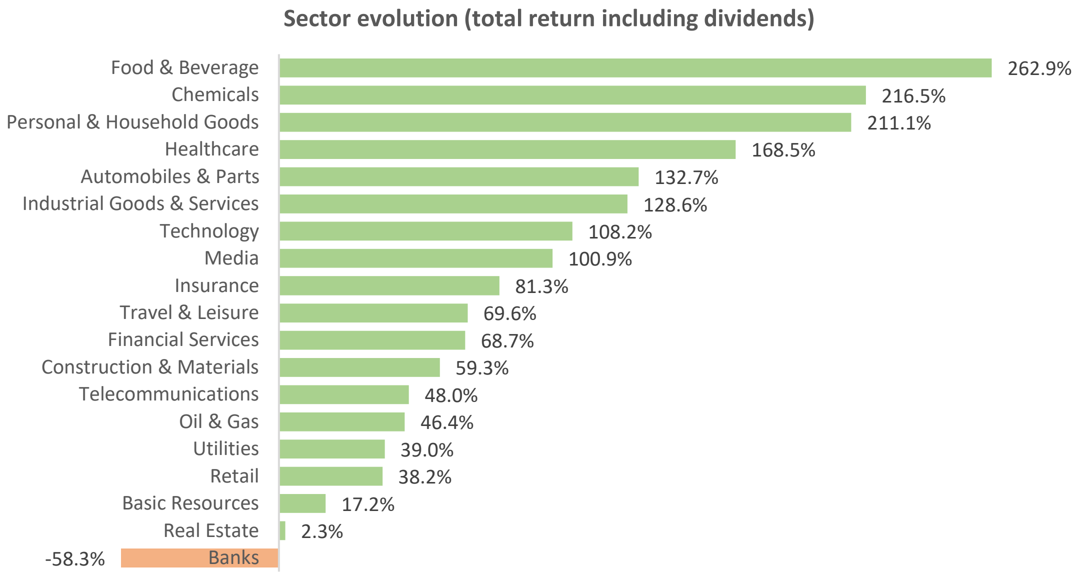
September 17th, 2019

European banks: What went wrong

On January 31th 2007, the banking sector represented 28.2% of the European reference index, thus being its largest component. Today this weight has been reduced to 9.5%. In addition, while all other sectors have obtained a positive return in these 12 years, the banks registered a fall that almost reaches 60%.



Why this divergence? Will the banks someday recover the lost ground, and if so, to what extent? In this report we will try to answer these questions and some others.

Why banks are different

A bank is the only company that has the capacity to create and destroy money. Because of that, they are a mechanism of transmission of the monetary policy of the countries. This transmission works in two ways:

1. **Percentage of reserves.** On all the deposits that a bank receives from its clients, it is obliged to deposit a percentage as reserves in the central bank. With the rest of the money, banks can grant loans to other clients. When a central bank wants to reactivate the economy, it may be enough to lower the percentage of reserves it requires to banks and these will grant more loans to the real economy.
2. **Remuneration of reserves.** On these reserves that a bank is obliged to have in the central bank, it receives some interests that the central bank marks (known as the deposit facility). If this interest is high, the banks will not lend much to the real economy since they will rather have it in this deposit without any risk. On the contrary, if this interest is low, the banks will grant more credits and the economy will accelerate.

Another unique feature of banks is their systemic nature: the bankruptcy of a bank generates many more problems than the closure of another company. That is why governments historically never let a bank go bankrupt. However, the financial crisis of 2008 uncovered that this posed a moral dilemma. If the banks assumed many risks and worked out well, the benefits were shared between their shareholders (in the form of dividends) and their workers (in the form of bonuses). On the other hand, if the operations went wrong, the shareholders would not lose more than their initial investment: extra losses would be borne by ordinary citizens in the form of tax-financed bailouts.

To prevent this from happening again, bank regulators have tightened their rules to the point that banks find it very difficult to take excessive risks. It has been done in 4 ways:

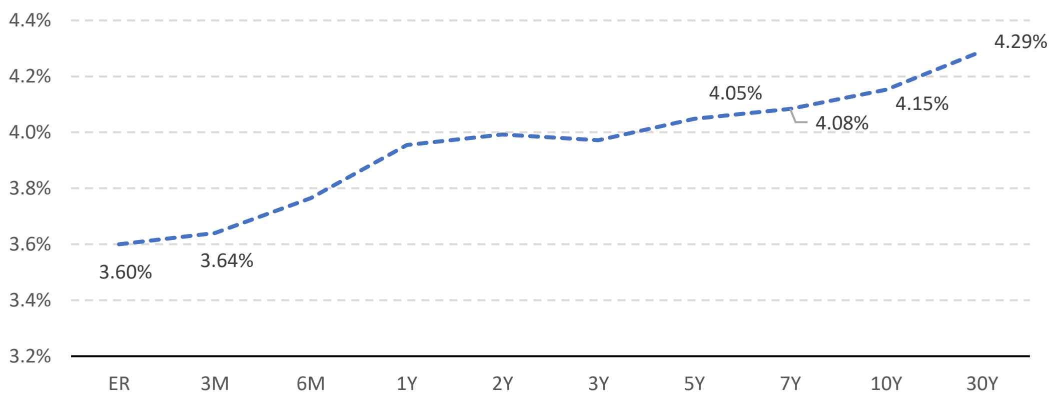
1. **Capital requirements**. Banks must have more capital in percentage compared to their total level of risk-weighted assets.
2. **Long-term financing**. A bank must make debt issues regularly that allow it not to rely on access to short-term credit.
3. **Liquidity ratios**. A significant percentage of a bank's assets must be in very liquid instruments such as state bonds.
4. **Resolution plans**. Banks must have contingency plans to disappear without damaging the entire financial system. For this purpose, the internal rescue instruments (CoCos) have also been created, which, although they are debt instruments, will lose their full value in case of bankruptcy.

How banks make money

Very summarized, the benefit of a bank is calculated as:

1. Interest charged to customers for loans, less
2. Interest paid to its depositors and debt holders, less
3. Losses derived from loan defaults, plus
4. Interest charged to the central bank for its reserves, less
5. Costs of managing the day to day of the bank.

Points 1 and 2 must always be analyzed together, since they are the essence of a bank's raison d'être: receiving money in the form of deposits that customers can withdraw in the short term and lending it in the long term in the form of loans. The difference between the amounts of points 1 and 2 will be marked by the interest rate curve, since the banks pay their depositors the near part of the curve and receive from the borrowers the distant part of the curve. This is how the Spanish rate curve was in January 2007:



Spanish banks paid their depositors around 3.6% annually and lent money charging around 4.1%. That year, Banc Sabadell generated €3,703m in interest and paid €2,372m to its depositors: it therefore generated €1,331m of benefits from this activity.

Activity 1 - Deposit Acquisition

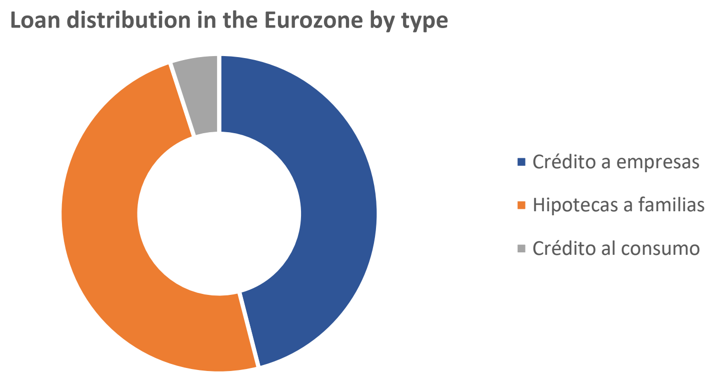
There are two main types of deposits where bank customers can deposit their savings:

1. **Current accounts:** Depositors can access their money whenever they want, but in return they receive a 0% interest. Due to the large amounts of liquidity that the European Central Bank has injected into the system with its operations in the open market (QE), the amount of money that customers have in current account has skyrocketed. Banc Sabadell, for example, has gone from having €12,434m in current accounts in 2007 to €107,665m today. Even Bankinter, which is the only Spanish bank that has not merged with others in recent years, has seen its current accounts increase from €9,309m to €39,819m in the same period.
2. **Fixed term deposits:** The client does not have access to the money during the established term, but in return receives an interest. Today they are not very attractive because of the almost zero profitability they offer. That is why they have not grown so much since 2007: in Banc Sabadell they have gone from €15,635m in 2007, to €60,798m in 2013 to €26,705m today.

About 42% of Spanish financial assets are now in bank deposits. Banc Sabadell today has €134,370m in deposits; CaixaBank € 204,980m.

Activity 2 - Granting credits

A bank's business is to lend the money that its clients have deposited. The money left over after granting these loans is deposited in the central bank (although we will cover that in activity 3).



There are three types of loans that banks grant:

1. **Mortgages**: They usually have a low risk because they have property as collateral. Since the beginning of the financial crisis, the number of mortgages that European banks have in balance has barely increased. Bankinter had in 2009 mortgages granted for €30,330m; Today it has €33,643m. The profitability of mortgages depends on the interest rate to which they are granted, which in turn depends on the back end of the interest rate curve.
2. **Consumer loans**: The most common types are credit cards and car loans. As they are not granted against a collateral, they have more risk and therefore demand a higher interest. They represent a small percentage of loans in the bank balance. Banc Sabadell has €7,807m of loans of this type; CaixaBank €35,404m. These loans have a more attractive return for the bank than mortgages, given the interest rate does not depend so much on the rate curve but is more stable (usually around 5% annual interest is asked).
3. **Company loans:** Unlike the US, where most companies are financed in the capital markets (corporate bonds), in Europe, companies rely much more on banks to finance

themselves. CaixaBank has for example €85,785m credits granted to companies. Although loans to companies usually have a shorter duration than mortgages, the profitability of these credits is also closely related to the distant part of the interest rate curve.

Activity 3 - Loan default losses

Not all loans granted by a bank are repaid. Intuitively, the percentage of defaults suffered by a bank is closely related to the economic cycle. Banks must make provisions when a customer stops paying, depending on how much they estimate they will be able to collect from that account. Normally these losses due to defaults usually represent around 1% per year of the amount borrowed; however, during the crisis and especially in Spain, this number has increased substantially.

Activity 4 - Invest excess liquidity

Normally, a bank will never lend more than what they have as deposits. With that excess liquidity, they can do different things:

1. **Invest in state bonds**: Usually the preferred option because of the low risk involved, although during 2012 this practice is precisely the one that generated a destructive spiral between the banking sector and governments. Banc Sabadell has €23,732m in sovereign bonds (mostly from European states); CaixaBank €31,155m.
2. **Deposit with the Central Bank:** It is an option without any risk, and the bank receives interest marked by the central bank. Banc Sabadell now has €22,065m in this deposit; CaixaBank has €27,848m.

What has changed since 2007?

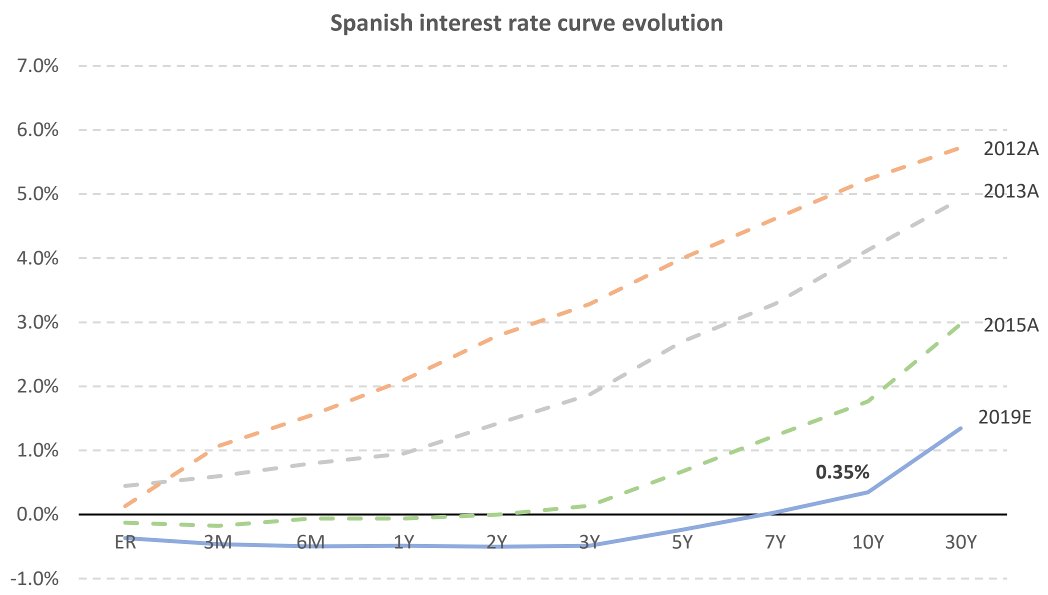
When the financial crisis exploded, the first thing that happened was that banks saw their **activity 3** – loan defaults raise. We compared here how much capital the banks had in 2007, and how much they had to provision each year for this item:

	Sabadell	**CaixaBank**	**Bankinter**	**Bankia**
Initial capital	€4,583m	€19,597m	€1,745m	€13,260m
Provisions 2007	€190m	-	€75m	-
2008	€571m	-	€186m	-
2009	€225m	-	€219m	-
2010	€396m	€2,112m	€216m	€2,034m
2011	€513m	€2,230m	€156m	€3,114m
2012	€1,330m	€3,835m	€410m	€18,181m
2013	€1,039m	€3,974m	€281m	€1,236m
2014	€1,763m	€2,054m	€234m	€973m
2015	€1,396m	€1,655m	€179m	€583m
2016	€441m	€468m	€153m	€221m
2017	€1,211m	€805m	€147m	€329m
2018	€756m	€124m	€63m	€426m
TOTAL	**€9,831m**	**€17,257m**	**€2,319m**	**€27,097m**

In other words, almost all the major Spanish banks have lost more money due to defaults since 2007 than capital they had before the crisis began. If they have survived, it has been thanks to the constant capital increases they have been carrying out. This is the only way to explain how Banc Sabadell, which in 2007 had 1,774m of shares outstanding, today has 5,537m.

These capital increases have allowed banks to move forward, but at the cost of diluting the original shareholders. This data will be relevant when measuring what is the potential for appreciation of the sector, since any benefit should now be shared among many more shareholders. If Banc Sabadell generates in 2019 the same benefits as in 2007, these should be distributed among 3.1x more shareholders.

The second problem that banks have faced has to do with **activity 2** - granting loans. In March 2015, and seeing that inflation in the euro zone was well below its 2% target, the European Central Bank launched a quantitative easing program that consisted in buying bonds from countries and companies in the secondary market to reduce its financing cost and thus reactivate the economy. Unfortunately for the European banking sector, that caused the distant part of the interest rate curve to collapse. This has had a devastating impact on the profitability they get by granting loans – especially when it comes to mortgages and loans to companies. The interest rate curve looks like this today:



Where in 2007 we said that Spanish banks charged around 4.1% for granting a 10-year loan, today they charge 0.35%. Obviously to this number we must add commissions and an additional interest for default risk, but it is common today to see mortgages granted in Spain with interest of around 1% for maturities over 10 years.

The last problem the sector has suffered has to do with **activity 4** - investing excess liquidity. For starters, the European Central Bank in 2007 paid 3% of deposits in its reserves. Today, and to stimulate the granting of loans, this remuneration is at -0.4%. That is, the central bank charges the banks for parking their reserves in it.

In addition, the yields of state bonds (the great asset that banks buy with the rest of their excess liquidity) have also fallen significantly. It is enough to see that the Spanish state charges interest for its debt issues of up to 6 years; and for longer terms it barely pays interest. This decrease has generated significant capital gains for the banks since the bonds that they had before the decline began, have risen much in value. But on the contrary, this activity does not generate any profitability today.

Putting all the pieces together

This is how all the gears of Banc Sabadell got together in 2007:

Activity	Quantity	Return	Earnings
Credits granted	€61,945m	5.9%	+ €3,651m
Deposit Remuneration	€30,986m	-2.7%	- €837m
State bonds investments	€5,421m	1.8%	+ €151m
Central Bank reserves	€1,221m	3.0%	+ €37m
External financing	€35,698m	-4.3%	- €1,535m
Commissions			+ €666m
Non-payments provisions			- €190m
Bank Fixed Expenses			- €1,250m
Earnings before taxes			**€693m**
Number of shares			1,774m
Earnings per share			€0.39
Price per share			€5.02
Price multiples / earnings			12.8x

And this is how it looks using 2018 account numbers:

Activity	Quantity	Return	Earnings
Credits granted	€142,987m	3.3%	+ €4,763m
Deposit Remuneration	€139,079m	-0.4%	- €523m
State bonds investments	€23,732m	0.9%	+ €225m
Central Bank reserves	€22,065m	-0.4%	- €88m
External financing	€67,045m	-0.7%	- €469m
Commissions			+ €1,559m
Non-payments provisions			- €756m
Bank Fixed Expenses			- €3,366m
Earnings before taxes			**€1,345m**
Number of shares			5,537m
Earnings per share			€0.24
Price per share			€0.96
Price multiples / earnings			4.0x

The main activity of a bank, lending money, is today half as profitable as it was 12 years ago. However, the alternatives (deposit it in the central bank, buy state bonds) are even worse. On the other hand, bank financing costs have also dropped a lot. Banc Sabadell is financed in the capital markets at a very low cost, and barely remunerates its depositors with interest. Therefore, the question that remains is: what would be the upside potential for European banks if the interest rate situation was normalized?

Upside potential (e.g. Banc Sabadell)

Activity	Quantity	Return	Earnings
Credits granted	€142,987m	5.0%	+ €7,149m
Deposit Remuneration	€139,079m	-1.0%	- €1,391m
State bonds investments	€23,732m	-2.0%	- €475m
Central Bank reserves	€22,065m	2.0%	+ €441m
External financing	€67,045m	-1.5%	- €1,006m
Commissions			+ €1,559m
Non-payments provisions			- €756m
Bank Fixed Expenses			- €3.366m

Earnings before taxes			**€2,155m**
Number of shares			5,537m
Earnings per share			€0.39
Price per share			€3.90
Price multiples / earnings			10.0x

In this model we are assuming:

1. An improvement in the economic and inflation outlook allows the European Central Bank to raise the deposit facility rate to 2%.
2. Credit grants are not affected by the rise in interest rates. Maybe there could be some repayments for this rise, but we don't expect it.
3. Banks can keep most deposits without remuneration. This seems feasible, since depositors do not usually move money from current accounts to fixed term until the central bank's interest rates reaches 3%.
4. Bank financing costs only rise moderately. This seems reasonable to us, since the banks have taken advantage of the current context to cover their financing needs in the coming years, and the effect of the increases would be very gradual in their financing cost.
5. Investment in state bonds will generate losses due to declines in the price of these assets.
6. The provisions for non-payments, management fees and fixed expenses of the bank remain stable.

The result is very similar for the other three Spanish banks that barely have international exposure (CaixaBank, Bankinter and Bankia):

CaixaBank

Activity	Quantity	Return	Earnings
Credits granted	€217,967m	5.0%	+ €10,898m
Deposit Remuneration	€208,140m	-1.0%	- €2,081m
State bonds investments	€27,848m	-2.0%	- €557m
Central Bank reserves	€19,158m	2.0%	+ €383m
External financing	€74,718m	-1.5%	- €1,120m
Commissions			+ €2,898m
Non-payments provisions			- €804m
Bank Fixed Expenses			- €6,545m
Earnings before taxes			**€3,072m**
Number of shares			5,981m
Earnings per share			€0.51
Price per share			€5.10
Price multiples / earnings			10.0x

Bankinter

Activity	Quantity	Return	Earnings
Credits granted	€55,262m	5.0%	+ €2,763m
Deposit Remuneration	€48,468m	-1.0%	- €485m
State bonds investments	€5,968m	-2.0%	- €119m
Central Bank reserves	€4,756m	2.0%	+ €95m
External financing	€21,691m	-1.5%	- €352m
Commissions			+ €556m
Non-payments provisions			- €63m

Bank Fixed Expenses			- €1,254m
Earnings before taxes			**€1,141m**
Number of shares			899m
Earnings per share			€1.27
Price per share			€12.70
Price multiples / earnings			10.0x

Bankia

Activity	**Quantity**	**Return**	**Earnings**
Credits granted	€118,285m	5.0%	+ €5,914m
Deposit Remuneration	€126,275m	-1.0%	- €1,263m
State bonds investments	€29,418m	-2.0%	- €588m
Central Bank reserves	€3,170m	2.0%	+ €63m
External financing	€55,715m	-1.5%	- €836m
Commissions			+ €1,149m
Non-payments provisions			- €426m
Bank Fixed Expenses			- €1,965m
Earnings before taxes			**€2,048m**
Number of shares			3,070m
Earnings per share			€0.67
Price per share			€6.70
Price multiples / earnings			10.0x

Key take-aways

1. European banks suffered in the 2007 – 2015 period due to losses arising from defaults, which forced them to recapitalize to avoid failure. This has massively increased outstanding shares and therefore profit must be distributed among a larger base. This has lowered its revaluation potential.
2. From 2015 until today, banks have had to face the negative effects of the launch of Quantitative Easing by the European Central Bank.
3. The most obvious effect of these measures has been to make their business of lending less profitable. In addition, it penalizes the reserves they deposit in the central bank and makes their investment in state debt instruments less profitable.
4. On the other hand, it has greatly reduced the financing costs of banks. Today they can avoid paying their depositors and issue debt at a minimum cost.
5. When the interest rate situation normalizes, we believe that the net effect will be positive for banks, since the increase in the profitability of their loans will have much more impact than the increase of their financing costs.
6. As we have seen with American banks since 2016, this will be especially relevant during the first interest rate increases, when banks will be able to keep that profit without transferring almost anything to depositors.
7. On the other hand, if Europe is moving towards a scenario similar to that which Japan has been suffering since 1991, where during the next 10 years we will see GDP growths between 0% and 1%, negative inflation and interest rates anchored at 0%, banks will continue to suffer greatly on the stock market.
8. The other threat to European banks comes from the technology sector, where companies that offer the same services as a traditional bank via the Internet have emerged. Thanks to having neither physical offices nor many workers, they can be very competitive in terms of costs and commissions. However, they still have to overcome the great challenge of distrust caused by their novelty.

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