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Country Review

Spain is ticking the right boxes

Periodical

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Now, with a higher probability of seeing Portugal emulate Greece and Ireland in having to resort to support from both the EU and IMF, all eyes are turning to Spain as the next country in line for an extension of the European peripherals crisis. Indeed, Spain shares many features with Ireland and Portugal: high fiscal deficits, elevated private sector debt and structural banking issues.

Fortunately, markets have increasingly differentiated Spain from the smaller peripherals. Although substantially higher than a year ago, Spanish sovereign interest rate spreads have stabilized over the last 3 months. Madrid Bourse is one of Europe's best performers since the beginning of 2011 and a significant fraction of banks there are able to tap the market and are not reliant on the ECB for funding.

We find that such market differentiation is warranted. We think that resilience in the Spanish macroeconomic performance since the summer of 2010, in spite of painful fiscal consolidation and very elevated unemployment is likely to continue into the next few years and that this country should be able to deliver a positive, albeit slow, growth rate consistent with a sustainable path for public debt. This conclusion even holds if Madrid finally consents to a substantial injection of government guaranteed cash into its ailing savings banks.

Indeed, any assessment of the Spanish outlook needs to be based on a comprehensive review of the consequences of the Spanish housing bubble which affects not only macroeconomic conditions but also is directly or indirectly relevant for valuing most asset classes.

We start by taking a hard look on the state of affairs in the "Cajas". Under a reasonably conservative scenario, allowing for an extension of the current scope of problematic assets and severe LGDs, we think that savings banks may need to raise EUR 29.2bn in funds coming from private investors and/or from the Government. However, we recognize that in order to assuage market concerns "once and for all", a "shock and awe" strategy might be recommended and gauging the recapitalization needs on a more severe, if unlikely scenario, may make sense. Even then, we reiterate our view that a buffer in the vicinity of EUR 70bn, i.e. 7.0% of GDP, would probably suffice in this case. This would still be consistent with a sustainable public debt trajectory.

We go on to provide a cross-asset review of investment opportunities in Spain, looking a financials' equity and credit, covered bonds, sovereign bonds and ABS. Although we are confident that the "systemic concerns" over Spain should not be overstated, we remain prudent on Spain in most of these asset classes. We consider that covered bonds may be the best opportunity to be long Spanish risk at this stage.

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Spain can survive fiscal retrenchment

- **That Spain did not experience a "double dip" in the second half of 2010 in spite of significant fiscal austerity measures and complete credit strike is in itself quite an impressive performance. We attribute this to "Ricardian equivalence by stealth", i.e. a decline in the households' savings ratio triggered by the beginning of a stabilization of the labour market, albeit at a very high level of unemployment, compounded by a stronger than expected export performance. We think that Spain meets the conditions for a continuation of slow, but positive growth in 2011 and 2012.**
- **The government, after some delay, has embraced a program of structural reforms combined with front-loaded fiscal retrenchment. This is gradually winning back investors' confidence. More efforts by regional governments are necessary, but we think that at this stage the danger posed by the finances of the communities should not be overstated.**
- **We consider that Spain's public debt is on a sustainable path, stabilizing marginally below 80% of GDP from 2014 onwards, even if nominal growth is capped at 3% for the next 10 years, the average interest rate on outstanding debt converges towards the recent peak in marginal funding costs, and the government finally consents to a meaningful recapitalization of the savings banks.**
- **However, the risks remain tilted to the downside. Potential disappointment could stem from lower-than-expected traction from the rest of the Euro area, continuation of the credit strike (which would be the result of insufficient recapitalization), and finally "consolidation fatigue", especially if the central government is forced to compromise with increasingly demanding regional parties.**

In 2010, Spain looked at risk of a recessionary spiral

Contrary to core Eurozone countries where the recession of 2008/2009 was mainly attributable to the slump in world demand brought about by an oil shock and the sudden seizure in global financial markets, Spanish GDP would probably have contracted anyway under the weight of domestic imbalances and structural flaws.

The steep decline in real interest rates in Spain brought about by monetary union, released previously rationed demand for housing. The construction sector became the engine of Spanish growth, with residential investment funded by over-leveraged property developers reaching a peak of 7.5% of GDP in 2006 (5.5% in Germany, 6% in France). The subsequent collapse in residential construction directly explains more than half of the cumulated GDP contraction between the beginning of 2008 and the end of 2009 (2.6% out of 4.9%) while this played only a marginal role in the rest of the Euro area (0.8% out of 4.8%). Furthermore, since construction is a low-productivity sector, the share of this industry in total employment was even larger than in GDP, peaking at 13.3% in 2007 (6.8% in France and 5.6% in Germany). Job destruction in this sector was the main transmission channel of the property slump to the rest of the economy, in a country where wealth effects plays a minor role, in the absence of home equity withdrawal mechanisms.

However, quite rapidly all sectors of the Spanish economy beyond construction started to contribute to the deterioration in the labour market. As early as in the second half of 2008, workers previously employed in the services sector contributed more than half to the overall increase in registered unemployment. Contrary to the rest of the Euro area where the reaction of the labour market to the recession was quite subdued, the unemployment rate shot up very rapidly, exceeding 20% in Spain.

In our view, the magnitude of labour market deterioration stems to a large extent from a very rigid wage settlement system, where a majority of employees are covered by "claw back" clauses which ensure that nominal wages "catch up" when actual inflation has exceeded initial forecasts. In Spain, the rebound in real wages in 2009 - when the base effect from the oil shock of 2008 was holding back inflation – was significantly more powerful than in the rest of the Euro area (see Figure 1). Unemployment in Spain is the valve of adjustment in the wage/inflation loop.

Figure 1: Spanish real wages have been recession proof

Source: INS, Eurostat

By the beginning of 2010, the received wisdom was that Spain was poised for a recessionary spiral:

- The level of unemployment was seen as inconsistent with any meaningful recovery in consumer spending, as well as triggering a further correction in the property market.
- A ballooning deficit in 2009 (11.2% of GDP) - the consequence of the spontaneous cyclical deterioration and initial efforts at fiscal mitigation of the recession - needed immediate attention and forced a complete turnaround in the fiscal stance under market pressure. The discretionary fiscal retrenchment in 2010 alone reached 2% of GDP in our estimate.
- The loss of competitiveness incurred during the "boom years" was seen as preventing Spain from offsetting the contraction in domestic spending with more robust export growth.

In reality, Spain managed to exit from recession in Q1 2010 and GDP has not contracted since, even if growth remains very subdued (+0.6% yoy in Q4 2010). Spain's economy is actually quite resilient, considering the challenges it is facing.

Ricardian equivalence by stealth

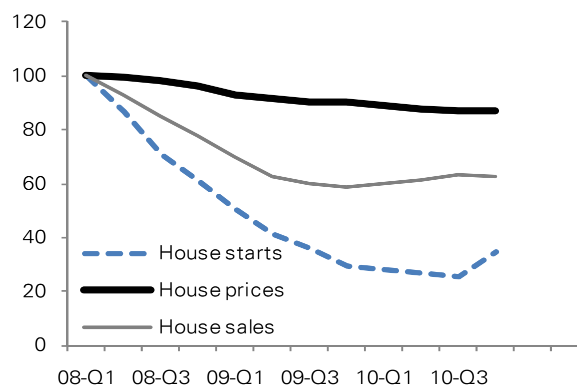
The positive surprise in 2010 came from the relative resilience in consumer spending, which dampens the impact of the fiscal consolidation on domestic demand. This resilience in consumer spending can in our view be largely attributed to the stabilization of the labour market.

Judging by Eurostat's harmonized measure, the unemployment rate has actually come off marginally from a peak at 20.6% (Eurostat's harmonized data) in October 2010 to 20.4% in January 2011. This may be partly attributable to a swift deceleration in wages – the symmetrical effect from the impact of the claw back clauses in times of price deceleration (in real terms wages have contracted by 1.1% in 2010), but also to the exhaustion of the job destruction process in the construction sector as well as the beginning of a normalization in employment dynamics in the services.

Two years after the beginning of the property market correction, the signs of recovery are scarce (see Figure 2). Still, from the point of view of job creation, it is the *change* in activity that matters, not its *level*.

If anything, it is the limited decline in house prices (-13.2% since the peak of early 2008) which is surprising in such an environment. The reasons for this are unclear to us. A "macro" explanation would be first that there is no real alternative to owning a house in Spain where the rental market is under-developed (the owner-occupancy ratio stands at 82%), and second to the steep fall in mortgage servicing costs (directly linked to money market rates) which have held back any substantial movement of forced sales. However, we think that there is insufficient clarity on house prices in Spain and note that the available indices are based on surveyors' appraisals, not actual transactions, and banks' buybacks of mortgaged properties also blur the picture (more details on this in the section on ABS, page 31).

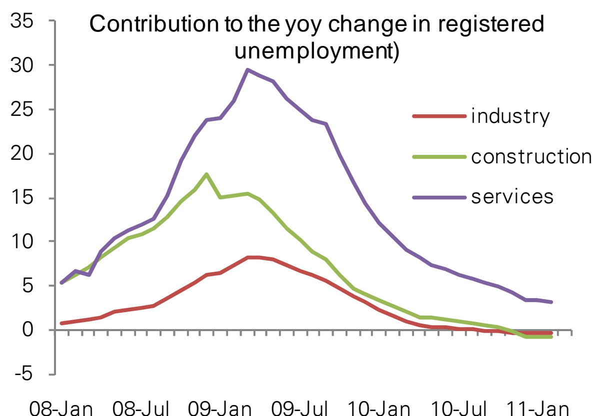
Figure 2: Construction is stabilizing at a very low level



Source: Ministerio de Vivienda

Still, the picture is, in our view, clearer based on activity indicators. True, housing starts at the end of 2010 stood at only one third of the pre-recession level but they are now modestly picking up, even if the pace of transactions remains very subdued. We do not expect any material improvement in the construction sector for several years, given the need to absorb a considerable overhang in housing over-capacity, but a stabilisation is all that is needed to provide a floor to employment in this sector, and this seems to be happening already. Indeed, the flow of new unemployed from this sector of the Spanish economy is now marginally negative (see Figure 3).

Figure 3: Unemployment is stabilizing



Source: INE

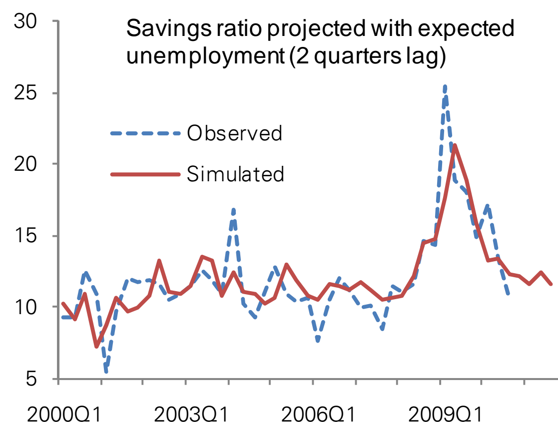
The services sector continues to lose jobs but at a much more subdued pace than in 2009, in spite of the fiscal retrenchment which would normally affect it more directly than any other. In our view, this can be explained to a large extent by a normalisation in tourism receipts. Indeed, in 2009 Spanish services, theoretically insulated from the direct impact of the construction slump and the collapse in world trade, were hit by a sharp contraction in tourism receipts (see Figure 4). This reversed in the summer of 2010, as non-residents stays in Spanish hotels rose by more than 15% year-on-year.

Figure 4: Normalization in tourism receipts

Source: INS

The correlation between households' expected unemployment rate and the savings ratio is quite tight. A simple model explaining the savings ratio (which we seasonally adjust ourselves) with cyclical income and expected unemployment (taken from the European Commission consumer confidence survey) with a lag of 2 quarters has a strong predictive power (see Figure 5). In 2008 and 2009 steep de-leveraging compounded the direct impact of job losses on domestic spending. Still, thanks to the stabilisation in labour market conditions, households' expectations have started to improve and the savings ratio has already declined markedly.

Figure 5: Tight unemployment expectations/savings ratio relationship



Source: DB Global Markets Research

Households' perceptions of the labour market continue to improve. According to the monthly EC consumer confidence survey the balance of opinions on future unemployment stood only 0.1 standard deviations above its long term average in February 2011, substantially lower that at the peak of December 2008 (nearly 3 standard deviations) and down from 0.5 standard deviations in October 2010. Accordingly, we think that a further moderate decline in the savings ratio should offset much of the decline in purchasing power – further fuelled by the recent spike in imported inflation and administered prices - allowing consumer spending to stay in marginally positive territory over the forecasting horizon. Note that the fiscal consolidation program is front-loaded on 2010 and 2011. By 2012, its impact of domestic demand will be more manageable.

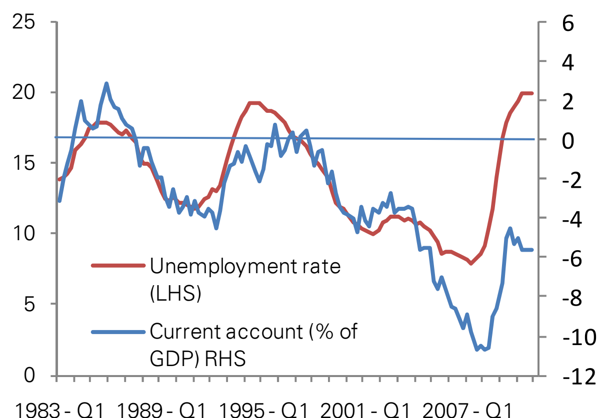
Current developments in Spain, where a lower savings effort by households helps to offset higher savings from public finances is at first glance akin to "Ricardian equivalence". We actually think that the mechanisms at play there have little to do with families anticipating lower taxes in the future thanks to swift action on the deficits (the normal theoretical grounding of the Ricardian equivalence), but more with the fact that it so happened that job destruction slowed down exactly when the government converted to fiscal retrenchment.

A widespread concern about Spain though is the fact that even if it stabilizes, the extremely high level of unemployment may gradually fuel a social and political backlash, "reform fatigue" and ultimately populist expansionary fiscal policies. In our view, such a danger should not be overstated. Indeed, although Spanish unemployment looks extremely high in comparison with the rest of the Euro area, it is not really exceptional by national standards. The unemployment rate in Spain in the

1980s and in the first half of the 1990s hovered between 13% and 20%.

Using the OECD's harmonized measures of unemployment for long term comparison, it is plain to see that the only times when the unemployment rate fell to Euro average levels happened to be periods of extreme external imbalances (see Figure 6). The structural unemployment rate in Spain - which we would define here as the level triggering enough restraint in domestic spending to maintain a sustainable current account deficit is probably quite close to 20%. That this state of affairs is deeply inefficient – and testament to the rigidity of wage setting - is clear, but it also means, in our view, that that the "social fabric" of Spain is organized around structurally high unemployment

Figure 6: Unemployment as the adjustment valve of external imbalances



Source: OECD

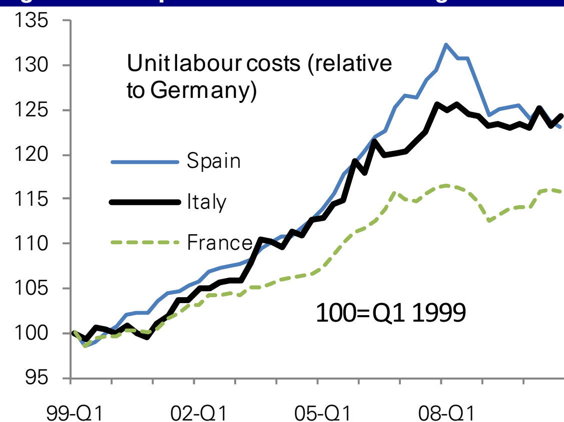
Note, however, that households will have to face an additional headwind in 2011: the impact of the ECB tightening on their mortgages, an overwhelming majority of which are variable and directly linked to money market rates. Applied on the stock of mortgages, the 75 bps rise in the ECB refi which we expect between April and December of 2011 would mechanically shave off 0.9% of disposable income in 2011. Still, this would be almost entirely offset by the increase in interest payments on a stock of EUR 808bn of fixed interest rate assets, only marginally smaller than the stock of mortgages (EUR 869bn). On balance, we expect the net impact of monetary tightening on consumer spending to be negative since net creditors have in general a higher saving ratio than net borrowers, but with a still manageable magnitude, probably to the tune of 0.4 pp.

Better than expected export performance

The deterioration in Spanish competitiveness during the "boom years" has been considerable. Indeed, between the start of monetary union in 1999 and the start of the recession in early 2008, unit labour costs rose by 33% cumulatively in Spain, significantly more than in Italy (+25.7%), France (17.2%) and Germany (+0.6%). This fuelled a widely held belief at the beginning of 2010 that Spain would have to undergo years of "competitive deflation" to be able to reap any benefit from the recovery in global demand.

We think that this view is conceptually flawed. Indeed, what matters to export performance, i.e. the relationship between world demand and actual exports, is not the *level* of competitiveness but its *change*. Indeed, as long as a country manages to maintain its costs – usually proxied by unit labour costs – in line with those of its competitors, then exports should grow exactly as fast as world demand (i.e. market shares do not move). "All" Spain had to do is to maintain the drift in its labour costs within the range of the other European countries, instead of systematically outpace them as has been the case over the last decade – to get decent external traction. Actually, Spain did better than that, with a fall in ULC of 2.4% since the start of the recession, which has resulted in a significant improvement relative to the core European countries.

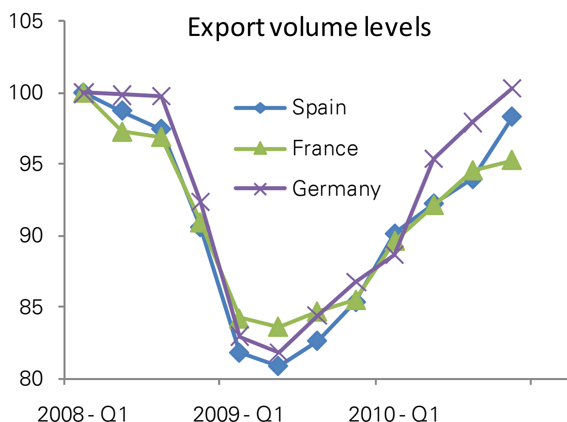
Figure 7: Competitiveness drift is being corrected



Source: Eurostat

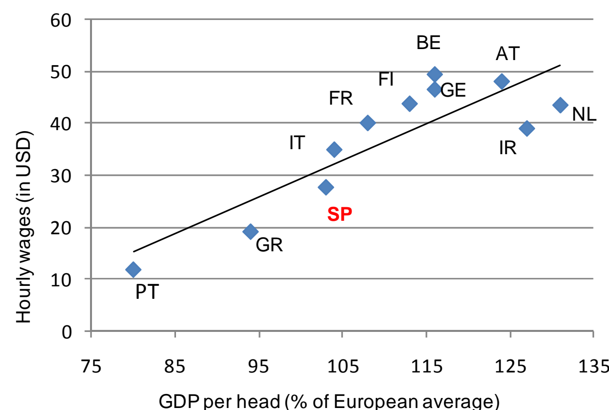
Spanish Exports picked up quite markedly in late 2009 and 2010, and their profile is not different from that in the core Euroland countries. In Germany, the volume of exports at the end of 2010 was already marginally above its pre-recession level (+0.7% relative to Q1 2008), but the gap for Spanish exports is small (1.4%) and smaller than on the other side of the Pyrenees (see Figure 8).

Figure 8: Exports nearly back pre-recession levels



Source: Eurostat

Figure 9: Spanish wages commensurate with productivity level



Source: BLS, Eurostat, DB Global Markets

Spain remains a "Euro-centric" exporter, with the Eurozone absorbing 55% if its exports. Shipments to fast-growing Latin America helped with a progression of 32.4% between 2009 and 2010, but this support should not be overstated as it brought a contribution of only 1.5 pp to the overall 17% gain in exports. France matters significantly more, with a contribution of 2.4 pp. Since we expect decent growth in the Eurozone in 2011-2012, we are accordingly confident that external traction should continue to bring crucial help in maintaining Spanish GDP growth in positive territory, albeit only marginally so.

Swift progress needed on structural reforms

Even after years of fast-rising pay, the relative level of wages remains quite low in Spain, and this should be an asset in attracting foreign direct investment which would in turn offset the lack of domestic productive capital spending. According to the data collected by the United Sates' Bureau of Labour Statistics, hourly labour costs in manufacturing stood at only USD 27.7 in 2009 in Spain, against USD 40.1 in France and USD 46.5 in Germany.

Normally the level of wages should be commensurate with that of productivity, so that unit labour costs equalize internationally and make world trade possible. Indeed, the relationship between hourly labour costs and GDP per head (a broad measure of productivity) in the "old" members of the Euro area is quite tight and follows a positive slope. Interestingly, relative to the correlation line, Spain – with all the other peripherals – looks "cheap" relative to productivity. The level of wages per se should not hamper Spain's trade and inward investment performance.

Structural issues may matter more. In particular, the rigidity of the employment system could be a major deterrent for any international investor. Indeed, the Spanish labour market is heavily segmented, with 70% of the workforce enjoying iron-clad contracts and 30% on lightly regulated temporary contract.

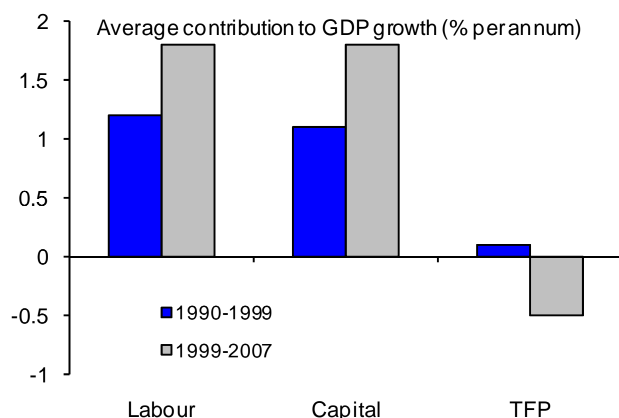
This was chronologically the first structural reform implemented by the government in the summer of 2010. Until then, in most cases laid-off employees received a severance payment of 45 days of salary for each year spent in the company. This has been reduced to 33 days and even 20 days per annum when the lay-offs could be justified by "economic losses" faced by the company. At the same time, employment laws were revised to encourage the transformation of fixed-term contracts into open-ended ones.

The rationale for this compromise is multi-faceted. First, making open-ended contracts more flexible should facilitate the transfer of workforce across sectors, at a time when Spain needs to re-allocate labour as well as capital away from low-productivity industries such as construction and personal services to manufacturing. Second, it may alleviate "labour rationing" by reducing the sunk costs induced by hiring. Third, encouraging businesses to transform repeated short-term contracts into open ended ones may change attitudes towards workforce quality and in particular trigger investment in human capital from both employers and employees.

Indeed, Spain has to depart from the "extensive" growth model of the last 10 years, in which GDP growth was pushed by the accumulation of a large quantity of unskilled labour and capital inputs with little impact on the productive base (residential construction). In the 8 years between the start of EMU and the recession, total factor

productivity (TFP) – i.e. the share of GDP growth which can be attributed to technical progress - actually fell in Spain (see Figure 10).

Figure 10 Spain has to depart from its "extensive growth" model



Source: INS, INE, DB Global Markets Research

The concrete impact of these reforms on economic growth normally takes years to materialize, but at least the socialist government chose to confront its own natural electoral base on this issue. The general strike of September did not stop the process. The polls do not suggest any meaningful drift towards the radical left. The centre-right Partido Popular clearly is the alternative to the socialists, and they would almost certainly pursue the same kind of supply-side reforms. That Spain has to deal once and for all with employment laws inherited from the pre-democratic past probably is largely consensual in public opinion.

However, another structural reform, that of the wage bargaining process, may be quite urgent. The "claw-back" clauses of the collective agreements could harm the Spanish economy next year because of the current spike in inflation triggered by the VAT hikes combined to the global acceleration in food and energy prices. Inflation already stands at 3.4% yoy in February 2011 in Spain, a full percentage point above the Eurozone average. The government has announced a reform of the wage bargaining system for this spring. In our view, it is crucial that the claw-back clauses disappear from the collective agreements.

Fiscal progress: watch the regions

In our view, the contrast between Spain and the smaller peripherals in terms of market sentiment which has emerged over the last few months is attributable to a large extent to steady progress in curbing the fiscal deficit. Indeed, while the deficit continued to deteriorate in Portugal and Ireland this year when correcting for one-off capital operations. In Spain, the general government deficit retreated from 11.1% of GDP in 2009 to 9.2% in 2010, marginally better than targeted (9.3% of GDP). This improvement is attributable to the exhaustion of the fiscal expansionary measures of 2008 and 2009 (transitory rebate in income tax for instance) but first and foremost to the tough measures taken in May 2010 (VAT rate hike, cut in public sector wages by 5%, contraction in public employment).

However, the breakdown across administrative layers reveals that the bulk of the effort came from the central government, which managed to reduce its deficit quite swiftly from 9.3% of GDP in 2009 to 5.0% in 2010, doing significantly better than expected as the target stood at 5.9% of GDP. This over-achievement offset slippage in social security (deficit of 0.2% of GDP against a targeted surplus of 0.2%) and more importantly that of regional governments whose aggregate deficit rose to 3.4% of GDP from 2.0% in 2009, 0.3 pp above target, according to preliminary data.

Central government finances should continue to improve this year thanks to sustained action on spending. The budget bill for 2011 is based on cuts in non-financial outlays of 7.9%, while the impact of the May 2010 program will be felt over the whole year instead of only 7 months as in 2010. This will have to be carefully monitored though to correct any slippage appearing in the monthly data. For the time being, the consolidation seems to remain on track. The coupon distribution profile explains why, on a cash basis, the overall deficit rose from 3.6bn in January 2010 to ER 7.7bn in January 2011 (latest available data), but the primary deficit continues to go in the right direction, contracting significantly from EUR 3.5bn to EUR 2.2bn during the same time frame.

Attention is now focused on regional authorities. Their target for 2011, consistent with a general government deficit of 6.0% of GDP, looks un-ambitious at first glance at 3.3% of GDP, only marginally better than the disappointing result of 2010. Still, correcting for intra-government transfers (i.e. transfers from the central state) the effort will have to be significant with a target at 1.3% of GDP from an execution of 2.8% in 2010. Two regions need to be monitored closely given the magnitude of their deficits and their size in the Spanish economy, hence their capacity to have a material impact over general government results: Catalonia and the Valencian Country (see Figure 11).

Figure 11:Catalonia and Valencian Country are the two key regions to watch

Regions with deficit above 3% of regional GDP in 2010

	Deficit in 2010	Share of national GDP	Contribution to national deficit (in % of Spain's GDP
Castilla La Mancha	6.5	3.3	0.2
Murcia	5	2.6	0.1
Balearic Islands	4.2	2.5	0.1
Catalonia	3.9	18.6	0.7
Navarra	3.5	1.7	0.1
Valencian Country	3.5	9.7	0.3
La Rioja	3.3	0.7	0
Aragon	3.1	3.1	0.1
Total		42.2	1.7

Source: Tesoro, DB Global Markets Research

The regional government issue should not be overstated. Three factors need to be taken into account when assessing the potential risk for Spanish public finances in general:

- First, deficits in the region of 3 to 4% of regional GDP in Catalonia and Valencian Country need to be put in the context of the accumulated debt of these two regions, which remain very manageable, at 16.3% and 17.3% of regional GDP respectively.
- Second, the overall size of aggregate regional government's debt is small, at 11.0% of national GDP at the end of 2010.
- Third, the central government ultimately has the possibility of enforcing fiscal adjustment on regions, as their borrowing is controlled by Madrid.

Spain is sustainable

Public debt sustainability depends on a limited set of factors, the first one being the difference between the average interest rate on outstanding debt and nominal GDP growth. While we think that market participants are increasingly impressed by the progress of Spanish authorities in delivering fiscal retrenchment and structural reforms, we cannot safely assume that sovereign debt should see any meaningful decline in its risk premium for several years. At the same time, although we think that Spain can achieve positive growth, we also consider that poor credit origination, given the need for banks to repair their balance sheets, will likely compound the effect of fiscal consolidation and hold back GDP growth well below its pre-recession trend. We, therefore, expect the cost of sovereign funding to exceed nominal GDP growth for several years.

To these "ordinary" sustainability constraints we must add the specific cost of recapitalizing banks. Indeed, the post –EMU over-leveraging binge has left the private sector with a debt of 230% of GDP. Banks need to be buffered against rising default risks. It probably makes sense, in order to provide a credible stress test of Spanish public finances, to retain our "adverse scenario" estimates of the recapitalization needs of Spanish banks (see following section), which stand at EUR 70bn, i.e. 7.0% of Spanish GDP.

However, Spain can reap the benefits of its pre-recession fiscal prudence, which left its public debt at 53% of GDP in 2009 and probably 62% in 2010 (the definitive results are not yet available). Figure 12 provides an illustrative trajectory of Spanish public debt until 2020, using the following conservative assumptions: First, nominal GDP growth settles at 3% per annum (both real growth and inflation at 1.5%). Second, since a bit less than one fifth of Spanish public debt is rolled-over every year, we assume that the average interest rate on outstanding debt converges to the highest recent instantaneous level (end 2010) by 2015 and settles there. Third, we consider that the government may not manage to fully stick to its fiscal program, owing to lower-than-targeted growth, bringing the deficit below 3% of GDP by 2014 instead of 2013. Fourth, we impose a one-off hike in public debt of EUR 70bn in 2011 representative of a capital injection in the Cajas (see following section).

Figure 12: A sustainable path for Spanish public debt

	Nominal GDP growth	average IR on debt	Interest payments	Public Debt	Deficit	Primary balance
2010	1.0	3.5	2.2	62.0	9	-6.8
2011	2.0	3.8	2.8	74.6	6.5	-3.7
2012	3.0	4	3.1	77.3	4.8	-1.7
2013	3.0	4.3	3.4	78.6	3.6	-0.2
2014	**3.0**	**4.6**	3.6	**79.2**	**2.9**	0.7
2015	3.0	4.8	3.8	79.2	2.3	1.5
2016	3.0	4.8	3.8	79.2	2.3	1.5
2017	3.0	4.8	3.8	79.2	2.3	1.5
2018	3.0	4.8	3.8	79.2	2.3	1.5
2019	3.0	4.8	3.8	79.2	2.3	1.5
2020	3.0	4.8	3.8	79.2	2.3	1.5

Source: DB Global Markets Research

In this scenario, public debt stabilises at 79.2% of GDP by 2014 if the primary balance settles at 1.5% of GDP. Such a performance would not entail sustaining a particularly daunting fiscal effort relative to Spain's recent track record. Indeed, in the 10 years before the recession the primary surplus averaged 1.9% of GDP.

The risks: lower external traction, "catastrophic de-leveraging" and regional bickering

We think that we are prudent in our assumptions for Spanish debt sustainability. Actually, the recent improvement in market sentiment towards Spain is quite impressive and could result in a further decline in interest rates from their peaks of the end of 2010. Also, 3% nominal growth in a context now more conducive to a global bout of inflation may be too conservative. Still, on balance, risks probably remain tilted to the downside.

First, as we noted above Spain will likely remain dependent over the next few years on external demand and, more particularly, Euroland demand to offset poor domestic performance. Decent Euroland demand is our baseline scenario, but there are downside risks. While the current performance in Germany is strong, GDP growth there is unlikely to maintain a 3% pace as the demographic decline holds back consumer spending. France, which matters even more for Spanish exporters, will have to go through a phase of painful fiscal consolidation itself which will probably hamper domestic demand. It would not take a very significant deceleration in Euroland growth to tilt Spanish GDP growth from marginally positive to flat or even put it into slightly negative territory.

Second, in our view, a powerful re-capitalisation of the banking sector is key to any sustainable path for Spanish growth over the next few years. Indeed, only the reconstitution of meaningful buffers in the credit institutions can re-start credit origination. While de-leveraging in sectors whose contribution to the productive potential is low, such as construction, probably needs to continue, the export-oriented industries will need to raise capital. In addition, resolution of market concerns about banks is a pre-condition to any significant decline in the overall risk premium paid by Spanish borrowers, both in the private and the public sectors. In our view, far from easing funding conditions for the sovereign, by limiting the "crowding out" effect, we actually think that a too modest recapitalisation effort which would fail to set Spanish credit institutions on a sounder footing would conversely maintain government borrowing costs at a high level, on account of a persistent "systemic risk". In our view, the current hesitation of the Spanish authorities on this issue looks to be misguided.

Third, pressure on regional governments to participate more meaningfully in the overall fiscal effort could trigger intra-national bickering in an already less-than-tightly united country. One of the worst outcomes for Spain could be a Belgium-like scenario where general government consolidation is impeded by persistent questions about burden sharing across communities. For the time being, the socialist government needs support from regional parties from generally fiscally sound communities (Basque Country in particular). Next year elections could open the way for a central government with even less clear parliamentary support, obliged to cut deals with powerful regional factions from more fiscally challenged communities such as Catalonia.

Spanish financials: Saving banks' focus[1]

- **Since the start of the economic/financial crisis, Spanish (as many other European banks) financial institutions' profitability, solvency levels and in some cases viability have been (and still are) subject to a number of major tensions and challenges. However, relative to core European countries, Spanish banks are faced with issues specific to peripheral countries. Indeed, Spain shares with Ireland and Portugal at least one common feature: a level of private sector debt as a percentage of GDP roughly twice as large as in core European countries such as Germany, France and Italy. Since the overwhelming majority of this debt was intermediated, it is hardly surprising that market concerns over Spain have focused on banks.**
- **Market pressure has finally prompted the Spanish government to launch/promote a profound restructuring process amongst saving banks, a process, which in its current form still raises many question marks and still widely seen – including by us - as falling short of what would once and for all address market concerns.**
- **In this section, we therefore focus our attention on the segment where the core of the problems seem to be, real estate, and on those participants where most risks are concentrated and transparency has traditionally been more limited by the fact that they were not listed: saving banks. We provide some estimates of the magnitude of the recapitalisation efforts which would put market concerns at bay. In a baseline, "reasonable" scenario, the capital shortfall would amount to EUR 29.2bn (after PPP). In an adverse scenario, the gap would reach EUR 68.85bn (after PPP).**
- **In our view, given market sentiment and the negative example set by Ireland with its regular upgrades in capital needs, the Spanish government might well want to consider such an adverse scenario when finally deciding on the magnitude of its recapitalisation effort. Note that even such a large amount would still be consistent with a sustainable debt trajectory.**

[1] This section was separately published in "Spanish Savings Banks - Are we there yet?", dated 29 March 2011, by Carlos Berastain.

Saving banks: Update on most recent developments/news flow

On February 18, the government approved the Decree Law containing the new legal framework and solvency requirements for Spanish financial institutions (banks and saving banks), the main highlights being:

- The minimum CT1 level to be held by all financial institutions is set at 8% (on 2010's RWA). Unlisted institutions and/or those with significant exposure to wholesale funding (greater than 20% of total assets) will be required to hold a minimum of 10%. In addition, the government reserves the right to require more than 10% from those institutions that fail to pass (under the adverse scenario) the upcoming European stress tests. Our understanding is that the definition of CT1 will be largely aligned to that of Basel 3's (though minorities can be included). Mandatory convertible bonds (with maturities up to 2014) and the capital injected by the Fund for Orderly Bank Restructuring (FROB) in some institutions (in the form of preference shares) will be considered part of CT1.
- Institutions that do not meet the new CT1 threshold as of 10 March 2011 (see next page for a list of these institutions) will have fifteen working days to submit a plan to Bank of Spain (BoS) communicating their strategy and timetable on how to reach the threshold by September 2011. Should such a plan involve a capital injection by the FROB (the government's recap vehicle), the bank/saving bank will then have to submit a recapitalization plan within thirty working days to the BoS for its approval.
- Any of the initiatives/plans submitted by the banks/saving banks aimed to fulfil the new solvency requirements (private capital support, FROB, non-core asset disposals, etc.) must be concluded by 30 September 2011. BoS will then evaluate the progress of these initiatives/plans (based on June's data) and, depending on the degree of success and/or completion, will then decide to which institutions and what amount of capital will be injected. Should an institution consider that it will be unable to meet the new CT1 target on time, this will have to be communicated to the Bank of Spain prior to the 30 September deadline. Exceptionally, if at the time of the evaluation (September 2011) an institution is in the middle of an IPO/secondary offering process, Bank of Spain may grant an extension to fulfil new requirements up to 1Q12.
- The FROB will provide the capital in the form of ordinary shares at "market prices" – thus, the central government will become a shareholder (for a

maximum period of five years) with equal rights as the current shareholders (local municipalities, etc.). Institutions obtaining capital support will have to transform into banks and follow strict restructuring plans including staff/branch cuts, corporate governance, management professionalization, etc. Recapitalized institutions will have the right to repurchase the central government's stake after two years.

More recently, on 10 March, Bank of Spain announced that 12 institutions fall a total of E15bn short of capital under the new CT1 thresholds. Of these 12 institutions, two are commercial banks (Bankinter and Bankpyme - note than Bankinter already issued a mandatory convertible on March 8), another two are subsidiaries of foreign banks (Deutsche Bank and Barclays – both institutions' parent companies have stated their intention to recapitalized the subsidiaries) and the remaining 8 are savings banks (Bankia, NovaCaixa Galicia, CatalunyaCaixa, Banco Base, Banca Civica, Banca Mare Nostrum, Unnim and Caja España).

The bulk of the shortfall is concentrated in Bankia (38% of the total), followed by NovaCaixa Galicia (17%), Banco Base (10%) and Banca Civica (6%). Note that Bankia's E5.77bn capital need would be reduced to E1.8bn should it finally IPO at least 20% of its business.

This did not add anything materially new, in our view, and should not be considered a stress test exercise as it was, we understand, no more than mathematical exercise which aimed to numerically answer the question: How much capital does each institution need in order to reach an 8-10% CT1 today, assuming no further increases in the current volume of problematic assets and with the current level of provisions?

We believe that a capital injection (either by Bank of Spain or private investors) of E15bn could totally fail to provide the market with much needed comfort. The amount should be such as to cover expected losses (under a conservative, but not catastrophic scenario), on a higher volume of problematic assets, while leaving the sector at a comfortable enough solvency level. We believe the upcoming European stress test' results should be used as the definitive trigger point (unlike July's 2010) to proceed with a more ambitious and comprehensive recapitalization process.

This said, we must admit that Government actions seem to be more determined and ambitious that what we would have expected a few months ago.

How big is the real estate problem?

According to Bank of Spain's most recent data (December 2010), the saving banks have E100bn in what the regulator defines as "problematic assets" within the real estate and construction sector. These include: (i) E28bn (16.2% of total exposure) of loans that are currently in default; (ii) E28bn of substandard loans (i.e. loans that although still performing are under surveillance due to their risk profile); and (iii) E44bn of repossessed assets.

Figure 1: Saving banks real estate and construction exposure (December 2010)

	Exposure (in Ebn)	As a % of RE/construction exposure (excl foreclosed assets)	As a % of total credit book (excl foreclosed assets)
Performing loans	**117**	**67.6%**	**12.3%**
ow completed developments	50	28.9%	5.2%
ow developments in progress	26	15.0%	2.7%
ow urban and developable land	22	12.7%	2.3%
ow others	19	11.0%	2.0%
Substandard	**28**	**16.2%**	**2.9%**
ow completed developments	7	4.0%	0.7%
ow developments in progress	4	2.3%	0.4%
ow urban and developable land	10	5.8%	1.0%
ow others	7	4.0%	0.7%
In default	**28**	**16.2%**	**2.9%**
ow completed developments	9	5.2%	0.9%
ow developments in progress	5	2.9%	0.5%
ow urban and developable land	7	4.0%	0.7%
ow others	7	4.0%	0.7%
TOTAL CREDIT RISK	**173**	**100.0%**	**18.1%**
Foreclosed assets	44		
TOTAL EXPOSURE	**217**		

Source: Deutsche Bank estimates and Bank of Spain

Aggregated substandard and loans in arrears reveal (see Figure 2) that roughly 50% are financing land (urban/developable and rural). All in all (excluding E44bn of repossessed assets) roughly 32.4% of the overall real estate and construction segment is either in default or has high risks of being in default

.

Figure 2: Real estate and construction loans in default and substandard

	Exposure (in Ebn)	Weighting	As a % of RE/const exposure (excl foreclosed assets)
Total	**56**		**32.4%**
ow completed developments	16	28.6%	9.2%
ow developments in progress	9	16.1%	5.2%
ow urban and developable land	17	30.4%	9.8%
ow others	14	25.0%	8.1%

Source: Deutsche Bank estimates and Bank of Spain

Overall NPA – a global view beyond stated NPLs

In addition to the problematic parts of real estate and construction's share of the book, there other parts of the credit book that are in default and, in future, could pose a risk should interest rates continue moving up (mortgages and SME).

Figure 3: Saving banks non-real estate loans in default

	Exposure (in Ebn)	As a % of total credit book (excl foreclosed assets)
ow performing	758	79.5%
ow in default	23	2.4%
Total credit risk	**780**	

Source: Deutsche Bank estimates and Bank of Spain

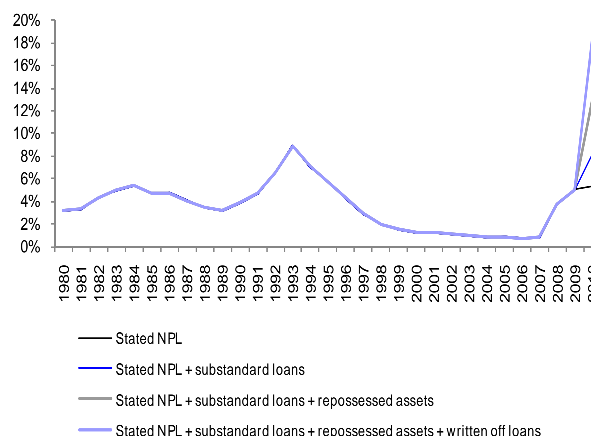
Do current loans in default (even including substandard loans) represent a true picture of the credit quality? We think that it does not. In addition, to those loans where assets were repossessed in 2008-2010, and according to Bank of Spain, E52bn of loans (probably mostly related to real estate) have been written off by saving banks alone. Needless to say, all loans written off must be fully covered with provisions. Adding all these together, we estimate the total Cajas' NPA stands at c18% of the total lending book, which compares to the latest stated NPL peak in 1993 of 8.9%.

Figure 4: Global non-performing assets position (all segments)

	Exposure (in Ebn)	As a % of total credit book (excl foreclosed assets)	As a % of total credit book (including foreclosed assets in the denominator)
ow in default (all segments)	51	5.3%	5.1%
ow substandard	28	2.9%	2.8%
ow foreclosed assets	44	4.6%	4.4%
ow written off loans	52	5.5%	5.2%
Total underlying NPA of saving banks	**175**	**18.3%**	**17.5%**

Source: Deutsche Bank estimates and company data

Figure 5: Spanish banks credit quality



Source: Deutsche Bank estimates and Bank of Spain

Going forward we believe that..

- In the coming months a large percentage loans currently classified as substandard (mostly real estate related) will effectively be in default (based on conversations with banks we would estimate 65% of them). We believe the worst on the real estate asset front is probably behind us.
- The stock of repossessed assets may continue heading north but at a much slower pace. From the E70m of repossessed assets seating in the balance sheet of Spanish banks and saving banks (at the end of June 2010), 31% come from 2008 and 54% where incorporated in 2009.

Figure 6: Stock of foreclosed assets (end of the period data and for the overall system)

	2008	2009	Mar-10	Jun-10
Foreclosed assets (in Euro billion)	22	60	64	70

Source: Deutsche Bank estimates and Bank of Spain

- Lower visibility and where there are clearer risks (on the downside) is in the non-real estate related credit bucket. Unemployment remains high and is likely to remain like this for some time. A number of people are running out of unemployment subsidies and Euribor rates continue moving up, all of which will contribute to move residential mortgages/SME lending in arrears up.

Are the current risks sufficiently covered?

In the following section, we will stress test some of the basic metrics around possible impairments losses (LTV, LGD, NPL, etc) and put them in the context of the expected pre-provision profit generation, the current stock of provisions and the Government's new capital requirements. But in this section, using the most recent data released by Bank of Spain around the Cajas, we

wanted to provide some colour as to how well (or poorly) the problematic assets are being covered and what level of collaterals' price deflation is implied in the figures.

Provisions over stock of problematic assets

Hard numbers and focusing on the overall credit book (including substandard loans and repossessed assets) show that (using December's data): (i) problematic assets have a coverage ratio of 38.9% (38% only considering real estate related assets), (ii) real estate/constructions loans either in default or in substandard status (thus excluding repossessed assets) are covered at 44%; (iii) loans in default (all segments) are covered at 60% (71.6% real estate loans in default); and (iv) all repossessed assets are covered at 30% and substandard loans at 17%.

Figure 7: Saving banks total risks provisions coverage ratio

	Exposure (in Ebn)	Provisions (specific and generic, in Ebn)	Coverage ratio
In default	**50.8**	**29.8**	**58.6%**
ow real estate and construction related	28	20	71.6%
ow others	22.8	9.7	42.6%
Substandard	**28**	**4.8**	**17.0%**
ow real estate and construction related	28	4.8	17.0%
ow others			
Total credit risk	**78.8**	**34.5**	**43.8%**
Foreclosed assets	44	13.2	30.0%
Total problematic (all segments)	**122.8**	**47.7**	**38.9%**

Source: Deutsche Bank estimates and Bank of Spain

In Figure 8 we summarize the coverage ratio levels on those assets linked to the real estate and construction sector.

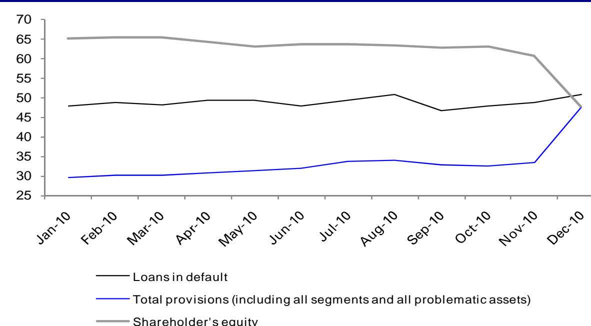
Figure 8: Saving banks real estate risks provisions coverage ratio

	Exposure (in Ebn)	Provisions (specific and generic, in Ebn)	Coverage ratio
ow in default	28	20	71.6%
ow substandard	28	4.8	17.0%
Total credit risk	56	24.8	44.3%
Foreclosed assets	44	13.2	30.0%
Total problematic (all segments)	**100**	**38**	**38.0%**

Source: Deutsche Bank estimates and Bank of Spain

Looking at Bank of Spain's most recent data (December 2010) it is worth flagging that saving banks (not commercial banks) seem to have made an exceptional effort of impairments (stock of credit provisions has increased by E14.4bn from E33.3bn in November to E47.7bn at the end of 2010).

Figure 9: Saving banks monthly evolution of loans in default, provisions and shareholder's equity (in Euro billion)



Source: Deutsche Bank estimates and Bank of Spain

On the other hand, impairments have had a very negative impact on shareholder's equity, which is significantly down mom (from E60.7bn in November to E47.7bn in December 2010).

Provisions over expected losses

With the previous figures in mind, the question is: Is the current coverage ratio sufficient? Difficult to know as Figure 7 does not incorporate the eventual final loss once recoveries (if any) materialize. The level of recovery brings us to a widely debated topic: the comparison between market value of the collateral and repossessed assets sitting on the balance sheet and their intrinsic value.

This type of analysis (stress test, appropriate levels of coverage, etc) are static, while the problems/threats which we are trying to assess are in nature, dynamic, in other words the severity and final outcome would only be known in a number of years time. Therefore, and whilst not counter arguing that today's market value of some of the collaterals and/or the repossessed real estate assets might be zero, we also believe it appropriate, when running these type of analysis, to assume some intrinsic valuation, even if in the long run. In the following section we will run some exercises assuming LGD close to zero in some of the riskier segments (i.e. land).

Basic assumptions in our exercise are:

1. We combined loans in default and those defined as substandard as we think that a large share of the latter will not be performing in the coming quarters.

2. We assume the current level of problematic assets stays stable. In the following section we will assume further increases in problematic assets (including substandard loans and repossessed assets).

3. We assume different levels of LTV depending of the type of asset/activity financed. From 75% in completed developments to 55% for urban and developable land. Note that although the back book's LTV of completed developments is closer to 60% in many institutions, we believe that those in default are linked to the most recent vintages, which were most likely granted with LTVs closer to 80%. Similar arguments hold for other categories. Weighted average LTV for the overall book is set at 77.7% (including loans in default from other sectors different to real estate and construction).

4. We assume LGD ranging between 20% for completed developments and 55% for urban and developable land. These assumptions imply a weighted average expected LGD for the overall credit book (including substandard loans) of 40%, some 10pp higher than historically observed in the system. Similar to previous LGDs were used by Bank of Spain under the adverse scenario.

5. We assume a LGD of 50% in foreclosed assets. According to data disclosed by some banks, the assets are repossessed with a 20% discount to original appraisal value, something we try to reflect by setting a LTV of 85%.

Figure 10: Coverage on expected losses on existing risks and implied declines in assets prices

	Exposure (in Ebn)	LTV at the time of concession	Loss Given Default (LGD)	Amount recovered
Substandard loans	**28**	**68.2%**	**42.0%**	**16.3**
ow completed developments	7	75.0%	20.0%	5.6
ow developments in progress	4	70.0%	25.0%	3
ow urban and developable land	10	65.0%	55.0%	4.5
ow others	7	65.0%	55.0%	3.2
In default (real estate and construction)	**28**	**69.1%**	**38.4%**	**17.3**
ow completed developments	9	75.0%	20.0%	7.2
ow developments in progress	5	70.0%	25.0%	3.8
ow urban and developable land	7	65.0%	55.0%	3.2
ow others	7	65.0%	55.0%	3.2
In default (other loans)	**22.8**	**100.0%**	**40.0%**	**13.7**
Subtotal	78.8	77.7%	40.1%	47.2
Foreclosed assets	**44**	**85.0%**	**50.0%**	**22**
Total	**122.8**		**43.7%**	

Source: Deutsche Bank estimates and Bank of Spain

Figure 11: Coverage on expected losses on existing risks and implied declines in assets prices (CONT)

	Implied fall in price	Amount lost	Current provisions	Coverage on expected loss
Substandard loans	**60.4%**	**11.8**	**4.8**	**41%**
ow completed developments	40.0%	1.4		
ow developments in progress	47.5%	1		
ow urban and developable land	70.8%	5.5		
ow others	70.8%	3.9		
In default (real estate and construction)	**57.4%**	**10.8**	**20**	**186%**
ow completed developments	40.0%	1.8		
ow developments in progress	47.5%	1.3		
ow urban and developable land	70.8%	3.9		
ow others	70.8%	3.9		
In default (other loans)		**9.1**	**9.7**	**107%**
Subtotal	58.9%	31.6	34.5	109%
Foreclosed assets	**57.5%**	**22**	**13.2**	**60%**
Total		**53.6**	**47.7**	**89%**

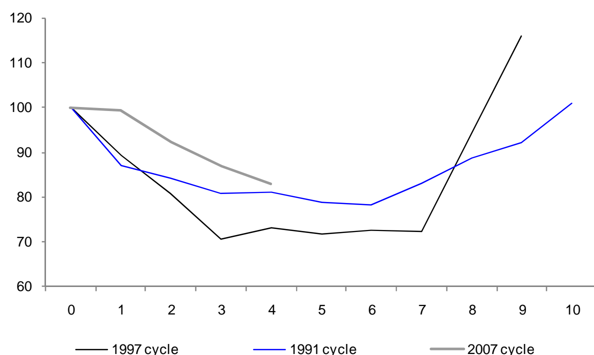
Source: Deutsche Bank estimates and Bank of Spain

Under the previous working assumptions, three basic, and we think interesting, conclusions:

- The current level of provisions would cover 89% of the expected loss on problematic assets (including foreclosed assets);
- The current levels of provisions should be sufficient to cover average price declines of 59% (70% in land, 40% in completed developments) versus initial appraisal valuations of the collateral associated to loans in default and substandard. These potential price declines seem high when compared to historical house price evolution in Spain.

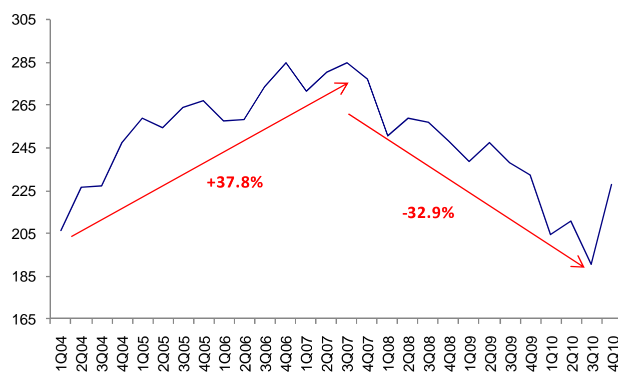
See Figure 12 for historical house prices declines (peak to trough) in each of the cycles. In the last three cycles, the largest drop in prices was in the period 1979 – 1988 with 28.3% This compares with a 21.9% drop between 1991's peak and the trough in 2000. Since 2007's peak, house prices are down 13.2% (to January 2011). In Figure 13, we show urban land price evolution.

Figure 12: Previous cycles' house prices (peak to trough)



Source: Deutsche Bank estimates and Bank of Spain

Figure 13: Urban land average prices (Eur per sqr meter)



Source: Deutsche Bank estimates and Bank of Spain

- The size of the potential loss not covered by the current level of provisions, and before considering the pre-provision profit, is E5.9bn.

The flip side of this adequate level of provisions (especially considering the efforts done in December – see Figure 9) is the reduced level of capital. In the following section we assess the additional capital needed to fulfil new capital thresholds.

Saving banks' potential capital shortfall: Estimation versus execution

We believe a comprehensive and diligent execution of the restructuring is far more relevant than the final capital injection needed. The problems are well identified and can be quantified. Spain has the mechanisms in place to deal with them and they are manageable in the context of the sovereign debt. This said, we also understand that the market's focus is on the quantum, so below are our forecasts.

SCENARIO 1: Capital needed to meet new minimum capital threshold (10%) and tackle (today) the current level of problematic assets

We estimate at E23.6bn the capital required to bring saving banks CT1 to 10% (sufficient) and cover the current estimated provision deficit on expected losses and on the exiting volume of problematic assets (substandard loans, loans in arrears and foreclosed assets), thus assume no further deterioration (unrealistic). We are unable to compare our estimated E23.6bn with the E14bn disclosed by Bank of Spain (for the saving banks alone) on 10 March as we have no insight on how the regulator got to those numbers.

As stated earlier in this section, a capital injection (either by Bank of Spain or private investors) of E15bn (amount flagged by Bank of Spain in early March) would most certainly fail in providing the market with the much needed comfort, as it leaves little to no room for a deterioration in the current credit quality environment or any deviation on the expected loss assumptions.

Figure 14: Capital needed by saving banks to meet new minimum capital threshold (10%) and tackle (today) the current level of problematic assets

	December 2010
RWA	833,131
Total assets	1,285,455
Core Tier 1 (including FROB)	**7.9% (*)**
CT1 target	10%
Capital deficit	17,749
Provisions' deficit versus expected loss	5,897
Total capital shortfall	**23,646**

Source: Deutsche Bank estimates and Bank of Spain; (*) We use March 2011 core Tier 1 as disclosed by Bank of Spain

The assumptions behind our estimate are (see Figure 10 and Figure 11):

- We use the same impairment losses shown in Figure 10, described in the previous section, which in short were a LGD of 43.7% on the current level of problematic assets (all segments) and including loans in default, loans defined as substandard and foreclosed assets. The total impairment charge would be E53.6bn.
- Whereas using 2009 data (published in July 2010's stress) we arrive to an estimate for core Tier 1 ratio for 2010 year-end of 6.7% (E56.1bn), we are using the figure published by Bank of Spain on 10 March, that is E65.5bn, which we estimate represents a CT1 of 7.9% (we estimate total RWA for saving banks of E833bn at the end of 2010).

- We assume that saving banks must at least hold provisions equal to the expected loss estimated in our analysis, based on the current size of problematic assets. In this case, the provision deficit would stand at E5.9bn.
- Whilst we realize that not all players are required (by the Regulator) to hold a 10% CT1, as we do the analysis for all saving banks as a whole, for simplicity reasons we assume a 10% core Tier 1 across the sector.
- As we are looking to estimate today's capital needs to cover today's stock of problematic assets, we do not incorporate in our analysis any possible pre-provision profit (PPP) generation in 2011.

SCENARIO 2 (BASE CASE): Capital needed to meet new minimum capital threshold (10%) and tackle an increase in the current level of problematic assets

The analysis provided in the previous scenario fails to incorporate the increment in problematic assets that will surely be originated in the coming quarters (although we maintain our view that the bulk of credit quality deterioration, especially on the real estate segment, is behind us). We, therefore, re-run our analysis with similar assumptions to the ones used earlier, but now incorporating increases in the stock of problematic assets and assuming some PPP generation in 2011. In short, we estimate at E29.2bn the capital required to bring saving banks CT1 to 10% and cover the future estimated provision deficit on future expected losses, but now assuming increases in problematic assets and considering 2011 pre-provision profit (shortfall would be closer to E37bn excluding from the analysis 2011's PPP – see Figure 15). We regard this as our base case scenario.

Figure 15: Capital shortfall estimates under BASE CASE scenario

	December 2010
RWA	833,131
Total assets	1,285,455
Core Tier 1 (including FROB)	**7.9% (*)**
CT1 target	10%
Capital deficit	17,749
Provisions' deficit versus expected loss	19,627
Total capital shortfall	**37,376**
PPP forecast 2011	8,163
Net capital shortfall	**29,214**

Source: Deutsche Bank estimates and Bank of Spain; (*) We use March 2011 core Tier 1 as disclosed by Bank of Spain

The assumptions behind our estimate are (see Figure 17 and Figure 18):

- We increase the overall volume of problematic assets from E122.8bn to E154.8bn, (i) assuming that all substandard loans fall in default, which would increase the total stock of loans in default from E28bn now to E56bn; (ii) although we assume that all the current substandard loans will be in default, we estimate additional generation of substandard loans (50% of the current level); (iii) we assume a 50% increase in default loans outside the real estate and construction sector (from E22.8bn to E34.2bn) as we believe this is the segment most likely to see a more significant credit quality deterioration due to higher interest rates and persistently high unemployment rate; and (iv) a 15% increase in the stock of foreclosed assets.
- We stick to an expected LGD of 43.7% (all segments). All in all, under our new stock of problematic assets assumptions, we estimate at E67.3m the total impairments that would have to be assumed by the saving banks as a whole, that is, 5.2% of total asset base.
- With the previous in mind and still assuming that saving banks must at least hold a stock of provisions equivalent to the expected loss estimated in our analysis, the provision deficit would stand at E19.6bn.
- As we have a more dynamic approach to capital requirements (by incorporating future potential increases in the stock of problematic assets), we incorporate 2011 PPP to our analysis. Using Bank of Spain recently published 2010 year end income statement figures for the saving banks, for 2011 we assume that saving banks bear an average 150bps higher cost of funding to the maturing debt in 2011. We also assume 5% lower "other income" and flat yoy costs (we know that restructuring processes may lead to cost savings, we have opted to follow a more conservative approach). All in all, in 2011 we estimate a further decrease in NII yoy (c.21%) and a c. 30% yoy lower PPP (following an additional 27% drop in 2010 versus 2009).

Figure 16: Saving banks' income statement under BASE CASE scenario

	FY 2009	FY 2010	2010/09 (% chg)	2011E	2011E/2010 (% chg)
ow net interest income	19,140	13,981	-27.0%	11,116	-20.5%
ow other revenues (fee income, trading..)	10,296	10,668		10,135	-5.0%
Total revenues	**29,436**	**24,649**	**-16.3%**	**21,251**	**-13.8%**
Operating costs	-13,531	-13,088	-3.3%	-13,088	0.0%
Pre-provision profit	**15,905**	**11,561**	**-27.3%**	**8,163**	**-29.4%**

Source: Deutsche Bank estimates and Bank of Spain

- Although we believe the above mentioned LGD/NPL assumptions are reasonably conservative (though admittedly not catastrophic), we believe the market is

likely to still require saving banks to maintain a 10% core Tier 1 level, which, in our view, offers an additional buffer should things turn out worse-than-assumed in this exercise. If we believe an 8% CT1 is a more appropriate level of capital for a retail bank, that would provide E16bn of additional impairment-absorption potential, what is equivalent to (assuming a 50% LGD) 3.5% of the caja's system total lending book or 15% of all the real estate and construction book (including stock of foreclosed assets).

Figure 17: BASE CASE - Coverage on expected losses on existing risks and implied declines in assets prices

	Exposure (in Ebn)	Future exposure (in Ebn)	Implied NPA	LTV at the time of concession
Substandard	**28**	**14**	**1.4%**	**75.9%**
ow completed developments	7	3.5	0.4%	85.0%
ow developments in progress	4	2	0.2%	85.0%
ow urban and developable land	10	5	0.5%	70.0%
ow others	7	3.5	0.4%	70.0%
In default (real estate and construction)	**28**	**56**	**5.6%**	**76.7%**
ow completed developments	9	16	1.6%	85.0%
ow developments in progress	5	9	0.9%	85.0%
ow urban and developable land	7	17	1.7%	70.0%
ow others	7	14	1.4%	70.0%
In default (other loans)	**22.8**	**34.2**	**3.4%**	**100.0%**
Subtotal	78.8	104.2	10.4%	84.2%
Foreclosed assets	**44**	**50.6**	**5.1%**	**85.0%**
Total	**122.8**	**154.8**	**15.5%**	

Source: Deutsche Bank estimates and Bank of Spain

Figure 18: BASE CASE - Coverage on expected losses on existing risks and implied declines in assets prices (CONT)

	Loss Given Default (LGD)	Amount lost	Current provisions	Coverage on expected loss
Substandard	**42.0%**	**5.9**	**4.8**	**81%**
ow completed developments	20.0%	0.7		
ow developments in progress	25.0%	0.5		
ow urban and developable land	55.0%	2.8		
ow others	55.0%	1.9		
In default (real estate and construction)	**40.2%**	**22.5**	**20**	**89%**
ow completed developments	20.0%	3.2		
ow developments in progress	25.0%	2.3		
ow urban and developable land	55.0%	9.4		
ow others	55.0%	7.7		
In default (other loans)	**40.0%**	**13.7**	**9.7**	**71%**
Subtotal	40.4%	42	34.5	82%
Foreclosed assets	**50.0%**	**25.3**	**13.2**	**52%**
Total	**43.5%**	**67.3**	**47.7**	**71%**

Source: Deutsche Bank estimates and Bank of Spain

SCENARIO 3 (ADVERSE): Capital needed to meet a minimum capital threshold of 10% and tackle an increase in the current level of problematic assets and under more adverse loss rates assumptions

Whilst we regard the previous section's results as our base case scenario, there is a lot of debate amongst market participants on the real value of the collaterals attached (today's market value versus the medium term intrinsic value of the assets), something that, depending on each investor's assumptions, would have a significant impact on the expected loss rate and therefore the potential capital need. Under similar assumptions as in our base scenario in regards to NPL levels, but under more severe assumptions in regard to LGD (67.5% vs 43.5% in our base case), if we require saving banks to hold a 10% CT1 and considering 2011's PPP, the total capital shortfall would stand at E68.7bn, we estimate. We regard this outcome as highly unlikely to materialize.

Figure 19: Capital shortfall estimates under ADVERSE scenario

	December 2010
RWA	833,131
Total assets	1,285,455
Core Tier 1 (including FROB)	**7.9% (*)**
CT1 target	10.00%
Capital deficit	17,749
Provisions' deficit versus expected loss	56,749
Total capital shortfall	**74,498**
PPP forecast 2011	5,719
Net capital shortfall	**68,779**

Source: Deutsche Bank estimates and Bank of Spain; (*) We use March 2011 core Tier 1 as disclosed by Bank of Spain

The assumptions behind our estimate are (see Figure 20 and Figure 21):

- The main change in the adverse scenario (versus base case) comes from more severe loss given default assumptions. We now factor in an overall expected loss of 68%, which derives from assigning LGD of 30-50% to completed developments and developments in progress and 90% to land. All in all, we estimate in E104.5bn the total impairments that would have to be assumed by the saving banks as a whole, that is 8.2% of total asset base (excluding written off loans), 0.5pp higher than the impairment charge assume under the adverse scenario in July 2010's stress test.
- We maintain the same estimates around the future stock of problematic assets. We however reduce our 2011E pre-provision profit forecast and now estimate a 50% yoy drop. Main difference versus base case is a 250bps increase in cost of funding on upcoming wholesale funding redemptions and a 10% decrease in "other income".

- We believe this scenario - where total losses may reach close to c.70% of an increased future stock of loans in default, substandard and foreclosed assets - is unlikely, but probably will be used by a number of market participants when assessing investment options. We also believe, however, that under this more adverse scenario, the market should not be demanding saving banks to hold a 10% core Tier 1 as the room for unexpected losses is reduced significantly. We assume, however, and, to maintain a very conservative approach under this adverse scenario, a CT1 target of 10%.
- If we put the E104.5bn estimated impairment under the adverse scenario and the E52bn of loans already written off in perspective: (i) it represents 58% of all real estate and construction loans (including foreclosed assets in the denominator); and (ii) it would represent losing 16% of the total lending book
- Comparisons versus Ireland. As of 2 March 2011, the National Asset Management Agency (NAMA) has acquired E71.2bn in loans from the five participating institutions for a consideration of E30.2bn - a discount of 58%. This haircut compares to the 67.5% expected loss assumed in our adverse scenario. Moreover, our expected volume of problematic assets (E154bn) represents (including written off loans) 20.6% of the system's lending book, what compares to the 24% of total loans that have been transferred to the NAMA (28.3% including the defaults seen prior NAMA creation – to December 2009 Irish banks' cumulative loss rate stood at 4.3% of total loans).

Figure 20: ADVERSE SCENARIO - Coverage on expected losses on existing risks and implied declines in assets prices

	Exposure (in Ebn)	Future exposure (in Ebn)	Implied NPA	LTV at the time of concession
Substandard	**28**	**14**	**1.4%**	**75.9%**
ow completed developments	7	3.5	0.4%	85.0%
ow developments in progress	4	2	0.2%	85.0%
ow urban and developable land	10	5	0.5%	70.0%
ow others	7	3.5	0.4%	70.0%
In default (real estate and construction)	**28**	**56**	**5.6%**	**76.7%**
ow completed developments	9	16	1.6%	85.0%
ow developments in progress	5	9	0.9%	85.0%
ow urban and developable land	7	17	1.7%	70.0%
ow others	7	14	1.4%	70.0%
In default (other loans)	**22.8**	**34.2**	**3.4%**	**100.0%**
Subtotal	**78.8**	**104.2**	**10.4%**	**84.2%**
Foreclosed assets	44	50.6	5.1%	85.0%
Total	**122.8**	**154.8**	**15.5%**	

Source: Deutsche Bank estimates and Bank of Spain

Figure 21: ADVERSE SCENARIO - Coverage on expected losses on existing risks and implied declines in assets prices (CONT)

	Loss Given Default (LGD)	Amount lost	Current provisions	Coverage on expected loss
Substandard	**69.3%**	**9.7**	**4.8**	**49%**
ow completed developments	30.0%	1.1		
ow developments in progress	50.0%	1		
ow urban and developable land	90.0%	4.5		
ow others	90.0%	3.2		
In default (real estate and construction)	**66.4%**	**37.2**	**20**	**54%**
ow completed developments	30.0%	4.8		
ow developments in progress	50.0%	4.5		
ow urban and developable land	90.0%	15.3		
ow others	90.0%	12.6		
In default (other loans)	**50.0%**	**17.1**	**9.7**	**57%**
Subtotal	**61.4%**	**64**	**34.5**	**54%**
Foreclosed assets	80.0%	40.5	13.2	33%
Total	**67.5%**	**104.5**	**47.7**	**46%**

Source: Deutsche Bank estimates and Bank of Spain

- Note that these results chime with a separate calculations published by our fixed income analysts in the FI weekly issue of 3 December 2010, using Ireland – and the target of CT1 of 10.5% imposed in the program negotiated with the IMF and the EU – as a yardstick to gauge recapitalization needs for Spanish banks. The baseline was slightly different as it drew from the stress tests data, but the conclusions were similar, with a recapitalization effort comprised between EUR 50bn and EUR 75bn.

Some of the biggest institutions looking for market solutions – valuation will the main focus

As flagged at the beginning, our analysis and, therefore obviously the results of potential capital needs, refer exclusively to saving banks. A number of institutions have already made some moves to become listed entities (CaixaBank) and others (Bankia and Banca Civica amongst some others) have publicly stated their intention to seek private investors support either via an IPO or private agreements. Should this process be concluded successfully, the potential amount of public funds needed may be much lower. The sector's low profitability level (4.1% at the end of 2010) and the market's comfort on the level of solvency vis-à-vis its expectations of future impairment losses (being worst that expected) will be the key elements when defining the appropriate valuation level for the "new comers".

Cédulas view

- **Supported by strong tightening of Spanish sovereign bonds, Cédulas tightened strongly in recent weeks. While correlation to Spanish sovereign bonds is likely to remain high, in our view, less rating-sensitive credit investors should continue to support Cédulas trading with a triple digit pick-up to sovereign bonds.**
- **Cédulas of stronger Spanish banks, trading with a give-up of over 50 bp to Spanish sovereign guaranteed agency ICO and also state guaranteed savings bank bonds, look expensive. Despite severe downgrades of Spanish senior bank and Cédulas ratings (of up to four and seven notches respectively) last week's rating pressure still remains present. BBVA, Santander and La Caixa have been fully spared.**
- **The outstanding volume of Spanish Cédulas accounts for almost 12% of domestic bank assets. Given ongoing focus of issuers on Cédulas, asset encumbrance may become a topic. At this stage, there seems sufficient, available collateral for further use of Cédulas. We highlight that issuers can typically convert part of the ineligible collateral into eligible collateral. However, in our understanding, eligibility criteria for mortgage loans refer to historical house prices and nothing prevents issuers from pledging mortgage loans above the 25% OC minimum otherwise.**
- **Caja de Avila reporting non-performing loans of 21.12% for Q4 2010 confirmed that fundamental uncertainty in the case of smaller savings banks remains high and ongoing political support remains needed. Given such news flow, typical rates covered bond investors are likely to remain cautious.**
- **Our overall constructive view on Cédulas is based on the following factors: The constructive view of our economists for Spain, ongoing restructuring efforts regarding savings banks (which in our view will be expanded in case of need), the EU clearly being willing to exclude covered bonds from burden-sharing in the upcoming directive on bank resolution regimes, regulatory support for covered bonds shown in Basel III and Solvency II and Cédulas investors benefitting from a 25% minimum OC regarding eligible collateral and a preferential claim on the whole mortgage book. Key risks are a strong widening sovereign spreads and credit investors being unwilling to buy Cédulas at spread levels below Spanish state guaranteed bonds or where typical rates investors buy German, French and Nordic covered bonds (e.g. below 40% of senior CDS).**

Cédulas are the main source of market funding for Spanish banks

Irish and Portuguese banks are currently deprived of any access to the market and are entirely reliant on central bank lending (12.5% and 7.3% of total bank assets respectively in February 2011). Conversely, Spanish banks' recourse to central bank funding is limited, falling down to 1.4% of total bank assets in early 2011, only marginally more than the Eurozone average (1.3%). We have identified so far EUR 25bn in issuance by Spanish banks since the beginning of the year, one quarter of their total refinancing needs for 2011. However, over 70% of this issuance is done via Cédulas. This market has become vital to Spanish banks.

Basic structure of Cédulas Hipotecarias

Cédulas are direct, unconditional obligations of the issuing bank. As there is no specialist bank principle regarding covered bond issuance stipulated in Spain, Cédulas can be issued by all banks. The issuing bank holds the collateral assets on the balance sheet. Residential mortgage loans with a LTV of up to 80% and commercial mortgage loans with a LTV of up to 60% are eligible as collateral for Cédulas funding. Non performing mortgage loans (i.e. loans which are declared due and payable, typically after 6 months) are no longer eligible as collateral.

Cédulas can be issued up to 80% of the volume of eligible mortgage loans (leading to a 25% minimum OC regarding eligible collateral). A key strength of Cédulas is that in case of issuer insolvency, Cédulas investors have a preferential claim over the whole pool of mortgages (and not only on the eligible mortgage loans).

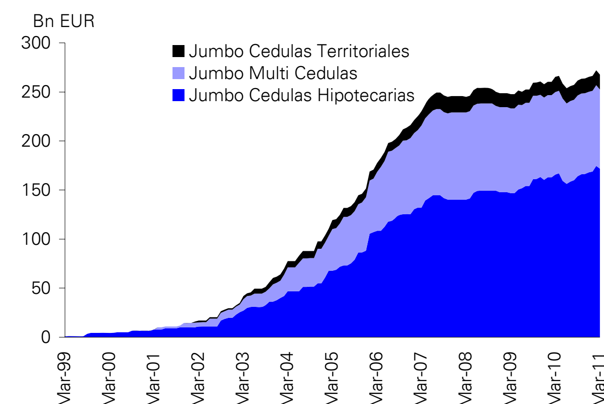
Few claims like those of the issuer's employees for wages and salaries for the last 30 days and certain tax liabilities rank senior to the claims of Cédulas holders. Mortgage loans assigned to Bonos Hipotecarias and Participaciones Hipotecarias (which are other types of mortgage backed covered bonds), are excluded from the preferential claim of Cédulas holders. In our understanding, while transparency is limited in this respect, the outstanding volume of Bonos Hipotecarias and Participaciones Hipotecarias is very low at this stage.

In our understanding, for the purpose of eligibility for Cédulas funding (i.e. defining maximum Cédulas issuance volume) no revaluation of LTVs is required if house prices decline. Hence, declining house prices do not lead to a decline in the volume of eligible collateral. Since there is no matching principle regarding interest payments of Cédulas and collateral assets and also no limit on interest rate risk between collateral assets and outstanding Cédulas, potential liquidity risks are substantial.

Cédulas – strong growth in publicly outstanding volume pre-crisis

The outstanding volume of EUR benchmark covered bonds amounts to EUR 953 bn currently, of which EUR 275 bn are Cédulas. The high volume of publicly outstanding Cédulas is mainly due to high growth pre-crisis (which came to a halt at the end of 2006).

Figure 1. Strong growth in outstanding volume of Spanish EUR benchmark Cédulas pre-crisis



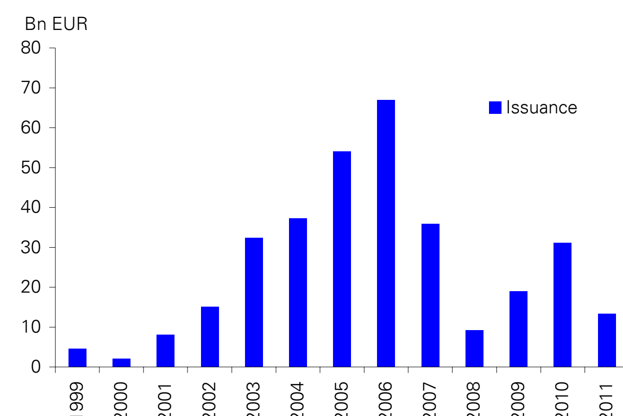
Source: Deutsche Bank

The total volume of Cédulas registered in Bloomberg amounts to EUR 375 bn. Hence, assuming that the market for non-benchmark Cédulas is limited, the volume of retained Cédulas is likely very high. This can be seen in the case of Multi-Cédulas issued by AyT, TDA and IM (which are mainly used by Spanish savings banks as funding tool).

EUR 85 bn of AyT Multi-Cédulas are registered in Bloomberg. However, only EUR 48 bn of EUR benchmark AyT Multi-Cédulas are outstanding in the public EUR benchmark market. This compares to EUR 42.5 bn of Multi-Cédulas TDA registered in Bloomberg and EUR 18.5 bn of Multi-Cédulas TDA outstanding in the EUR benchmark covered bond market. Moreover, EUR 14.1 bn of IM Multi-Cédulas are registered in Bloomberg and EUR 11.3 bn of IM Multi-Cédulas are outstanding as EUR benchmark Cédulas.

Also supported by the EUR 60 bn ECB covered bond buying programme, which started in July 2009, EUR benchmark covered bond issuance recovered in 2009 and further in 2010 and 2011 ytd.

Figure 2. Issuance of EUR benchmark Cédulas recovered in 2010

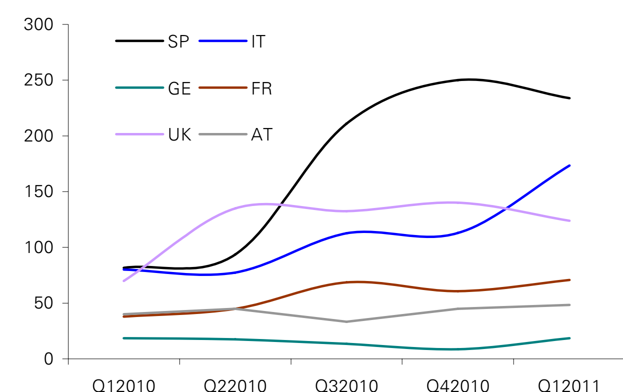


Source: Deutsche Bank

New issue spreads of EUR benchmark Cédulas reached a new high in 2010 and 2011

New issue spreads hit new historical records and likely put strong pressure on issuers' margins. The highest new issue spread of Cédulas issued 2011 ytd was paid by Bankinter BKTSM 4.875% 21 Jan 2013 at ms+310 bp (BKO 1% March 2012 +377.6 bp).

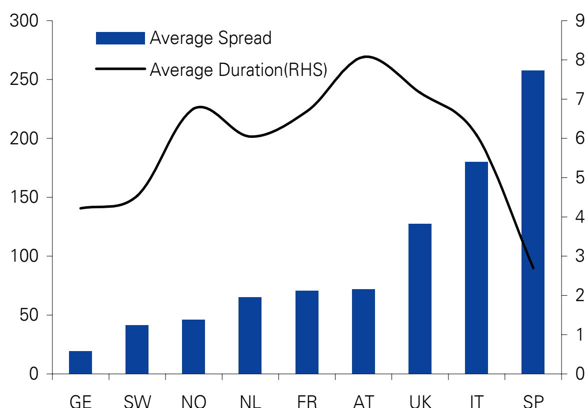
Figure 3. High new issue spreads of Cédulas versus swaps confirm relative high funding costs for Spanish banks



Source: Deutsche Bank

The average duration of ytd new issuance of Cédulas remains short compared to pre-crisis. While new issue spreads are very heterogeneous (with Santander, BBVA and La Caixa benefiting from relatively low new issue spreads) Spanish banks paid the highest spreads per duration in ytd EUR benchmark covered bond issuance.

Figure 4. Average spread versus swaps (LHS) compared to average duration (RHS) of ytd EUR benchmark covered bond issuance per country



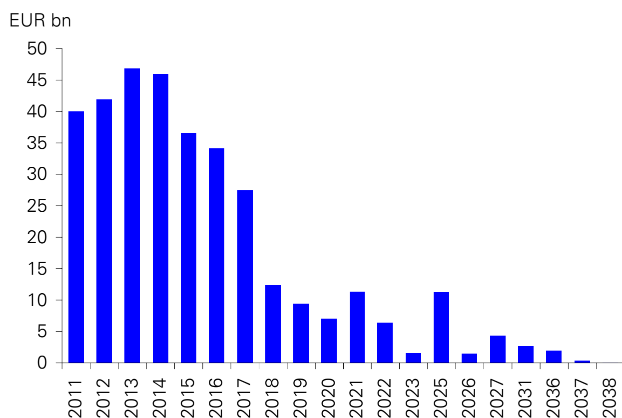
Source: Deutsche Bank

Due to lack of access to long dated issuance, the average maturity of outstanding Cédulas shortened from 9 years in 2007 to 4 years in 2011.

High Cédulas redemptions in 2011 and 2012

While redemptions of EUR 25 bn of benchmark Cédulas in FY 2011 are hardly concerning, total redemptions of Cédulas amount to over EUR 80 bn in 2011 and 2012 combined (based on Dealogic data, including non-benchmark Cédulas and retained issues).

Figure 5. Total redemptions of Cédulas, including non-benchmark issues (Dealogic data as of 31 Dec 2010)

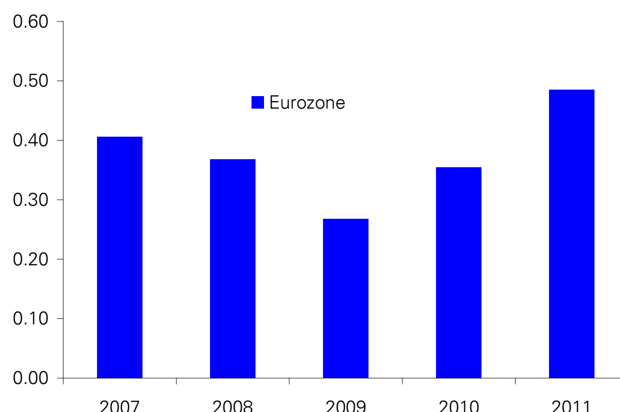


Source: Dealogic, Deutsche Bank

Issuers' focus on Cédulas recently

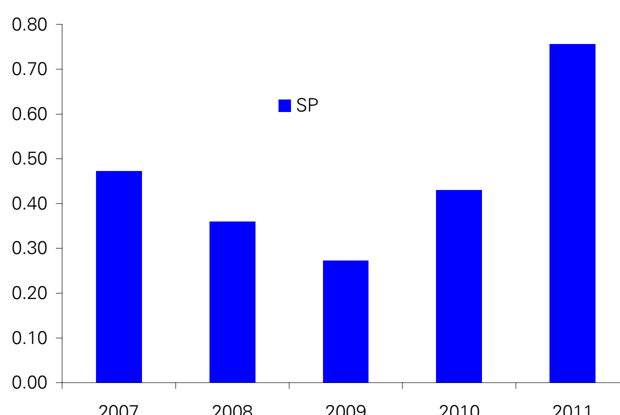
European bank funding via public bond issuance is increasingly focused on covered bonds ytd. Dealogic data shows a historically high share of covered bond issuance ytd in overall public bond issuance by Eurozonoe banks. While German and French banks increased the share of covered bond funding only slightly in 2011 ytd compared to recent years, with around 75% Spanish banks focused strongly on Cédulas.

Figure 6. Historically high share of covered bond issuance as % of total public bond issuance (based on Dealogic data)



Source: Dealogic ,Deutsche Bank

Figure 7. Historically high share of Cédulas issuance as % of total public bank issuance (based on Dealogic data)



Source: Dealogic ,Deutsche Bank

Asset encumbrance may become a topic in case of Spanish banks

The share of Cédulas to total balance sheet assets accounts for between 10% and 20% in case of most Spanish banks.

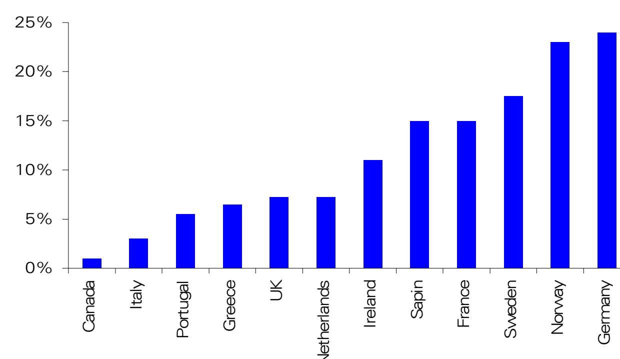
Figure 8. Ratio of outstanding covered bonds over total balance sheet

Unnim	20 - 30
Unicaja	20 - 30
Banco Mare Nostrum Group	20 - 30
Banco Gallego	20 - 30
Caja Laboral Popular	20 - 30
Caja de Ahorros y Monte de Piedad de Ontinyent	10 - 20
Banco Civica Group	10 - 20
BBK Group	10 - 20
Banco Pastor	10 - 20
Caja Espana de Inversiones	10 - 20
Ipar Kutxa	10 - 20
Banco Base	10 - 20
La Caixa	10 - 20
Banco Espanol de Credito (Banesto)	10 - 20
Banco Popular Espanol	10 - 20
Banco Financiero	10 - 20
Caja de Ahorros de Vitoria y Alava (Caja Vital)	10 - 20
Caja de Ahorros y Monte de Piedad de Zaragoza, Aragon y Rioja (Ibercaja)	10 - 20
Catalunya Caixa	10 - 20
Banco de Valencia	10 - 20
Banca March	10 - 20
NovaCaixaGalicia	10 - 20
Banco de Sabadell	10 - 20
Caja Tres Group	10 - 20
Cajamar Caja Rural, Sociedad Cooperativa de Credito (Cajamar)	10 - 20
Bankinter	10 - 20
Bradford & Bingley	10 - 20
Banco Guipuzcoano	0 - 10
BBVA	0 - 10
Caja de Ahorros y Monte de Piedad de Gipuzkoa y San Sebastian (Kutxa)	0 - 10
Colonya, Caixa d'Estalvis de Pollença	0 - 10
Banco Santander	0 - 10

Source: Fitch, Deutsche Bank

In this respect, i.e. in terms of asset encumbrance via covered bonds as funding tool of individual issuers, Spain does not look worst (ranking clearly behind Germany, Norway and Sweden).

Figure 9.Average funding reliance on covered bonds by country (taking into account only covered bond issuers)



Source: Fitch ,Deutsche Bank

However, Spain looks worse on a banking system basis, i.e. total volume of Cédulas as a share of total banking system's assets. This is mainly due to the fact that almost all Spanish banks use Cédulas as funding tool while e.g. most banks do not use Pfandbriefe as funding tool. German banks actually issuing Pfandbriefe use it more as a business model (most having traditionally been specialised banks) and hence have a very high share of Pfandbriefe to total assets.

Figure 10. Asset encumbrance via covered bonds as share of total banking system assets*

Country (Vol, EUR bn)	Covered bonds outstanding as of March 2011	Total bank system assets (EUR bn)	Date of banking system assets	Covered bonds as a % total bank assets
AS	30.5	1028.6	31-Oct-10	3%
FR	294.0	8650.0	31-Aug-10	3.4%
IR	64.7	1666.7	31-Oct-10	3.9%
SP	374.9	3395.2	31-Oct-10	11%
PO	30.1	555.6	31-Oct-10	5.4%
IT	44.0	4000.0	31-Oct-10	1.1%
NE	41.5	2334.8	30-Sep-10	1.8%
FI	11.3	500.0	30-Sep-10	2.3%
GR	21.0	528.0	31-Oct-10	4%
GE	639.0	7309.1	30-Sep-10	8.7%

**Ireland is very likely higher in practice due to excluding mortgage backed promissory notes in the data above; Source: Deutsche Bank*

Potential for further use of Cédulas amounts to over EUR 65 bn in case of banks participating in Multi-Cédulas

Given the high the high use of Cédulas funding by Spanish banks already, the question regarding further potential to use Cédulas arises. Due to struggling with access public bond markets anyway, this is particularly interesting in case of most Spanish savings banks. While there is no issuance limit regarding Cédulas, banks of course need

eligible collateral to use Cédulas as funding tool (also for ECB or interbank repo).

Eligible OC of the new Spanish savings bank groups ranks from 34% in case of La Caixa to 150% in case of Caja Tres SIP. We highlight that banks might be able to convert non-eligible collateral into eligible collateral. E.g. despite eligible OC of only 34% in case of La Caixa based on rating agency data, La Caixa stated that it has EUR 22 bn of Cédulas issuance potential left (which seems plausible as the ratio of the total mortgage book to eligible mortgages is unusually high).

While transparency is limited (e.g. figures provided by issuers and rating agencies may differ), in our view, Spanish Multi-Cédulas issuers have a remaining potential to use Cédulas of at least EUR 65 bn. This calculation is based on eligible mortgage loans accounting for around 63% of the total mortgage book on average of all participating banks.

Figure 11. Banks part of Multi-Cédulas mentioned below have over EUR 65 bn of remaining collateral*

Issuer Name	Eligible cover pool (EUR)	Outstanding CH (EUR)	Maximum issuance potential	Issuance potential
Kutxa	5,606	2,500	4,485	1,985
BBK	8,774	4,438	7,019	2,581
BBK Bank CajaSur	6,667	4,824	5,334	509
Unicaja	13,185	9,159	10,548	1,389
Ibercaja	15,642	6,175	12,513	6,338
Caixa Ontinyent	401	195	321	126
Caja Vital	2,215	1,372	1,772	400
Cajamar	7,751	3,683	6,201	2,518
Banca March	2,867	1,675	2,293	618
Caja Laboral	7,351	4,725	5,881	1,156
Ipar Kutxa	1,556	650	1,245	595
Banco Gallego	1,465	875	1,172	297
Banco Espirito Santo	479	305	383	78
Banco Guipuzcoano	1,713	940	1,370	430
Banco de Valencia	5,591	3,350	4,473	1,123
UNNIM	9,976	6,905	7,981	1,076
Caja España-Duero (Espiga)	12,861	8,822	10,288	1,467
Catalunya Caixa	17,878	11,975	14,302	2,328
Banco Popular Espanol	24,832	19,458	19,865	407
NovaCaixaGalicia	16,609	10,260	13,287	3,027
La Caixa	51,892	38,714	41,514	2,800
BASE SIP	38,729	21,820	30,983	9,163
BFA SIP	75,781	50,831	60,625	9,794
Caja Tres SIP	6,322	2,626	5,057	2,431
MareNostrum SIP	27,670	15,686	22,136	6,451

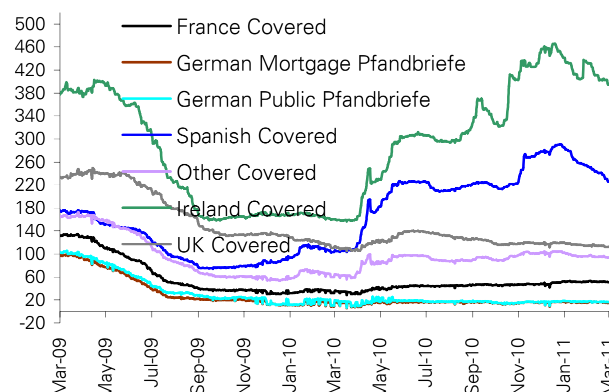
*Based on Dec 2010 /Jan 2011 data; Source: Fitch, Deutsche Bank

We highlight that while things look to be moving in the right direction from a political and macro point of view, fundamental uncertainty remains high. This is confirmed e.g. by non performing loans of 21.12% of Caja de Avila's mortgage book as of Q4 2010 (Bancaja: 5.86%, Caja Laietana 6.32%, Caja Insular Canarias 8.11%, Caja Segovia 7.32%, Caja rioja 3.03%). Caja Madrid published 5.44% of non-performing loans on its whole loan book.

Spanish Cédulas trade cheap to senior bonds and senior CDS

In line with Spanish sovereign bonds, Cédulas tightened significantly in recent weeks.

Figure 12. Spread convergence trend between different covered bond sectors continued



Source: iBoxx, Deutsche Bank

However, while comparisons between different covered bond markets based on quoted spreads are difficult due to differences in liquidity, Spanish Cédulas still look attractive versus respective sovereign bonds.

Figure 13. Simple average spreads of EUR benchmark covered bonds versus respective sovereign bonds

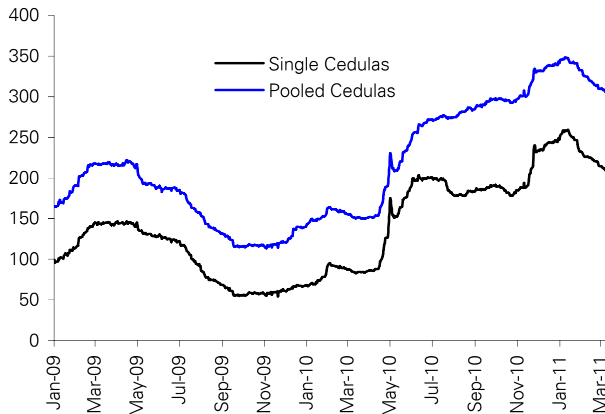
	Covered versus sovereign average spreads	Average duration
Germany	63.9	3.2
France	72.2	4.7
Spain	122	4.6
Portugal	23.6	3.3
Ireland	-41.4	3.3
Netherlands	82	4.9
Italy	45.2	5
Austria	84.3	4
Finland	60.2	3.4
Greece	-318	4.5

Source: Deutsche Bank

We highlight that spreads of Spanish Cédulas are very heterogeneous and Multi-Cédulas (mainly backed by

Cédulas of Spanish savings banks) typically trade with a significant pick-up.

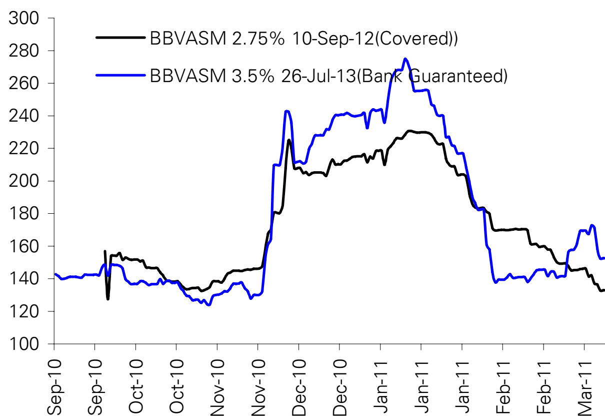
Figure 14. Single and Multi-Cédulas versus swaps – Multi-Cédulas trade with a significant pick-up



Source :iBoxx, Deutsche Bank

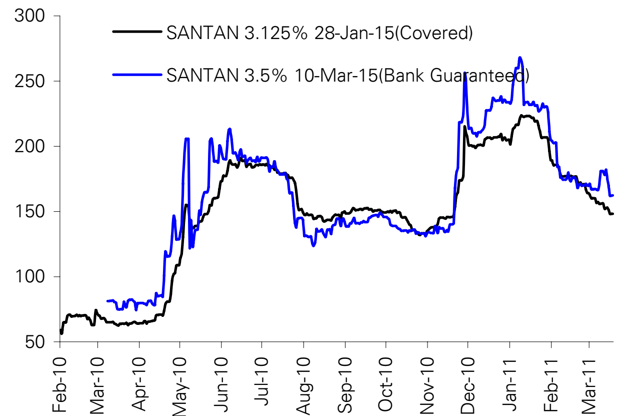
Most Cédulas also look attractive versus unsecured bonds of Spanish banks (based on quoted spreads).

Figure 15. BBVA Cédulas look attractive versus BBVA unsecured – lack of market liquidity seems a key risk



Source: ,Deutsche Bank

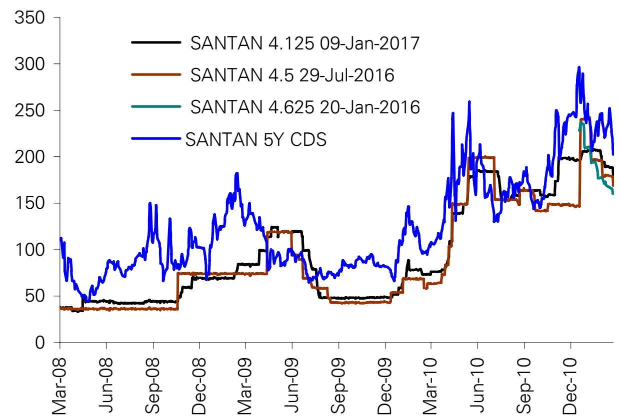
Figure 16. Santander Cédulas look attractive versus Santander unsecured – lack of market liquidity seems a key risk



Source: ,Deutsche Bank

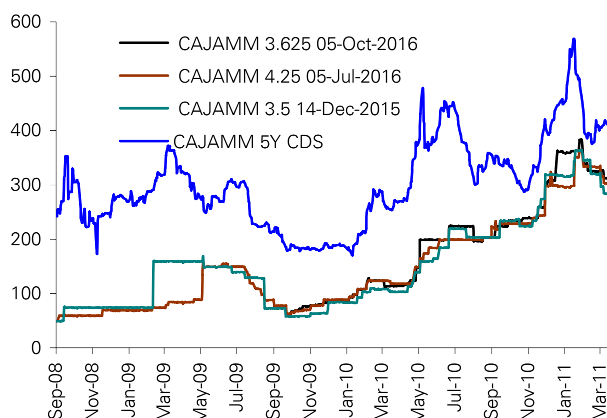
Despite recent tightening, Spanish Cédulas look still attractive versus senior CDS.

Figure 17. Santander Cédulas tightened versus 5Y senior CDS of Santander



Source: Deutsche Bank

Figure 18. Caja Madrid Cédulas tightened versus 5Y senior CDS of Caja Madrid



Source: Deutsche Bank

It remains noteworthy that Cédulas have typically between priced cheap to senior CDS from a fundamental point of view (highlighting that Cédulas are collateralized bank risk and senior CDS reflect unsecured bank risk). E.g. on 11 May 2009, new issuance of SANTAN May 14 Cédulas were even priced at 150'% of 5Y senior CDS.

Figure 19. New issue spreads of Santander versus senior CDS respectively

Bond	Issue Date	ASW spread at issue date	5Y/10Y CDS spread at issue date	ASW as a % of CDS spreads
SANTAN 4.375% 16-Mar-15	28-Feb-11	180	226	80%
SANTAN 4.625% 20-Jan-16	5-Jan-11	225	254	89%
SANTAN 3.625% 06-Apr-17	18-Mar-10	75	97	77%
SANTAN 3.125% 28-Jan-15	19-Jan-10	50	88.6	56%
SANTAN 3.875% 27-May-14	11-May-09	120	79.8	150%
SANTAN 4.5% 14-Nov-12	30-Oct-07	13	33.5	39%
SANTAN 4.625% 04-May-27	24-Apr-07	10	13.2	76%
SANTAN 4.25% 06-May-13	7-Apr-07	2	8.1	25%
SANTAN 4.125% 09-Jan-17	31-Aug-06	9.5	16.5	58%
SANTAN 3.875% 23-Mar-16	14-Mar-06	8	16	50%
SANTAN 3.5% 06-Feb-14	25-Jan-06	8	9.9	81%
SANTAN 3.875% 06-Feb-26	25-Jan-06	13	16.3	80%

Source: Deutsche Bank

Ratings of Spanish Cédulas remain under severe pressure

Last week, Moody's announced multiple rating downgrades of Cédulas and Multi-Cédulas (of up to seven notches), following downgrades of 30 Spanish banks (of up to four notches), which in turn followed the downgrade of the Spanish sovereign from Aa1 to Aa2. Santander, BBVA and La Caixa were spared from senior and Cédulas downgrades. Sabadell and Bankinter were spared from Cédulas downgrades and also still benefit from a rating of Aaa of their Cédulas at Moody's.

With a downgrade by seven notches from Aaa to Baa1, Cédulas of Banco Pastor and Caixa Catalunya are worst impacted. The bulk of Multi-Cédulas was downgraded to Aa2. Most Cédulas remain on review for further downgrades. As there is a minimum rating of double A minus for covered bonds to be eligible for Liquidity Coverage Ratio (LCR) under Basel III, numerous Cédulas (e.g. Pastor, Caixa Catalunya, Caja Galicia, BBK, Caja Espana de Inv. and Cajamar) would no longer be eligible. Press reports (e.g. the Financial Times Alphaville on 29 March 2011) suggest that the LCR rating requirement might be removed and some covered bonds (e.g. German Pfandbriefe, Danish covered bonds and Swedish covered bonds) might even be recognised as Level 1 assets under Basel III/CRD4, i.e. not facing any limit or haircut. This would be supportive for Spanish Cédulas (by no longer facing any rating limit as LCR asset).

Overall, rating pressure for Cédulas remains present and is likely to make market access for second tier issuers even more challenging. In our view, an increasing share of credit investors taking a look at Cédulas care less about ratings than typical rates covered-bond investors (who remain cautious regarding Cédulas anyway).

Spanish financials' outlook – Equities view

- **In spite of encouraging decisions by the regulator we remain prudent on the potential of Spanish financial equities in a context of slow economic growth and margin compression.**

The Government's recently announced plans around the saving banks restructuring process are more determined and comprehensive that what we might have expected a few months ago. We believe that a capital injection of E15bn (amount flagged by Bank of Spain in early March) would most certainly fail to provide the market with the much needed comfort, as it leaves little to no room for a deterioration in the current credit quality environment or any deviation on the expected loss assumptions.

We also believe that a diligent execution of restructuring is far more relevant than the final capital injection needed and also the potential demand from private investors to the upcoming capital calls, where valuation will become the key area of focus.

Transparency has improved, but more needs to be done on this front. Even with this limitation and whilst we believe the capital needs flagged by the government and Bank of Spain fall below DB and market expectations, the problems are well identified, can be quantified, Spain has the mechanisms in place to deal with them and are manageable in the context of the sovereign.

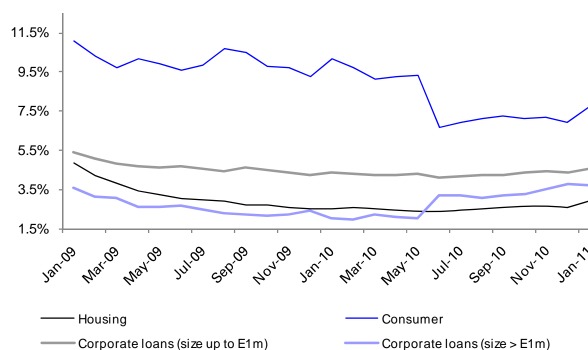
Funding remains the main challenge being faced by Spanish financials and saving banks in particular. We believe that over time, as restructuring plans moves ahead (and solvency issues are addressed) and European stress test are published, market pressure (via restrain access to funding) should slowly come off for saving banks.

All in all, although we are a lot more constructive on Spain, which should slowly translate into an improvement in sentiment (admittedly still volatile and fragile), we also believe that underlying trends remain challenging which will continue pressuring profitability in the coming quarters. The main challenges around the Spanish banks are:

1. In a context of modest economic growth and raising rates, Spanish credit volumes should maintain similar depressed levels to those seen in 2010. Sector lending growth should remain negative in 2011.

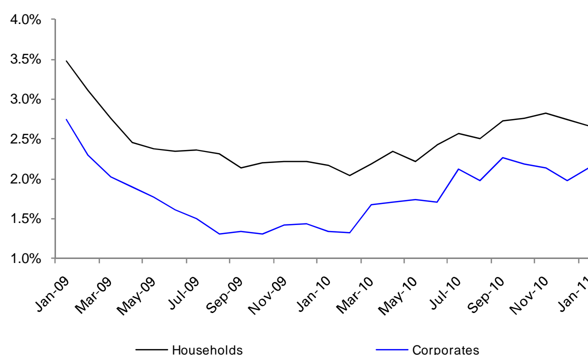
2. Net interest margins should remain under pressure. On a positive front, and helped by sovereign concerns, deposit competition has come off (relative to Q2/Q3 2010) and access to debt capital markets is also slowly improving (in size and cost, at least for the biggest players). Moreover, some banks are re-pricing some of their assets (corporate loans mainly) at higher rates. Despite this, cost of funding (even if slowly normalizing) remains high compared to historical standards. Also the short term impact from higher rates will tend to have a negative impact due to the asset/liability duration mismatch.

Figure1: Yields on new credit production broken down by segment



Source: Deutsche Bank estimates and Bank of Spain

Figure 2: Cost on new time deposit production broken down by segment



Source: Deutsche Bank estimates and Bank of Spain

Figure 3: Spanish financials covered bonds issuance YTD

	Issuer	Size (Em)	Maturity	Cost	Spread
04-Jan-11	BBVA	1,500	3yr	4.13%	ms+225
05-Jan-11	Santander	1,000	5yr	4.63%	ms+225
14-Jan-11	Bankinter	500	2yr	4.88%	ms+310
26-Jan-11	Banco Popular	650	2yr	4.62%	ms+270
02-Feb-11	BBVA	2,000	5yr	4.75%	ms+200
03-Feb-11	Bando Sabadell	1,200	2yr	4.50%	ms+260
10-Feb-11	La Caixa	2,000	5yr	5.00%	ms+220
16-Feb-11	Banco Popular (tap)	350	2yr	4.50%	ms+245
28-Feb-11	Santander	2,000	4yr	4.38%	ms+180
02-Mar-11	Bankinter (tap)	400	3yr	3.25%	ms+265
08-Mar-11	La Caixa	1,250	4yr	4.75%	ms+200
09-Mar-11	Unicaja	500	5yr	5.50%	ms+250
21-Mar-11	BBVA	2,000	4yr	4.25%	ms+155
21-Mar-11	Banesto	600	4yr	4.63%	ms+190

Source: Deutsche Bank estimates, company data and Bloomberg

3. All in all, we see further decreases in net interest income in 2011 versus 2010 on negative lending growth and spread compression with H2 2011 NII probably looking gaining some momentum versus H1 2011.

4. Whilst NPL formation should lose momentum versus 2010 levels, in an environment where rates are set to increase, unemployment rate remains at 20% (and unlikely to come off significantly in the coming quarters) and with an increasing amount of people losing their unemployment subsidy, the risks look to be on the downside.

5. Linked to the previous point and leaving aside any potential changes by Bank of Spain on the provisions requirements, the fact that the stock of generic provisions is running thinner in most banks, cost of risk should remain at fairly demanding levels in 2011.

In summary, from an equities standpoint, stock differentiation and fundamentals are yet overshadowed by a market which is still too much sentiment/newsflow driven. Whilst acknowledging that some of the bank names under our DB coverage trade at undemanding levels and although sentiment seems to be improving (still very fragile and volatile), low earnings visibility, poor earnings momentum and depressed profitability levels (average RoTBV 2010 for the listed domestic banks stood at 5-6%, whilst we estimate a 4.1% ROE for saving banks alone in 2010) suggests maintaining a cautious approach.

ABS view

- **Bad loans continue to cast a shadow on Spanish ABS, an issue soon to be made even more pressing if policy rates start rising soon in Europe, as we expect. We nonetheless highlight examples of current pay bonds which we believe offer superior structural enhancement, while at the same time low credit risk.**

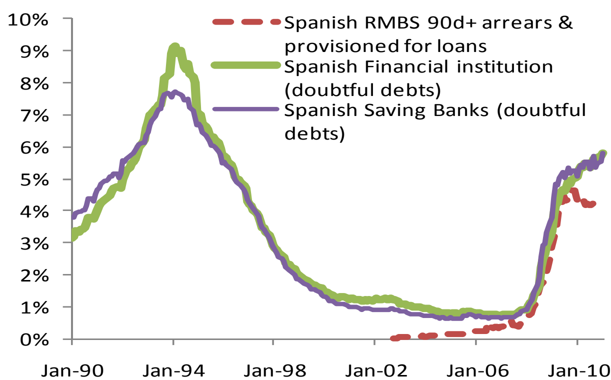
Provisions over stock of problematic assets

Bad loans in Spain continue to grow steadily with doubtful debt now standing at 5.8% roughly a factor of 6.5 from three years ago as shown in Figure 1. Domestic loan performance is vulnerable to a still weak macro-economic environment and to a normalisation in rates (both ECB and mortgage margins). Given where we are in the rate cycle, we see further scope for NPLs to continue increasing (see banks section of this report for more detail view). Notwithstanding our negative outlook, the rate of doubtful debt deterioration has slowed and securitised mortgage pools have seen an improvement.

Interpreting Spanish RMBS data

The securitisation data in Figure 1 (red line) includes not only arrears but also provisioned-for-loans and currently stands at 4.25%. While market convention for analysing RMBS pools in Europe usually looks at 90+ arrears exclusively, conservative provisioning mechanisms inherent in Spanish RMBS structures mean it is also necessary to consider foreclosed loans.

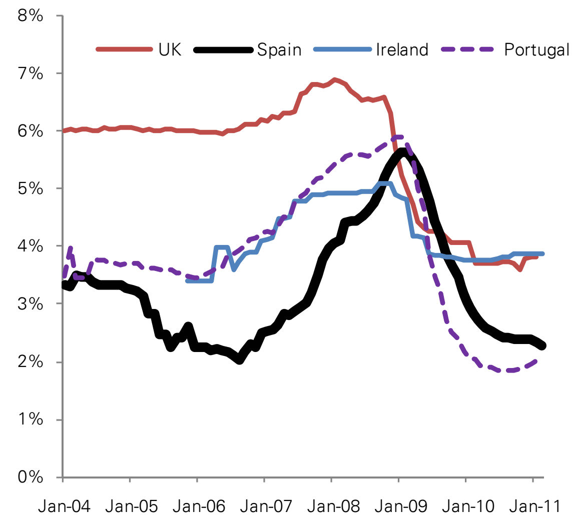
Figure 1. Spanish loan and RMBS performance



Source: Deutsche Bank

These mechanisms mean that after a given period (typically 12-18 months) arrears are re-classified out of the late stage bucket and into the provisioned-for bucket, ultimately smoothing the arrears numbers. The Deutsche Bank data above takes this adjustment into account and in our view better reflects how Spanish RMBS credit performance has really evolved. Looking at just arrears in isolation they currently stand at 1.7% down from 3.1% at their Oct 2009 peak.

Figure 2. Weighted average mortgage rates in European RMBS pools



Source: Deutsche Bank

Rate rises to bite

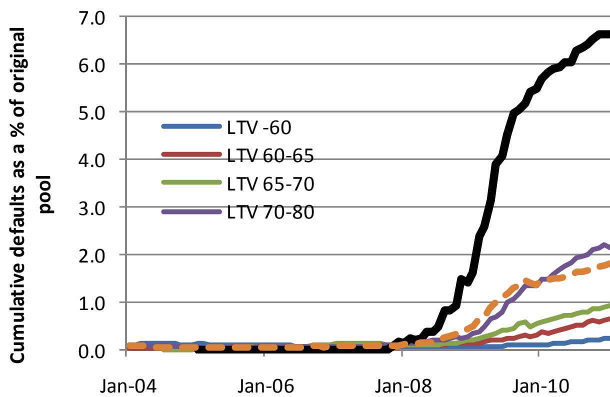
The stabilisation in Spanish pool credit performance above must also be seen in the context of the extraordinary low rate environment. Over the past 3 years mortgage and corporate borrowers across Europe have benefited from lower monthly instalments. Our Eurozone economists now expect a 25 bp rate hike in April, and forecast two further 25 bp hikes in September and December of this year. Based on securitisation pool data, Iberian mortgage borrowers have reaped far greater benefit from this low rate environment than Northern European borrowers. Essentially, front-end mortgage/loan re-pricing has failed to occur. Figure 2 shows the extent to which borrowers in the predominantly floating rate mortgage markets of Spain and Portugal have on average benefited far more from lenders not passing on increased funding costs than Ireland or the UK.

Assuming Bank of England and ECB base rate rises of similar magnitude, we see far greater potential credit risk from a tightening of monetary policy on Spanish than say UK pools. Also one would expect at some point Spanish banks, like their Northern European counterparts, will have to engage in a re-pricing exercise on their mortgage back book. As we move towards a more normalised rate environment we expect differences in inter jurisdictional credit performance to become more pronounced.

Spanish mortgage foreclosure – lack of clarity remains

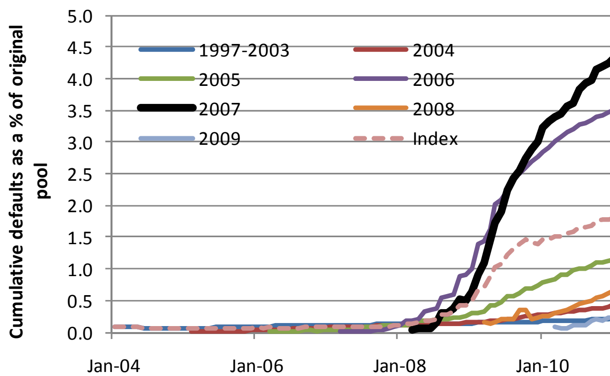
A reluctance on behalf of banks to foreclose, a lack of disclosure on recovery data, as well as the common practice of buying back underperforming loans all make an analysis of pool losses in Spanish RMBS challenging. Certainly, the practice of buying real estate assets from problematic clients and aggressive refinancing policies are anecdotally still pervasive. Pool performance is likely to remain under pressure given the degree of household leverage, falling house prices and substantial levels of unemployment with the worst performance weighted to more recent vintage (Figure 3) and higher LTV pools (Figure 4). In SME pools exposure to housing / construction sectors continues to underpin credit underperformance.

Figure 3. RMBS loan defaults by LTV



Source: Deutsche Bank

Figure 4. RMBS loan defaults by vintage



Source: Deutsche Bank

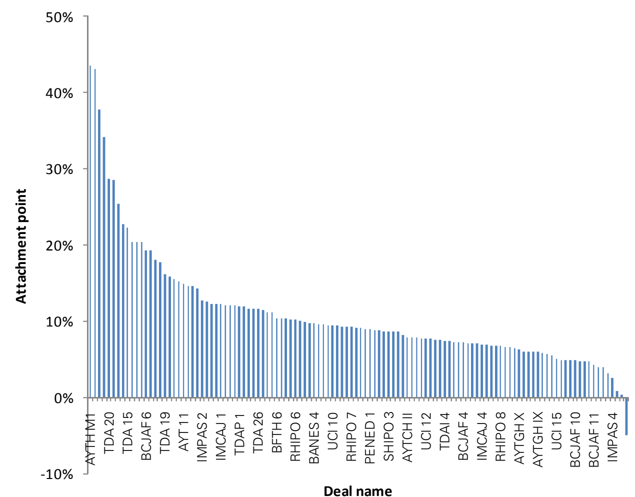
Spanish House Prices

Both official and private sector house price indices in our view do not reflect actual house price falls. Based on official data published by the Ministerio de Vivienda Spanish house prices have fallen just 13.2% from their peak in Q1 2008, while data from property consultancy TINSA show larger peak to trough falls of ca. 19.5%. In the latter index coastal areas where much pre-crisis construction activity was concentrated does show more severe declines of 27%. We note that both these indices are based on surveyor appraisals rather than actual transaction data and do not appear to not fully capture price movements. Anecdotal evidence suggests falls have been much more severe on the order of 30-40% or higher. The percentage of negative equity faced by pools of recent vintages is 50%+ under more realistic house price scenarios.

Spanish RMBS opportunities

Given the lack of explicit sponsor support relative to covered bonds, RMBS remains sensitive to the over-leveraged Spanish borrower. Yet, notwithstanding another leg down in both pool performance and the housing market, opportunities do exist in Spanish RMBS. Most prominent among these to our mind remains senior RMBS. Both credit performance and subordination attachment levels do vary greatly however. For example, while average senior (originally triple-A) credit enhancement stands at 13.6%, this does vary greatly by vintage. Effective attachment points on average stand at 16% in 2003 versus 10% and 9% respectively in 2006 and 2007 vintage transactions. While value also exist in mezzanine bonds, thin attachment points mean these bonds in many cases remain extremely exposed to potential resurgence in losses. Figure 5 below shows effective attachment points (attachment points are adjusted via a 50% haircut for late stage arrears and foreclosed loans) for the Spanish RMBS investment universe.

Figure 5. Senior attachment points adjusted for late stage arrears and foreclosed loans



Source: Deutsche Bank

Senior bonds offer between 250 - 400 bp a healthy 100-250 bp pick to comparable UK prime and Dutch RMBS paper. In Figure 6 we highlight examples of current pay bonds which we believe offer superior structural enhancement, with underlying pools of low credit risk loans (loans in 90+ arrears and foreclosed loans).

Figure 6. Selected opportunities in senior Spanish RMBS

Bond bloomberg ticker	BCJAF 6 A2	BCJAF 8 A	HIPO HIPO-6 A
Original sponsor	Bancaja	Bancaja	Caixa Catalunya
ISIN	ES0312885017	ES0312887005	ES0345782009
Price	87.2	85.48	87.15
Return dm in bp	305	305	270
WAL	5.95	6.55	7.19
Attachment	19.80%	16.00%	18.30%
90+and foreclosed loans	1.00%	3.60%	0.60%
Year of issue	2003	2005	2003
CPR	5	5	4

Source: Deutsche Bank

Focus on Santander and BBVA

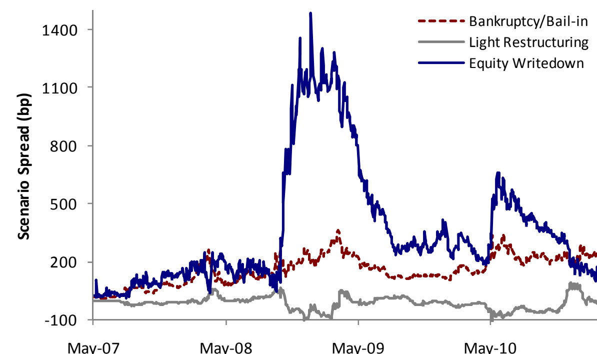
- **Subordinated spreads for BBVA and Santander look least attractive, followed by senior spreads, equity and finally sovereign spreads.**

For the past few years, the market has had the strong belief that if required, European sovereigns would recapitalise banks without causing losses for creditors. As shown in Figure 1 below, this scenario has dominated the others, namely "bankruptcy/bail in" and "light restructuring" (Anglo-Irish style), until recently. Following the announcement of the EFSF last May, the market started to doubt European sovereign's ability to recapitalise the banking system without sharing the pain with creditors and since then has revised that possibility gradually downward. The Anglo Irish subordinated debt exchange last December brought that possibility further down.

Interestingly too, the market has been of the view that the Anglo Irish restructuring whereby senior debt holders are made whole was a one off. The market now believes that bankruptcy/bail is the most likely scenario for banks in distress going forward. This is in line at least in spirit with the January 6, 2011 European Commission proposal on future write-down possibilities for bank bonds including senior bonds. It is also in line with the January 13, 2011 Basel Committee release requiring both Tier 1 and Tier 2 hybrids issued by internationally active banks to allow for principal write-down or conversion into issuer's equity if the issuer is at a risk of failure without additional capital or requires a public sector capital injection to continue operations.

Among large/systemic banks in our universe, Santander and BBVA have stood out for a long time as pricing in bankruptcy / bail-in to a greater extent than other banks in Europe. A tightening of the regulatory landscapes in Switzerland and the UK have since re-priced that risk to an even higher degree than in Spain for these two countries respective banks. Similarly, the equity write-down scenario (the scenario whereby banks in distress would receive capital infusions from the sovereign at no loss to creditors) which was not material in Spain until the end of 2010, has now moved up to levels where it remains highest among European countries in our universe.

Figure 1. The market prices bankruptcy as the most likely scenario in case of bank failure



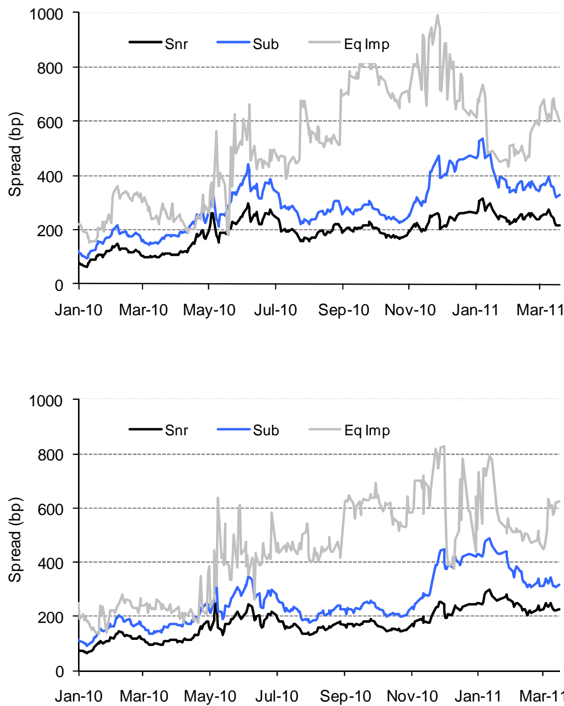
Source: Deutsche Bank

What are the implications for traded equity and credit markets for BBVA and Santander?

The market prices both banks in very similar ways. Figure 2 shows histories of senior unsecured and subordinated 5-year CDS spreads as well as equity implied spreads for each of the two banks. The equity implied spread corresponds to the market's view of the likelihood of the equity of the bank dropping to zero. We extract this market probability from equity and equity options and express this measure of loss in basis points. Equity implied spreads for both banks have widened recently as shown, while credit spreads have continued to grind tighter.

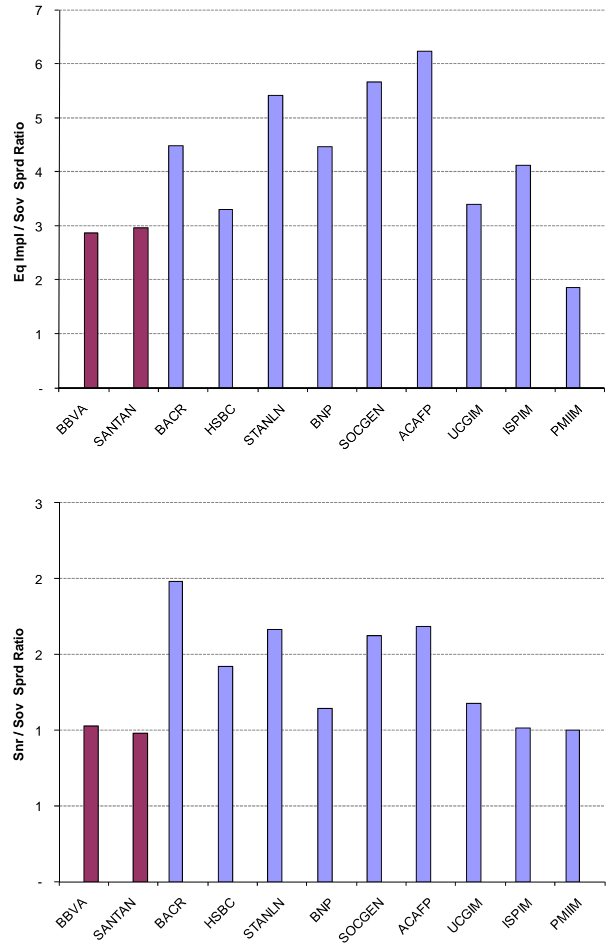
Not surprisingly, volatility and leverage increase as we move from the upper part to the bottom part of the banks' capital structure. This is shown in Figure 2 with equity implied spreads exhibiting material volatility particularly in periods of stress. It is our view, that the equity market currently reflects some amount of stress but that this is much less reflected in both senior and subordinated spreads at present.

Figure 2.: BBVA (top) and Santander (bottom) show tightening credit spreads and widening equity implied spreads



Source: Deutsche Bank

Figure 3.: Equity implied and senior spreads are tight for BBVA and Santander relative to the sovereign



Source: Deutsche Bank

Further analysis within the capital structure shows that subordinated spreads are tight relative to senior spreads for both banks, and particularly so when compared to other large systemic banks in selected European countries. In the scenario analysis discussed above, BBVA and Santander senior implied recoveries are among the lowest among large European banks reflecting the richness of subordinated relative to senior debt.

The observations made thus far are specific to BBVA and Santander. With the European markets pricing more differentiation across individual countries banking systems, we compare and contrast the risk premia embedded in financial assets adjusted for sovereign risk. Figure 3 shows equity implied spreads and senior unsecured spreads for selected banks adjusted for sovereign spreads. Notwithstanding level effects, both equity implied and senior spreads for BBVA and Santander are among the tightest, suggesting that from a cross sectional standpoint, the sovereign is more attractive.

Sovereign bonds view

- **Although we remain constructive on Spain as a "systemic risk", we consider that there is little further compression in spreads to expect given the fundamentals.**

FI Trades

Fundamentally, we maintain a relatively constructive view on Spain. However, having an outright view on sovereign ASW (or CDS) is subject to mark to market fluctuations as sentiment rather than fundamentals move into the driving seat. In addition, in the recent spread widening move of the peripherals, Spanish spreads have de-correlated with the weaker peripherals and do not appear cheap at current levels.

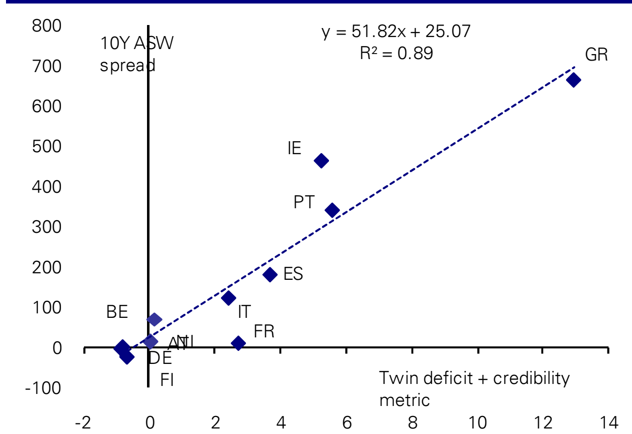
One way to quantify the relative richness/cheapness of a sovereign is to analyse the various European sovereigns on a twin deficit metric of fiscal and current account deficits. The table below shows the valuation of various countries' based on this framework. The first column of fiscal deficit reflects the EC recommended fiscal consolidation over a five year period. The column of current account deficit is based on DB's forecasts. To measure credibility, we aggregate the deviation from the 3% deficit to GDP Maastricht criteria for the period 1997-2008 – the larger the deviation, the higher the score and lower the credibility of a country. Our final metric is the simple average of the above three measures

Figure 1 : Twin deficit metric for sovereign spreads: Spain is trading marginally rich

Country	Fiscal measure	CA deficit	Fiscal credibility	Final metric	10Y ASW level	Rich/cheap 10Y ASW
Germany	1.50	-6.40	2.80	-0.7	-23	-12
France	4.00	1.90	2.20	2.7	11	-154
Italy	1.50	3.00	2.70	2.4	123	-26
Spain	6.00	3.90	1.10	3.7	181	-34
Netherlands	2.25	-5.00	0.10	-0.9	-2	18
Belgium	3.00	-2.50	0.00	0.2	70	36
Austria	2.25	-3.50	1.40	0.1	15	-13
Portugal	5.00	6.00	5.70	5.6	341	27
Ireland	10.00	1.50	4.20	5.2	464	167
Finland	0.00	-2.50	0.00	-0.8	2	20
Greece	12.00	8.00	18.80	12.9	664	-31

Source: Deutsche Bank

Figure 2 : Twin deficit framework and sovereign spreads



Source: Deutsche Bank

The simplistic framework explains nearly 90% of the spread levels for various European countries. Note that on this measure, Spain is trading marginally rich relative to other European sovereigns. The relative richness is consistent with the recent market price action reflecting that the market is pricing in our sanguine outlook that Spanish fundamentals do not justify a need to go to the EFSF

Thus, while we have a relatively constructive view on Spain and would use any widening of spreads to establish long positions, at current levels would have a more neutral bias towards Spanish sovereign spreads

From the risks reward perspective, we think that covered bonds provide a better alternative to be long Spanish risk (see the relevant section in this publication).

Appendix 1

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Risks to Fixed Income Positions

Macroeconomic fluctuations often account for most of the risks associated with exposures to instruments that promise to pay fixed or variable interest rates. For an investor that is long fixed rate instruments (thus receiving these cash flows), increases in interest rates naturally lift the discount factors applied to the expected cash flows and thus cause a loss. The longer the maturity of a certain cash flow and the higher the move in the discount factor, the higher will be the loss. Upside surprises in inflation, fiscal funding needs, and FX depreciation rates are among the most common adverse macroeconomic shocks to receivers. But counterparty exposure, issuer creditworthiness, client segmentation, regulation (including changes in assets holding limits for different types of investors), changes in tax policies, currency convertibility (which may constrain currency conversion, repatriation of profits and/or the liquidation of positions), and settlement issues related to local clearing houses are also important risk factors to be considered. The sensitivity of fixed income instruments to macroeconomic shocks may be mitigated by indexing the contracted cash flows to inflation, to FX depreciation, or to specified interest rates – these are common in emerging markets. It is important to note that the index fixings may -- by construction -- lag or mis-measure the actual move in the underlying variables they are intended to track. The choice of the proper fixing (or metric) is particularly important in swaps markets, where floating coupon rates (i.e., coupons indexed to a typically short-dated interest rate reference index) are exchanged for fixed coupons. It is also important to acknowledge that funding in a currency that differs from the currency in which the coupons to be received are denominated carries FX risk. Naturally, options on swaps (swaptions) also bear the risks typical to options in addition to the risks related to rates movements.

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