten years ago, would have represented almost half of the maximum amount of this new countercyclical capital buffer requirement. That is, the general provision at its peak was 1.5% of credit risk weighted assets (1.23% of total risk weighted assets) according to Basel rules, covering ex-post 13.7% of accumulated specific provisions.

Following the line of reasoning in the former paragraph, it is important to notice that while the dynamic provision buffer reached about 50% of the maximum amount of a buffer similar to the current countercyclical one set in Basel III, the expected losses, which are

Date	Stock of general provision (a) (m€)	Credit exposures (b) (m€)	%	Credit exposures (c) (m€)	%	Total assets (m€)	%	RWA (Credit) (m€)	%
2000/12	2,991	280,087	1.07%	249,319	1.20%	575,133	0.52%	439,929	0.68%
2001/12	4,023	306,667	1.31%	271,966	1.48%	612,462	0.66%	464,317	0.87%
2002/12	4,587	315,816	1.45%	289,322	1.59%	620,774	0.74%	441,247	1.04%
2003/12	5,834	370,914	1.57%	330,315	1.77%	687,050	0.85%	471,728	1.24%
2004/12	6,618	625,843	1.06%	392,230	1.69%	784,215	0.84%	633,730	1.04%
2005/12	7,853	768,725	1.02%	470,629	1.67%	957,438	0.82%	738,999	1.06%
2006/12	9,844	837,391	1.18%	584,240	1.68%	1,059,923	0.93%	874,332	1.13%
2007/12	10,880	926,989	1.17%	656,337	1.66%	1,246,377	0.87%	990,186	1.10%
2008/12	8,655	990,966	0.87%	674,795	1.28%	1,389,598	0.62%	887,846	0.97%
2009/12	3,108	981,823	0.32%	637,519	0.49%	1,377,786	0.23%	914,958	0.34%
2010/12	1,624	982,419	0.17%	632,464	0.26%	1,386,674	0.12%	939,916	0.17%
2011/12	1,274	952,548	0.13%	594,913	0.21%	1,438,910	0.09%	947,525	0.13%
2012/12	1,037	970,201	0.11%	591,358	0.18%	1,519,181	0.07%	926,397	0.11%

SOURCE: Banco de España.

a Before 2004 the stock of general provisions is computed as the sum of the statistical provision plus the so-called generic provision existing at that time and applied to normal credits conceded during the period (new loans). This generic provision consisted of applying a 0.5% charge on new mortgage loans and a 1.0% on the rest of new loans.
b Credit exposures subject to the application of general provisions.
c Credit exposures subject to the application of general provisions without including those exposures with no risk, i.e., exposures assigned a zero weight (negligible risk) for general provision.

the target of provisions, are around four/five times lower than unexpected losses, usually covered with capital (Repullo et al 2010)[3]. This helps to put into perspective the 1.5% credit risk weighted assets (1.23% of total risk weighted assets) reached by Spanish dynamic provisions at the peak of the cycle.

The thorough analysis of the impact of dynamic provisions on the lending cycle is very complex and clearly exceeds the objective of this document. Nevertheless, Box 1 below shows preliminary results (not yet published in a Journal) that try to measure carefully such an impact.

To understand how all the charts commented above have evolved and what they represent depending on the different types of banks of the Spanish banking system, a breakdown is provided considering the distinction among national banks, former savings banks and credit cooperatives

2.2 NATIONAL BANKS

Table 9 shows how the stock of the general provision for the group of national banks (Spanish commercial banks) has evolved along time since its creation in 2000. From that table it can also be seen that during the accumulation period the stock of provisions raised up to almost €11,000 million. The depletion period, starting in 2008, left almost empty the existing stock (€1,000 million, 90% reduction with respect to its peak).

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3 Rafael Repullo, Jesús Saurina and Carlos Trucharte: "Mitigating the Pro-Cyclicality of Basel II", *Economic Policy*, CEPR & CES & MSH, vol. 25, pages 659-702, October 2010.

Chart 6, compares the evolution of the stock of general provisions with that of specific provisions. At the same time, it shows the difference between the initial statistical provision (2000-2004) and the general provision (from 2005 onwards).

Chart 7, presents the percentage coverage of the stock of specific and general provisions respectively applied to non-performing loans and to normal credits (over which the general provision is applied).

Chart 8, shows the coverage of non-performing loans, NPL, when all provisions (specific plus general) are taken into consideration. It can also be observed the breakdown between general and specific provisions and their respective coverage of NPLs.

Chart 9, depicts the credit cycle described by the evolution of credit exposures and non-performing loans. This evolution is similar to the one presented for the entire system, showing combination of the deceleration in credit growth together with the abrupt increase in bad loans as the crisis started to produce its effects on the economy.

As already done for the total system, it is also worth noting the relative weight that general provisions represent in terms of other relevant balance sheet elements for commercial banks.

EVOLUTIONS OF CREDIT PROVISION OVER TIME (NATIONAL BANKS)   CHART 6
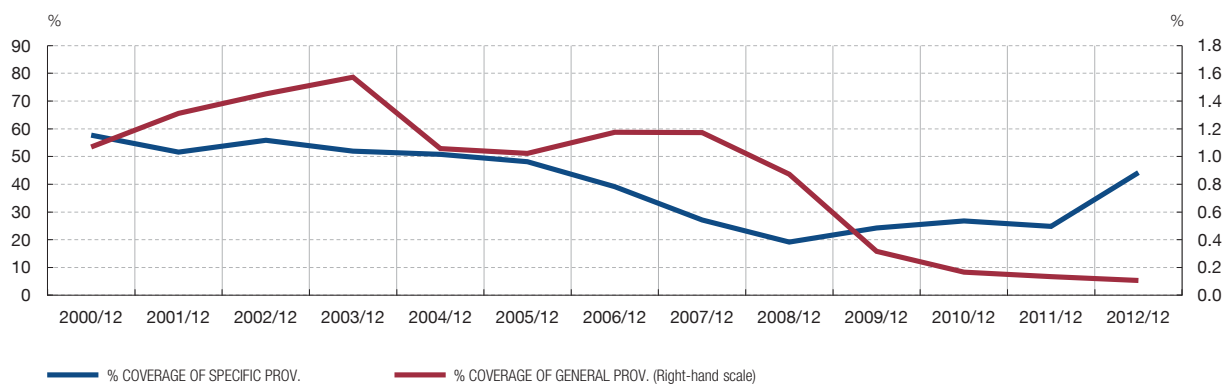Million euros (a)
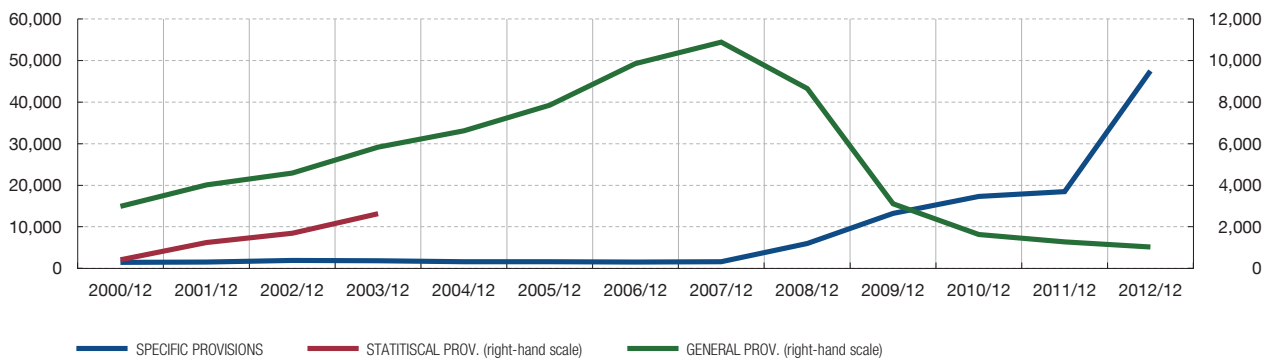
SOURCE: Banco de España.

a Footnote in Chart 1 also applies to this chart.

PERCENTAGE COVERAGE OF CREDIT PROVISIONS (NATIONAL BANKS) (a)   CHART 7
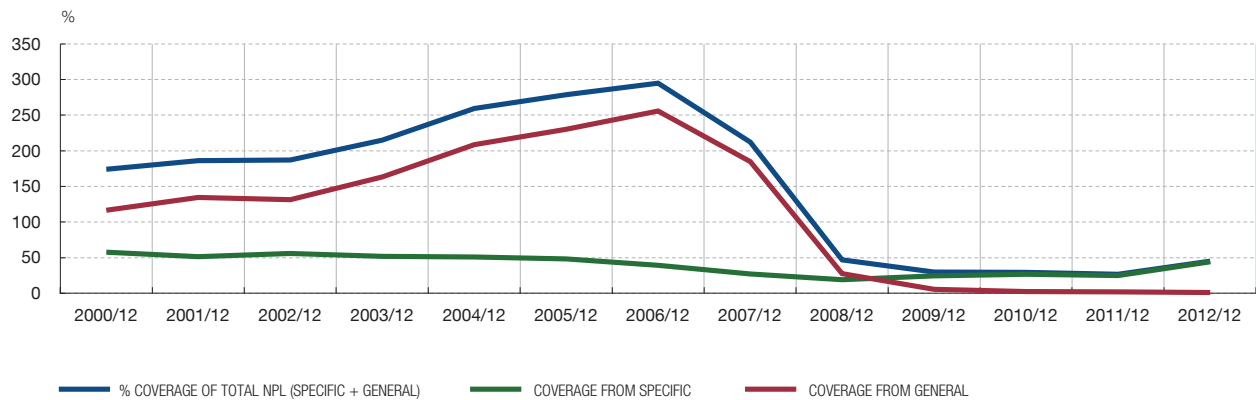

SOURCE: Banco de España.

a Footnote in Chart 2 also applies to this chart.

PPERCENTAGE COVERAGE OF TOTAL NPL (NATIONAL BANKS)

CHART 8

%

2000/12	2001/12	2002/12	2003/12	2004/12	2005/12	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12

— % COVERAGE OF TOTAL NPL (SPECIFIC + GENERAL) — COVERAGE FROM SPECIFIC — COVERAGE FROM GENERAL

SOURCE: Banco de España.

CREDIT CYCLE: CREDIT EXPOSURES VERSUS NPLs (NATIONAL BANKS)
Millions euros

CHART 9

— CREDIT EXPOSURES — NPL (Rigth-hand scale)
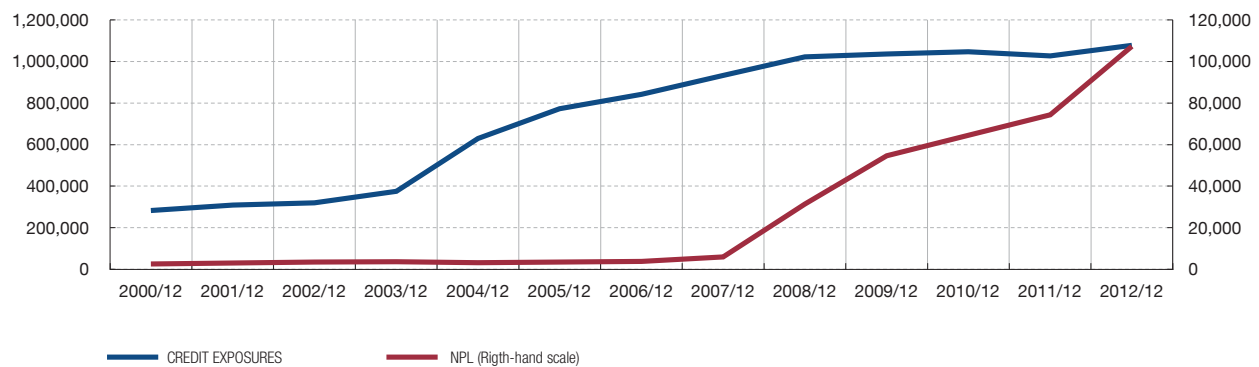
SOURCE: Banco de España.

Table 9, presents these charts. In terms of credit exposures, the stock of provisions for commercial banks represented up to almost 1.6%. In relation to total assets, provisions represented 0.9% of them and up to 1.2% of credit RWAs.

Table 10 presents, during the accumulation and depletion periods, how the stock of total provisions (specific and general) compares with the stock of credit over which these provisions pivots, with the amount of total assets and with the total amount of RWAs.

Table 11, compares the general provision with the specific provision and also shows its relative weight over total credit provisions. Related to this point, it can be appreciated for the accumulative phase the predominant position of the general provisions on the overall chart of total provisions. During the depletion phase (2008 onwards), the situation is the opposite, it is the specific provisions which account for most of the weight in total provisions representing only 2.1% of total credit provisions.

In terms of profits, Chart 10 shows how the flow of general provisions detracted, at most, 18% of pre-provisioning profit for commercial banks. During the depletion period, it contributed to ameliorate the pre-provisioning chart in more than 28%. Regarding PBT, the impact is more acute, 24% in good times and a 48% in bad times.

STOCK OF TOTAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND TOTAL RISK RWAs
(NATIONAL BANKS)
TABLE 10

Date	Stock of total provision (m€)	Credit exposures (m€)	%	Total assets (m€)	%	RWA (Total) (m€)	%
2000/12	4,474	282,657	1.58%	575,133	0.78%	471,225	0.95%
2001/12	5,563	309,654	1.80%	612,462	0.91%	501,118	1.11%
2002/12	6,541	319,313	2.05%	620,774	1.05%	472,050	1.39%
2003/12	7,693	374,491	2.05%	687,050	1.12%	504,991	1.52%
2004/12	8,229	629,014	1.31%	784,215	1.05%	668,726	1.23%
2005/12	9,496	772,134	1.23%	957,438	0.99%	809,279	1.17%
2006/12	11,352	841,242	1.35%	1,059,923	1.07%	949,750	1.20%
2007/12	12,476	932,870	1.34%	1,246,377	1.00%	1,060,883	1.18%
2008/12	14,673	1,022,314	1.44%	1,389,598	1.06%	1,043,843	1.41%
2009/12	16,337	1,036,499	1.58%	1,377,786	1.19%	1,077,265	1.52%
2010/12	18,910	1,046,864	1.81%	1,386,674	1.36%	1,127,734	1.68%
2011/12	19,709	1,026,850	1.92%	1,438,910	1.37%	1,116,729	1.76%
2012/12	48,491	1,077,492	4.50%	1,519,181	3.19%	1,098,608	4.41%

SOURCE: Banco de España.

BREAK-DOWN OF CREDIT PROVISIONS (NATIONAL BANKS)
TABLE 11

m€

	Stock of specific provision	Stock of general provision	Total provisions	% General provision over total provision
2000/12	1,484	2,991	4,474	66.84%
2001/12	1,540	4,023	5,563	72.31%
2002/12	1,954	4,587	6,541	70.13%
2003/12	1,858	5,834	7,693	75.84%
2004/12	1,610	6,618	8,229	80.43%
2005/12	1,643	7,853	9,496	82.70%
2006/12	1,508	9,844	11,352	86.72%
2007/12	1,597	10,880	12,476	87.20%
2008/12	6,018	8,655	14,673	58.98%
2009/12	13,229	3,108	16,337	19.03%
2010/12	17,286	1,624	18,910	8.59%
2011/12	18,435	1,274	19,709	6.46%
2012/12	47,454	1,037	48,491	2.14%

SOURCE: Banco de España.

In terms of the limits, Table 12 provides information about the maximum limit (cap) of the general provision per year, the difference between the actual provision and the theoretical maximum limit, and the amount of provision that could still be set aside if the maximum limit would apply instead of the actual level of provision existing in each period (in percentage of the maximum limit).

As commented before, these are aggregated charts and what they describe do not correspond exactly to the situation if each and every individual bank that belongs to this group was taken into consideration. Nevertheless, and according to the charts in the table,

IMPACT ON THE FLOW OF GENERAL PROVISIONS ON THE P&L ACCOUNT
(NATIONAL BANKS)

CHART 10

FLOW OF GENERAL PROV./PPP ——— FLOW OF GENERAL PROV./PBT (Rigth-hand scale)
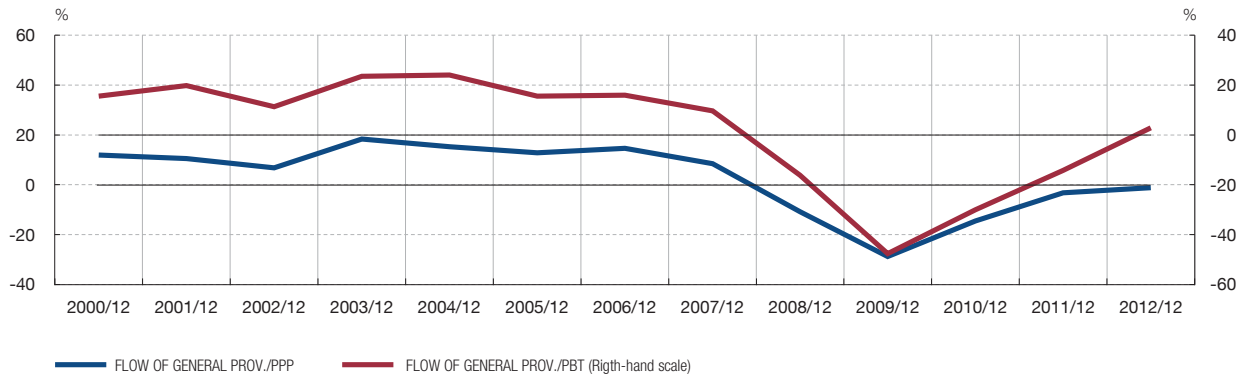
SOURCE: Banco de España.

LIMITS SET ON THE GENERAL PROVISION (NATIONAL BANKS)   TABLE 12

m€

	General provision (a)	Max. Limit	Difference: Distance to the limit	% left to reach the max.
2000/12	421	3,734	3,313	88.73%
2001/12	1,244	3,967	2,722	68.63%
2002/12	1,697	4,022	2,326	57.82%
2003/12	2,630	4,232	1,603	37.87%
2004/12	6,618	6,603	0	0.00%
2005/12	7,853	7,853	0	0.00%
2006/12	9,844	9,917	73	0.73%
2007/12	10,880	11,087	208	1.87%
2008/12	8,655	11,293	2,638	23.36%
2009/12	3,108	10,518	7,409	70.45%
2010/12	1,624	10,450	8,825	84.46%
2011/12	1,274	9,782	8,508	86.98%
2012/12	1,037	9,774	8,737	89.39%

SOURCE: Banco de España.

a For coherence purposes, before 2005 general provision only includes the so-called statistical provision. Otherwise, the calculation and consideration of limits would not make sense.

it can be said that, at the national banks' level, the maximum limit was practically reached. Between 2004 and 2007 most banks were setting aside general provisions, basically on the verge of the maximum limit. Then, after 2008 the depletion phase started and the distance to the cap started to increase showing a significant use of this provision.

The distribution of exposures across the six different categories of risk is presented in Table 13. In this table it can be noticed how the different types of exposures have evolved over time. In particular, exposures with no risk increase their weight over total exposures from 11% in 2000 to almost 40% in 2012 (remember that in 2004 interbank exposures were included in this category). At the same time, medium and medium-high risk exposures have decreased their importance on banks' credit portfolios moving from 45% and 8% to 21% and 4% respectively.

DISTRIBUTION OF EXPOSURES ACCORDING TO CATEGORIES OF RISK
(NATIONAL BANKS)

TABLE 13

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	11.0%	22.6%	11.4%	45.3%	8.1%	1.5%
2001/12	11.3%	25.0%	11.8%	41.8%	8.6%	1.5%
2002/12	8.4%	27.8%	14.1%	41.0%	7.2%	1.5%
2003/12	10.9%	28.1%	22.0%	32.8%	4.8%	1.3%
2004/12	37.6%	19.8%	16.2%	22.9%	2.9%	0.8%
2005/12	38.9%	19.9%	17.1%	20.9%	2.4%	0.7%
2006/12	30.3%	21.2%	20.4%	24.2%	3.0%	0.9%
2007/12	29.3%	21.8%	21.4%	23.7%	3.0%	0.8%
2008/12	32.0%	21.8%	19.4%	23.6%	2.5%	0.7%
2009/12	35.1%	21.6%	19.2%	21.4%	2.0%	0.6%
2010/12	35.7%	21.7%	17.9%	22.1%	1.8%	0.8%
2011/12	37.6%	21.7%	15.9%	22.6%	1.6%	0.6%
2012/12	39.1%	22.0%	12.7%	21.2%	4.3%	0.6%

SOURCE: Banco de España.

DISTRIBUTION OF GENERAL PROVISION ACCORDING TO CATEGORIES OF RISK
(NATIONAL BANKS)

TABLE 14

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	8.3%	26.1%	50.4%	10.5%	4.7%
2001/12	–	7.4%	23.2%	51.7%	12.7%	5.0%
2002/12	–	6.6%	13.3%	57.9%	17.1%	5.2%
2003/12	–	5.8%	11.0%	58.2%	19.8%	5.1%
2004/12	–	14.0%	28.7%	48.6%	6.6%	2.2%
2005/12	–	14.6%	31.5%	46.1%	5.7%	2.1%
2006/12	–	13.4%	32.4%	46.0%	5.9%	2.3%
2007/12	–	13.3%	33.8%	45.2%	5.7%	2.0%
2008/12	–	14.2%	32.5%	46.7%	4.9%	1.6%
2009/12	–	15.6%	34.5%	44.7%	3.7%	1.6%
2010/12	–	16.9%	30.9%	45.2%	3.8%	3.1%
2011/12	–	17.5%	28.5%	48.2%	3.9%	2.0%
2012/12	–	15.7%	19.6%	54.2%	7.6%	2.9%

SOURCE: Banco de España.

Table 14 provides information in terms of the distribution of the general provision across categories of risk. As expected from the exposure distribution, it is the medium-risk category that presents the largest amount of provisions. Then the medium-low and the low risk categories represent the largest shares.

Table 15 presents how the coverage of exposures per category of risk has evolved along time. This is coherent with what is expected for a counter-cyclical tool. That is, increasing in the expansionary period and shrinking in recession when general provisions are used. As the crisis started to affect banks' situation and business, the coverage of exposures, depending on the categories of risk in which they were classified, changed, all of them showing a significant reduction.

COVERAGE OF EXPOSURES ACCORDING TO CATEGORIES OF RISK (NATIONAL BANKS)

TABLE 15

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	0.1%	0.3%	0.2%	0.2%	0.5%
2001/12	–	0.1%	0.8%	0.5%	0.6%	1.4%
2002/12	–	0.1%	0.5%	0.8%	1.3%	1.9%
2003/12	–	0.1%	0.2%	0.9%	2.1%	2.0%
2004/12	–	0.7%	1.9%	2.2%	2.4%	2.9%
2005/12	–	0.7%	1.9%	2.2%	2.4%	3.0%
2006/12	–	0.7%	1.9%	2.2%	2.3%	3.0%
2007/12	–	0.7%	1.9%	2.2%	2.3%	2.8%
2008/12	–	0.6%	1.5%	1.7%	1.7%	2.1%
2009/12	–	0.2%	0.6%	0.7%	0.6%	0.8%
2010/12	–	0.1%	0.3%	0.3%	0.3%	0.7%
2011/12	–	0.1%	0.2%	0.3%	0.3%	0.4%
2012/12	–	0.0%	0.1%	0.1%	0.1%	0.3%

SOURCE: Banco de España.

APPROACH TO CREDIT EXPOSURES COVERAGE (NATIONAL BANKS)

TABLE 16

Accumulated Specific Provisions (2008-2012). Million €						
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
62,954	5,557	11,346	35,954	7,701	2,088	306

Accumulated Specific Provisions (2008-2012) over Credit exposure (end-2012)						
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
6.5%	2.6%	9.2%	17.5%	18.5%	34.1%	0.1%

Maximum Provision Fund Accumulated per category of risk. Million €					
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
10,842	1,441	3,666	4,897	621	217

Coverage of Provisions derived from NPLs with stock of General Provision per category of risk					
17.2%	25.9%	32.3%	13.6%	8.1%	10.4%

SOURCE: Banco de España.

The simple exercise of comparing the maximum amount of general fund created per category of risk with the specific provisions that each category of risk accumulated during the current crisis, are included in Table 16. In this table, it can be seen how the flow of accumulated specific provisions for the total credit portfolio of national commercial banks, between 2008 and 2012, raised up to almost €63,000 million.

Taking into account that the maximum general provision fund amounted to almost €11,000 million, the potential coverage of realized specific provisions that the general provision could have attained was 17.2%. Furthermore, it can be seen how the specific provisions from impaired loans in the different categories of risk could have been covered by the

general provision. Whereas, the medium-low risk category coverage would be above 30%, the medium-high risk category coverage would only be at 8%.

In terms of accumulated specific provisions as a percentage of credit, it is interesting to notice, as for the total system, that the 6.5% is increasingly spread across risk categories depending on the implicit risk assumed for each one (2.6% for the low category of risk climbing to 34.1% for the high risk one). The perception of risk in the design of the general provision is, therefore, in line with the real risk incurred by each category.

2.3 FORMER SAVINGS BANKS

As shown before in previous tables, Table 17 presents how the stock of the general provision for the group of former savings banks has changed over time since year 2000. From that table it can be seen that during the accumulation period the stock of provisions raised for this group of institutions up to more than €12,000 million. The depletion period, starting in 2008, has left almost empty the existing stock of provisions (€800 million in 2012, 93% reduction in the fund).

It is worth noting that for the so-called group 1 and group 2 banks (classification of banks according to the 2012 MoU on the Financial-Sector)[4], most of them former savings banks, general provisions at the peak of the cycle reached €7,000 million.

Taking into account that public capital was injected into some of these former savings banks to absorb/mitigate the impact of losses in their credit portfolios, it is fair to mention that, at

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4   These banks are: BFA, Catalunya Bank, NCG, Banco Valencia, BMN, Liberbank, Caja3 and CEISS.

STOCK OF GENERAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND CREDIT RISK RWAs (FORMER SAVINGS BANKS)   TABLE 17

Date	Stock of general provision (a) (m€)	Credit exposures (b) (m€)	%	Credit exposures (c) (m€)	%	Total assets (m€)	%	RWA (Credit) (m€)	%
2000/12	2,719	246,182	1.10%	232,810	1.17%	414,439	0.66%	277,395	0.98%
2001/12	3,949	286,064	1.38%	274,031	1.44%	461,397	0.86%	318,818	1.24%
2002/12	4,928	333,184	1.48%	321,130	1.53%	511,903	0.96%	362,392	1.36%
2003/12	6,378	394,213	1.62%	381,104	1.67%	568,097	1.12%	410,308	1.55%
2004/12	6,810	553,455	1.23%	449,100	1.52%	668,547	1.02%	484,437	1.41%
2005/12	8,543	686,167	1.24%	560,499	1.52%	807,668	1.06%	604,994	1.41%
2006/12	11,057	873,390	1.27%	712,075	1.55%	996,700	1.11%	769,235	1.44%
2007/12	12,338	1,002,411	1.23%	819,870	1.50%	1,155,001	1.07%	880,886	1.40%
2008/12	9,380	1,021,819	0.92%	837,895	1.12%	1,239,194	0.76%	797,232	1.18%
2009/12	5,679	1,032,774	0.55%	801,406	0.71%	1,280,708	0.44%	796,087	0.71%
2010/12	4,072	1,003,785	0.41%	757,387	0.54%	1,268,251	0.32%	728,978	0.56%
2011/12	2,532	938,800	0.27%	678,042	0.37%	1,300,039	0.19%	648,706	0.39%
2012/12	867	844,341	0.10%	530,385	0.16%	1,172,519	0.07%	450,357	0.19%

SOURCE: Banco de España.

a Before 2004 the stock of general provisions is computed as the sum of the statistical provision plus the so-called generic provision existing at that time and applied to normal credits conceded during the period (new loans). This generic provision consisted of applying a 0.5% charge on new mortgage loans and a 1.0% on the rest of new loans.
b Credit exposures subject to the application of general provisions.
c Credit exposures subject to the application of general provisions without including those exposures with no risk, i.e., exposures assigned a zero weight (negligible risk) for general provision.

least, the general provisions set aside for these banks saved €7,000 million (almost 1% in terms of the GDP) of public money that otherwise (e.g. general provisions not accumulated previous to the crisis) must have been injected.

Chart 11, compares the evolution of the stock of general provisions with that of specific provisions. At the same time, it shows the difference between the initial statistical provision (2000-2004) and the general provision (from 2005 onwards).

Chart 12, presents the percentage coverage of the stock of specific and general provisions. The former applied to the total amount of non-performing loans and the latter only to normal credits (i.e. credits over which the general provision is applied).

Chart 13, shows the coverage of non-performing loans, NPL, when all provisions (specific plus general) are taken into consideration. It can also be observed the breakdown between general and specific provisions and their respective coverage of NPLs. The whole picture of the credit cycle for the former savings banks is completed with the information included in Chart 14.

The relative weight that general provisions represents in terms of other relevant balance sheet elements can be appreciated in Table 17. It presents how the stock of general provisions

EVOLUTION OF CREDIT PROVISIONS OVER TIME (FORMER SAVINGS BANKS)
Million Euros (a)

CHART 11
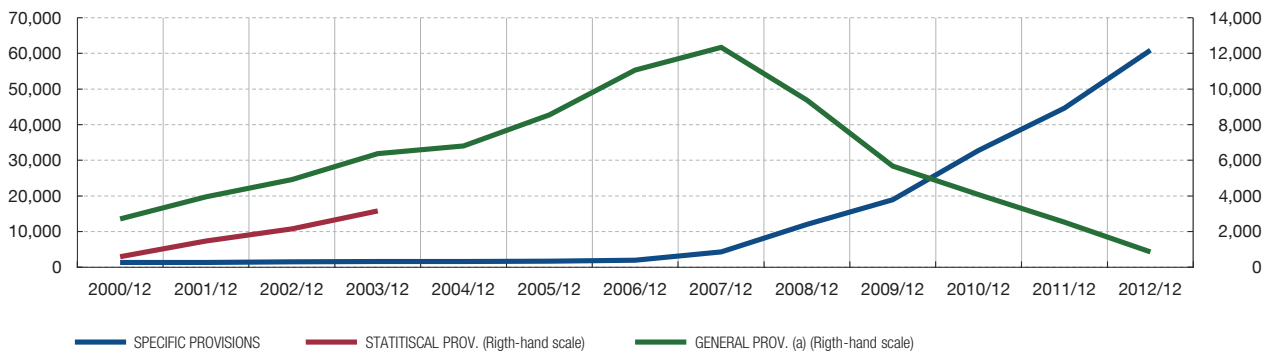
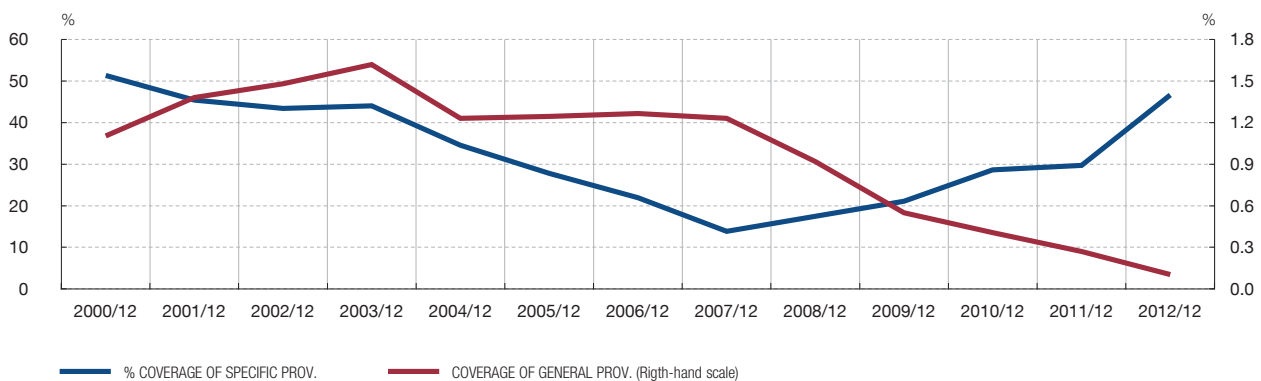SPECIFIC PROVISIONS — STATITISCAL PROV. (Rigth-hand scale) — GENERAL PROV. (a) (Rigth-hand scale)

SOURCE: Banco de España.

a Footnote in Chart 1 also applies to this chart.

PERCENTAGE COVERAGE OF CREDIT PROVISIONS (FORMER SAVINGS BANKS) (a)

CHART 12

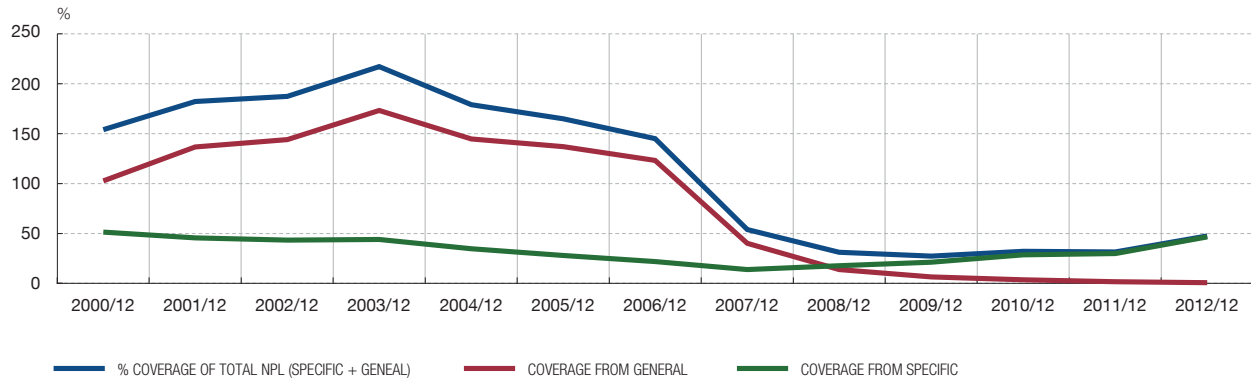% COVERAGE OF SPECIFIC PROV. — COVERAGE OF GENERAL PROV. (Rigth-hand scale)

SOURCE: Banco de España.

a Footnote in Chart 2 also applies to this chart.
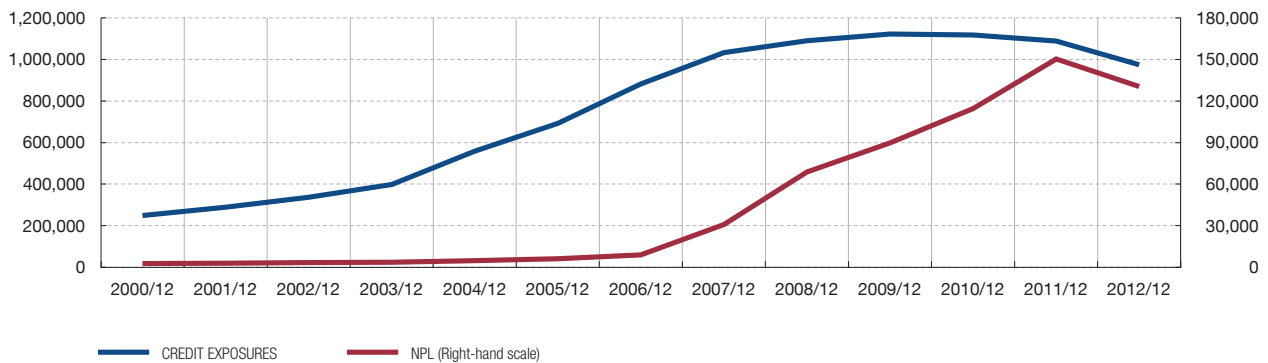
PERCENTAGE COVERAGE OF TOTAL NPL (FORMER SAVINGS BANKS)

CHART 13

% COVERAGE OF TOTAL NPL (SPECIFIC + GENEAL) —— COVERAGE FROM GENERAL —— COVERAGE FROM SPECIFIC

SOURCE: Banco de España.

CREDIT CYCLE: CREDIT EXPOSURES VERSUS NPLs (SAVINGS BANKS)
Million Euros

CHART 14

—— CREDIT EXPOSURES —— NPL (Right-hand scale)

SOURCE: Banco de España.

compares with the stock of credit, the amount of total assets, and the credit risk weighted assets. In terms of credit, provisions represented 1.6%, 1.1% with respect to total assets, and 1.5% in terms of credit risk weighted assets. Table 18 presents the overall stock of provisions (specific plus general) and its weight in terms of total credit exposures, total assets and total RWAs. The increase in non-performing loans and specific provisions during recent years, together with the process of deleveraging in this sector, has raised the weight of the stock over credit and total assets to 6% and 5% respectively and to more than 12% of RWAs.

Table 19 compares the general provision with the specific provision and also shows its relative weight over total credit provisions. Related to this point, it is worth noting how during the boom period general provisions represented almost 85% of the total stock of provisions. On the contrary, during the recession period, as a result of the application and use of general provisions and the increase in specific provisions, the latter gained relevant presence in the overall stock of provisions. As the fund of general provisions was almost exhausted, it currently represents only 1.4% of total credit provisions.

In terms of impact on profits, Chart 15 shows that the flow of general provisions absorbed, in peak years, more than 23% of pre-provisioning profit. On the contrary, during the depletion period it contributed to improve the pre-provisioning chart in more than 29%. As commented for other groupings, the impact on PBT is more acute, 35% in good times. In bad times, in specific years, it helped former savings banks not to incur in losses.

STOCK OF TOTAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND TOTAL RISK RWAs
(FORMER SAVINGS BANKS)

TABLE 18

Date	Stock of total provision (m€)	Credit exposures (m€)	%	Total assets (m€)	%	RWA (Total) (m€)	%
2000/12	4,077	248,828	1.64%	414,439	0.98%	282,100	1.45%
2001/12	5,261	288,952	1.82%	461,397	1.14%	325,290	1.62%
2002/12	6,411	336,605	1.90%	511,903	1.25%	369,783	1.73%
2003/12	7,997	397,894	2.01%	568,097	1.41%	418,214	1.91%
2004/12	8,436	558,162	1.51%	668,547	1.26%	492,968	1.71%
2005/12	10,272	692,398	1.48%	807,668	1.27%	617,586	1.66%
2006/12	13,022	882,361	1.48%	996,700	1.31%	783,665	1.66%
2007/12	16,595	1,033,224	1.61%	1,155,001	1.44%	895,003	1.85%
2008/12	21,408	1,090,635	1.96%	1,239,194	1.73%	874,765	2.45%
2009/12	24,600	1,122,622	2.19%	1,280,708	1.92%	858,041	2.87%
2010/12	36,866	1,118,411	3.30%	1,268,251	2.91%	786,784	4.69%
2011/12	47,183	1,089,008	4.33%	1,300,039	3.63%	703,616	6.71%
2012/12	61,762	974,904	6.34%	1,172,519	5.27%	497,129	12.42%

SOURCE: Banco de España.
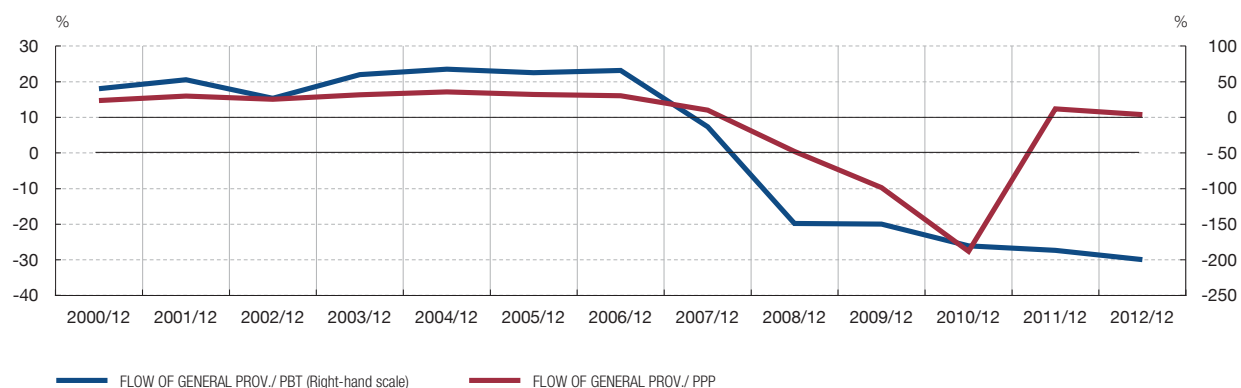
BREAK-DOWN OF CREDIT PROVISIONS (FORMER SAVINGS BANKS)

TABLE 19

m€

	Stock of specific provision	Stock of general provision	Total provisions	% general provision over total provision
2000/12	1,358	2,719	4,077	66.69%
2001/12	1,312	3,949	5,261	75.06%
2002/12	1,483	4,928	6,411	76.86%
2003/12	1,619	6,378	7,997	79.75%
2004/12	1,626	6,810	8,436	80.73%
2005/12	1,729	8,543	10,272	83.17%
2006/12	1,965	11,057	13,022	84.91%
2007/12	4,257	12,338	16,595	74.35%
2008/12	12,028	9,380	21,408	43.82%
2009/12	18,921	5,679	24,600	23.08%
2010/12	32,794	4,072	36,866	11.04%
2011/12	44,652	2,532	47,183	5.37%
2012/12	60,895	867	61,762	1.40%

SOURCE: Banco de España.

In terms of the limits set, Table 20 provides information about the maximum limit of the general provision per year. As for the other groups analyzed so far, it must be noted that the charts in the table are aggregated charts and do not correspond exactly to the situation of each individual savings bank. Bearing this in mind, at the savings banks' level, the maximum limit can be said that was almost reached. Between 2004 and 2006 savings banks were setting aside general provisions that took their stock to its maximum limit. After 2008, when the decumulation phase took placed, the distance to the cap started to increase showing the massive use of the general provision made by the savings banks.

IMPACT OF THE FLOW OF GENERAL PROVISIONS ON THE P&L ACCOUNT (FORMER SAVINGS BANKS)   CHART 15

FLOW OF GENERAL PROV./ PBT (Right-hand scale)   FLOW OF GENERAL PROV./ PPP

SOURCE: Banco de España.

LIMITS SET ON THE GENERAL PROVISION (FORMER SAVINGS BANKS)   TABLE 20

m€

	General provision (a)	Max. limit	Difference: Distance to the limit	% left to reach the max.
2000/12	596	2,676	2,080	77.73%
2001/12	1,479	3,095	1,616	52.20%
2002/12	2,146	3,598	1,452	40.35%
2003/12	3,155	4,214	1,059	25.13%
2004/12	6,810	6,839	29	0.43%
2005/12	8,543	8,545	3	0.03%
2006/12	11,057	11,057	0	0.00%
2007/12	12,338	12,666	328	2.59%
2008/12	9,380	12,518	3,138	25.07%
2009/12	5,679	11,481	5,802	50.54%
2010/12	4,072	10,742	6,670	62.09%
2011/12	2,532	9,316	6,784	72.82%
2012/12	867	7,159	6,292	87.89%

SOURCE: Banco de España.

a For coherence purposes, before 2005 general provision only includes the so-called statistical provision. Otherwise, the calculation and consideration of limits would not make sense.

The distribution of exposures across the six different categories of risk appears in Table 21, where it can be noticed how the different types of exposures have evolved over time. In particular, exposures with no risk increase their weight over total exposures from 5% in 2000 to 37% in 2012; medium-low and medium risk exposures decreased their weight on savings banks' credit portfolios moving from 22% and 26% to 11% and 13% respectively.

Table 22 provides information in terms of the distribution of the general provision across categories of risk. According to the values of α and β and the distribution of exposures, the medium-risk category presents the largest amount of provisions. Then, the low and medium-low risk categories appear in terms of importance.

Table 23 presents the coverage of exposures per category of risk along time. It can be seen the levels of coverage reached for each category as a result of the values of the

DISTRIBUTION OF EXPOSURES ACCORDING TO CATEGORIES OF RISK
(FORMER SAVINGS BANKS)

TABLE 21

Date	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	5.4%	39.3%	22.0%	26.1%	6.0%	1.3%
2001/12	4.2%	39.9%	23.8%	25.5%	5.4%	1.2%
2002/12	3.6%	39.4%	25.9%	24.9%	4.9%	1.2%
2003/12	3.3%	39.8%	26.9%	24.2%	4.6%	1.2%
2004/12	19.1%	32.9%	24.8%	19.1%	3.2%	0.9%
2005/12	18.4%	32.9%	27.0%	18.2%	2.7%	0.8%
2006/12	18.6%	31.1%	28.6%	18.9%	2.2%	0.7%
2007/12	18.3%	31.8%	28.0%	19.1%	2.1%	0.7%
2008/12	18.1%	35.3%	25.7%	18.3%	1.9%	0.7%
2009/12	22.5%	37.1%	22.2%	16.0%	1.5%	0.6%
2010/12	24.6%	37.3%	19.6%	16.5%	1.4%	0.6%
2011/12	27.8%	38.4%	16.5%	15.4%	1.3%	0.6%
2012/12	37.2%	35.8%	10.7%	12.7%	3.2%	0.4%

SOURCE: Banco de España.

DISTRIBUTION OF GENERAL PROVISION ACCORDING TO CATEGORIES OF RISK
(FORMER SAVINGS BANKS)

TABLE 22

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	11.6%	33.6%	38.0%	12.1%	4.7%
2001/12	–	11.2%	30.2%	40.7%	13.0%	5.0%
2002/12	–	10.9%	28.8%	41.6%	13.6%	5.1%
2003/12	–	11.1%	26.4%	42.4%	15.0%	5.2%
2004/12	–	19.9%	37.0%	34.3%	6.4%	2.4%
2005/12	–	19.8%	40.2%	32.7%	5.4%	2.0%
2006/12	–	18.4%	42.2%	33.5%	4.3%	1.7%
2007/12	–	18.9%	41.4%	33.8%	4.1%	1.8%
2008/12	–	21.8%	40.1%	32.4%	3.7%	1.9%
2009/12	–	25.4%	38.3%	31.1%	3.6%	1.6%
2010/12	–	26.3%	32.5%	36.0%	3.8%	1.5%
2011/12	–	28.2%	30.5%	36.3%	3.2%	1.8%
2012/12	–	31.7%	23.3%	34.2%	8.5%	2.3%

SOURCE: Banco de España.

parameters α and β set for each category of risk and, during the crisis period, the reduction in coverage arriving at the current low levels.

For the exercise of comparing the maximum amount of the general provision fund created per category of risk and the flow of specific provisions that for each category of risk were set aside during the current crisis, Table 24 includes the following information: the accumulated flow of specific provisions for the total credit portfolio of savings banks between 2008 and 2012 raised up to more than €107,000 million. Taking into consideration that the maximum general provision fund amounted to more than €12,000 million, the potential coverage of specific provisions that the general provision could have covered

COVERAGE OF EXPOSURES ACCORDING TO CATEGORIES OF RISK
(FORMER SAVINGS BANKS)
TABLE 23

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	0.1%	0.4%	0.4%	0.5%	0.9%
2001/12	–	0.1%	0.7%	0.8%	1.2%	2.1%
2002/12	–	0.2%	0.7%	1.1%	1.8%	2.7%
2003/12	–	0.1%	0.4%	0.7%	1.3%	1.8%
2004/12	–	0.7%	1.8%	2.2%	2.5%	3.1%
2005/12	–	0.7%	1.9%	2.2%	2.5%	3.1%
2006/12	–	0.7%	1.9%	2.2%	2.5%	3.1%
2007/12	–	0.7%	1.8%	2.2%	2.4%	3.1%
2008/12	–	0.6%	1.4%	1.6%	1.8%	2.3%
2009/12	–	0.4%	0.9%	1.1%	1.3%	1.3%
2010/12	–	0.3%	0.7%	0.9%	1.1%	1.0%
2011/12	–	0.2%	0.5%	0.6%	0.7%	0.8%
2012/12	–	0.1%	0.2%	0.3%	0.3%	0.6%

SOURCE: Banco de España.

APPROACH TO CREDIT EXPOSURES COVERAGE (FORMER SAVINGS BANKS)
TABLE 24

Accumulated Specific Provisions (2008-2012). Million €						
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
107,105	23,647	33,330	30,876	11,866	1,609	5,332

Accumulated Specific Provisions (2008-2012) over Credit exposure (end-2012)						
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
12.7%	7.8%	36.8%	28.7%	44.1%	49.0%	1.7%

Maximum Provision Fund Accumulated per category of risk. Million €					
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
12,271	2,315	5,075	4,152	508	221

Coverage of Provisions derived from NPLs with stock of General Provision per category of risk					
11.5%	9.8%	15.2%	13.4%	4.3%	13.7%

SOURCE: Banco de España.

was 11.5%. Similarly, it can also be appreciated how the specific provisions coming from impaired credits in the different categories of risk could have been covered by the general provision. In this regard, the medium-low risk category could have been covered above 15% but the medium-high risk category would only have been covered by 4%.

Accumulated specific provisions as a percentage of credit reached 12.7%. In contrast with other groupings, this percentage is not distributed in an increasing fashion across risk categories. For example, the medium-low risk category percentage (36.8%) is higher than a higher risk category: the medium-risk category (28.7%).

Table 25 presents the stock of the general provision for the group of credit cooperatives and its evolution since year 2000. It can be seen that the peak of provisions was reached in 2007 when the fund amount up to more than €1,300 million. The depletion period, starting in 2008, reduced the fund of provisions down to €400 million, i.e. a 68% reduction.

Chart 16, compares the evolution of the stock of general provisions with that of specific provisions accounting for the difference between the initial statistical provision (2000-2004) and the general provision (from 2005 onwards). Chart 17, presents the percentage coverage

STOCK OF GENERAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND CREDIT RISK RWAs (CREDIT COOPERATIVES) TABLE 25

Date	Stock of general provision (a) (m€)	Credit exposures (b) (m€)	%	Credit exposures (c) (m€)	%	Total assets (m€)	%	RWA (Credit) (m€)	%
2000/12	328	26,103	1.26%	25,705	1.28%	39,607	0.83%	28,252	1.16%
2001/12	478	30,922	1.54%	30,482	1.57%	46,064	1.04%	33,175	1.44%
2002/12	645	37,127	1.74%	36,635	1.76%	50,490	1.28%	37,813	1.70%
2003/12	830	44,922	1.85%	44,440	1.87%	56,165	1.48%	43,728	1.90%
2004/12	837	61,439	1.36%	51,718	1.62%	66,349	1.26%	50,127	1.67%
2005/12	1,002	75,308	1.33%	64,152	1.56%	80,546	1.24%	60,460	1.66%
2006/12	1,198	90,545	1.32%	77,133	1.55%	96,207	1.25%	71,823	1.67%
2007/12	1,362	100,715	1.35%	88,330	1.54%	108,429	1.26%	82,370	1.65%
2008/12	1,057	100,880	1.05%	90,131	1.17%	113,010	0.94%	73,173	1.44%
2009/12	773	105,606	0.73%	88,851	0.87%	119,457	0.65%	73,861	1.05%
2010/12	515	107,168	0.48%	89,345	0.58%	121,577	0.42%	73,464	0.70%
2011/12	436	110,118	0.40%	85,313	0.51%	126,864	0.34%	71,590	0.61%
2012/12	465	111,075	0.42%	77,899	0.60%	131,649	0.35%	68,459	0.68%

SOURCE: Banco de España.

a Before 2004 the stock of general provisions is computed as the sum of the statistical provision plus the so-called generic provision existing at that time and applied to normal credits conceded during the period (new loans). This generic provision consisted of applying a 0.5% charge on new mortgage loans and a 1.0% on the rest of new loans.
b Credit exposures subject to the application of general provisions.
c Credit exposures subject to the application of general provisions without including those exposures with no risk, i.e., exposures assigned a zero weight (negligible risk) for general provision.

EVOLUTION OF CREDIT PROVISIONS OVER TIME (CREDIT COOPERATIVES) CHART 16
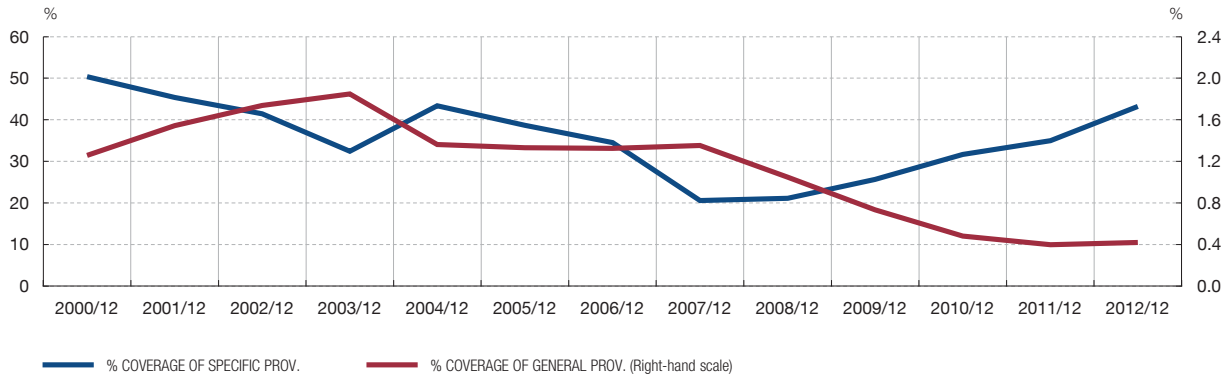**Million Euros** (a)
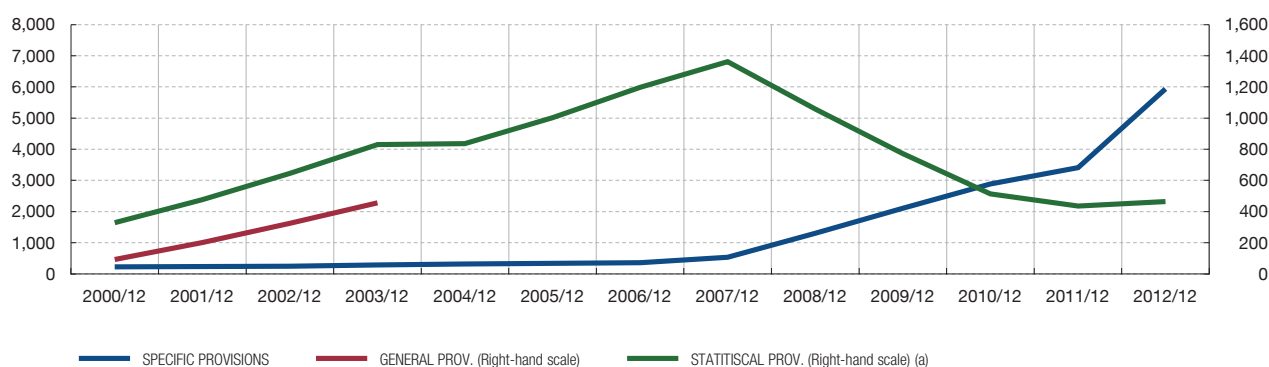
SOURCE: Banco de España.

a Footnote in Chart 1 also applies to this chart.

of the stock of specific and general provisions and Chart 18 shows the coverage of non-performing loans when all provisions (specific plus general) are considered altogether. It can also be observed the breakdown between general and specific provisions and their respective coverage of NPLs. The entire picture of the credit cycle is completed with the information from Chart 19.

PERCENTAGE OF CREDIT PROVISIONS (CREDIT COOPERATIVES)   CHART 17
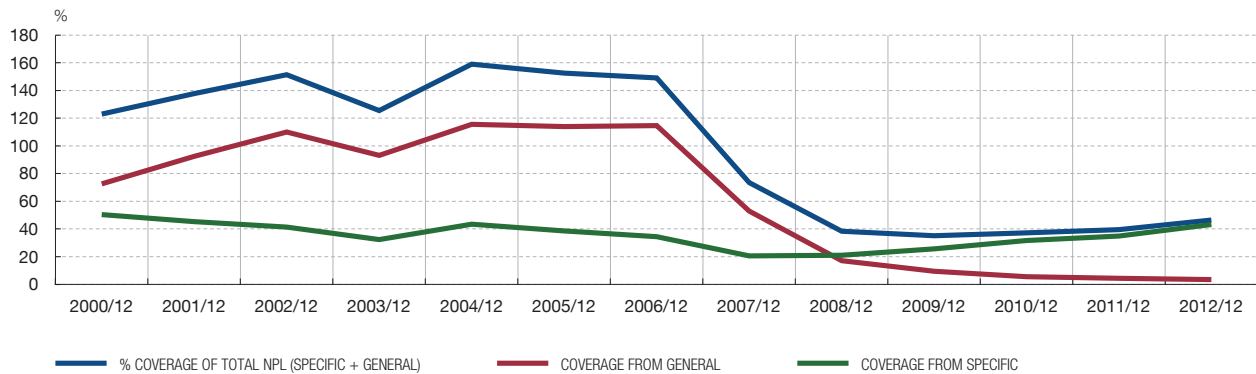

% COVERAGE OF SPECIFIC PROV.   % COVERAGE OF GENERAL PROV. (Right-hand scale)

SOURCE: Banco de España.

a Footnote in Chart 2 also applies to this chart.
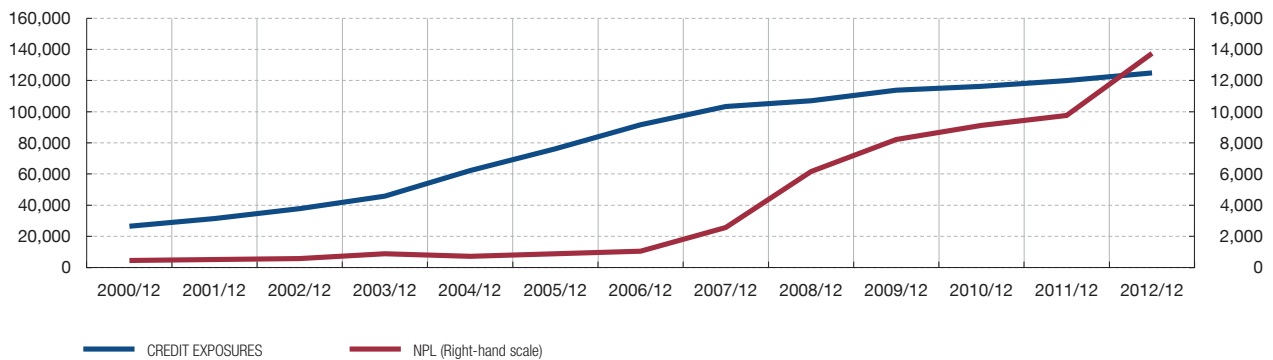
PERCENTAGE COVERAGE OF TOTAL NPL (CREDIT COOPERATIVES)   CHART 18

% COVERAGE OF TOTAL NPL (SPECIFIC + GENERAL)   COVERAGE FROM GENERAL   COVERAGE FROM SPECIFIC

SOURCE: Banco de España.

CREDIT CYCLE: CREDIT EXPOSURES VERSUS NPLs (CREDIT COOPERATIVES)   CHART 19
Million Euros

CREDIT EXPOSURES   NPL (Right-hand scale)

SOURCE: Banco de España.

The relative weight that general provisions represent in terms of other relevant balance sheet elements can be appreciated in Table 25. It compares the stock of general provisions with the stock of credit, total assets and credit risk weighted assets. In terms of credit, provisions for credit cooperatives represented up to 1.8%, 1.5% with respect to total assets, and 1.9% in terms of credit risk weighted assets. Table 26 presents the overall stock of provisions (specific plus general) and its weight in terms of total credit exposures, total assets and total RWAs. The increase in non-performing loans and specific provisions together with a reduction in size in certain portfolios during the last years, has raised the weight of the stock of provisions over credit and total assets to 5% and to more than 8% in terms of total RWAs.

Table 27 compares general provisions with specific provisions showing its relative weight over total credit provisions. Connected with this, it is worth noting how during the boom

STOCK OF TOTAL PROVISIONS IN TERMS OF CREDIT, TOTAL ASSETS AND TOTAL RISK RWAs (CREDIT COOPERATIVES)   TABLE 26

Date	Stock of total provision (m€)	Credit exposures (m€)	%	Total assets (m€)	%	RWA (Total) (m€)	%
2000/12	556	26,554	2.09%	39,607	1.40%	28,529	1.95%
2001/12	712	31,440	2.27%	46,064	1.55%	33,293	2.14%
2002/12	887	37,713	2.35%	50,490	1.76%	37,932	2.34%
2003/12	1,119	45,813	2.44%	56,165	1.99%	43,788	2.55%
2004/12	1,151	62,163	1.85%	66,349	1.73%	50,189	2.29%
2005/12	1,341	76,187	1.76%	80,546	1.67%	60,619	2.21%
2006/12	1,560	91,591	1.70%	96,207	1.62%	72,023	2.17%
2007/12	1,892	103,291	1.83%	108,429	1.75%	82,590	2.29%
2008/12	2,362	107,050	2.21%	113,010	2.09%	78,713	3.00%
2009/12	2,876	113,814	2.53%	119,457	2.41%	79,852	3.60%
2010/12	3,406	116,296	2.93%	121,577	2.80%	79,300	4.29%
2011/12	3,848	119,879	3.21%	126,864	3.03%	77,225	4.98%
2012/12	6,401	124,819	5.13%	131,649	4.86%	74,273	8.62%

SOURCE: Banco de España.

BREAK-DOWN OF CREDIT PROVISIONS (CREDIT COOPERATIVES)   TABLE 27

m€

|	Stock of specific provision	Stock of general provision	Total provisions	% general provision over total provision
2000/12	228	328	556	59.05%
2001/12	235	478	712	67.06%
2002/12	243	645	887	72.64%
2003/12	289	830	1,119	74.17%
2004/12	314	837	1,151	72.73%
2005/12	340	1,002	1,341	74.67%
2006/12	361	1,198	1,560	76.84%
2007/12	530	1,362	1,892	71.97%
2008/12	1,304	1,057	2,362	44.77%
2009/12	2,103	773	2,876	26.88%
2010/12	2,891	515	3,406	15.11%
2011/12	3,412	436	3,848	11.34%
2012/12	5,936	465	6,401	7.26%

SOURCE: Banco de España.

period general provisions represented more than 75% of the total stock of provisions, while during the recession period, as a result of the use of general provisions and the increase in specific provisions, the latter gained presence in the overall stock of provisions. Currently, the fund of general provisions represents 7% of total credit provisions for credit cooperatives.

In terms of impact on the P&L account, Chart 20 shows how the flow of general provisions detracted, in peak years, more than 23% of pre-provisioning profit. On the contrary, during the depletion period, it contributed to ameliorate the pre-provisioning chart in more than 31%. In terms of PBT, the flow of general provisions reached 36% in good times and, without it, in bad times cooperatives would have barely maintained black charts in the P&L account.

In terms of limits, Table 28 provides information about the maximum limit of the general provision per year. Bearing in mind the same caveat already pointed out for other groups of entities, at the group's level, between 2004 and 2006 credit cooperatives were setting

IMPACT OF THE FLOW OF GENERAL PROVISIONS ON THE P&L ACCOUNT (CREDIT COOPERATIVES)　　　　CHART 20

CREDIT EXPOSURES　　　NPL (Right-hand scale)
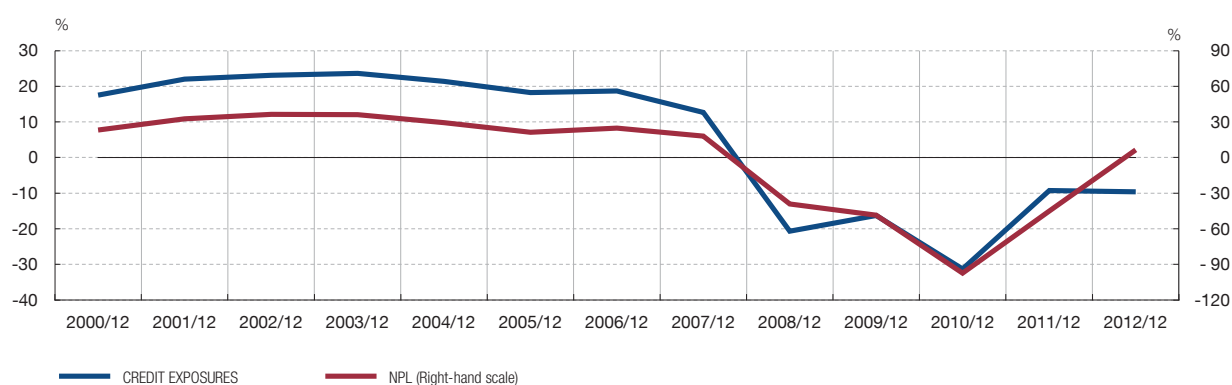
SOURCE: Banco de España.

LIMITS SET ON THE GENERAL PROVISION (CREDIT COOPERATIVES)　　　　TABLE 28

m€

	General provision (a)	Max. limit	Difference: Distance to the limit	% left to reach the max.
2000/12	93	366	273	74.51%
2001/12	202	418	215	51.53%
2002/12	325	469	144	30.76%
2003/12	456	547	91	16.62%
2004/12	837	837	0	0.00%
2005/12	1,002	1,007	5	0.55%
2006/12	1,198	1,198	0	0.00%
2007/12	1,362	1,362	0	0.03%
2008/12	1,057	1,360	302	22.24%
2009/12	773	1,294	521	40.26%
2010/12	515	1,235	720	58.33%
2011/12	436	1,194	758	63.47%
2012/12	465	1,093	629	57.50%

SOURCE: Banco de España.

a For coherence purposes, before 2005 general provision only includes the so-called statistical provision. Otherwise, the calculation and consideration of limits would not make sense.

aside general provisions that took their stock close to its maximum limit. After 2008, when the depletion phase took placed, the distance to the cap started to increase showing the significant usage of the general provisions made by the credit cooperatives.

The distribution of exposures across the six different categories of risk is presented in Table 29, where it can also be noticed how the different types of exposures evolved over time. Particularly, exposures with no risk increase their weight over total exposures from 1% in 2000 to 30% in 2012 (interbank exposures where included in this category after 2004); medium and medium-high risk exposures decreased their weight on cooperatives' credit portfolios from 39% and 16% to 27% and 7% respectively.

Table 30 provides information in terms of the distribution of the general provision across categories of risk. As commented for the rest of banking groups, the medium-risk category

DISTRIBUTION OF EXPOSURES ACCORDING TO CATEGORIES OF RISK (CREDIT COOPERATIVES)   TABLE 29

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	1.5%	26.9%	20.5%	40.3%	8.9%	1.9%
2001/12	1.4%	29.8%	21.2%	37.6%	8.0%	2.0%
2002/12	1.3%	33.3%	23.9%	32.8%	7.1%	1.6%
2003/12	1.1%	35.6%	23.4%	32.2%	6.3%	1.3%
2004/12	15.9%	30.8%	25.3%	22.7%	4.1%	1.2%
2005/12	14.9%	32.9%	26.1%	21.5%	3.8%	1.0%
2006/12	14.9%	33.8%	26.6%	20.6%	3.3%	0.8%
2007/12	12.3%	35.4%	27.3%	21.0%	3.0%	0.9%
2008/12	10.7%	38.4%	26.5%	20.7%	2.8%	0.9%
2009/12	15.9%	39.0%	24.6%	17.4%	2.3%	0.8%
2010/12	16.7%	43.6%	21.1%	15.9%	2.0%	0.7%
2011/12	22.6%	39.5%	20.1%	15.2%	1.8%	0.8%
2012/12	29.9%	37.0%	14.9%	13.2%	4.1%	0.9%

SOURCE: Banco de España.

DISTRIBUTION OF GENERAL PROVISION ACCORDING TO CATEGORIES OF RISK (CREDIT COOPERATIVES)   TABLE 30

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	-	10.7%	29.5%	39.0%	15.7%	5.1%
2001/12	-	8.8%	23.1%	47.7%	15.5%	5.0%
2002/12	-	7.9%	22.7%	46.7%	16.8%	5.9%
2003/12	-	6.6%	18.8%	50.1%	17.7%	6.8%
2004/12	-	17.1%	35.1%	37.5%	7.7%	2.7%
2005/12	-	18.5%	36.5%	35.8%	6.9%	2.2%
2006/12	-	19.2%	37.8%	34.8%	6.2%	2.0%
2007/12	-	19.7%	37.9%	34.7%	5.6%	2.1%
2008/12	-	20.7%	37.2%	34.9%	5.0%	2.1%
2009/12	-	22.6%	38.4%	32.2%	4.7%	2.0%
2010/12	-	25.6%	36.3%	31.3%	4.5%	2.3%
2011/12	-	25.9%	35.1%	32.1%	4.1%	2.7%
2012/12	-	30.6%	30.5%	27.5%	7.0%	4.3%

SOURCE: Banco de España.

gathers the largest amount of provisions. Then, the low and medium-low risk categories come.

Table 31 presents the coverage of exposures per category of risk along time. The levels of coverage reached for each category during the boom years are the result of the values of the parameters α and β defined for each category. As the crisis period came along, the reduction in coverage affected all categories of risk although not with the same intensity.

For the exercise of comparing the maximum amount of general fund created per category of risk and the flow of provisions that for each category of risk were set aside during the current crisis, Table 32 includes de following information: the accumulated specific provisions for the

COVERAGE OF EXPOSURES ACCORDING TO CATEGORIES OF RISK
(CREDIT COOPERATIVES)

TABLE 31

	No risk	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
2000/12	–	0.1%	0.5%	0.3%	0.6%	1.0%
2001/12	–	0.2%	0.7%	0.8%	1.3%	1.6%
2002/12	–	0.2%	0.8%	1.2%	2.1%	3.1%
2003/12	–	0.1%	0.5%	1.0%	1.8%	3.3%
2004/12	–	0.7%	1.9%	2.2%	2.5%	3.1%
2005/12	–	0.7%	1.8%	2.2%	2.4%	3.1%
2006/12	–	0.7%	1.9%	2.2%	2.5%	3.1%
2007/12	–	0.7%	1.9%	2.2%	2.5%	3.1%
2008/12	–	0.6%	1.5%	1.8%	1.9%	2.4%
2009/12	–	0.4%	1.1%	1.3%	1.5%	1.9%
2010/12	–	0.3%	0.8%	0.9%	1.1%	1.5%
2011/12	–	0.3%	0.7%	0.8%	0.9%	1.4%
2012/12	–	0.3%	0.8%	0.8%	0.6%	1.8%

SOURCE: Banco de España.

APPROACH TO CREDIT EXPOSURES COVERAGE (CREDIT COOPERATIVES)

TABLE 32

Accumulated Specific Provisions (2008-2012). Million €						
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
7,666	926	1,477	2,864	1,154	521	724

Accumulated Specific Provisions (2008-2012) over Credit exposure (end-2012)						
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk	No risk
6.9%	2.3%	8.9%	19.6%	25.3%	51.3%	2.2%

Maximum Provision Fund Accumulated per category of risk. Million €					
Total portfolio	Low risk	Medium-low risk	Medium risk	Medium-high risk	High risk
1,352	266	512	470	76	28

Coverage of Provisions derived from NPLs with stock of General Provision per category of risk					
17.6%	28.7%	34.6%	16.4%	6.6%	5.4%

SOURCE: Banco de España.

total credit portfolio of credit cooperatives between 2008 and 2012 mounted up to more than €7,500 million. Taking into consideration that the maximum general provision fund amounted to more than €1,300 million, the potential coverage of specific provisions that the general provision could have covered would have been 17.6%. Similarly, it can also be appreciated how the specific provisions coming from impaired credits for the different categories of risk could have been covered by the general provision. In this regard, the medium-low risk category could have been covered above 34%, but the high risk category would only have been covered by 5%.

Accumulated specific provisions as a percentage of credit raises to almost 7%, which, in this case, again, is increasingly spread across risk categories depending on the implicit risk assumed for each one (2.3% for the low category of risk climbing to 51.3% for the high risk one).

2.5 CONCLUSIONS FROM THE ANALYSIS

The main characteristics that can be highlighted from the analysis carried out at the groups' level are the following:

All groups of institutions show the same pattern regarding the use of the general provision during the crisis. However, there are slight differences in the percentage of provision applied. For example, national banks used 90% of the maximum amount of the accumulated stock of general provision, former savings bank used more than 92%, whereas the percentage of usage for credit cooperatives was only 68%.

In terms of credit exposure, the stock of general provisions is very similar for all groups. At their respective peaks, general provisions accounted for up to 1.6% for banks and savings banks and 1.8% for credit cooperatives. In terms of assets there are slighter differences depending on the group. For banks, general provisions only reached 0.9% at most, 1.1% for credit cooperatives and 1.5% for savings banks.

Regarding the counter-cyclical nature of general provisions, it can be said that it has worked as such for all groups of institutions. Evidence shows this when taking a look at how much general provisions represent in terms of total provisions. For both banks and savings banks, the stock of general provision reached peaks near 85%, whereas for credit cooperatives general provisions reached 77% of the total stock of provisions. Currently the differences hold (in line with the usage of general provisions and the increase in specific provisions). In this way, for savings banks general provisions only represent 1.4% of total provisions, 2% for national banks and 7.3% for credit cooperatives.

It is also interesting to point out that, in general, all groups were virtually at the verge of maximum use of the general provision during the boom years. Currently, given the low levels of provision the distance to the upper limit is highly significant for each group.

According to coverage of categories of risk there is wide homogeneity among groups of institutions, as it should be according how the general provision is designed. In general, the low risk category reached a highest percentage coverage of around 0.7%, while the high risk category reached a coverage of 3%. However, this homogeneity is not maintained when the crisis hit. As a result, banks and savings banks current coverage is much lower compared with that of the credit cooperatives.

Finally in terms of the exercise of comparing the maximum amount of general fund created per category of risk and the provisions that for each category of risk were set aside during

the current crisis, it is clear that the former savings banks has been the group more severely hit (more than €107,000 million in specific provisions). As a result, it is this group which presents the lowest possible coverage of specific provisions with the stock of general provisions. Per type of risk, low risk, medium risk and medium-high risk categories are those which would be better covered in terms of the accumulation of general provisions.

In terms of accumulated specific provisions as a percentage of credit, it is interesting to notice, that for national banks and credit cooperatives the perception of risk in the design of the general provision is in line the real risk incurred by each category (the higher the percentage, the higher the risk). However, for savings banks the implicit risk assumed for each category the real risk incurred (in particular this happens to the medium-low risk category).

3 Individual analysis

To provide additional information about dispersion at the individual bank-level some of the numerical features presented above are included here by means of box-plot charts.

Chart 21 shows the distrubution of the percentage of general provisons over credit upon which this provision is calculated by years. In this chart it can be appreciated the maximum, minimum, average values as well as the 25th and the 75th percentile values of the ratio of the percentage of general provisions over credit exposures. In particular, the upper end of bar at the top of the box, per year, represents the maximum value that this percentage reaches for an individual entity in each year.

The upper end of the box presents the value of the individual bank which is at the 75th percentile. The horizontal line in the box represents the median value. The lower end of the box is the value at the 25th percentile and the lower of the bar at the bottom of the box corresponds to the minimum value.

For practical and presentation reasons the period chosen to analyse the individual dispersion has been that corresponding to the current definition of the general provision (2004-2012). Selecting this period will enable us to see the evolution of the variables used in the most interesting periods during which the general provision has been in force: the boom period (accumulation of fund) from 2004 to 2008 and the recession period (depletion period) from 2008 to 2012.

Concentrating on the particular features of this chart, it can be said that for the accumulation period there is a slight increase in the average percentage as well as an increase in the

BANK-LEVEL DISPERSION OF THE PERCENTAGE OF GENERAL PROVISIONS OVER CREDIT EXPOSURES   CHART 21
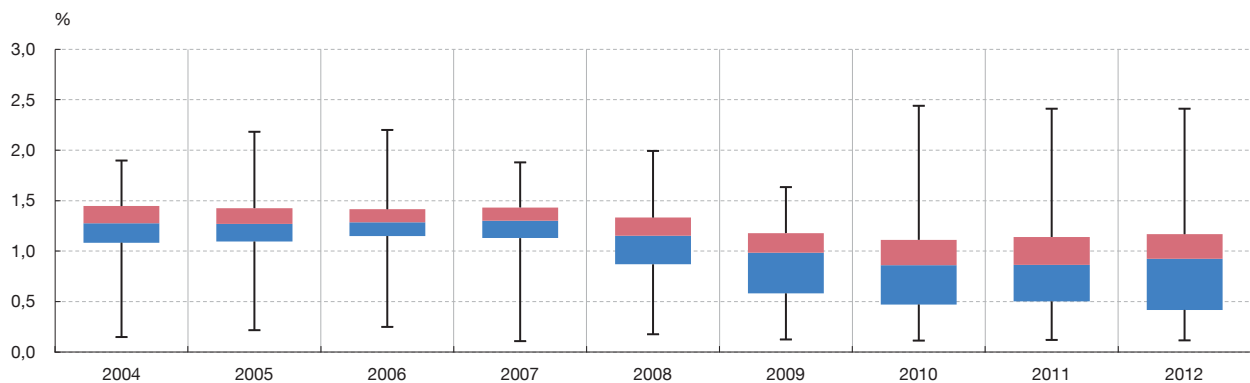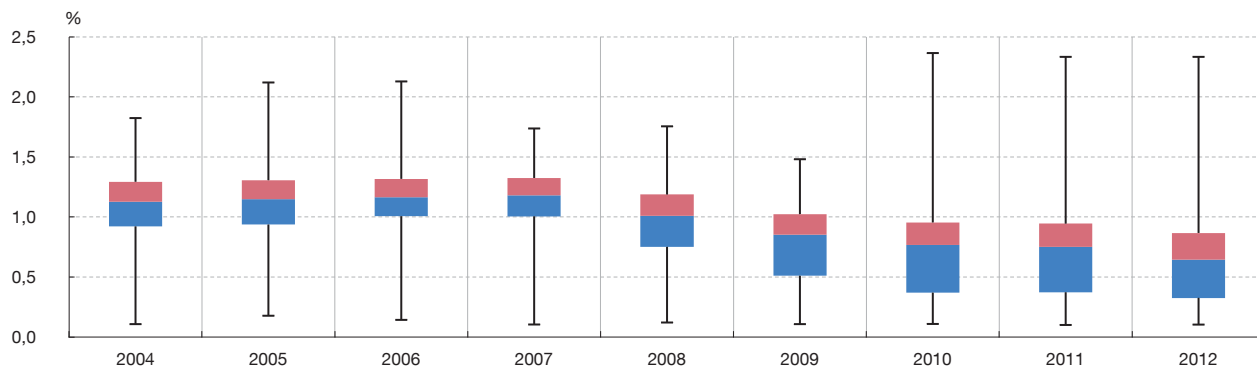

SOURCE: Banco de España.

BANK-LEVEL DISPERSION OF THE PERCENTAGE OF GENERAL PROVISIONS OVER TOTAL ASSETS   CHART 22
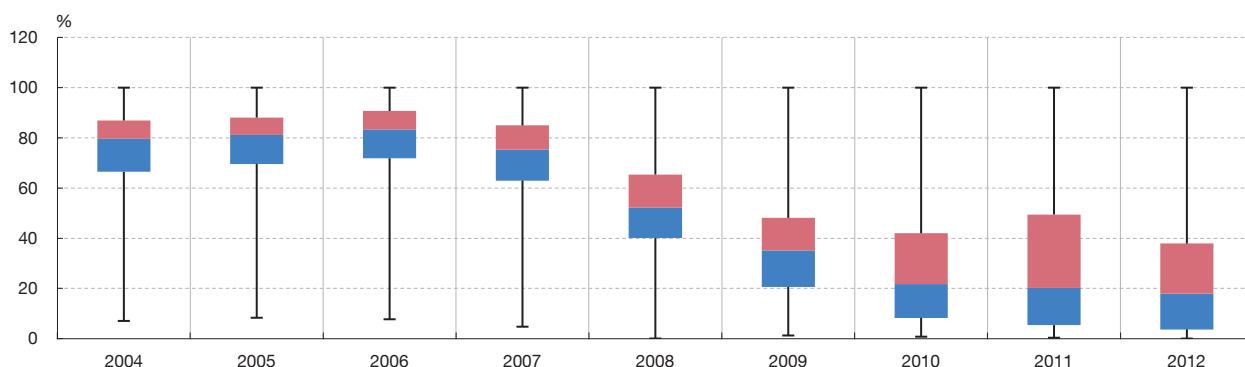

SOURCE: Banco de España.

BANK-LEVEL DISPERSION OF THE PERCENTAGE OF GENERAL PROVISIONS OVER TOTAL PROVISIONS   CHART 23

SOURCE: Banco de España.

dispersion across banks. As recession came, the average decreases considerably while the dispersion across banks increases

Taking a look at Chart 22 which presents the distrubution of the percentage of general provisons over total assets, it can be noticed a resemblance with Chart 21. The pattern observed in this chart shows how for the boom period there is a slight increase in the average together with an increase in the dispersion across banks. During the depletion period, that average decreases significantly and at the same time banks increase their dispersion.

Chart 23, shows at the individual level the existing dispersion in the percentage that general provisions represent over total provisions. It is very clear how for the accumulation years that percentage wasr reall high (median above 80%). From 2008 onwards, general provisions start to lose weight over total provisions to finally reach very low levels in 2012 (median around 13%).

4 Final Conclusions

This is the first time that such a detailed numerical analysis of dynamic provisions is carried out, covering not only the aggregate level but also relevant distinct groups of banks as well as individual banks.

The maximum amount of general or dynamic provisions accumulated at the peak of the lending cycle was almost €26 billion. This was possible despite the lack of interest from international regulators/supervisors (i.e. at that time countercyclical tools were not considered

in the toolbox of the supervisors) and in clear contrast with the opinion of accountants, in particular, when Spain and the EU moved into the adoption of IFRS. It was quite a novel approach for provisions as well as for regulatory tools to deal with the time dimension of the lending cycle.

In relative terms, a coverage of 1.1% of credit portfolios (1.5% for those with positive risk weights) and of almost 1% of total assets was achieved at the peak of the lending cycle. Currently, the general provisions are almost depleted to prove they were designed and used as a macro-prudential or countercyclical tool.

In terms of risk weighted assets, dynamic provisions reached 1.5% of credit risk weighted assets at the peak of the cycle (1.2% of total risk weighted assets) which is 60% (half way) from the maximum countercyclical capital buffer set at 2.5% designed for Basel III. This is an important benchmark in order to assess the usefulness of the countercyclical capital buffer in the face of a long and intense credit cycle.

An important feature of dynamic provisions in Spain is its automatic mechanism both for accumulating, and releasing them[5]. Automatic release in downturns has advantages in comparison with similar mechanisms such as those devised in Basel III. It reduces the risk of failure in judgment and, thus, softens the responsibilities of both micro and macro prudential supervisors.

In any case, the philosophy behind the countercyclical capital buffer is the same as the one behind the dynamic provision but with a subtle nuance: dynamic provisions also may have an impact on bank managers' incentives since they impact the bottom line of banks' P&L account. Of course, dynamic provisions were transparent enough so that investors could disentangle its impact on the bottom line of the bank.

The countercyclical nature of dynamic provisions is clearly shown in this paper. In the expansionary phase, around 85% of total provisions were dynamic or general while, currently, in middle of a (second) recession they represent less than 5% of the total, the rest being specific provisions.

During the boom period, in particular at its peak, the volume of dynamic provisions was close to its cap. This ceiling was necessary given the strong criticism that Spanish dynamic provisions received as they were wrongly perceived to be no more than a device to disguise hidden reserves. As Chart 1 clearly shows, the adoption of IFRS in 2005 had a relatively small impact on the evolution of the absolute amount of general provisions, but it was necessary in order to maintain them and, in particular, the embedded countercyclical component.

Table 8 shows that dynamic provisions only covered around 14% of the accumulated specific provisions banks made during crisis years. Originally, dynamic provisions (properly speaking statistic provisions) were calibrated using the lending cycle that incorporated the 1993 recession. At the time of calibration (late nineties) the 1993 recession had been the worst recession in 30 years in Spain. Moreover, progress in risk management was taken into account when finally setting the parameters of the original statistical provision. In 1993 the GDP declined a bit more than 1%. In 2009 GDP declined more than 3% and, on top of that, Spain experienced a second recession in 2012 that still goes on when we are writing this report (real GDP growth in 2012 was –1.4% and the current Banco de España projection for 2013 is

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5   See footnote 2.

–1.5%). It is hardly surprising the average coverage ratio in Table 8 given the substantially different magnitude of the crisis faced and the one used to calibrate the provision parameters.

In terms of accumulated specific provisions as a percentage of credit, it is worth noticing that the perception of risk in the design of the general provision seems to be in line with the real risk incurred by each category (the higher the percentage of provisions in terms of credit for a certain category, the higher the associated risk for that category).

All in all, it can be said that risk categorization was, in general, proportional to the amount of accumulated specific provisions between 2008 and 2012. However, in terms of general provisions accumulated, the proportionality is lost. Nevertheless, until the final losses are fully materialized, it is not possible or advisable to open this debate because there are risks of biases: upwards if additional provisions are to be set aside, downwards if further recoveries are recorded. So far, we lack the key data to properly assess that.

Moreover, the amount that dynamic provisions that was taken away from pre-provisioning profits (between 15% and 20% on average terms) or from profits before taxes (30% to 36%) was another powerful element to incorporate in the assessment, in particular, around the time when IFRS were introduced in Spain.

An issue also worth investigating is the impact of dynamic provisions in the lending cycle in itself. Current evidence (Jiménez et al 2013, not yet published), shows that dynamic provisions had a small impact at the aggregate level on the expansion of lending but quite a positive and significant impact in reducing the credit crunch in the first recession that hit the Spanish economy around 2009. This is a complex issue that needs careful analysis and, thus, exceeds clearly the scope of this quantitative analysis (see Box 1).

Finally, the fact that group 1 and group 2 banks had accumulated at its peak €7,000 million euro of general or dynamic provisions to cover credit losses reduced in an equivalent amount the public capital injections required by these banks. The amount saved in this counterfactual exercise is close to 1% of the Spanish GDP.

IMPACT OF DYNAMIC PROVISIONS ON THE LENDING CYCLE   BOX 1

A detailed and careful empirical analysis of the dynamic provisions impact on the lending cycle in Spain can be seen in the ongoing work of G. Jimenez, S. Ongena, J.L. Peydró and J. Saurina entitled "Macroprudential Policy, Countercyclical Bank Capital Buffers and Credit Supply: Evidence from the Spanish Dynamic Provisioning Experiments".

In this paper three important milestones in dynamic provisions are identified: its implementation in the third quarter of 2000, its subsequent modification in the first quarter of 2005 to conform to international accounting standards (IFRS), and the reduction in the minimum level required in the last quarter of 2008 to enable entities its fully use when the crisis hit. Each of these changes can be understood as natural experiments and their study allows knowing the impact of countercyclical capital buffers in the supply of credit and the real economy.

Using the Banco de España Central Credit Register, for each of the three experiments mentioned, a study was carried out that works with non-financial firms at two levels: a firm-bank level, local, and company level, aggregate. It is analyzed if the buffer generated by dynamic provisions before the crisis allows banks to reduce the impact of it. At each level a difference in differences analysis was realized where it was compared how banks affected differently by each shock lend to the same company before and after the experiment. Locally, to perfectly control fundamentals of companies firm fixed effects were introduced, which implies selecting those firms that work with more than one entity. With respect to the bank, balance sheet and income statement characteristics were controlled as well as a variable measuring in each case, and before the shock, its degree of involvement in the experiment (e.g., the ex ante composition of its portfolio for the experiment of 2000, or a measure of how close the bank's generic fund was from the minimum required the period

prior to its decline in the last quarter of 2008). This variable would capture the effect of dynamic provisions on lending.

Locally, what has been observed is that in the credit cycle upswings (shocks of 2000 and 2005) the banks which have to provision relatively more (less) reduce credit more (less) to the same company after the shock (and not before) that the banks which have to provision relatively less (more). That is, a pro-cyclical prudential regulation, such as dynamic provisions, reduces credit availability. Nonetheless, this effect is not maintained at the aggregate level shortly after the shock, suggesting that for companies during the growth cycle it is relatively easy to find new financing among banks less affected by the new provisions for example. Also, it is checked how the most affected banks cut more credit from companies less risky ex post, which would be indicative of greater risk taking as a way to offset the higher requirements.

During the crisis, locally, banks with a fund generated by dynamic provisions close to the minimum required (i.e., the main beneficiaries of its reduction in 2008) as well as the entities that started with a higher generic fund before the crisis, reduced credit less to the same companies after the shock than the remainder of banks. This same pattern is also observed at the aggregate level, though somewhat diluted, as it seems that during times of crisis is more difficult to find new financing. In addition, there is a positive effect on assets, employment and the probability of survival of the companies working with larger buffer entities. It is also observed how banks that had close to the minimum required fund, after its reduction cut less credit to riskier firms, while those entities which started with a greater buffer before the crisis tended to favour more companies less risky.

All these results suggest that countercyclical macro-prudential instruments, such as dynamic provisions or more generally capital buffers, can work effectively, especially in recessions, because they reduce the contractive impact on credit. In upturns, excluding the obvious impact on buffer accumulation to be used in downturns, its moderator impact on credit seems lower, which should lead to complement these countercyclical measures with other elements which, at least, affect the aggregate availability of liquidity in the system.