BBVA Research

Banking Outlook

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Financial Systems Unit

Creating Opportunities

Index

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Summary

1. Trends and developments in the Spanish banking sector

Adjustments to the number of employees and branches in the sector continue, despite the fact that the deleveraging of the private sector seems to be coming to an end. The sector is feeling the effects of the resolution and sale of Banco Popular in June 2017 and posted after-tax losses of €3.92 billion for the year, although it achieved further improvements in solvency and asset quality.

2. IFRS 9: Supervisory practices, behavioral impacts and regulatory interactions

The applicability of IFRS 9 began on 1st January 2018. The accounting standard impacts European banks' capital ratios and provisioning. Moreover, it could trigger impacts in banks' strategic decisions related to lending (e.g. price, duration, forbearance, collateralization or underwriting practices). Regarding the impact on capital ratios, the European prudential regime was amended to introduce a phase-in treatment in order to mitigate the impact of IFRS 9. This is an interim approach until the BCBS decides on a long-term treatment for accounting provisions.

3. Addendum to ECB Guidelines on NPLs. Impact on regulatory provisions

The SSM published an addendum to its NPL Guidance with new rules for the provisioning of NPLs. According to our estimates, the new regime introduced by the NPL Addendum may lead to an increase of €73 bn in provisioning (26% of current provisions) over 10 quarters on aggregate for European banks. The impact concentrates in the corporate portfolio and in five countries: Italy (€21 bn increase in provisions), France (€14 bn), Spain (€12 bn) Germany (€8 bn) and the Netherlands (€7 bn). The impacts stem mainly from the level of NPLs and the coverage ratio, but also from the dynamics of writing-off non-performing exposures.

4. The use of cash and its determinants

The use of alternative means of payments has been gaining grounds while the use of cash has remained constant for several years. This has been mainly driven, on the one hand, by an increased adoption of digital methods both by consumers and by retailers and, on the other, by the natural generation replacement (as the youngsters tend to be earlier adopters than the elderly). The evolution of regulation, which has led to the reduction in commissions and fees and has facilitated the adoption of innovative payment methods, has also contributed to the trend. However, it seems quite unlikely that cash as a mean of payment will disappear or become marginal in the short or even medium term.

5. EBA Risk Dashboard: Europe's banks strength increased in 2017

The EBA (European Banking Authority) has published the results of the Risk Dashboard with data to year-end 2017. In general terms, the results show further progress by the main EU banking groups, especially in solvency and asset quality, reaching levels not seen since 2014 in both groups of indicators. As for the less favourable aspects, the volume of doubtful loans stands out as being still very high despite the notable reduction of the past few years, as does the weak average profitability in the current interest rate environment.

1. Trends and developments in the Spanish banking sector

The tables and data are to be found in the appendices to this document. Most of the data are taken from Chapter 4 of the Banco de España Statistical Bulletin. The analysis of the Spanish banking sector **is confined to banking business in Spain**[1].

Results of the sector

- Since the second quarter of the year, results of the Spanish banking sector (Table A.2) have been substantially affected by the resolution and sale of Banco Popular to Santander in June. As a result of the transaction, Banco Santander announced losses of €12,128 million in Banco Popular, subsequently increased to €13.560 million. This is the main reason for the net after-tax loss of €3,920 million posted by the sector as a whole for 2017, compared with the profit of €6,003 million in 2016.
- Revenues remain weak, basically due to the interest rate environment and the deleveraging of the private sector. Total revenues fell by 3.5% in 2017. The strength of fees and commissions (up by 6.2% for the year) was not enough to counteract the 4.4% fall in the net interest revenue and the 10% decline in trading gains and other income.
- Operating costs remained under control, although they increased slightly (by 1.1%) over the course of the year, due in particular to the 2.3% increase in general costs, which in turn was partly due to the costs of integrating Banco Popular into the Santander Group. As a result of these movements in revenues and expenses, the system's cost-to-income ratio deteriorated to 57.1% and the pre-provision profit fell by 9%.
- Provisioning increased by 65% in 2017 and “other income” showed a negative balance of €11,586 million. Several effects of the Banco Popular resolution were recognised under these headings: 1) losses of €7.8 billion on write-downs of real estate assets; 2) non-monetisable deferred tax assets of €982 million; 3) €1,137 million of goodwill impairment; and 4) an adjustment of €400 million in Banco Popular’s held-to-maturity bond portfolios.

Activity

- With data to February 2018, the balance sheet of the system (Table A.1) held practically steady in year-on-year terms, totalling 224% of GDP (234% one year earlier). The number of employees and bank branches in the system continues to fall (by 31% and 40% respectively from the highs of 2008, see Table A.3).
- Lending to private sector residents continues to decrease in year-on-year terms (this is analysed in greater detail below), as does the volume of fixed income portfolios. On the other hand, there were increases in lending to non-residents, equity holdings and in particular interbank lending (including the liquidity provided by the ECB), which was up by 42% relative to February 2017, but down 11% since last December.

1: Throughout the document, “€ billion” refers to thousands of millions of euros.

- On the liabilities side (Table A.1), the volume of banks' outstanding debt at the end of February 2018 was up by 16.5% YoY, although practically unchanged from year-end 2017 at 8.6% of the balance sheet total. Sight and term deposits at the same date were down by 1.9% YoY. Once again we are seeing the shift from term deposits to sight due to the low level of remuneration. Recourse to ECB liquidity follows the trend of previous quarters, with an increase of 13.5% YoY as at the end of March 2018. As for the cumulative volume of equity in the balance sheet (capital plus retained earnings) it is 27% more than at the onset of the crisis in 2008.

Spotlight on lending and NPLs

- As shown in Table A.4, total lending to the resident private sector (ORS lending, Other Resident Sectors) was down by 2.4% YoY, with falls in lending to both households and businesses (down by 0.9% and 2.2% respectively at year-end 2017, the latest date for which figures are available). However, by portfolio, consumer and other non-housing loans were up by 5.8% in 2017, while lending to productive activities other than property construction and development remained stable (+0.6%) in year-on-year terms for the first time since the onset of the crisis. These figures indicate that the deleveraging of the Spanish economy could be coming to an end.

- As for the system's NPL ratio, in February 2018 it stood at 7.8%, the same level as at year-end 2017, but 134 bps below the February 2017 figure. At the end of February 2018 the total volume of NPLs was €96 billion, 17% less than twelve months previously, with a very significant decline of 23% YoY in NPLs among lending to businesses, basically due to the fall recorded in the volume of NPLs to property builders and developers following the portfolio sales carried out in late 2017 and the first few months of 2018. From the NPL peaks reached in December 2013, the total volume of doubtful loans has fallen by 51% or €102 billion.

- With data to March 2018, new lending shows a notable increase of 10% YoY, with growth in all portfolios. The total volume of new lending for 2017 as a whole also increased, by 5.8%.

Main ratios

- In 2017 the efficiency and profitability of the system suffered the effects of the resolution of Banco Popular. The cost-income ratio deteriorated to 57.1% and total operating costs as a percentage of average total assets exceeded 1% for the first time since the onset of the crisis (Figure 6, Appendix 1).

- Profitability of the system was negative in 2017 (Figure 5, Appendix 1) and the indicators of provisioning effort (net additions to provisions / net margin) and cost of risk (net additions to provisions / average total lending) rose in the second half of the year (Figure 1, Appendix 1) due to the Banco Popular transaction.

- The volume of capital in the balance sheet continued to grow, reaching 8.8% of total assets in February 2018 (Figure 3, appendix 1), and own funds in the balance sheet were more than double the system's NPL volume (Figure 2, Appendix 1).

- Liquidity continues to be non-problematic. The funding gap (Figure 4, Appendix 1) is at an all-time low, at 4.1% of the balance sheet total, far removed from its 2007 peak of 24% of total assets, which represents a decline of more than €600 billion.

2. IFRS 9: Supervisory practices, behavioral impacts and regulatory interactions

In the aftermath of the crisis, the G20 urged the improvement of accounting standards regarding valuation and provisioning. The new accounting standard is a tool to strengthen financial stability through a fairer representation of credit risk, which is expected to result in greater provisions to cover expected losses. However, an increase in required provisions poses some risks on traditional banking practices (e.g. lending, forbearance, price, collateralization, etc.). Finally, the IASB issued the final version of this standard on July 2014 and the applicability began on 1st January 2018.

IFRS 9: a new era of accounting

IFRS 9 represents a major change for banking accounting and balance sheet structure. Firstly, the classification and measurement of financial instruments is performed considering business models and cash flow characteristics. Secondly, the new impairment model introduces the forward-looking approach, implementing the lifetime expected credit losses (ECLs) for financial instruments classified either in Stage 2 (if the credit risk increases significantly and is not considered low) or Stage 3 (defaulted). Finally, it overhauls hedge accounting in order to establish a linkage between accounting and business management.

The accounting standard impacts European banks' capital ratios. Therefore, the SSM performed a Thematic Review on IFRS 9 and disclosed the quantitative impact in CET1 (40 bps for significant institutions, and 59 bps for less significant institutions. Moreover, the SSM has included IFRS 9 as one of the priorities for supervision purposes for 2018. More recently, in January 2018, the EBA launched the EU-wide stress test, including IFRS 9 assumptions for the first time[2].

Strategic issues derived from Expected Credit Loss approach

The implementation of the ECL approach could trigger impacts in banks' strategic decisions related to lending (e.g. price, duration, forbearance, collateralization or underwriting practices).

Firstly, higher provisioning may lead to higher loan rates for certain kind of loans. Indeed, several respondents to the EBA survey[3] envisaged an impact on the rates and the duration of products (as a longer term implies higher expected losses over the whole life of the loan).

Secondly, regarding underwriting practices, a number of studies[4] have established the impact of bank capitalization on lending behavior, suggesting that as provisions reduce capital, subsequent lending practices could be negatively affected. Moreover, since performing and non-performing forborne exposures are subject to lifetime ECLs under IFRS 9, banks could be disincentivized to granting forbearance measures. We can observe this effect in Spain with the entry into force of Circular 4/2016 which led to a drop in performing forborne exposures (Stage 2).[5]

2: For IFRS 9 reporting banks as of Q3 2018, EU-wide stress test takes the impact of the introduction of IFRS 9 into account in starting point data, as of Q42017.
3: EBA (2017): "EBA Report on results from the second impact assessment of IFRS 9".
4: Cohen B. and Scatigna M. (2016): "Banks and capital requirements: channels of adjustment". Gambacorta and Shin (2016): "Why bank capital matters for monetary policy".
5: Plata García C., Rocamora M., Villar J. (2017): "Transition to IFRS 9: Impact on forbearance practices: are there some risks?" BBVA Research.

Thirdly, at the early stages of an economic downturn, a greater amount of loans are eligible to be transferred from Stage 1 to Stage 2, with negative effects on regulatory capital[6]. Analogously, IFRS 9 implies an earlier recognition of losses in downturns, undermining capital at the early stages of a crisis, thus resulting in lower lending[7].

Regulatory treatment of IFRS 9 provisions, what's next?

The European prudential regime was amended to introduce a phase-in treatment in order to mitigate the impact of IFRS 9[8]. This is an interim approach until the BCBS (Basel Committee for Banking Supervision) decides on a long-term treatment for accounting provisions. For this purpose, the BCBS issued a consultation paper including different policy options[9].

Under the current prudential treatment, regulatory provisions are calculated with 12-month forward-looking parameters, representing the cushion to cover unexpected losses likely to arise in that period. This regulatory capital expected-loss approach acts as a complement to the incurred loss approach of accounting provisions (backward looking). Moreover, any excess of accounting provisions over regulatory provisions is added back to Tier 2 capital, subject to an overall limit related to risk-weighted assets.

Apart from the negative impact on capital due to higher provisions, the entry into force of IFRS 9 would further erode capital ratios if the current limits on Tier 2 capital related to risk-weighted assets remain unchanged. This stems from the fact that accounting provisions (lifetime approach in Stage 2 and Stage 3) will always exceed regulatory provisions (12-month approach) and it will become even more important than nowadays to incorporate this difference in Tier 2. Otherwise we may face a paradox in which banks appear to be less solvent (with lower regulatory capital) while they have higher cushions to face expected and unexpected losses. With this in mind, regulators should consider an increase in the overall limits to account for excess provisions in Tier 2 capital. Alternatively they could modify the methodology for calculating prudential provisions..

In conclusion, the solution of divergences across different regulation frameworks can be reached with a stronger coordination between accounting and prudential regulators[10].

6: Abad J. and Suarez J. (2017): "Assessing the cyclical implications of IFRS 9 ‐ A recursive model".
7: Cohen B. and Edwards G. (2017): "The new era of expected credit loss provisioning".
8: Regulation (EU) of the European Parliament and of the Council of amending Regulation (EU) No 575/2013.
9: Basel Committee on Banking Supervision (2016): "Consultative document: Regulatory treatment of accounting provisions ‐discussion document".
10: As a sign of this commitment of improving interaction, the IFRS Foundation and the Basel Committee on Banking Supervision signed a Memorandum of Understanding on September 2017.

3. Addendum to ECB Guidelines on NPLs. Impact on regulatory provisions

The EU Commission and the ECB have required banks to build backstops in case the NPL coverage with provisions is below a predefined path, which depends on how long the exposure has been a NPL: (1) A pillar 1, automatic backstop in the COM's proposal, and (2) a stricter pillar 2, subject to supervisory dialogue backstop in the ECB's. Having two similar yet different requirements will likely result in increased costs of calculations, reporting, etc.

The ECB measure is an Addendum to their Guidance to banks on NPLs, which applies to banks directly supervised by this authority. It affects new or existing loans that become non-performing after 1 April 2018, although the ECB is considering introducing additional measures for loans that became NPL before that date. The ECB outlines its prudential provisioning expectations, indicating that banks are encouraged to close potential gaps relative to them by booking the maximum level of provisions possible under the applicable accounting standard or, if that is not enough, by adjusting their Common Equity Tier 1 capital on their own initiative. Otherwise, during the supervisory dialogue the ECB might adopt a Pillar 2 measure. NPLs (no matter if they are more than 90 days past due or just unlikely to pay) must have a coverage of 100% in 2 years if non-collateralized (or for the part of the exposure no covered by collateral) or in 7 years if collateralized (following a strict quasi-linear path). As the first requirement is after 2 years of NPL vintage, it will be first checked in the 2021 SREP.

Quantitative analysis

To estimate the potential impact of the ECB NPL Addendum, we have simulated how provisions would have evolved if it would have entered into force in January 2015. We have used balance sheet and risk parameter data from the EBA complemented with ECB data when needed. The analysis has been limited to the IRB portfolio[11]. We have estimated the evolution of new defaults and required full coverage according to the NPL Addendum requirements (within two years for unsecured and within seven years for secured exposures) through a linear adjustment of prudential provisions to implement the backstop.

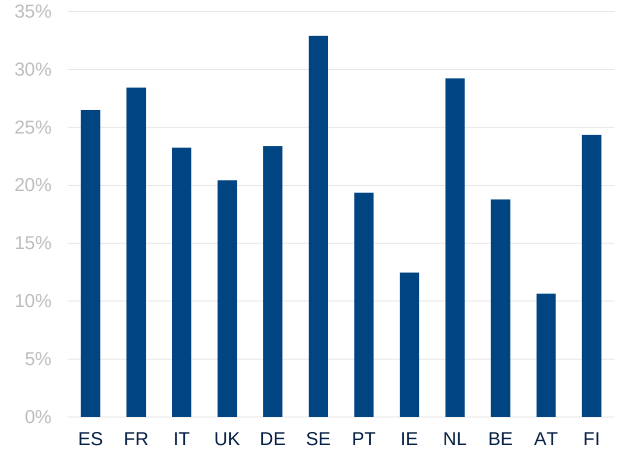
According to our estimates for the European banks as a whole, the NPL Addendum could require an increase of €73 bn in provisions over 10 quarters: €26 bn for retail exposures and of €47 bn for corporate exposures. This larger impact on corporate exposures is explained, to large extent, by the higher loss given default of corporate exposures and by the high proportion of exposures secured on real estate property within the retail portfolio (secured exposures are to be fully covered by prudential provisions more gradually than unsecured exposures).[12] Given this larger impact of the NPL Addendum on the corporate portfolio, a higher pressure on banks to sell non-performing corporate exposures than non-performing retail exposures can be expected. Furthermore, banks may become more lenient in their credit policy towards corporate customers.

For the retail portfolio, the NPL Addendum would require an increase of prudential provisions of about 20% - 25% in most countries over the 10 quarters analysed, with the highest impact estimated in Sweden, the Netherlands, France, and Spain in relative terms (Figure 1a). The impact in Sweden and the Netherlands is explained by the denominator effect (they start with very low levels of provisions, with a coverage of about 30%) and the low write-off rate of new defaults, with the subsequent accumulation of defaulted exposures subject to the new regime. These

11: The IRB portfolio represents about 75% of the loan portfolio. Therefore, the overall impact would be higher when taking into consideration not only IRB exposures but also SA exposures.
12: Note that for corporate exposures, the granularity between secured and secured exposures was not available. We have therefore applied the average of the euro area as a proxy (i.e. 30.3% of corporate exposures were considered to be unsecured and 69.7% to be unsecured).

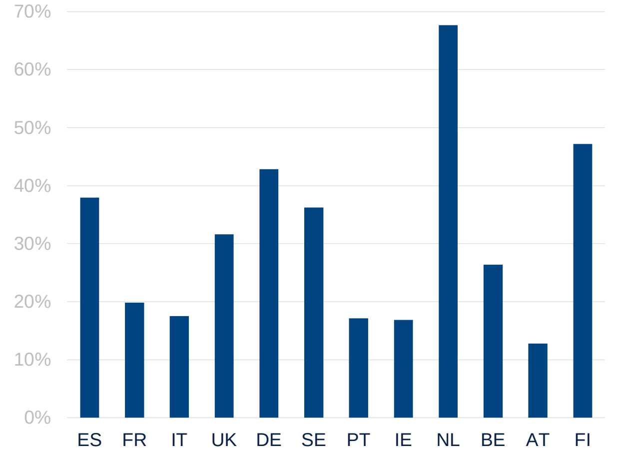
low loss rates indicate that there may have been lower pressure on these banks to sell NPLs (because of lower NPLs ratios); however, the accumulation of NPLs may also lead to difficulties to do so in the mid-term.

Figure 1a. Impact of the *Addendum on* provisions for retail exposures, percentage



Notes: Estimation of the cumulative impact for the period 2015 – 2017 Q2 based on IRB banks
Source: EBA, ECB and BBVA Research

Figure 1b. Impact of the *Addendum on* provisions for corporate exposures, percentage



Notes: Estimation of the cumulative impact for the period 2015 – 2017 Q2 based on IRB banks.
Source: EBA, ECB and BBVA Research

In absolute terms, the highest impacts are observed in France and Italy (an increase of more than €8 bn in these two countries) followed by Spain (€3 bn) and the UK (€2 bn). In the case of Italy, high defaults are observed both in absolute terms and for the NPL ratio (12%). This being said, the impact has already been partially mitigated by a significant increase in write-offs of new defaults (including sales) observed in 2017 Q2. This has been prompted by the various reforms of the Italian insolvency law[13]. France is the third country with the largest amount of defaulted exposures, but, given the size of the banking system, the NPL ratio is much more moderate (3.4%). On the other hand, in countries like Portugal and Ireland, albeit reporting significant NPL ratios, the impact of the NPL Addendum is estimated to be limited due to the high write-offs of new defaults.

Although, in principle, unsecured exposures would be less impacted by the new framework, the final impact depends on the composition of the retail portfolio. In this respect, we can observe a higher impact on unsecured exposures in countries like France and Italy, but a higher impact on secured exposures in countries like Spain and the Netherlands.

Regarding corporate portfolios, the largest impacts of the NPL *Addendum* are estimated to occur in Germany, the Netherlands and Finland with an increase in provisions of more than 40% (Figure 1b). In absolute terms the largest impacts appear in Italy (an increase of more than €12 bn), Spain (€8 bn) and Germany (€7 bn), followed by the Netherlands (€6 bn) and France (€4 bn). This is explained, to a large extent, by a low level of sales and write-offs of the corporate portfolio, although it accelerated in recent quarters. Countries have focused their efforts on selling these portfolios that present, on average, higher Loss Given Default (LGD), higher regulatory provisions and, consequently, higher consumption of capital than retail exposures.

As a comparison, the impact of the Commission proposal (still a draft) is more limited: €30 bn of increase in provisions over 10 quarters (compared to €73 bn for the ECB NPLs *Addendum*). This impact concentrates in the corporate portfolio and in four countries: Italy, Spain, Germany and the Netherlands.

13: For further details, see: BBVA Research (2017): "Italian Banking Sector. Improving, but from very low levels". Banking Outlook. November 2017.

Discussion

The final impact in 2021 when the NPL Addendum will be applicable will depend on several factors. The impact for countries with high coverage of provisions and/or low non-performing loans ratios would be limited. The impact will also depend on the flow of entrance and exit of defaulted status and the sale of exposures. In order to avoid the cost of the increase in provisioning, banks are expected to accelerate their sale of NPLs exposures but also to be stricter in their credit concession policies, particularly for corporate credit.

An important factor influencing the impact of the new regime is the rate of new defaulted exposures. Given that it is highly correlated with macroeconomic conditions and the EU is currently immersed in the economic recovery, the impact of the NPL Addendum derived from new defaults is estimated to be limited in the medium term. Therefore, our results, estimated in a period starting in 2015, could overestimate the actual impact.

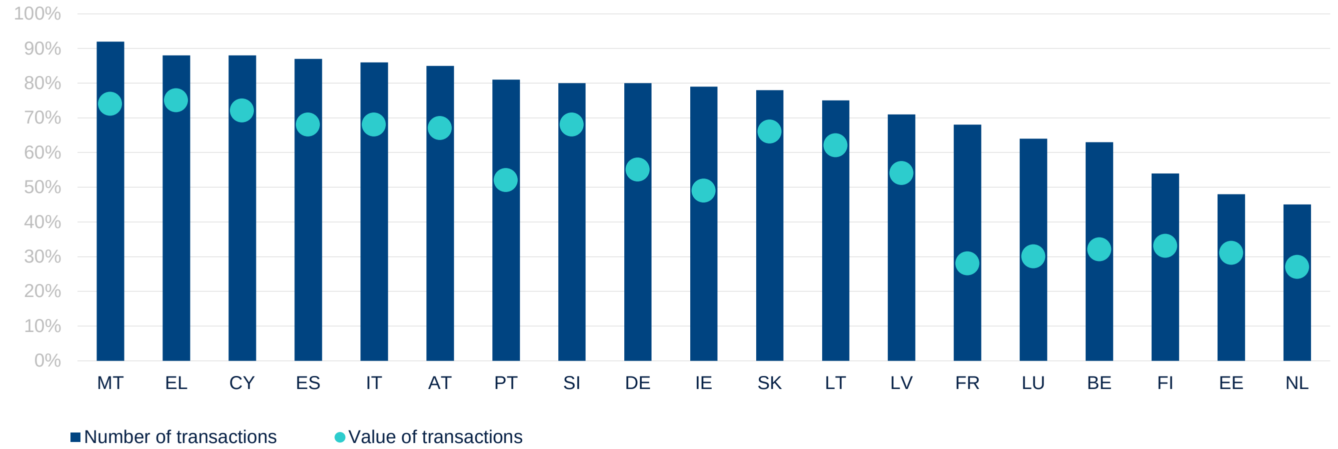
Regarding the fact that banks have to comply with both the ECB and the Commission backstops, two similar but different requirements implies a cost in terms of maintaining two systems of calculation, of reporting, etc. Small differences among them should be reduced. Besides, the interactions between both approaches are not yet clear: the ECB backstop is likely to become binding before the Commission one, potentially becoming the framework that prevails. Therefore, more clarity is needed on how these backstops will interact.

4. The use of cash and its determinants

The digital revolution is leading to an increased use of electronic payment instruments, including not only debit and credit cards, but also new payments methods such as mobile payments. Moreover, an increasing debate in the academia about the possibility of evolving towards a cashless economy has even led some towns to undertake controlled trials about a cashless day.

However, according to a recent ECB survey, cash is still used in 79% of retail payments in terms of number of transactions in the euro area as a whole (54% in terms of value). In countries like Spain, Italy and Greece, cash payments account for around 90% of the number of transactions or 70% in terms of value (Figure 2).

Figure 2. Use of cash at point of sale, percentage of all transactions, 2016



Source: ECB (2017): The use of cash by households in the euro area. OPS 201

We have analysed the factors driving the prevalence in the use of cash as a payment method across European countries. For this, we have considered a list of more than 20 factors classified into four categories: access to cash and banking products, degree of digitalisation, macroeconomic environment and cultural factors.

According to our calculations, the most relevant variables explaining the prevalence in use of cash are the average size of card transactions (which indirectly measures the commissions and fees applied for the use of cards), the share of senior population and the level of digitalisation. According to these results, the relative use of cash is expected to decrease over time due to the double effect of generation replacement and an increased penetration of digital technologies. The level of rurality and the existence of legal limitations in the use of cash appear to have a lower influence in the preference for the use of cash.

A number of potential explanatory variables appear to be non-significant. Those include variables for the access to cash and banking products (number of bank accounts, volume of deposits, number of cards and banking concentration) and macroeconomic variables (banking strength, GDP per capita, tourism and inflation). This does not necessarily mean that these factors are not relevant, as they may be included in the country fixed effects.

In order to complement the analysis at macro level, we have used micro data for Spain extracted from a sample of BBVA clients (more than 3 million users). According to our data, we observe a sustained increase in the value of card payments in the last four years while the value of cash withdrawals has remained constant. On the other hand, we observe a clear seasonality behaviour in both payment practices, which indicates that the consumption patterns of the clients is the same for both cash withdrawals and card payments.

In line with the analysis of European data, the Spanish microdata point to the age as a clear determinant in the use of cards as a payment method compared to cash withdrawals. On average, the older population (60 and over) withdraw 33% more cash (in terms of the value of transactions) and the young population (below 30) 44% less cash than the overall average in Spain.

Within a trend of a generalised decrease in the relative use of cash as a mean of payments, significant differences are still patent across Spanish regions. Galicia, Asturias, Ceuta and Melilla are the regions with the highest importance of cash withdrawals while citizens from Catalonia, Balearic Islands and Madrid rely much more in cards as a payment method. The differences observed across regions may probably be explained by similar factors to the ones observed for European countries (e.g. regional differences in terms of ageing population, degree of digitalisation and extent of the shadow economy).

We have also assessed the evolution of cash in the UK due to its early adoption of new payment methods and rules. In particular, contactless cards and instant payments are available in the UK since September 2007 and May 2008, respectively. Therefore, the experience in the UK can provide some clues on how the recent launch of the SEPA Scheme of Instant Payments (SCTInst) and the entry into force of PSD2 may impact the use of cash in other EU countries.

However, despite the range of payment instruments available in the UK has been wider than in most of the European countries during the last decade, the evidence we have gathered does not confirm a better performance in cash displacement than in other comparable European countries or even than in the EU average.

Overall, we can conclude that the use of alternative means of payments has been gaining grounds while the use of cash has remained constant for several years. This has been mainly driven, on the one hand, by an increased adoption of digital methods both by consumers and by retailers and, on the other, by the natural generation replacement (as the youngsters tend to be earlier adopters than the elderly). The evolution of regulation, which has led to the reduction in commissions and fees and has facilitated the adoption of innovative payment methods, has also contributed to the trend. However, it seems quite unlikely that cash as a mean of payment will disappear or become marginal in the short or even medium term.

5. EBA Risk Dashboard: Europe's banks increased in strength in 2017

In April the European Banking Authority (EBA) published its "Risk Dashboard" with data as at year-end 2017. In this publication the EBA analyses the main risk factors and vulnerabilities of European banks based on data provided by the 149 main banking groups of the EU which account for approximately 90% of the EU banking system by volume of assets with consolidated data.

Positive aspects: improvements in solvency and asset quality

During the fourth quarter of 2017 and throughout the year, European banks succeeded in increasing their regulatory capital ratios. For the banks included in the analysis the CET1 phase-in ratio reached its highest level since the end of 2014, increasing by 20 bps in the quarter and 60 bps in the year, to 14.8%. For the first time, all the banks providing data to the EBA for the preparation of this report present CET1 phase-in ratios of over 11%. The CET1 fully-loaded ratio shows a similar trend, reaching 14.6% at year-end 2017. The Tier 1 and Total Capital ratios also show a growing trend, coming in at 16.2% and 19.0% respectively. In general terms, the improvement in the regulatory capital ratios is due to the 3.5% reduction in risk-weighted assets in 2017.

Apart from this, banks on average also improved their year-end 2017 leverage. The debt/equity ratio in December 2017 was 13.6x, representing an improvement (decline) of 2.8% in the fourth quarter and 5.6% in year-on-year terms.

As for asset quality, the data show additional improvements in aggregate terms. In the fourth quarter of 2017 the average NPL rate fell to 4.0%, more than 1 pp below the December 2016 level. The year-end 2017 figure is also the best reading since the end of 2014. The improvement is due to the slight uptick in the total volume of lending recorded in 2017, but above all to the notable reduction in the volume of NPLs, which has come down by more than 30% in three years (from €1.12 trillion in December 2014, to €813 billion at year-end 2017). However it is striking that there continue to be significant disparities among countries. Coverage (provisioning of NPLs) held steady at 44.5%.

Areas of improvement: volume of NPLs and profitability

Despite the comments in the foregoing paragraphs, the volume of NPLs in European banks' balance sheets remains one of the most worrying aspects shown by this report. In spite of the substantial reduction in NPLs already mentioned, they continues to place a significant burden on the day-to-day business of many banks. Furthermore, the dispersion among countries (with NPL ratios ranging from 0.7% to 44%) indicates that for several countries' banks reducing levels of NPLs must be the priority.

Apart from this, average profitability of European banks continues to be weak in the current interest rate environment. Average ROE fell in the fourth quarter of 2017 to 6.1% from 7.2%, although on a YoY basis the change was positive (ROE of 3.3% at year-end 2016, the lowest in the historical series provided by the EBA). Banks are having to contend with high levels of cost-inefficiency in several countries, and with legacy assets that in many cases prevent them from reaching higher levels of recurring profitability. According to the EBA, average ROE is below the cost of equity. Average ROA of the European banking sector held steady in 2017 at 0.4%.

The cost-income ratio for 2017 was 63.4%, compared with 65.7% for 2016. This level is similar to that presented by all the banks included in the sample since 2015, and it seems reasonable to suppose that while interest rates remain at these levels, bank's cost-income ratios (and profitability) will not improve substantially.

In short, in general terms the EU banking groups in aggregate further improved their solvency and asset quality but average profitability remains weak in the current interest rate environment.

Appendix 1: Main indicators for monitoring the Spanish banking system

Table A.1 Summary Balance of the banking system. € bn and % variation

Assets	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate 00-'08	Growth rate 08 - latest	Growth rate y-on-y
Total lending	1,951	1,716	1,651	1,603	1,556	1,532	1,508	Feb-18	217%	-30.7%	-1.9%
Public corporations	*114*	*87*	*101*	*90*	*88*	*78*	*79*	*Feb-18*	*69%*	*48.7%*	*-10.3%*
Domestic resident sector	*1,605*	*1,448*	*1,380*	*1,327*	*1,276*	*1,254*	*1,229*	*Feb-18*	*234%*	*-34.3%*	*-2.4%*
Non residents	*232*	*180*	*169*	*186*	*191*	*200*	*201*	*Feb-18*	*164%*	*-20.8%*	*4.8%*
Fixed income securities and equity stakes	766	773	754	662	610	589	602	Feb-18	132%	20.9%	-2.0%
Fixed income securities	*509*	*493*	*492*	*415*	*366*	*330*	*347*	*Feb-18*	*135%*	*6.5%*	*-6.1%*
Of which: sovereign debt	*247*	*264*	*288*	*251*	*225*	*206*	*216*	*Feb-18*	*6%*	*116%*	*-4.9%*
Equity	*258*	*280*	*262*	*246*	*244*	*260*	*255*	*Feb-18*	*128%*	*48.3%*	*4.1%*
Interbank lending	279	211	155	164	163	235	208	Feb-18	81%	-20.8%	41.5%
Other assets (net of interbank lending/deposits)	426	326	354	331	319	297	286	Feb-18	230%	-0.3%	-8.8%
Total assets	**3,423**	**3,026**	**2,913**	**2,760**	**2,647**	**2,653**	**2,604**	**Feb-18**	**184%**	**-19.2%**	**-0.3%**
Liabilities and Shareholders' Equity											
Customer deposits	1,725	1,684	1,686	1,637	1,578	1,539	1,505	Feb-18	169%	-25.3%	-3.3%
Public corporations	*69*	*63*	*76*	*77*	*54*	*62*	*61*	*Feb-18*	*263%*	*-19.7%*	*16.2%*
Domestic resident sector	*1,317*	*1,314*	*1,289*	*1,261*	*1,243*	*1,203*	*1,177*	*Feb-18*	*192%*	*-17.8%*	*-3.9%*
Non residents	*339*	*306*	*320*	*299*	*281*	*275*	*267*	*Feb-18*	*113%*	*-47.2%*	*-4.6%*
Interbank deposits	573	381	312	303	288	327	326	Feb-18	95%	3.5%	12.0%
Pro memoria: net interbank position	*294*	*171*	*157*	*139*	*125*	*93*	*117*	*Feb-18*	*215%*	*126.4%*	*-18.2%*
Debt issued	394	297	249	225	201	222	224	Feb-18	625%	-43.4%	16.5%
Other liabilities	535	430	436	368	352	331	321	Feb-18	253%	0.4%	-7.2%
Shareholders' equity	195	233	230	227	227	232	229	Feb-18	134%	26.8%	0.5%
Pro memoria: ECB funding	*357*	*207*	*142*	*133*	*140*	*170*	*170*	*Mar-18*	*566%*	*82.9%*	*13.5%*
Total Liabilities and Shareholders' Equity	**3,423**	**3,026**	**2,913**	**2,760**	**2,647**	**2,653**	**2,604**	**Feb-18**	**184%**	**-19.2%**	**-0.3%**

Source: Banco de España Statistical Bulletin

Table A.2 Summarized balance sheet of the banking system. Cumulative annual earnings € mn and % change

	2011	2012	2013	2014	2015	2016	2017	Date	Growth rate 00-'08	Growth rate 08-latest	Growth rate y-on-y
Net interest revenue	29,565	32,739	26,816	27,118	26,410	24,297	23,225	Dec-17	92%	-33.9%	-4.4%
Net fees and commissions	11,750	11,275	10,931	11,257	11,237	11,062	11,751	Dec-17	79%	-9.8%	6.2%
Trading gains and other revenue	15,811	15,493	17,797	17,043	13,885	13,070	11,758	Dec-17	276%	-35.4%	-10.0%
Total revenue	**57,126**	**59,507**	**55,544**	**55,418**	**51,532**	**48,429**	**46,734**	**Dec-17**	**118%**	**-29.6%**	**-3.5%**
Operating expenses	-28,464	-26,951	-26,798	-26,116	-26,261	-26,388	-26,667	Dec-17	54%	-9.6%	1.1%
Personnel expenses	-16,889	-15,587	-15,108	-14,329	-14,182	-13,943	-13,935	Dec-17	54%	-22.2%	-0.1%
Other operating expenses	-11,574	-11,364	-11,690	-11,787	-12,079	-12,445	-12,733	Dec-17	54%	9.7%	2.3%
Pre-provision profit	**28,662**	**32,556**	**28,746**	**29,302**	**25,271**	**22,041**	**20,067**	**Dec-17**	**226%**	**-45.6%**	**-9.0%**
Loan-loss provisions	-22,668	-82,547	-21,800	-14,500	-10,699	-8,344	-9,127	Dec-17	620%	-40.1%	9.4%
Other income, net	-23,430	-37,142	-2,789	-1,739	-3,819	-7,006	-11,586	Dec-17	-299%	834.1%	65.4%
Profit before taxes	-17,436	-87,133	4,156	13,063	10,753	6,691	-647	Dec-17	108%	-103.2%	-109.7%
Net attributable income	**-14,717**	**-73,706**	**8,790**	**11,343**	**9,312**	**6,003**	**-3,920**	**Dec-17**	**122%**	**-121.3%**	**-165.3%**

Source: Statistical Bulletin of the Bank of Spain

Table A.3 Relative size and resources %, number and % variation of the banking system

	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate 00-'08	Growth rate 08-latest	Growth rate y-on-y
Lending to the private sector / GDP	152%	139%	133%	123%	114%	108%	106%	Feb-18	94%	-37.0%	-6.1%
Private sector deposits / GDP	125%	126%	124%	117%	111%	103%	101%	Feb-18	69%	-21.2%	-7.6%
Number of employees	236,504	217,878	208,291	202,961	194,283	192,604	n.a.	Dec-17	14%	-30.8%	-0.9%
Number of branches	38,237	33,786	32,073	31,155	28,959	27,623	n.a.	Dec-17	17%	-40.2%	-4.6%

Source: Statistical Bulletin of the Bank of Spain

Table A.4 ORS credit breakdown, defaults and non-performing asset ratios by portfolio. € bn and % variation

Lending volume	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate 00-'08	08 - latest	y-on-y
Loans to households	**793**	**756**	**715**	**690**	**663**	**652**	**647**	**Dec-17**	**236%**	**-21.1%**	**-0.9%**
Of which:											
Housing loans	627	605	581	558	531	517	503	Dec-17	270%	-19.7%	-2.6%
Other loans to households	167	151	134	132	132	136	144	Dec-17	159%	-25.5%	5.8%
Lending to corporates and SMEs	**971**	**830**	**719**	**674**	**644**	**605**	**592**	**Dec-17**	**237%**	**-41.8%**	**-2.2%**
Of which:											
Lending to real estate	397	300	237	200	179	161	145	Dec-17	517%	-69.2%	-10.0%
Other lending to corporates and SMEs	574	530	482	474	465	444	447	Dec-17	142%	-18.3%	0.6%
Total lending to domestic private sector *	**1,783**	**1,605**	**1,448**	**1,380**	**1,327**	**1,276**	**1,229**	**Feb-18**	**234%**	**-34.3%**	**-2.4%**
Non-performing loans											
Loans to households	**28.7**	**37.0**	**49.4**	**46.8**	**37.0**	**35.7**	**35.0**	**Dec-17**	**1062%**	**43.9%**	**-1.9%**
Of which:											
Housing loans	18.2	24.0	34.6	32.6	25.5	24.1	23.6	Dec-17	1878%	59.1%	-2.2%
Other loans to households	10.5	13.0	14.8	14.1	11.4	11.6	11.4	Dec-17	607%	20.1%	-1.5%
Lending to corporates and SMEs	**109.9**	**128.4**	**146.1**	**124.6**	**94.2**	**79.2**	**60.7**	**Dec-17**	**818%**	**62.7%**	**-23.4%**
Of which:											
Lending to real estate	81.9	84.8	87.8	70.7	50.4	42.4	28.2	Dec-17	2790%	5.1%	-33.4%
Other lending to corporates and SMEs	28.0	43.6	58.2	53.9	43.7	36.8	32.4	Dec-17	232%	211.4%	-11.9%
Total lending to domestic private sector *	**139.8**	**167.5**	**197.2**	**172.6**	**134.3**	**116.3**	**95.9**	**Feb-18**	**808%**	**52.0%**	**-16.7%**
NPL ratio											
Loans to households	**3.6%**	**4.9%**	**6.9%**	**6.8%**	**5.6%**	**5.5%**	**5.4%**	**Dec-17**	**246%**	**82.3%**	**-1.1%**
Of which:											
Housing loans	2.9%	4.0%	6.0%	5.9%	4.8%	4.7%	4.7%	Dec-17	434%	98.2%	0.5%
Other loans to households	6.3%	8.6%	11.1%	10.7%	8.7%	8.5%	7.9%	Dec-17	173%	61.1%	-6.9%
Lending to corporates and SMEs	**11.3%**	**15.5%**	**20.3%**	**18.5%**	**14.6%**	**13.1%**	**10.3%**	**Dec-17**	**173%**	**179.7%**	**-21.7%**
Of which:											
Lending to real estate	20.6%	28.2%	37.1%	35.3%	28.2%	26.4%	19.5%	Dec-17	369%	241.4%	-26.0%
Other lending to corporates and SMEs	4.9%	8.2%	12.1%	11.4%	9.4%	8.3%	7.3%	Dec-17	37%	281.1%	-12.5%
Total lending to domestic private sector *	**7.8%**	**10.4%**	**13.6%**	**12.5%**	**10.1%**	**9.1%**	**7.8%**	**Feb-18**	**172%**	**131.4%**	**-14.7%**

(*) Total ORS credit incorporates total credit to households, total credit for productive activities, non-profit institutions serving households (NPISHs) and unclassified credit. From January 2014 it includes credit to Financial Institutions.
Source: Statistical Bulletin of the Bank of Spain

Table A.5 Details of new lending transactions Cumulative annual earnings € bn and % change

Lending volume	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate 03-'08	Growth rate 08-'17	Growth rate y-on-y
Loans to households	**63.3**	**51.2**	**60.5**	**75.7**	**80.6**	**87.6**	**22.9**	**Mar-18**	**0.7%**	**-52.9%**	**13.4%**
Of which:											
Housing loans	32.3	21.9	26.8	35.7	37.5	38.9	10.1	Mar-18	-15.6%	-55.4%	13.0%
Other loans to households	31.0	29.4	33.7	40.0	43.1	48.8	12.9	Mar-18	21.3%	-50.7%	13.8%
Lending to corporates and SMEs	**484.8**	**392.6**	**357.2**	**392.6**	**323.6**	**339.0**	**88.5**	**Mar-18**	**29.2%**	**-63.5%**	**8.8%**
Of which:											
Less than €250,000	114.4	106.1	112.3	128.7	133.6	143.4	37.4	Mar-18	n.d.	-12.7%	9.7%
Between €250,000 and €1million)	31.6	28.3	34.0	36.8	36.3	40.6	10.2	Mar-18	n.d.	-11.8%	7.9%
Corporates (loans > €1mill.)	338.9	258.2	210.3	227.2	152.6	155.1	41.0	Mar-18	43.5%	-65.9%	8.2%
Total new lending flows	**548**	**444**	**418**	**468**	**404**	**427**	**111.5**	**Mar-18**	**23%**	**-63.8%**	**9.7%**

Table A.6 Detail of deposits of residents. € bn and % variation

	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate 00-'08	Growth rate 08 - latest	Growth rate y-on-y
Sight deposits	475	500	563	650	754	857	854	Feb-18	90%	93.8%	11.7%
Term deposits	693	677	597	509	404	286	269	Feb-18	272%	-63.8%	-29.3%
Total retail deposits	**1,168**	**1,177**	**1,160**	**1,159**	**1,157**	**1,143**	**1,123**	**Feb-18**	**163%**	**-5.1%**	**-1.9%**
Other deposits											
Repurchase agreements	60	64	60	42	32	28	24	Feb-18	-23%	-71.7%	-12.9%
Funds from financial asset transfers	43	37	32	25	23	21	21	Feb-18	14%	-77.3%	-5.7%
Hybrid financial liabilities	20	16	22	17	14	10	9	Feb-18	33%	-68.4%	-33.0%
Subordinated deposits	26	20	16	18	16	1	0	Feb-18	n.m.	-99.1%	-97.5%
Pro-memoria: Deposits in foreign currency	*30*	*30*	*27*	*29*	*28*	*17*	*18*	*Feb-18*	*739%*	*-50.7%*	*-34.5%*
Total deposits of domestic resident sector	**1,317**	**1,314**	**1,289**	**1,261**	**1,243**	**1,203**	**1,177**	**Feb-18**	**159%**	**-17.8%**	**-3.9%**

(*) Total ORS deposits does not match the data of Table 1 because it incorporates liabilities from asset transfer, subordinated deposits, CTAs and hybrid instruments.
Source: Statistical Bulletin of the Bank of Spain

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Table A.7 Interest rates on credit operations. Rates in % and variation in pbs

	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate (bps) 03-'08	08 - latest	y-on-y
Loans. Stock (NDER)											
Loans to households											
Housing loans	2.61	2.11	1.89	1.53	1.30	1.21	1.19	Mar-18	178	-447	-8
Other loans to households	5.78	5.80	6.10	5.98	6.17	6.23	6.23	Mar-18	113	-84	7
Loans to corporates and SMEs	3.47	3.44	2.84	2.38	2.04	1.89	1.91	Mar-18	204	-364	-9
Loans. New lending transactions (APRC)											
Loans to households											
Housing loans	2.93	3.16	2.64	2.31	2.19	2.05	2.26	Mar-18	238	-357	7
Consumer loans	8.32	9.52	8.98	8.43	8.14	8.30	8.57	Mar-18	237	-243	-45
Other	6.23	5.92	4.91	4.28	4.26	4.02	4.10	Mar-18	224	-294	-62
Loans to corporates and SMEs (synthetic average)	3.66	3.57	2.73	2.58	2.30	2.12	2.12	Mar-18	112	-275	-22
Less than €250,000	5.67	5.54	4.56	3.61	3.29	2.93	2.85	Mar-18	n.a.	-170	-36
Between €250,000 and €1million)	4.27	4.03	2.91	2.20	1.91	1.79	1.76	Mar-18	n.a.	-213	-14
Corporates (loans > €1mill.)	3.00	2.83	2.10	2.07	1.63	1.55	1.63	Mar-18	n.a.	-108	-4

NDER: Narrowly Defined Effective Rate (APR less commissions).
APR: Equivalent Annual Rate. Narrowly Defined Effective Rate (APR less commissions).
Source: Statistical Bulletin of the Bank of Spain

Table A.8 Deposit interest rate* Rates in % and variation in pbs

	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate (bps) 03-'08	08 - latest	y-on-y
Deposits. Stock (NDER)											
Households deposits											
Sight deposits	0.21	0.22	0.17	0.12	0.06	0.04	0.04	Mar-18	6.5	-65	-1
Term deposits	2.72	2.08	1.39	0.75	0.30	0.16	0.15	Mar-18	232	-425	-9
Corporates and SMEs deposits											
Sight deposits	0.37	0.35	0.31	0.24	0.15	0.10	0.10	Mar-18	111	-168	-3
Term deposits	2.64	1.93	1.40	0.91	0.65	0.76	0.75	Mar-18	223	-363	9
Deposits. New transactions (NDER)											
Households deposits											
Sight deposits	0.21	0.22	0.17	0.12	0.06	0.04	0.04	Mar-18	30	-65	-1
Term deposits	2.83	1.50	0.66	0.39	0.11	0.08	0.08	Mar-18	225	-410	-3
Corporates and SMEs deposits											
Sight deposits	0.37	0.35	0.31	0.24	0.15	0.10	0.10	Mar-18	111	-168	-3
Term deposits	2.08	1.31	0.51	0.31	0.13	0.16	0.24	Mar-18	146	-323	-3

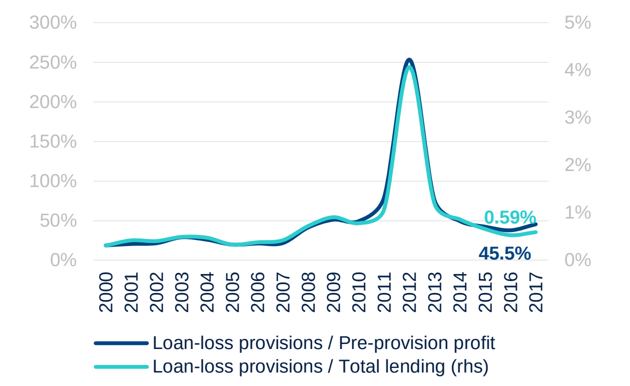
NDER: Narrowly Defined Effective Rate (APR less commissions).
APR: Equivalent Annual Rate. Narrowly Defined Effective Rate (APR less commissions).
Source: Statistical Bulletin of the Bank of Spain

Table A.9 Main ratios

	2012	2013	2014	2015	2016	2017	2018	Date	Growth rate 00-'08	Growth rate 08-latest	Growth rate y-on-y
Productivity											
Business volume* per branch (€'000)	76,409	81,761	83,229	83,085	86,975	88,029	n.a.	Feb-18	168.2%	23.1%	1.2%
Profit before tax per branch (€'000)	-2278.8	123	407.3	345.2	231.1	-23.4	n.a.	Dec-17	77.5%	-105.3%	-110.1%
Efficiency											
Cost-to-Income ratio (Oper. expenses / Total revenue)	45.3%	48.2%	47.1%	51.0%	54.5%	57.1%	n.a.	Dec-17	-29.3%	28.4%	4.7%
Operating expenses / ATA	0.79%	0.83%	0.88%	0.93%	0.98%	1.01%	n.a.	Dec-17	-43.4%	5.2%	7.5%
Profitability											
RoE	-35.5%	4.1%	4.9%	4.1%	2.6%	-1.7%	n.a.	Dec-17	-3.4%	-116.4%	-164.6%
RoA	-2.55%	0.13%	0.44%	0.38%	0.25%	-0.02%	n.a.	Dec-17	-23.6%	-103.7%	-109.9%
NIM (Net interest rev. / ATA)	0.96%	0.83%	0.91%	0.93%	0.90%	0.88%	n.a.	Dec-17	-29.6%	-23.1%	-2.5%
Liquidity											
Loans-to-Deposits (resident sector)	137%	123%	119%	115%	110%	110%	109%	Feb-18	14.8%	-30.8%	-0.5%
Funding gap (Loans - Deposits, EUR bn)	436.8	270.9	220.1	168.3	118.9	110.4	105.5	Feb-18	349%	-84.6%	-6.9%
Funding gap / Total assets	12.8%	9.0%	7.6%	6.1%	4.5%	4.2%	4.1%	Feb-18	57.7%	-81.0%	-6.6%
Solvency and Asset Quality											
Leverage (Shareholders' equity / Total assets)	5.7%	7.7%	7.9%	8.2%	8.6%	8.8%	8.8%	Feb-18	-17.8%	56.9%	0.8%
Shareholders' equity / NPLs	117%	118%	133%	169%	196%	238%	239%	Feb-18	-74.3%	-16.6%	20.7%
Provisioning effort (Loan-loss prov. / Pre-provision profit)	253.6%	75.8%	49.5%	42.3%	37.9%	45.5%	n.a.	Dec-17	121%	10.0%	20.1%
Cost of Risk (Loan-loss provisions / total lending)	4.07%	1.19%	0.86%	0.66%	0.53%	0.59%	n.a.	Dec-17	134%	-17.9%	11.9%
NPL ratio (resident sector)	10.4%	13.6%	12.5%	10.1%	9.1%	7.8%	7.8%	Feb-18	172%	131%	-14.7%
NPL coverage ratio (total)	73.8%	58.0%	58.1%	58.9%	58.9%	60.0%	65.1%	Feb-18	-58.2%	-8.0%	10.5%
NPL coverage ratio (specific provisions)	44.7%	46.9%	46.7%	47.0%	46.2%	42.1%	n.a.	Dec-17	-39.0%	40.8%	-9.8%

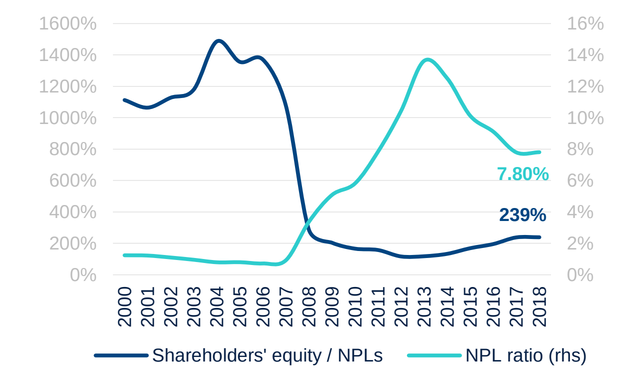
(*) ORS Credit plus ORS Deposits.
Source: Statistical Bulletin of the Bank of Spain

Figure A1.1 “Provisioning effort” (additions to provisions / net margin)



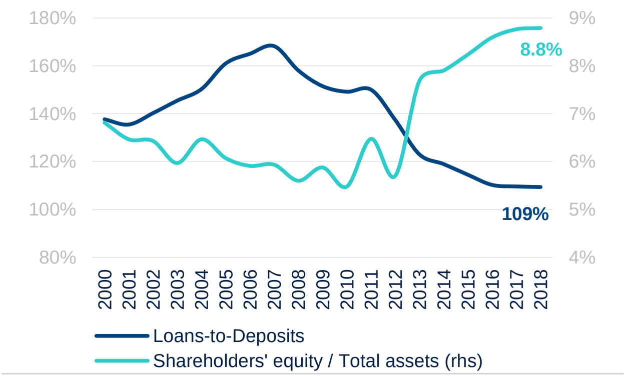
Source: BBVA Research

Figure A1.2 NPLs and Capital as % of NPLs



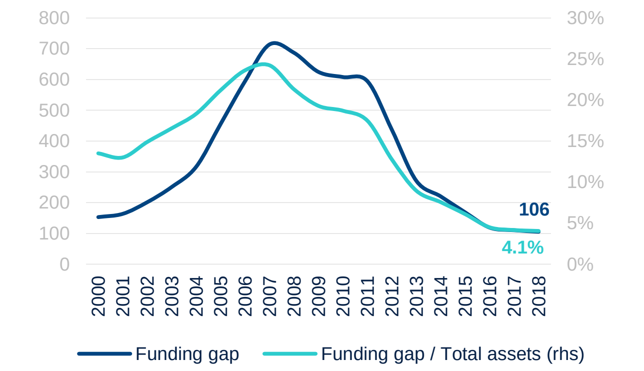
Source: BBVA Research

Figure A1.3 Liquidity and leverage



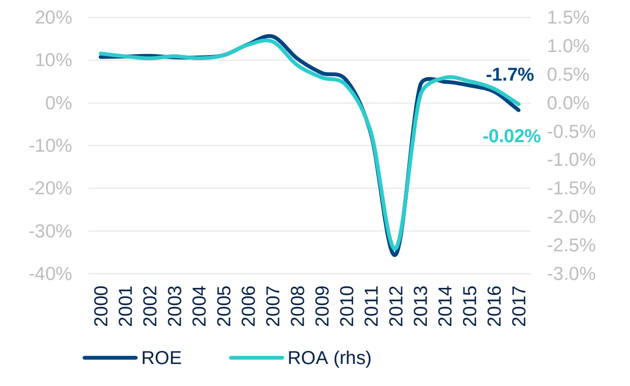
Source: BBVA Research

Figure A1.4 Funding gap (ORS lending – ORS deposits, € billions)



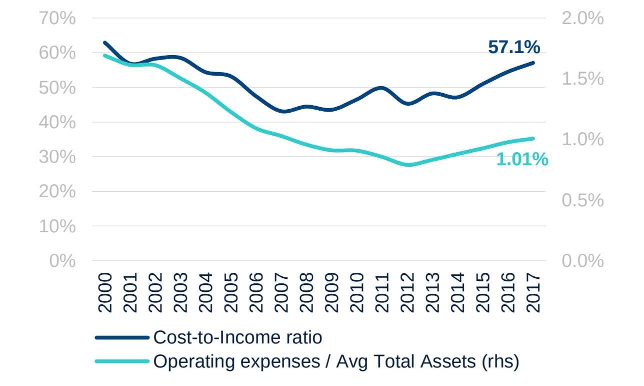
Source: BBVA Research

Figure A1.5 Profitability



Source: BBVA Research

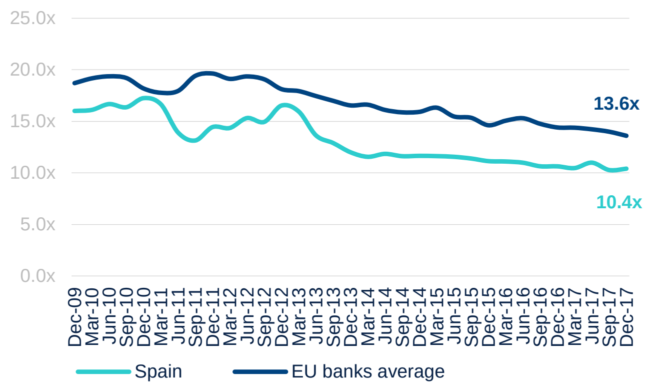
Figure A1.6 Cost/income ratio



Source: BBVA Research

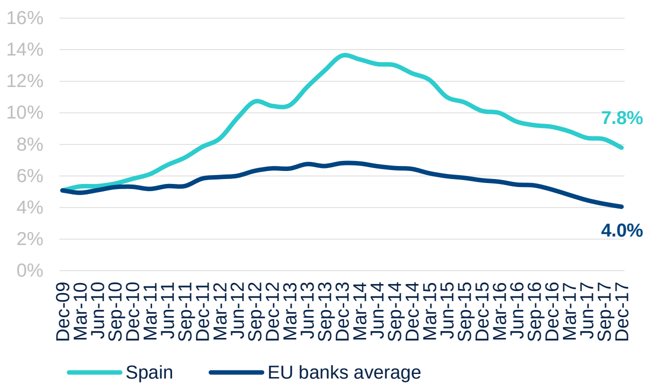
Appendix 2: Compared evolution of the Spanish banking sector

Figure A2.1 Total liabilities / Capital in balance sheet



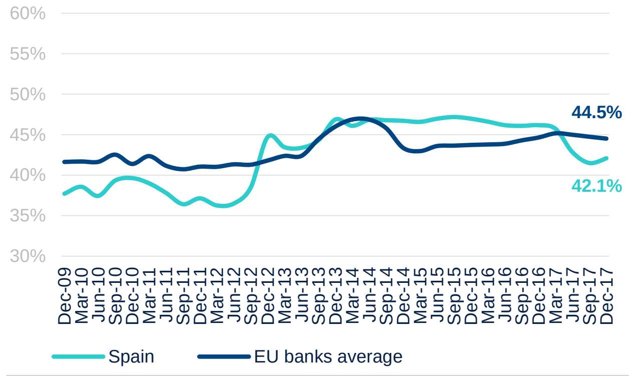
Source: EBA, Banco de España, BBVA Research

Figure A2.2 NPL ratio



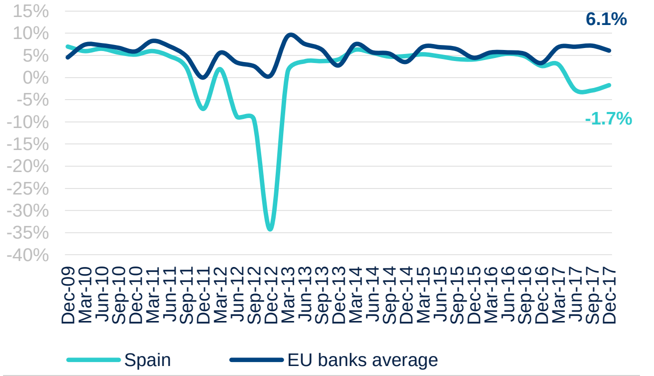
Source: EBA, Banco de España, BBVA Research

Figure A2.3 Coverage ratio (specific provisions only)



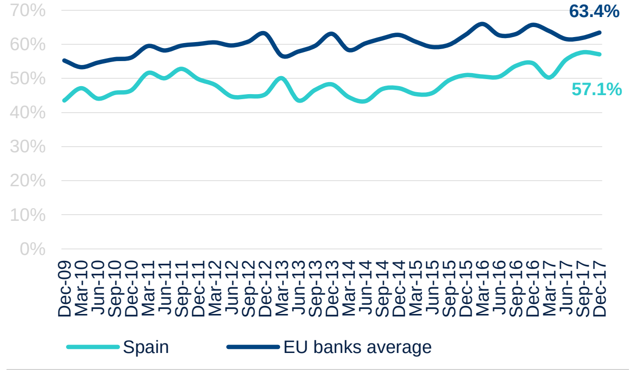
Source: EBA, Banco de España, BBVA Research

Figure A2.4 ROE



Source: EBA, Banco de España, BBVA Research

Figure A2.5 Cost/income ratio



Source: EBA, Banco de España, BBVA Research

Note: the data on averages of European banks come from the EBA's Risk Dashboard, composed of a panel of 158 major EU banks.

DISCLAIMER

This report has been produced by the Financial Systems unit

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