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Banking Outlook

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01
Developments in the Spanish banking sector

02
New lending: first annual increase since 2007

03
Public banks: useful only if justified

04
From Basel III to Basel IV?

05
Focus on innovation in Australian banks' DNA

06
RegTech, the new magic word in FinTech

Index

Summary	3
1 Developments in the Spanish banking sector	4
2 New lending: 12% growth in 2015, the first increase since 2007	7
3 Public banks in developed countries: useful only if justified	9
4 From Basel III to Basel IV?	10
5 Focus on innovation in Australian banks' DNA	12
6 RegTech, the new magic word in FinTech	14
Annex 1: principal monitoring indicators for the Spanish banking system	16
Annex 2: comparative analysis of the Spanish banking sector	23

Summary

1. Evolution of the Spanish banking sector

New lending grew in 2015 despite de continued reduction in the stock of total credit. NPLs are decreasing and banks continue to build up their capital base. Profitability is still weak amidst the competitive environment characterised by all-time low rates and lower business volumes. However, loan-loss provisions started to normalise. In the first nine months of 2015, net profit was EUR 7,157 million, which was 14% down on the same period in 2014. Compared to European institutions on average, Spanish banks are more efficient and have more capital on-balance sheet, while on the other hand the NPL ratio is higher. Profitability and NPL coverage match the European average.

2. New lending: 12% growth in 2015, the first increase since 2007

New lending in Spain increased in aggregate in 2015 for the first time after seven years of continued reductions, with a 12.0% annual increase overall and positive growth in all categories. Total volume was €468 billion. However, new lending slowed in the fourth quarter of 2015 dragged down by credit transactions exceeding one million euros to (large) companies. New lending is expected to continue increasing in the next few quarters for reasons of both demand and supply.

3. Public banks in developed countries: useful only if justified

Public banks have a role to play only if there is a market failure that a public entity is better placed to overcome than a private one. Subject to strict conditions and preferably as second tier (providing funding to private sector entities), public banks may cushion the credit cycle while maintaining the competitive landscape. Nevertheless, the creation of public banks when no market failure is clearly identified or with an ineffective management may give rise to significant risks to the financial system, public finances and economies.

4. From Basel III to Basel IV?

The goal of this upcoming new layer of financial regulation is a comprehensive review of banks' Risk Weighted Assets. The BCBS is currently undertaking an ambitious revision of RWAs (denominator of capital ratios) that could impact significantly on both minimum capital requirements and disclosed capital ratios. The new global rules are due to be completed by end-2016 and expected to come into effect in 2019.

5. Focus on innovation in Australian banks' DNA

The Australian banking sector has performed remarkably well during the recent past. Banks weathered the global financial crisis without problems and currently enjoy strong financial fundamentals underpinned by a favourable economic environment over the last years, a conservative risk appetite and a focused strategy which places great emphasis on innovation. Digital transformation is easier if banks are financially healthy, their customers demand digital products and the infrastructure supports digital innovation.

6. RegTech, the new magic word in FinTech

Using innovative technologies to address regulatory compliance is the goal. Addressing regulatory requirements is, in terms of cost and resources, one of the greatest burdens that financial institutions are bearing today, and it is becoming increasingly complex. Now, a number of innovative FinTech companies are trying to ease the problem by using innovative technologies.

1 Evolution of the Spanish banking sector

The tables and data are to be found in the appendices to this document. The majority of the data come from Chapter 4 of the Bank of Spain's Statistical Bulletin. The analysis of the Spanish banking sector is confined to banking business in Spain. The following are the main conclusions on the current situation and recent evolution of the Spanish banking system:

- The size of the system (total assets) has decreased by 14% since 2008 (Table 1), and by 19%, or €662 billion, since its peak in 2012. This decrease is proportionally less than that seen in lending, due to the increase in financial assets, both fixed income and equities, since 2008, and in particular the sovereign debt portfolio. From mid-2014 the volume of these portfolios started to diminish, and in 2015 it fell by 12%.
- Lending to the private sector ("Other Resident Sectors" in the statistics, hereinafter referred to in the English translation as "domestic private sector") continued to contract in 2015 (by 4% YoY). The cumulative reduction since 2008 is 29% (€543 billion, or 50% of GDP). Thus the deleveraging of the system continues (Table 1). The pace of decline has been moderating since the end of 2013.
- Lending to the domestic private sector has fallen across the board (Table 4), with notable declines in all portfolios, especially lending to businesses, with a cumulative reduction of 36% since 2008, and even more so in lending for construction and property development, which is down by 61%. Lending to households has fallen more moderately due to the greater duration of mortgage loans and the security normally associated with this type of lending.
- The total volume of deposits has fallen by 19% during the crisis (Table 1). However, the components of deposits directly linked to retail savings (current accounts and savings and term deposits) have remained much more stable since 2008 (Table 6), with a cumulative decline of 4% since 2008 and practically unchanged in 2015. The fall in total deposits is concentrated in more volatile components such as deposits of non-residents, repos, subordinated deposits and hybrid instruments.
- In 2015 there was a notable transfer of deposits from term deposits (-15%) to sight deposits (+17%) and savings accounts (+15%), as a result of expectations of very low interest rates for the next few quarters/years (Table 6).
- The volume of on-balance-sheet debt (-43% since 2008 and -10% in 2015, Table 1) continues to decline in line with the volume of lending and the consequent narrowing of the funding gap. The net amount of interbank lending (liabilities less assets) increased significantly during the initial years of the crisis due to Spanish institutions' increased recourse to ECB liquidity when faced with the shut-down of other sources of financing. Requirements for interbank funding have moderated significantly from the peaks of 2012, in spite of the interbank market's persistent fragmentation, which has not yet recovered its pre-crisis business volume.
- As regards ECB financing, it shows a declining trend from the peaks of August 2012 (since when it has decreased by 66%), which is compatible with institutions' taking advantage of the liquidity provided by the conditional auctions (TLTROs), as well as of that which they obtain in ordinary open market operations of the ECB. Liquidity is no longer a problem for Spanish institutions. Banks are expected to increase their use of the new liquidity auctions announced last March 10th at very attractive prices to the detriment of the aforementioned non-conventional measures. Also, banks are to reduce other types of more expensive funding sources like on-balance sheet debt.

- Installed capacity in the system continues to fall (Table 3) in line with the contraction in business volumes, the consolidation of the sector and the quest for greater operating efficiency and banking profitability. However, this process is almost completed and the speed of the reduction has slowed down.
- Apart from this, the solvency of the system has been notably strengthened. Own funds (capital and retained earnings) have increased by 26% or €47 billion since 2008, despite after-tax losses of €94 billion having been posted during 2011 and 2012. The quality of the capital in the balance sheets has also improved.
- The proportion of non-performing loans (NPLs) in the system continues to improve (Table 4) steadily despite the sharp contraction in lending to the domestic private sector, reaching 10.1% at the end of 2015. The volume of doubtful debt has declined for 24 months in a row, falling by €63 billion from its peak in December 2013, with €38 billion of this reduction posted in 2015, no doubt thanks to the start of the economic recovery. NPLs to construction and real estate companies continue to represent 41% of the total.
- New lending transactions (Table 5) have shown a clear change of trend since the end of 2013 when they started to grow for the first time since 2007. In aggregate terms, all lending portfolios showed notable growth in 2015, including loans of more than a million euros to (large) companies. These companies were able to turn to other sources of financing during the crisis, such as the markets or intra-group financing, but in light of the favourable credit conditions they are once again starting to seek bank financing. Nevertheless, in the first month of 2016, the total volume of new lending fell slightly compared with January 2015, precisely because of lending to large companies (although it is still unclear whether this marks a change of trend). All the other portfolios maintained positive rates of growth. Since the end of 2013, therefore, the deleveraging of existing lending to the private sector has been compatible with the flow of new credit.
- The interest rate environment continues to depress the profitability of the system. The prices of new transactions and of existing lending continue to fall significantly (Table 7). The rates recorded in January 2016 show falls in all portfolios, especially loans of less than a million euros to businesses (SMEs). These reductions cannot be offset by cheaper deposits (Table 8), the cost of which also falls in line with EURIBOR, but to a lesser extent than lending rates, as a result of which the customer spread also narrows.
- As for the sector's results (Table 2), they continue to be depressed by the current environment, characterised as it is by lower business volumes, all-time low interest rates and increasing regulatory demands. Since the end of 2008 the system as a whole has carried out balance sheet clean-up operations (basically loan impairment losses, restructuring costs and value impairment of foreclosed assets) to the tune of €300 billion. In the first nine months of 2015 the gross margin fell by 4.9% relative to the same period of 2014, despite the stability shown by the interest margin and commissions.
- Despite the sector's continuing priority attention to cost control, the net margin for the nine months to the end of September 2015 fell by 9.5% YoY due to the fall in net gains and losses on financial transactions. Additions to provisions continued to moderate in 2015, in line with the improving NPL situation and the volume of clean-up already carried out. Pre-tax profit and post-tax profit for the first nine months of 2015 were down by 5% and 14% YoY respectively.
- As regard the main ratios (Table 9):
  - The productivity of the system (volumes and pre-tax profit per office) remained at very high levels, as a result of which efficiency (cost income ratio) was 49.4%, thanks also to cost control. The volume of

operating costs as a percentage of Average Total Assets has been held below 1% since 2008 (Figure 6, Appendix 1).

- The sector's solvency is also improving. The volume of own funds (capital and reserves) reached 8.2% of the balance sheet total in December 2015, with the system's gearing also falling to 12.1x, compared with 18x in 2008. The volume of capital in the balance sheet has held steady throughout the crisis at above 100% of the volume of doubtful debt (Figure 2, Appendix 1), and since 2012 has increased by 169% (36 percentage points in 2015).
- Liquidity in the system is also improving. The loan to deposit ratio has fallen to 114%, 44 percentage points less than in 2008 (Figure 3, Appendix 1), placing the system at clearly sustainable levels. Additionally, the sector's funding gap (lending to the domestic private sector less deposits from the domestic private sector) continues to narrow, due to the notable deleveraging of the system and the stability of deposits, and is now at a similar level to that of 2001, and at an all-time low as a percentage of the balance sheet total.
- Requirements for additions to provisions are normalising, as reflected in the provisioning "effort" (additions to provisions / net income) and cost of risk (additions to provisions / total lending) indicators, which are back at pre-crisis levels (Figure 1, Appendix 1), which contributes to profitability's consolidating its position in positive territory following the losses of 2011 and 2012 (Figure 5, Appendix 1).

Comparing the evolution of the Spanish banking system with the average of EU banks (Appendix 2), the main conclusions are summarised hereunder, based on data from the “Risk Dashboard” of the European Banking Authority (EBA), which show the average of 57 of the main EU banking institutions that took part in the 2014 stress tests. The latest data available are for the fourth quarter of 2015.

- The strengths of the Spanish banking system since the end of 2009 (the date from which EBA data are available) have been a greater volume of capital in the balance sheet and a better cost/income ration than the average for European banks (Figures 1 and 5, Appendix 2).
- The most negative aspect is the trend in the NPL ratio, which is much higher in Spain and with faster growth (Figure 2, Appendix 2). Nonetheless, as has already been remarked, Spain's NPLs have now been falling for 24 consecutive months.
- The ROE of the Spanish banking system posted very negative levels in 2011 and 2012 due to the increase in the NPL rate and the additions to provisions required to clean up the system (Figure 4, Appendix 2). Since 2013 the profitability of the system has been similar to the average of European institutions, although slightly lower, as seems logical in a system with more capital in the balance sheet than the European average. These clean-ups were necessary in the Spanish banking system, as can be seen in Figure 3 in Appendix 2, which shows how the clean-up exercises brought coverage of NPLs by specific provisions to a level similar to the European average, where they subsequently remained, and which they have exceeded since mid-2014.
- Lastly, the loans-to-deposits ratio of the system in Spain has traditionally been higher than the EU average (Figure 6, Appendix 2), but since the end of 2012 the difference has narrowed significantly, in large part due to the transfer of assets to the SAREB (Spain's "bad bank").

2 New lending: 12% growth in 2015, the first increase since 2007

After seven years of reductions in the volume of new lending, 2015 saw the first increase (12.0% YoY) in all categories, with a total volume of €468 billion, making 2014 the lowest level year since these statistics have existed (€418 billion), one third of that reached at its peak in 2007.

Despite having left red figures behind, new lending showed ups and downs over the course of 2015. Thus, in the fourth quarter new lending slowed to match the levels of the same period in 2014, dragged down by credit transactions exceeding one million euros to (large) companies. This portfolio, which is the most voluminous, managed to post a cumulative increase of 7.7% in 2015, but in the last quarter the great uncertainties in the international markets about the extent of the slowdown in emerging economies (China, Latin America), the oil and commodity prices shock, expectations of rate hikes by the Federal Reserve, etc. and the possibility of financing their borrowing needs in other, non-bank markets at competitive rates appear to have delayed their decisions to take bank loans.

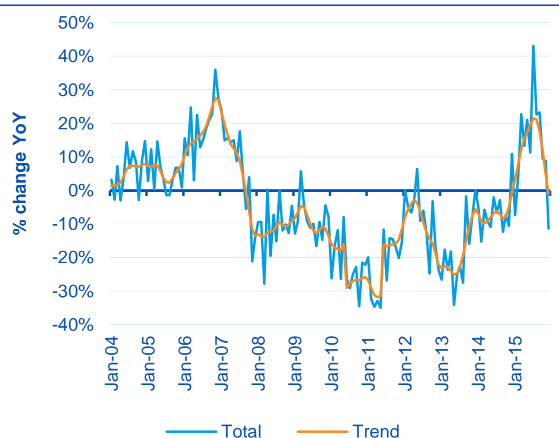
Nevertheless, the pace of growth in lending to retail sectors (households and SMEs) quickened during 2015 to 16.4%, five percentage points higher than in the previous year, and with more stable growth in the last quarter. These transactions touched bottom in 2013 (€186 billion, 28% of the 2006 peak) and have now been increasing for two consecutive years, accompanying the economic recovery and meeting solvent demand.

Lending to SMEs (approximated by loans of less than a million euros) quickened the pace of growth in 2015 to 12.8%, nearly four percentage points more than in the previous year, and although it showed some signs of slowdown in the last part of the year, it held better than did lending to major corporates. In addition, loans to households showed accelerated growth in all categories during 2015, with loans for house purchases rising by 33.4%, consumer loans by 20.1% and the rest[1] by 17.2%. All these portfolios also showed a degree of slowdown in the last part of 2015, in most cases due to the impossibility of maintaining the growth rates achieved in the summer, for example the residential property portfolio which grew by 113.7% YoY in August.

New lending is expected to continue increasing in the next few quarters for reasons of both demand and supply. On the demand side, while waiting for economic uncertainties to dissipate, the improved financial situation of companies (especially in the case of exporters) and lower costs of borrowing will encourage loan applications. On the supply side, the improvement experienced in liquidity conditions (thanks to the banking union and the ultra-expansionary policy of the ECB), the lower risk of portfolios and the progress made in bank restructuring will be positive forces. One of the banking sector's prime objectives is to promote the recovery in new lending transactions, accompanying the improvement in economic activity and attending to solvent demand, and this became very evident during 2015.

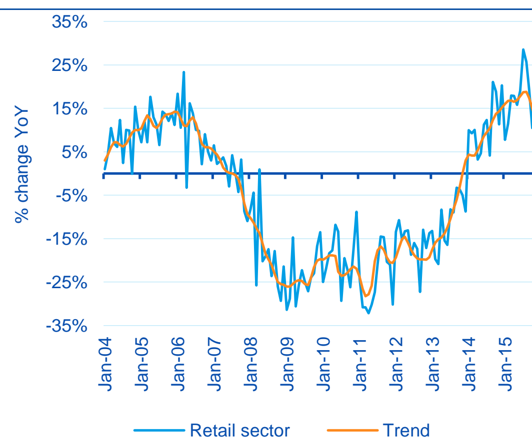
1: This section was subject to revisions of the historical series by Banco de España over the course of 2015.

Figure 2.1
Spain: Total new lending (% change YoY)



Source: BBVA Research based on Bank of Spain

Figure 2.2
Spain: New lending to the retail sector (% change YoY)



Source: BBVA Research based on Bank of Spain

Table 2.1
Details of new lending transactions

Million €	Total new credit	Companies			Households				Memorandum
		Total	Up to 1 million	Over 1 million	Total	Housing	Consumpt.	Rest	Retail sector
Annual cumulate									
2015	467,927	392,173	165,415	226,758	75,754	35,761	19,751	20,242	241,169
Average Annual growth (yoy)									
2014	-5.9%	-9.0%	9.1%	-18.4%	18.1%	22.7%	18.3%	11.4%	11.6%
2015	12.0%	9.8%	12.8%	7.7%	25.2%	33.4%	20.1%	17.2%	16.4%
Annual growth (yoy)									
sep-15	23.2%	22.0%	15.1%	28.2%	29.7%	68.6%	16.5%	-3.6%	19.3%
oct-15	9.4%	8.1%	8.1%	8.0%	16.0%	36.2%	3.2%	0.9%	10.4%
nov-15	8.7%	5.9%	12.9%	0.0%	22.8%	21.8%	23.8%	23.3%	16.0%
dic-15	-12.1%	-16.4%	5.7%	-26.6%	19.4%	19.8%	40.3%	2.7%	9.8%

Source: BBVA Research based on Bank of Spain

3 Public banks in developed countries: useful only if justified

There has been much recent discussion in Europe of the role of public banks. On the one hand, the European Commission has stressed the role of National Promotional Banks in the Investment Plan, always subject to strict conditions and preferably as second tier (providing funding to private sector banks). On the other hand, several Spanish autonomous regions are positing the need to create public banks, and some political initiatives propose not privatising institutions temporarily taken over by the state during the crisis so as to convert them into public banks.

When is the creation of a public bank justified? According to economic theory, public banks are justified only if there is a market failure that a public entity is better placed to overcome than a private one. Examples of market failures would be credit rationing due to asymmetrical information (if the banks do not have sufficient or appropriate information on their potential customers), a bad moment in the cycle, a low level percentage of the population having bank accounts, low level of competitiveness for external purposes (loans to unprofitable segments such as R&D, infrastructure, education, environment or European integration). Otherwise, significant risks are incurred, such as losses for the public sector, inefficient allocation of resources, expulsion from the private sector or damage to the payment culture.

To avoid them, they must meet several **requirements**, such as having a clear mandate, independent assessment (ex ante of the need to create a public bank and ex post of its performance), a specialisation in the sectors in which the market failures are concentrated, transparency, professional management, independence of the public authorities, oversight identical to that of private banks and appropriate risk management and internal control systems.

What type of public bank involves greater risk? The economic literature has gone from taking a very negative view of public banks to a more nuanced one depending on whether these institutions meet certain requirements. Focusing on banks created to resolve a market failure (not on nationalised banks) the assessment of first-tier public banks (direct financing) is more negative, especially when they do not scale back their activity after the financial crises have ended.

A recent publication of the World Bank[2] asserts that public ownership of banks might mitigate the negative effects of a crisis. However, during longer periods they may have significant negative effects on the financial system and the economy, so that when the crisis eases, states should move from direct intervention (public banks) to indirect (prudential oversight, ensuring competition and promoting financial infrastructure).

In short, public banks play an important role in cases in which there is a market failure. If they meet certain strict requirements, and especially if they act as second-tier banks, they can cushion the credit cycle while maintaining the competitive framework. However, introducing public banks when there is no market failure or with an ineffective management may give rise to significant risks to the financial system, public finances and economies.

2: World Bank (2013), 'Rethinking the Role of the State in Finance', Global Financial Development Report.

4 From Basel III to Basel IV?

Comprehensive review of banks' Risk Weighted Assets

The BCBS is currently undertaking an ambitious revision of RWAs (denominator of capital ratios) that could impact significantly on both minimum capital requirements and disclosed capital ratios. The new global rules are due to be completed by end-2016 and expected to come into effect in 2019.

After the adoption of the Basel III risk-based capital ratios in all 24 FSB jurisdictions, and with all internationally active banks already meeting the fully phased-in capital requirements, bank solvency has been considerably strengthened in recent years.

When Basel III saw the light of day in 2010 it was recognised that the framework was not definitive regarding the RWAs of some exposures (e.g. securitisation and trading book) and a revision was envisaged for a later stage to improve risk-sensitivity, reduce reliance on credit ratings and prevent regulatory arbitrage. But subsequently the review of Basel III has gone much further than was initially intended, extending its scope to include practically any type of risk and any approach used to calculate RWAs.

A second wave of revisions is associated with BCBS's strategic review of the risk-weighted capital framework to assess whether it strikes the right balance in terms of simplicity, comparability and risk sensitivity. This was a reaction to the questioning of the capital framework on the grounds of its excessive complexity and lack of comparability, particularly when internal models are used. Following this and with the aim of addressing the excessive variability in RWAs observed across institutions, the BCBS set out a multifaceted plan to the G20 in 2014 and during 2015 has made substantial progress towards finalising the new rules. A report to the G20 in November 2015 revealed the intention to complete the revision by end-2016.

Figure 4.1
Revisions to Basel III framework with potential future impact on RWAs

	BANKING BOOK			TRADING BOOK		OVERALL		
Type of risk	Credit Risk	Interest Rate Risk	Securiti-sation	Market Risk	Credit Valuation Adjustment	Operational Risk	New Floors	Sovering
Approaches	SA*	New: Pillar I or Pillar II?	Revised 2014	SA	SA	SA	To internal models' RWAs, based on SA	Among potential options: limits to exposure
	Internal models: constrain modeling		Simple, Transparent & Compar.	Internal models	Basic approach	Internal models: eliminate?		
					Internal models			

Legend: Final / WIP** / To be proposed

* Standardised approach
** Work in progress
Source: BBVA Research

The impact of these revisions is difficult to assess in advance due to the fact that it is on top of the Basel III framework, implemented in 2014 and subject to phase-in provisions until 2019. In addition, the cumulative impact is difficult to assess, given the multiplicity of changes being introduced at the same time.

Despite global regulators' declaration of no intention to significantly increase overall capital requirements, which reflects the growing awareness that the objective of financial stability should be combined with the goal of not impeding economic growth, the industry is greatly concerned about the potential additional tightening of capital requirements due to the conservative bias in the calibration of the proposals so far

published. Furthermore, even if at a global level the impact were neutral, it would not prevent entities from having a significant impact at a credit entity or business line level.

To conclude, a significant change in solvency standards is underway; discussion on whether we call it 'Basel IV' or 'revised Basel III' should not overshadow what is really important, which is its impact on the financing capacity to sustain growth. This is particularly relevant in the case of Europe given the importance of the banking sector in financing the economy.

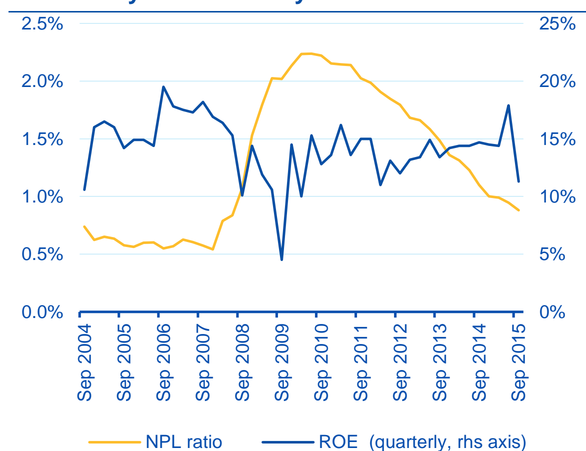
5 Focus on innovation in Australian banks' DNA

The Australian banking sector has performed remarkably well during the recent past. Banks weathered the global financial crisis without problems and currently enjoy strong financial fundamentals underpinned by a favourable economic environment over the last years, a conservative risk appetite and a focused strategy which places great emphasis on innovation. Digital transformation is easier if banks are financially healthy, their customers demand digital products and the infrastructure supports digital innovation.

Profitable, efficient and with an extraordinary asset performance

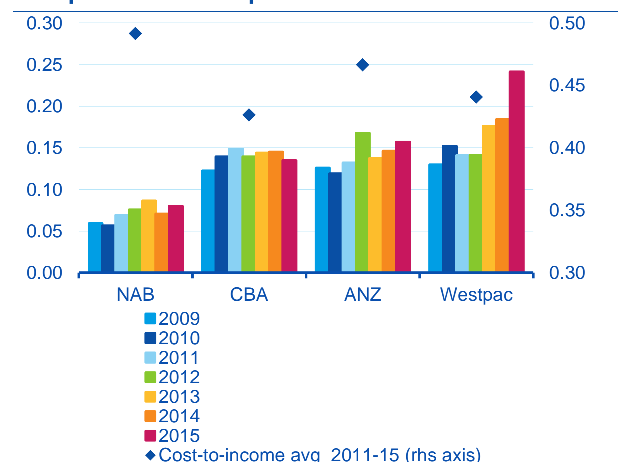
Australian banks enjoyed very strong asset performance in the last years. Asset quality metrics are currently very good with the overall ratio of non-performing loans to total loans at 0.9% as of September 2015, close to minimum levels. The benign environment and good risk management have translated into low delinquencies and an extremely low cost of risk (below 20bps) with provisions accounting for less than 10% of pre-provision income supporting sound profitability levels. Despite a small decline, when compared to pre-crisis levels, the return on equity (ROE) remained at around 14% in the last years, one of the best in developed economies and in spite of the increased capital requirements. Solvency has also improved but does not stand out at international level (CET1 ratio of 10% at system level as of September 2015, but according to the local regulator would be 300bps higher if the adoption of Basel III in Australia wasn't so strict).

Figure 1
Profitability and efficiency of Australian banks



Source: BBVA Research based on the Australian Prudential Regulation Authority

Figure 2
IT expenses/Total expenses & cost-to-income ratio



Source: BBVA Research based on banks' annual reports

Besides good asset quality, another driver of profitability is the very efficient cost base with cost-to-income ratios in the 45%-50% range and with current operating expenses accounting for a smaller portion of total assets than in the past (1% versus 2% 10 years ago). These outstanding metrics were achieved while IT spending went up. This includes on-going projects linked to the enablement of more efficient capability in both (i) back-end structures ("the behind the scenes") which aim to obtain lean and efficient processes and modernise their core platforms and (ii) digital distribution (front-office re-design and digitalisation). IT investments also focus on the delivery of compliance with increasing regulatory obligations.

In our view, Australian banks have been in a sort of virtuous circle, as it is undoubtedly easier to make investments and dedicate resources to new ventures when the economic environment is positive and the business is in good shape (retail-oriented business model with prudent risk taking). The investments

contribute to increased customer satisfaction and higher profits in a positive feedback loop. In addition, the Australian market is particularly prone to the adoption of new technologies pushing banks for quick responses. The proliferation and widespread adoption of mobile devices, with over 65% of Australians owning a smartphone, the high rate of internet penetration (85%) and one of the highest levels of contactless payments globally all favour a digital and entrepreneurship ecosystem.

Customer needs and their satisfaction drive banks' strategy

The four largest banks (Commonwealth, Westpac, NAB and ANZ) have broadly similar business models and they all share that: 1) digital innovation is crucial to meet increasingly demanding customer needs; 2) digital disruption is also changing the competitive landscape, lowering entry barriers for new players and 3) investing in innovation is essential even if it is at the cost of lower profits in the short term. Banks have been quick to grasp the need to move ahead of customer needs. Australian banks have been pioneers (or early adopters) of internet banking, mobile banking, cloud computing, contactless payments and in the continuous development of user friendly applications for their customers. They all let customers apply for a range of banking products through their mobile banking apps within minutes. The simplification of processes and products is targeted while it is frequent to see banks' communications referring to service, customer satisfaction and the need of building deeper relationships with customers as a core element of their strategy.

The strategy permeates throughout the organizations. In Commonwealth (CBA, the largest bank) website it is mentioned "innovative thinking is at the fore front of everything we do" and Westpac vision is "to be one of the world's greatest service companies, helping our customers, communities and people to prosper and grow". Customer satisfaction through digital channels (internet or mobile) is around 90% versus below 80% through phone and below 90% through branches.

6 RegTech, the new magic word in FinTech

Financial regulation has been in a state of major change since the global financial crisis. A stronger focus on risk prevention is making requirements increasingly complex: financial institutions must deal with meeting the requirements of multiple regulatory jurisdictions with fast-changing requirements while regulators demand access to an increasing amount of granular data to ensure compliance.

For financial institutions, addressing those regulatory requirements is highly burdensome, complex and costly. According to The Institute of International Finance (IIF), compliance can cost a financial institution over $1bn every year. McKinsey found that regulatory fines and settlements in 20 large US and EU universal banks increased by 45x in the 2010-2014 period[3]. And an estimate for financial institutions is now around 10-15% of total workforce dedicated to governance, risk management and compliance. The main issues for financial institutions are compliance costs, reliance on manual processes in data management and traditional issues related to the quality of data, such as accuracy, lack of common definitions or different formats.

The amount of data produced by financial institutions is increasing and regulators demand access to improve their vision of systemic risk and of the behaviour of the different agents involved in the financial ecosystem. The challenge is now how financial institutions will be able to address compliance in an efficient and less resource-consuming way while improving the quality of data reported to supervisors.

In this scenario, a new breed of companies under an umbrella concept labelled RegTech has emerged inside the FinTech ecosystem, arousing interest from regulators, central banks, corporate banks and traditional risk and regulatory consultancy firms. In fact, due to their potential to improve the relationship between regulators and financial entities, there are currently two initiatives respectively led by the UK Financial Conduct Authority (FCA) and by the IIF aiming to foster the deployment of these companies as an important piece of the development of an efficient financial ecosystem.

What is RegTech?

The term RegTech refers to a set of companies and solutions that marry innovative technology and regulation to address regulatory requirements across industries, including financial services. RegTech companies focus on the automation of manual processes and the links between steps in analytical/reporting processes, the improvement of data quality, the creation of a holistic view of data, the automated analysis of data with applications that are able to learn during the process, and the generation of meaningful reports that can be sent to regulators and used internally to improve key business decision making.

Why this sudden interest in regulation coming from the FinTech world? The business opportunity is clear, but companies are also realising that a better understanding of what drives a market's regulatory framework is key to successfully disrupting it. RegTech can be a big game changer for the incumbents –both banks and regulators. It may not seem as revolutionary as Uber was in the transport business, but financial services have been so deeply transformed by regulation that the landscape has been altered beyond recognition. In fact, regulatory changes are considered a source of disruption by 87% of Banking CEOs, according to a recent study by PwC[4].

Every business area where regulation and compliance have an impact is a candidate to explore RegTech solutions. Some examples include international tax regulations to enforce tax transparency, international accounting standards, regulatory reporting and liquidity risk management. Anti-money laundering and combating the financing of terrorism (AML/CFT) regulations is an area with strong regulatory requirements too, as are advisory services and investor protection.

3: McKinsey (2016): A best-practice model for bank compliance.
4: PriceWaterhouseCoopers (2015): Achieving success while managing disruption.

Needless to say, the use of technology for compliance is not new. However, RegTech promises agility, speed, increased integration and analytics. RegTech cannot deliver a solution for static requirements: it has to be a self-learning machine. That is why RegTech is usually cloud-based, which significantly cuts the costs and reduces the implementation time.

RegTech is an emerging trend and there is neither a closed definition nor a track record to confirm its potential benefits. However, companies in the RegTech space are focusing on:

- 'Big data' applications and techniques: there are a number of novel technologies available for real-time processing, 'big data' storage and integration of heterogeneous and textual data.
- Data mining and advanced analytics tools: there is an increasing range of machine learning, computational statistics, complexity and statistical physics algorithms (such as Deep Learning) that offer the potential of powerful data mining and simulation techniques for enhanced decision making.
- Visualisation tools: due to the complexity and quantity of data involved, regulators require powerful tools for the visualisation, understanding and reporting of multiple heterogeneous data sources without the need for extensive expertise in programming.
- Biometrics and social media analysis such as Know Your Customer (KYC) tools.
- Real-time and system embedded compliance/risk evaluation tools have the potential to improve operational efficiency and effectiveness, for example in trade surveillance, financial crime risk monitoring, anti-money laundering, customer profiling and conduct risk monitoring.
- Software integration tools: innovation in software that allows off-the-shelf accounting and compliance tools to interact directly with regulatory reporting systems.
- Predictive coding, which looks to identify patterns of activity, such as unusual use of communications, non-routine patterns of leaving the office, non-completion of training, or missing mandatory leave, which may flag potential conduct concerns.
- Open platforms and networks for sharing of data, format standards and common processes.

A first step towards dynamic regulation

RegTech's promise is to leverage existing systems and data to produce regulatory data and reporting in a cost-effective, flexible and timely manner without the risk of replacing/updating legacy systems.

However, this is only a first step towards a more ambitious vision on data-led dynamic regulation. Major efforts are being made to predict compliance problems through the use of advanced dynamic anomaly and pattern response systems, prediction markets alongside statistical systems, and automated surveillance. Another area of development is "firm-wide compliance architectures" with in-built compliance, using thousands of predictive analytic 'sniffers' automatically across the firm that are automatically attracted by any new process and identify anomalies for human attention. As a future goal, what these initiatives are trying to reach would be, in the words of Andy Haldane, Chief Economist of the Bank of England:

[...] I have a dream. It is futuristic, but realistic. [...] It would involve tracking the global flow of funds in close to real time [...], in much the same way as happens with global weather systems and global Internet traffic. Its centre piece would be a global map of financial flows, charting spill-overs and correlations[5].

5: Haldane, A.G. (2014). Managing global finance as a system. Bank of England.

Annex 1: principal monitoring indicators for the Spanish banking system

Table 1
Abridged balance sheet for the banking system. (EUR bn and % var.)

Assets	2009	2010	2011	2012	2013	2014	2015	Date	Growth rate 00-'08	08 - latest	y-on-y
Total lending	2,138	2,153	2,106	1,951	1,716	1,651	1,603	Dec-15	217%	-26.3%	-2.9%
Public corporations	*65*	*79*	*90*	*114*	*87*	*101*	*90*	*Dec-15*	*69%*	*70.0%*	*-11.2%*
Domestic resident sector	*1,837*	*1,844*	*1,783*	*1,605*	*1,448*	*1,380*	*1,327*	*Dec-15*	*234%*	*-29.0%*	*-3.8%*
Non residents	*237*	*230*	*234*	*232*	*180*	*169*	*186*	*Dec-15*	*164%*	*-26.4%*	*10.2%*
Fixed income securities and equity stakes	599	564	656	766	773	754	662	Dec-15	132%	33.0%	-12.2%
Fixed income securities	*415*	*384*	*406*	*509*	*493*	*492*	*416*	*Dec-15*	*135%*	*27.6%*	*-15.6%*
Of which: sovereign debt	*155*	*165*	*198*	*247*	*264*	*288*	*251*	*Dec-15*	*6%*	*150%*	*-12.9%*
Equity	*184*	*180*	*251*	*258*	*280*	*262*	*246*	*Dec-15*	*128%*	*43.3%*	*-5.8%*
Interbank lending	247	234	251	279	211	155	164	Dec-15	81%	-37.6%	6.1%
Other assets (net of interbank lending/deposits)	254	301	387	426	326	354	331	Dec-15	230%	15.3%	-6.4%
Total assets	**3,238**	**3,252**	**3,400**	**3,423**	**3,026**	**2,913**	**2,760**	**Dec-15**	**184%**	**-14.4%**	**-5.2%**
Liabilities and Shareholders' Equity											
Customer deposits	2,015	2,031	1,934	1,725	1,684	1,686	1,638	Dec-15	169%	-18.7%	-2.8%
Public corporations	*82*	*79*	*70*	*69*	*63*	*76*	*77*	*Dec-15*	*263%*	*1.3%*	*1.2%*
Domestic resident sector	*1,427*	*1,440*	*1,373*	*1,317*	*1,314*	*1,289*	*1,262*	*Dec-15*	*192%*	*-11.9%*	*-2.1%*
Non residents	*507*	*511*	*492*	*339*	*306*	*320*	*299*	*Dec-15*	*113%*	*-40.8%*	*-6.7%*
Interbank deposits	305	270	373	573	381	312	303	Dec-15	95%	-3.9%	-2.8%
Pro memoria: net interbank position	*58*	*36*	*122*	*294*	*171*	*157*	*139*	*Dec-15*	*215%*	*167%*	*-11.6%*
Debt issued	434	433	435	394	297	249	225	Dec-15	625%	-43.1%	-9.9%
Other liabilities	294	340	439	535	430	436	368	Dec-15	253%	15.0%	-15.7%
Shareholders' equity	190	178	220	195	233	230	227	Dec-15	134%	25.9%	-1.3%
Pro memoria: ECB funding	*76*	*67*	*119*	*313*	*202*	*141*	*133*	*Jan-16*	*356%*	*109%*	*-6.4%*
Total Liabilities and Shareholders' Equity	**3,238**	**3,252**	**3,400**	**3,423**	**3,026**	**2,913**	**2,760**	**Dec-15**	**184%**	**-14.4%**	**-5.2%**

Source: Bank of Spain statistics bulletin

Table 2
Abridged income statement for the banking system. Cumulative annual results (EUR mn and % var.)

	2009	2010	2011	2012	2013	2014	2015	Date	Growth rate 00-'08	08-latest	y-on-y
Net interest revenue	43,035	34,292	29,565	32,739	26,816	27,118	20,032	Sep-15	92%	-24.0%	0.8%
Net fees and commissions	12,163	11,870	11,750	11,275	10,931	11,257	8,430	Sep-15	79%	-13.7%	0.2%
Trading gains and other revenue	12,354	17,151	15,811	15,493	17,797	17,043	11,082	Sep-15	276%	-18.8%	-16.8%
Total revenue	**67,552**	**63,313**	**57,126**	**59,507**	**55,544**	**55,418**	**39,544**	**Sep-15**	**118%**	**-20.6%**	**-4.9%**
Operating expenses	-29,400	-29,431	-28,464	-26,951	-26,798	-26,116	-19,536	Sep-15	54%	-11.7%	0.2%
Personnel expenses	-17,742	-17,643	-16,889	-15,587	-15,108	-14,329	-10,617	Sep-15	54%	-20.9%	-1.6%
Other operating expenses	-11,657	-11,789	-11,574	-11,364	-11,690	-11,787	-8,918	Sep-15	54%	2.5%	2.5%
Pre-provision profit	**38,152**	**33,882**	**28,662**	**32,556**	**28,746**	**29,302**	**20,008**	**Sep-15**	**226%**	**-27.7%**	**-9.5%**
Loan-loss provisions	-19,551	-16,719	-22,668	-82,547	-21,800	-14,500	-8,081	Sep-15	620%	-29.3%	-27.9%
Other income, net	-4,234	-7,326	-23,430	-37,142	-2,789	-1,739	-2,674	Sep-15	-299%	187.4%	133.0%
Profit before taxes	14,367	9,837	-17,436	-87,133	4,156	13,063	9,253	Sep-15	108%	-39.5%	-5.0%
Net attributable income	**12,956**	**9,673**	**-14,717**	**-73,706**	**8,790**	**11,343**	**7,157**	**Sep-15**	**122%**	**-48.2%**	**-14.1%**

Source: Bank of Spain statistics bulletin

Table 3
Relative size, staff and installed capacity in the banking system (%, number and % var.)

	2009	2010	2011	2012	2013	2014	2015	Date	Growth rate 00-'08	08-latest	y-on-y
Lending to the private sector / GDP	170%	171%	166%	152%	139%	133%	123%	Dec-15	94%	-26.7%	-7.2%
Private sector deposits / GDP	112%	114%	111%	111%	113%	111%	107%	Dec-15	69%	1.1%	-3.6%
Number of employees	269,475	263,715	248,093	236,504	217,878	208,291	n.d.	Dec-14	14%	-25.2%	-4.4%
Number of branches	44,532	43,267	40,202	38,237	33,786	32,073	31,429	Sep-15	17%	-31.9%	-3.3%

Source: Bank of Spain statistics bulletin

Table 4

Breakdown of ORS loans, NPLs and NPL ratio by portfolio. (EUR bn, % and % var.)

									Growth rate		
Lending volume	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Date**	**00-'08**	**08 - latest**	**y-on-y**
Loans to households	**814**	**813**	**793**	**756**	**715**	**690**	**667**	**Sep-15**	**236%**	**-18.6%**	**-4.4%**
Of which:											
Housing loans	625	632	627	605	581	558	537	Sep-15	270%	-14.4%	-4.9%
Other loans to households	189	180	167	151	134	132	131	Sep-15	159%	-32.1%	-2.0%
Lending to corporates and SMEs	**1,000**	**1,013**	**971**	**830**	**719**	**674**	**655**	**Sep-15**	**237%**	**-35.6%**	**-2.4%**
Of which:											
Lending to real estate	453	430	397	300	237	200	181	Sep-15	517%	-61.4%	-13.5%
Other lending to corporates and SMEs	546	583	574	530	482	474	474	Sep-15	142%	-13.4%	2.6%
Total lending to domestic private sector *	**1,837**	**1,844**	**1,783**	**1,605**	**1,448**	**1,380**	**1,327**	**Dec-15**	**234%**	**-29.0%**	**-3.8%**
NPLs											
Loans to households	**29.9**	**26.0**	**28.7**	**37.0**	**49.4**	**46.8**	**39.1**	**Sep-15**	**1062%**	**60.8%**	**-18.4%**
Of which:											
Housing loans	17.9	15.2	18.2	24.0	34.6	32.6	27.0	Sep-15	1878%	82.1%	-19.7%
Other loans to households	12.0	10.8	10.5	13.0	14.8	14.1	12.1	Sep-15	607%	27.5%	-15.3%
Lending to corporates and SMEs	**61.9**	**79.7**	**109.9**	**128.4**	**146.1**	**124.6**	**101.2**	**Sep-15**	**818%**	**171%**	**-22.8%**
Of which:											
Lending to real estate	43.6	58.0	81.9	84.8	87.8	70.7	54.9	Sep-15	2790%	104%	-27.8%
Other lending to corporates and SMEs	18.3	21.7	28.0	43.6	58.2	53.9	46.2	Sep-15	232%	344%	-16.0%
Total lending to domestic private sector *	**93.3**	**107.2**	**139.8**	**167.5**	**197.2**	**172.6**	**134.3**	**Dec-15**	**808%**	**113%**	**-22.2%**
NPL ratio											
Loans to households	**3.7%**	**3.2%**	**3.6%**	**4.9%**	**6.9%**	**6.8%**	**5.9%**	**Sep-15**	**246%**	**97.4%**	**-14.7%**
Of which:											
Housing loans	2.9%	2.4%	2.9%	4.0%	6.0%	5.9%	5.0%	Sep-15	434%	112.7%	-15.6%
Other loans to households	6.3%	6.0%	6.3%	8.6%	11.1%	10.7%	9.3%	Sep-15	173%	87.9%	-13.6%
Lending to corporates and SMEs	**6.2%**	**7.9%**	**11.3%**	**15.5%**	**20.3%**	**18.5%**	**15.4%**	**Sep-15**	**173%**	**321%**	**-20.9%**
Of which:											
Lending to real estate	9.6%	13.5%	20.6%	28.2%	37.1%	35.3%	30.3%	Sep-15	369%	429%	-16.5%
Other lending to corporates and SMEs	3.4%	3.7%	4.9%	8.2%	12.1%	11.4%	9.8%	Sep-15	37%	413%	-18.1%
Total lending to domestic private sector *	**5.1%**	**5.8%**	**7.8%**	**10.4%**	**13.6%**	**12.5%**	**10.1%**	**Dec-15**	**172%**	**200%**	**-19.1%**

(*)Total ORS loans includes household loans, total loans for productive activities, non-profit agencies serving households (ISFLSH in Spanish) and unclassified lending. Since January 2014 this has included loans to Financial Credit Institutions.
Source: Bank of Spain statistics bulletin

Table 5
Breakdown of new lending volume. Annual cumulative amount (EUR bn and % var.)

									Growth rate		
Lending volume	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Date**	**03-'08**	**08-'15**	**y-on-y**
Loans to households	**123.4**	**74.3**	**63.3**	**51.2**	**60.5**	**75.7**	**5.0**	**Jan-16**	**0.7%**	**-59.3%**	**8.5%**
Of which:											
Housing loans	69.5	37.5	32.3	21.9	26.8	35.7	2.2	Jan-16	-15.6%	-59.0%	2.8%
Other loans to households	53.9	36.8	31.0	29.4	33.7	40.0	2.9	Jan-16	21.3%	-59.5%	13.3%
Lending to corporates and SMEs	**665.0**	**527.5**	**484.8**	**392.6**	**357.2**	**392.6**	**25.0**	**Jan-16**	**29.2%**	**-57.7%**	**-6.0%**
Of which:											
SMEs (loans < €1 million)	210.3	174.1	146.0	134.4	146.6	165.5	12.4	Jan-16	11.3%	-53.6%	2.3%
Corporates (loans > €1 million)	454.7	353.4	338.9	258.2	210.6	227.2	12.6	Jan-16	43.5%	-60.3%	-12.9%
Total new lending flows	**788.4**	**601.8**	**548.1**	**443.9**	**417.7**	**468.3**	**30.1**	**Jan-16**	**23.3%**	**-58.0%**	**-3.8%**

Source: Bank of Spain

Table 6
Breakdown of resident deposits (EUR bn and % var.)

									Growth rate		
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Date**	**00-'08**	**08 - latest**	**y-on-y**
Sight deposits	263	262	270	265	282	329	384	Dec-15	100%	57%	16.9%
Savings deposits	208	211	203	199	206	222	254	Dec-15	73%	22.3%	14.6%
Term deposits	720	744	698	684	668	588	499	Dec-15	270%	-30.7%	-15.1%
Foreign currency deposits	22	19	18	20	21	22	21	Dec-15	527%	-3.0%	-0.8%
Total deposits of domestic resident sector *	**1,213**	**1,236**	**1,188**	**1,168**	**1,177**	**1,160**	**1,159**	**Dec-15**	**163%**	**-4.4%**	**-0.1%**

(*)Total ORS deposits do not match up with the data in Table 1 because the latter includes Asset transfer liabilities, Subordinated deposits, Repos and Hybrid instruments.
Source: Bank of Spain statistics bulletin

Table 7
Interest rates on loans (rates in % and variation in bps)

	2010	2011	2012	2013	2014	2015	2016	Date	Growth rate (bps) 03-'08	08 - latest	y-on-y
Loans. Stock (NDER)											
Loans to households											
Housing loans	2.74	3.12	2.61	2.11	1.89	1.53	1.51	Jan-16	178	-412	-35.4
Other loans to households	5.36	5.73	5.78	5.80	6.10	5.98	5.98	Jan-16	113	-109	-10.7
Loans to corporates and SMEs	3.31	3.90	3.47	3.44	2.84	2.38	2.31	Jan-16	204	-317	-59.4
Loans. New lending transactions (APRC)											
Loans to households											
Housing loans	2.66	3.66	2.93	3.16	2.64	2.31	2.43	Jan-16	238	-352	-22.5
Consumer loans	7.47	9.11	8.32	9.52	8.98	8.43	9.04	Jan-16	237	-256	-32.8
Other	5.64	6.29	6.23	5.92	4.91	4.28	5.19	Jan-16	224	-275	-35.9
Loans to corporates and SMEs (synthetic average)	3.24	4.03	3.66	3.57	2.73	2.58	2.84	Jan-16	112	-230	-48.8
SMEs (loans < €1million)	4.40	5.39	5.35	5.18	4.13	3.28	3.70	Jan-16	165	-263	-80.5
Corporates (loans > €1million)	2.71	3.53	3.00	2.83	2.10	2.07	2.04	Jan-16	129	-236	-34.9

APRC: Annual Percentage Rate of Change; NDER: Narrowly Defined Effective Rate (APRC excluding commissions)
Source: Bank of Spain statistic bulletin

Table 8
Interest rates on deposits (rates in % and variation in bps)

	2010	2011	2012	2013	2014	2015	2016	Date	Growth rate (bps) 03-'08	08 - latest	y-on-y
Deposits. Stock (NDER)											
Households deposits											
Sight deposits	0.27	0.28	0.21	0.22	0.17	0.12	0.10	Jan-16	6.5	-57	-5.6
Term deposits	2.54	2.76	2.72	2.08	1.39	0.75	0.71	Jan-16	232	-366	-61.5
Corporates and SMEs deposits											
Sight deposits	0.68	0.61	0.37	0.35	0.31	0.24	0.26	Jan-16	111	-153	-6.9
Term deposits	2.56	2.68	2.64	1.93	1.39	0.91	0.90	Jan-16	223	-346	-44.2
Deposits. New transactions (NDER)											
Households deposits											
Sight deposits	0.27	0.28	0.21	0.22	0.17	0.12	0.10	Jan-16	30	-57	-5.6
Term deposits	2.74	2.79	2.83	1.50	0.66	0.39	0.35	Jan-16	225	-379	-28.6
Corporates and SMEs deposits											
Sight deposits	0.68	0.61	0.37	0.35	0.31	0.24	0.26	Jan-16	111	-153	-6.9
Term deposits	1.98	2.13	2.08	1.31	0.51	0.31	0.29	Jan-16	146	-316	-19.9

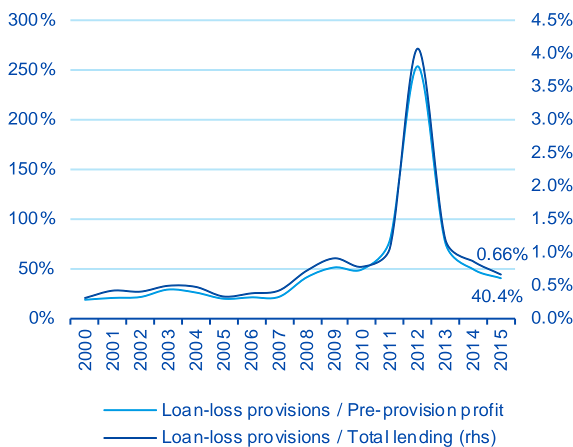
NDER: Narrowly Defined Effective Rate (APRC excluding commissions)
Source: Bank of Spain statistics bulletin

Table 7
Key ratios

	2009	2010	2011	2012	2013	2014	2015	Date	Growth rate 00-'08	Growth rate 08-latest	Growth rate y-on-y
Productivity											
Business volume* per branch (€000)	68,481	71,187	73,894	72,524	77,713	79,197	79,107	Dec-14	177%	621.1%	-0.1%
Profit before tax per branch (€000)	322.6	227.3	-433.7	-2278.8	123.0	407.3	392.6	Dec-14	82.2%	435.8%	-3.6%
Efficiency											
Cost-to-Income ratio (Oper. expenses / Total revenue)	43.5%	46.5%	49.8%	45.3%	48.2%	47.1%	49.4%	Sep-15	-29.3%	11.1%	5.4%
Operating expenses / ATA	0.91%	0.91%	0.86%	0.79%	0.83%	0.88%	0.92%	Sep-15	-43.4%	-4.0%	4.9%
Profitability											
RoE	7.0%	5.2%	-7.4%	-35.5%	4.1%	4.9%	4.2%	Sep-15	-3.4%	-59.7%	-12.3%
RoA	0.44%	0.30%	-0.52%	-2.55%	0.13%	0.44%	0.43%	Sep-15	-23.6%	-34.2%	0.2%
NIM (Net interest rev. / ATA)	1.33%	1.06%	0.89%	0.96%	0.83%	0.91%	0.94%	Sep-15	-29.6%	-17.4%	6.3%
Liquidity											
Loans-to-Deposits (resident sector)	152%	149%	150%	137%	123%	119%	114%	Dec-15	14.8%	-27.6%	-3.8%
Funding gap (Loans - Deposits EUR bn)	624.5	607.9	594.4	436.8	270.9	220.1	167.9	Dec-15	349%	-75.6%	-23.7%
Funding gap / Total assets	19.3%	18.7%	17.5%	12.8%	9.0%	7.6%	6.1%	Dec-15	57.7%	-71.4%	-19.5%
Solvency and Asset Quality											
Leverage (Shareholders' equity / Total assets)	5.9%	5.5%	6.5%	5.7%	7.7%	7.9%	8.2%	Dec-15	-17.8%	47.0%	4.2%
Shareholders' equity / NPLs	204%	166%	158%	117%	118%	133%	169%	Dec-15	-74.3%	-40.9%	26.9%
Provisioning effort (Loan-loss prov. / Pre-provision profit)	51.2%	49.3%	79.1%	254%	75.8%	49.5%	40.4%	Sep-15	121%	-2.3%	-20.4%
Cost of Risk (Loan-loss provisions / total lending)	0.91%	0.78%	1.06%	4.07%	1.19%	0.86%	0.66%	Sep-15	134%	-8.0%	-20.3%
NPL ratio (resident sector)	5.1%	5.8%	7.8%	10.4%	13.6%	12.5%	10.1%	Dec-15	172%	200%	-19.1%
NPL coverage ratio (total)	58.6%	66.9%	59.6%	73.8%	58.0%	58.1%	59.2%	Dec-15	-58.2%	-16.3%	1.9%
NPL coverage ratio (specific provisions)	37.7%	39.6%	37.1%	44.7%	46.9%	46.7%	50.1%	Sep-15	-39.0%	56.2%	2.5%

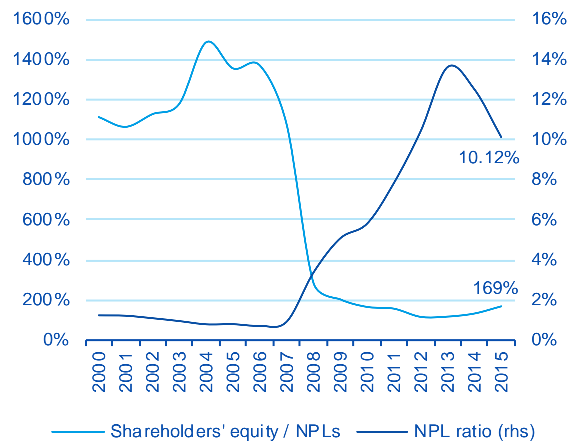
(*) ORS loans plus ORS deposits
Source: Bank of Spain statistics bulletin

Figure A1.1
Provisions



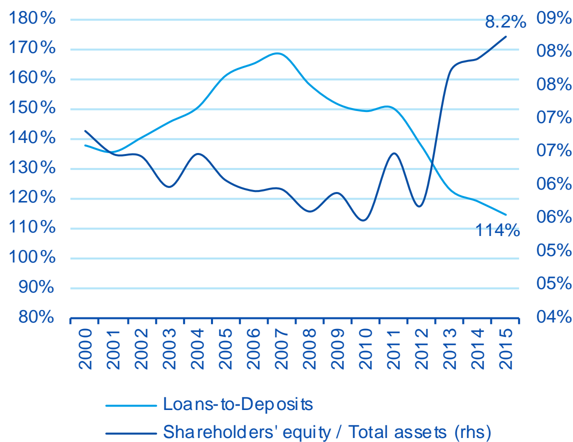
Source: BBVA Research

Figure A1.2
NPLs and Capital to NPLs



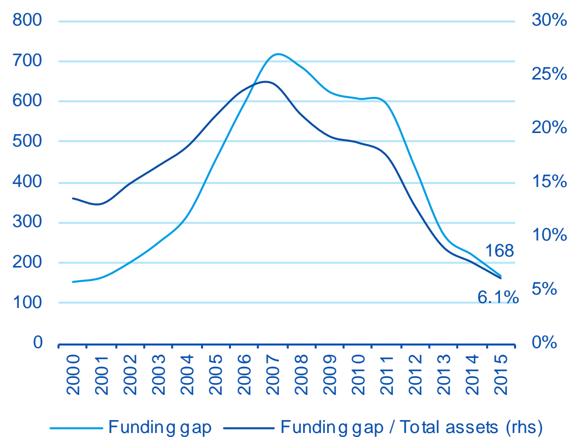
Source: BBVA Research

Figure A1.3
Liquidity and leverage



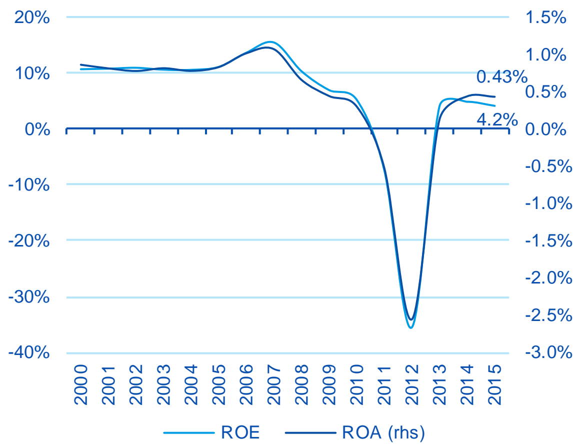
Source: BBVA Research

Figure A1.4
Funding gap (ORS loans – ORS deposits, EUR bn)



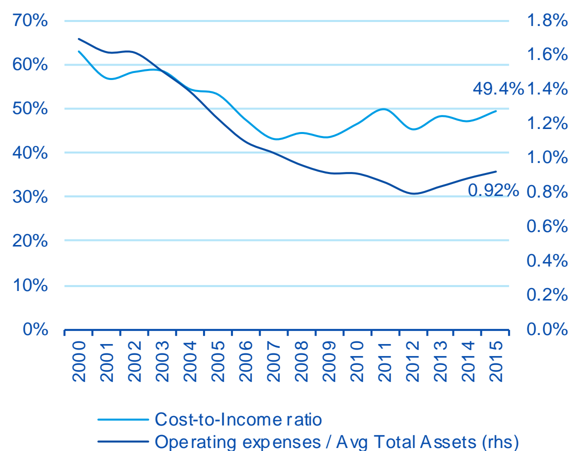
Source: BBVA Research

Figure A1.5
Profitability



Source: BBVA Research

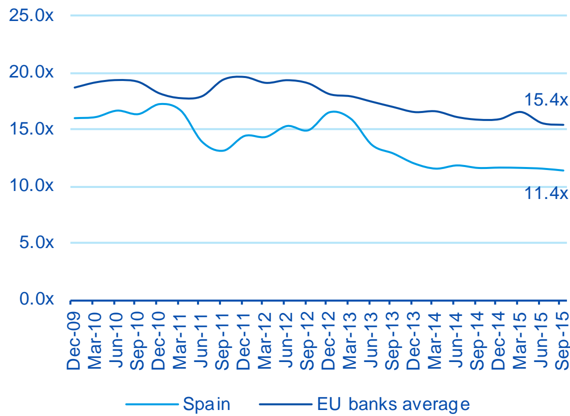
Figure A1.6
Efficiency



Source: BBVA Research

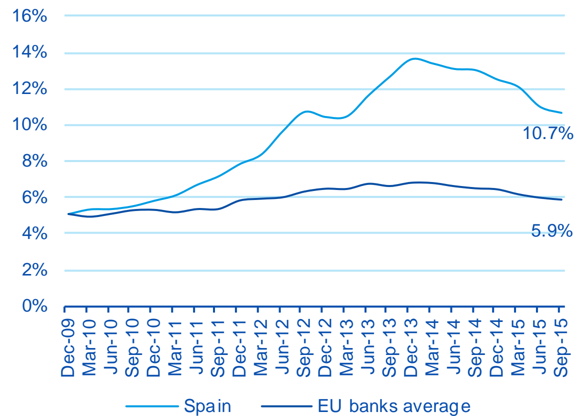
Annex 2: comparative analysis of the Spanish banking sector

Figure A2.1
Debt-to-Equity



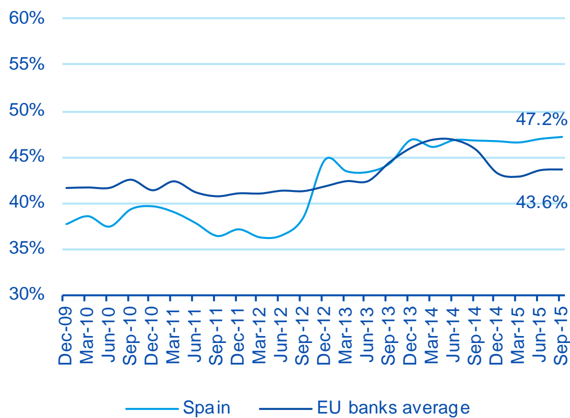
Source: EBA, BBVA Research

Figure A2.2
NPL ratio



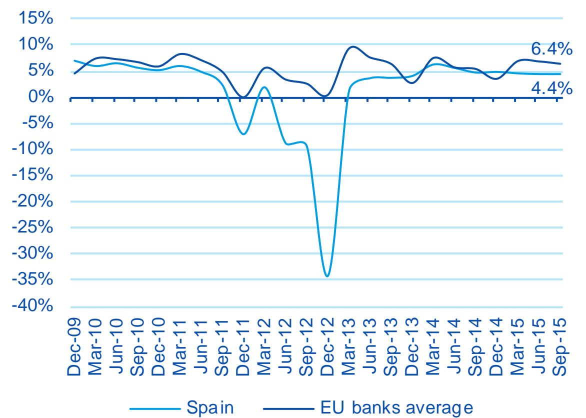
Source: EBA, BBVA Research

Figure A2.3
Coverage ratio



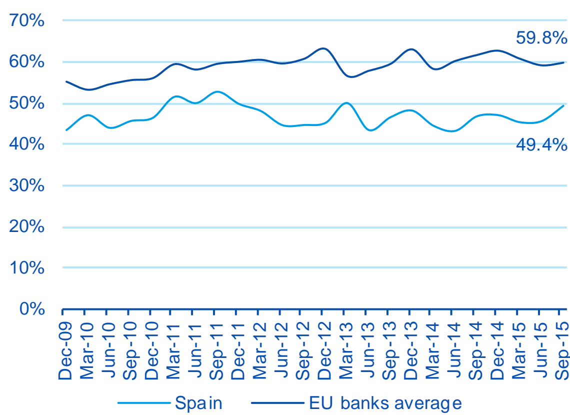
Source: EBA, BBVA Research

Figure A2.4
ROE



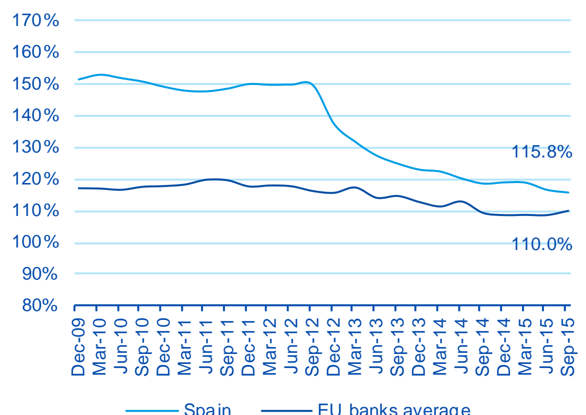
Source: EBA, BBVA Research

Figure A2.5
Cost-to-Income



Source: EBA, BBVA Research

Figure A2.4
Loans-to-Deposits



Source: EBA, BBVA Research

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