J.P.Morgan CAZENOVE

Europe Equity Research
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European Banks

Don't knock the Stress Test, but capital raising opportunity missed

- **The CEBS stress test result is of limited value to us as expected by the market. However, it offers new input data transparency especially on sovereign risk exposure - this is positive.** Hence, **with CEBS data we are able to build a JPMC Acid Test for 35 banks incl. banking book sovereign haircut with 13 out of 35 banks falling below core T1 6% in 2011E with €8.7bn capital deficit without adjusting for €35bn of gov't support.**
- **However, the CEBS stress test is also an opportunity missed**, as EU member states could have encouraged banks to raise equity i) as core Tier I ratio remains low at 7.4% 2011E in our JPMC Acid Test, and ii) to demonstrate to the debt investor ability to access the equity capital markets.
- **Why do we equity holders need happy bank debt investors?** The missed equity capital raising opportunity becomes even more relevant when focusing on the upcoming material refi calendar with €245bn senior debt refi remaining (35%) compared to total 2010 €707bn outstanding FY2010 senior refi. Senior debt redemptions remain high in Eurobanks at close to €690bn in each year 2011 and 2012. In addition, within the covered bond market we have €162bn refi remaining or 36% this year.
- **Time for bank differentiation post CEBS stress test**: It is interesting to witness the credit market differentiating between quality of issuer whereas Eurobanks are mainly clustered close to 1.0x 2011E NAV. We expect CoE differentiation to start to take place slowly among banks with i) well capitalized banks re-valuing to over 1.0x, and ii) high cashflow generative banks with low P/pre-provision profits to outperform. The CEBS Stress Test is on a static balance sheet, resulting in material RWAs due to credit migration increases, which is conservative, and helpful in our analysis to differentiate between bank valuations.
- **Within the Eurobanks our preference is for IB geared private banks over credit banks** with Fixed Income rates volatility high, low sovereign and traditional credit risk exposure compared to traditional banks with ongoing concern and uncertainty in respect to European traditional credit provision run-rate in 2011E. Within credit banks we prefer high cashflow pre-provision banks with preference for non-EU exposure. **Hence our top picks are: CSG, UBS, DnBNor, HSBC, UCI, SG**. **We remain cautious on Spanish Banks.**

Banks

Kian Abouhossein[AC]
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

Carla Antunes da Silva
(44-20) 7325-8215
carla.antunes-silva@jpmorgan.com

Ignacio Cerezo
(44-20) 7325-4425
ignacio.cerezo@jpmorgan.com

Paul Formanko
(44-20) 7325-6028
paul.formanko@jpmorgan.com

Delphine Lee
(44-20) 7325-3971
delphine.x.lee@jpmorgan.com

Amit Goel, CFA
(44-20) 7325-6924
amit.x.goel@jpmorgan.com

Nana Francois, CFA
(44-20) 7325-6424
nana.a.francois@jpmorgan.com

Andrea Unzueta
(44-20) 7325-7454
andrea.e.unzueta@jpmorgan.com

Rohit Nigam
(44-20) 7325-0803
rohit.z.nigam@jpmchase.com

Axel J Finsterbusch
(44-20) 7325 9021
axel.j.finsterbusch@jpmorgan.com

J.P. Morgan Securities Ltd.

Table 1: Top picks European Banks, local currency

	Price	TP	Upside	EPS 10 E	EPS 11E	NAV**/Sh. 11E	RoNAV 11E
CS	44.3	59.0	33.1%	5.30	6.00	27.2	24.8%
UBS	15.5	22.0	42.2%	1.52	2.20	11.2	21.8%
UCI	2.0	2.8	37.1%	0.12	0.26	2.2	12.8%
SocGen	38.0	55.0	44.7%	2.85	6.30	43.7	15.3%
HSBC	646	900	39.3%	0.68	1.01	678	16.2%
DnBNor	75.1	84.0	11.9%	6.72	8.16	66.3	12.8%

Source: J.P. Morgan estimates, Company data. Note: EPS on a fully diluted basis. Priced close 23rd July, 2010. **Ex own debt.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

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Please see the most recent company-specific research published by J.P. Morgan for an analysis of valuation methodology and risks on the stocks recommended in this report. Research is available at http://www.morganmarkets.com, or you can contact the analyst named on the front of this note or your J.P. Morgan representative.

Stress Test – what's next?

We welcome the stress test published by CEBS. The stress test might not be as conservative as we would like to be, especially in terms of loss ratios in certain countries. But CEBS and European Banks are giving us a lot of new information which we find helpful to assess solvency in our own analysis. In addition, with relatively low expectations we see the stress test as a positive step offering shareholders and debt holders additional disclosure.

We assume that some banks in our analysis should raise equity or restructure/dispose of assets to raise their core Tier I above 6% based on JPMC Acid Test analysis including banking book sovereign debt haircuts. **Ordered by the size of their capital shortfall**, **the banks impacted in our simplistic analysis are Piraeus, DBK, DPB, NBG** *(however please to our CEEMEA bank section for further clarification on NBG),* **EFG, PAS, BCP, BES, Alpha, POP, BPI, BOI and BKT with core T1 below 6%.** From those, only the first 5 require more than €1bn additional capital, with the last 5 showing a shortfall below €200mn.

Despite our analysis being an Acid Test, we like to have a cushion for Banks to operate above the core T1 ratio Acid Test. Hence, we still view European Banks as **undercapitalized at an average core Tier I 2011E ratio of 7.4%** in 2011E under JPMC Acid Test assumptions including sovereign risk banking book markdowns. A re-rating above 1.0x tangible BV 2011E requires a higher capital buffer in our view.

One could ask why we believe banks should be more than 1.3% above the JPMC acid sensitivity core T1 ratio 6% hurdle. As illustrated below, the CEBS Stress Test is not as aggressive in terms of loan loss provisions as that used by Austrian OENB.

Table 2: OENB has taken more conservative assumptions than CEBS

GDP growth	OENB				CEBS			
	Benchmark		Adverse		Benchmark		Adverse	
	2010	2011	2010	2011	2010	2011	2010	2011
Czech c	1.3%	2.6%	-0.2%	-2.8%	1.4%	1.8%	0.9%	0.6%
Hungary	-0.2%	2.5%	-2.2%	-3.9%	0.9%	3.2%	-0.2%	1.6%
Romania	0.8%	3.1%	-1.2%	-3.3%	-0.7%	3.6%	-1.8%	2.1%
Slovakia	4.1%	4.5%	2.8%	-0.1%	1.9%	2.6%	0.8%	-0.6%
Croatia	-0.1%	1.8%	-1.6%	-3.6%	4.4%	4.8%	3.6%	3.5%
Serbia	2.0%	3.0%	-0.1%	-3.4%	4.4%	4.8%	3.6%	3.5%
Ukraine	3.7%	4.1%	1.7%	-2.3%	4.4%	4.8%	3.6%	3.5%

Source: Company reports.

Clearly, we would have welcomed more aggressive macro assumptions in the adverse scenario for the CEBS Test. As an example, we would have preferred an adverse scenario assumption by the OENB of -3.6% GDP decline for Hungary and Romania compared to +1.9% by the CEBS for 2011. Hence, shareholders and creditors should demand additional cushion above the core T1 ratio of 6% compared to JPMC acid sensitivity.

We would have welcomed the EU member states to encourage European Banks to use the stress test as an opportunity to raise additional capital through

accelerated book builds. Besides improving Tier I ratios from a relatively low level, it would have illustrated to bank credit investors the ability for banks to raise equity, leading to less strain within the bank liquidity and debt market. This could have allowed banks potentially to increase their term financing. In addition a more relaxed bank credit market would in our view have resulted in reduced implied risk premium for banks. **Hence we see the stress test and the result of it as a missed opportunity at a time when we believe the market is open to recapitalizations from our recent investor meetings. In addition equity dilution is priced already in low banking stocks' book-valuation operating with Tier I core close to 6%** under our JPMC Acid Test scenario.

Hence, it is unlikely in our view European Banks can materially re-rate above 1.0x tangible BV 2011E considering the ongoing concerns about solvency and even more so liquidity, especially in the context of upcoming debt refinancing as discussed below. The market environment in terms of traditional credit (i.e. provisioning) would in our view need to change materially for banks to re-rate to an assumed normalized RoNAV of 15%. In the meantime we see banks as having two options: i) raise equity, or ii) 'muddle through' and rebuild equity over several years. In the meantime European Banks will trade between 0.9-1.2x tangible BV 2011E with a high implied risk premium related to ongoing concerns of debt refi ability and hence liquidity.

Ultimately we believe the ECB would re-open its 6-month and 12-month tender in case of a liquidity distressed banking system in term funding. However, before such event, things would have to get worse rather than better. This would not be a good outcome for equity investors.

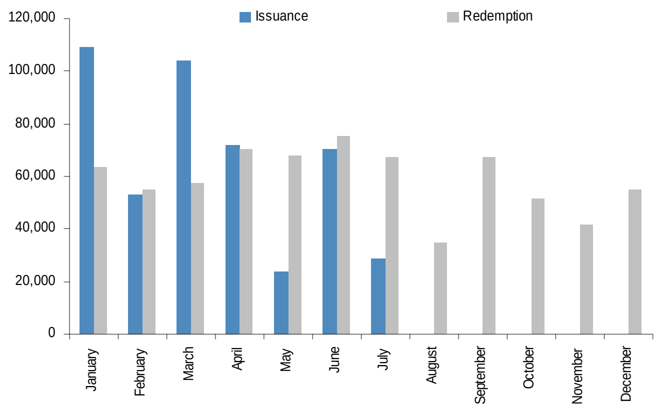
To illustrate our point on the concern of debt refi we illustrate the outstanding debt refi below:
In Figure 1 below, we look at the senior debt issuance and redemption profile in 2010 for European Public and Private Banks. Total senior Debt refinancing needs for 2010 add up to €707bn, with €462bn or c.65% of debt already refinanced YTD 2010.

Of the $360bn senior unsecured debt due to mature in 2010 for FIGs, only $115.7bn or c.32% of senior unsecured debt has been refinanced till July 2010, as shown in Figure 2.

For European Public and Private Banks, €685.7 bn and €688.6bn of Senior debt is due for redemption in 2011 and 2012 respectively.

Figure 1: European Banks (Public + Private) All Senior Debt 2010 Issuance and Redemption profile

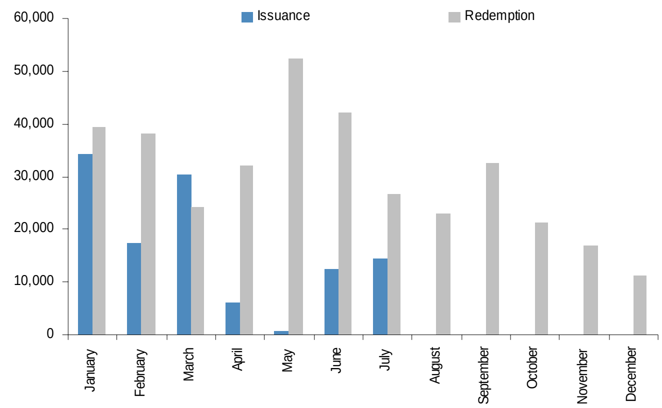
€ million



Source: Dealogic

Figure 2: FIG: Senior Unsecured Debt 2010 Issuance and Redemption profile

$ million

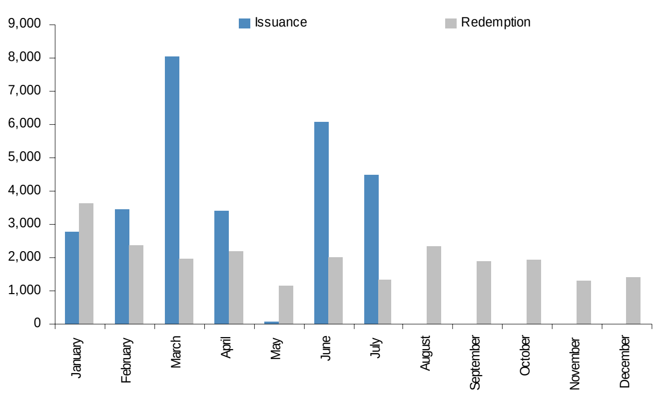


Source: Dealogic

In Figure 4 below, we look at the covered bond issuance and redemption profile for the European Public and Private Sector banks in 2010. Of the €253bn of redemption to be done in 2010, c.64% or €162bn of refinancing has been done. We believe the greater liquidity of the covered bond market relative to the senior debt market has been used by the banks to do more issuances in recent times, as is evident from the high issuances done in June. We note, €217.9bn and €196.4bn of covered bonds are due for redemption in 2011 and 2012 respectively.

Figure 3: European Banks (Public + Private) Subordinated 2010 Debt Issuance and Redemption profile

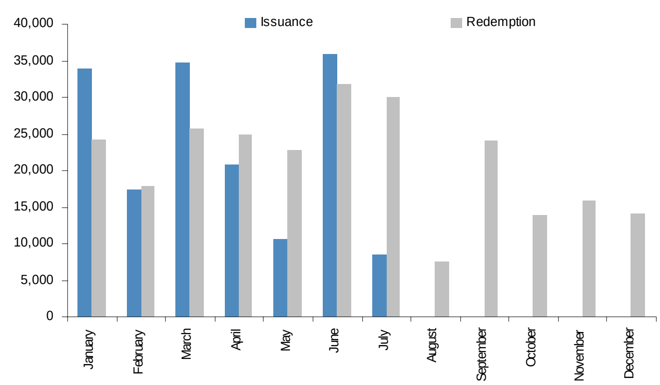
€ million



Source: Dealogic

Figure 4: European Banks (Public + Private) Covered Bond 2010 Issuance and Redemption profile

€ million

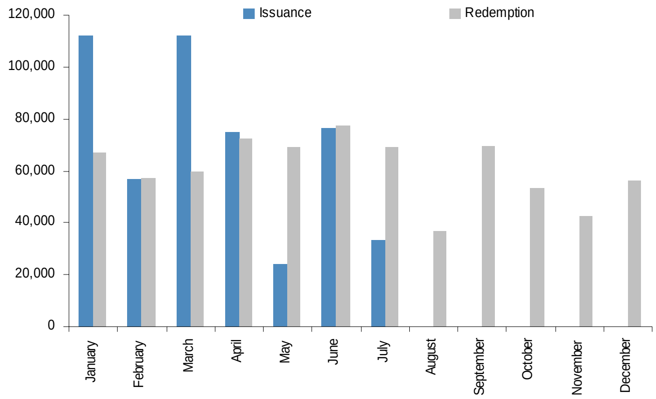


Source: Dealogic

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

Figure 5: European Banks (Public + Private) Total (Senior + Subordinated) 2010 Debt Issuance and Redemption profile

€ million



Source: Dealogic

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

JPMC Acid Test Analysis

€8.7bn of capital shortfall in our Acid Test

We have run two Acid Test scenarios for 35 banks within our coverage universe: i) an Acid Test using CEBS estimates for impairment and losses, and ii) an Acid Test adding haircuts on sovereign exposures to Greece, Ireland, Portugal, Spain and Italy in the banking book.

€3.4bn of capital shortfall in our JPMC Acid Test

In our Acid Test, we estimate €3.6bn of capital shortfalls for the 35 banks that we have looked at. The €3.6bn is split:

- **€2.4bn for 2 German banks**: €1.1bn for Deutsche Bank and €1.3bn for Deutsche Postbank.
- €364m for Piraeus
- **€0.4bn for 2 Spanish banks**: €390m for Banco Pastor and €31m for Bankinter, though we note BKT's shortfall is due to undue punishment on the bank's sovereign exposure, which has been reduced since Dec-09, without which the bank's core Tier 1 ratio would stand above 6%.
- **€0.2bn for BCP**.

€8.7bn of capital shortfall in our JPMC Acid Test including sovereign banking book haircuts

In our more adverse Acid Test including haircuts on sovereign banking books, we estimate €8.7bn of capital shortfalls for the same 35 banks. The €8.7bn is split:

- **€4.2bn for the 4 Greek banks that we have tested**: €1.2bn for National Bank of Greece *(please refer to our CEEMEA banks section for further clarifications on NBG)*, €1.6bn for Piraeus, €1.1bn for EFG and €0.2bn for Alpha. The capital shortfalls are significantly higher than in our first Acid Test as the vast majority of the sovereign exposures for Greek banks are in the banking book.
- **€2.6bn for 2 German banks**: €1.3bn for Deutsche Bank and €1.3bn for Deutsche Postbank. DB estimated capital shortfall only increases marginally vs. our first Acid Test as sovereign exposures in the banking book are limited. Postbank shortfall is unchanged as the sovereign exposures in the banking book are not disclosed and hence we were not able to run the more adverse scenario.
- **€0.9bn for the 3 Portuguese banks that we have tested**: €429m for BCP, €368m for BES, and €134m for BPI.
- **€0.8bn for 3 Spanish banks:** €608m for Pastor, €147m for Popular and €65m for Bankinter. POP's case is mainly explained by a published developer exposure which is materially higher than the one the bank has traditionally disclosed to the market (suggesting the possibility of a disclosure mistake), without which POP would comfortably pass the test. BKT's case has been explained above, and we would reiterate our view about the bank being unduly penalised by using average expected loss figures. In other words, we do not see either of those two banks as effectively needing capital, despite falling slightly short of the 6% core threshold.
- **Irish Banks:** €120m for Bank of Ireland.

JPMC Acid Test vs. CEBS stress test methodology

Our JPMC Acid Test is a more conservative scenario than the CEBS stress test. Note that both tests do assume a static balance sheet, which we consider unlikely for banks in a stress scenario as they would likely proactively reduce their RWAs to free up capital. Hence, we witness material rating migration in banks such as Deutsche Bank. However, the CEBS stress test has several assumptions we adjust for to take a more conservative approach:

- CEBS states that the Tier I capital ratios account for 1.2% from government support on the aggregated Tier 1 capital. CEBS states they assume government support schemes will be in place beyond the time horizon of YE2011. In addition, exit from government support will be most likely replaced by private investor capital based on CEBS release. In our analysis we assume government support with a conversion feature into Tier I capital is counted as core Tier I. Our interest is the additional capital on a 'core' basis which would lead to additional capital injection beyond today's government injected conversion features.
- Restructuring plans, disposals and capital raisings made public before 1 July 2010 have been taken into account by CEBS although they might not have been completed and the real price of divestments might still be estimated.
- Although Basel Market RWAs changes will come into effect by YE2011 based on Basel publications, increased in requirements from Stress VaR, IRC and securitization related RWAs have not been taken into account by CEBS in its stress test (only the impact on re-securitisation books). In our analysis we add our estimated Basel market RWAs estimates into the Core Tier I analysis. We note CRD3 changes related to re-securitisation have been taken into account. Hence, our simplistic RWAs adjustment calculation will have taken into account some double counting.
- The banking book (AFS and Held-to-Maturity) for government related exposures have not been stress tested in a sovereign haircut scenario. We have included banking book stress test for exposures to Greece, Ireland, Portugal, Spain and Italy in our analysis.

JPMC Acid Test scenarios – Methodology

Acid test with minimum Core Tier I ratio of 6%
In our first Acid Test, we use CEBS assumptions and estimates for impairment and losses including their sovereign shock (trading book exposures only), but use our own estimates for earnings generation and RWAs progression which would account for run-off portfolios, increase in market RWAs due to Basel risk framework changes.

We have, however, adjusted our RWAs for the deterioration in macro-economic conditions, to account for default and migration risks, as outlined by CEBS. As a result, our RWAs figures are generally higher than the estimates used by CEBS in their stress test.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

We summarize below how we have derived our JPM Core Tier I Acid Test ratios:

JPMCe 2011 Acid Test Core Tier I capital =

+ JPMC 2009 Core Tier I capital

+ JPMCe cumulative 2010e and 2011e pre provision profits

+ JPMCe other P&L items 2010e and 2011e (cumulative)

– CEBS Adverse scenario and sovereign shock scenario 2 year cumulative impairment losses on financial assets in the banking book

– CEBS Adverse scenario and sovereign shock scenario 2 year cumulative losses on the trading book

– Taxes on the profit and loss items above

– Minority interests

JPMCe 2011 Acid Test risk weighted assets =

+ JPMCe 2011e risk weighted assets (including adjustments for market RWAs and full Basel II application where appropriate)

+ difference between CEBS total risk weighted assets after the benchmark scenario and CEBS total risk weighted assets after the adverse scenario provided for each bank

There are several caveats to our methodology:

- Our Core Tier I Acid Test ratio assumes no payment of dividends. We understand that the CEBS stress test, however, gave local regulators the choice to include or exclude dividend payments. This would imply that CEBS adverse Tier I ratios would be slightly higher excluding dividend payment.
- Stated Tier I capital ratios in the CEBS sovereign shock scenario provided for each bank include an undisclosed additional impact on RWAs which we have not factored into our 2011E RWAs.
- There are differences between CEBS benchmark and adverse scenario capital ratios provided by the banks which are not fully accounted for by the (post tax) figures provided on impairment losses on financial assets and impairment losses on trading books.

Acid test with haircut on selective sovereign exposures in the banking book
In addition, we run an Acid Test which also includes haircuts on the banks' sovereign exposures to Greece, Ireland, Portugal, Spain and Italy in the banking book. Our estimates for the banking book losses are based on:

- Sovereign exposures to Greece, Ireland, Portugal, Spain and Italy in the banking book, as disclosed by the companies – available for all European banks except UK banks and most German banks.

- Haircuts for these countries used by CEBS for the trading book sovereign exposures: Greece 23.1%, Ireland 12.8%, Portugal 14.1%, Spain 12.0% and Italy 7.4%.

Please refer to Table 31 on page 40 for details on European banks' sovereign exposures by country.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

Table 3: European Banks: JPMC Acid Sensitivity No.1

€mn, %	Tier 1 capital 2009	Core Tier 1 capital 2009	(+) pre-prov. profit 10-11E	(+/-) other P&L items 10-11E	(+/-) Impairments	(+/-) taxes	(-) minorities	Resulting Tier 1 capital 11E	Resulting core Tier 1 capital 11E	Resulting Tier 1 11E	Resulting Core Tier 1 11E	Excess/ (shortfall) vs. 6% Core Tier 1
UCG	39,054	34,456	24,238	-486	-25,107	398	-797	37,301	32,703	7.4%	6.5%	2,647
ISP	30,378	25,677	17,072	170	-14,294	-1,032	-252	32,043	27,341	7.7%	6.6%	2,368
MPS	9,067	8,443	4,667	-322	-5,542	503	816	9,189	8,565	7.7%	7.2%	1,450
BP	8,125	6,734	2,852	-220	-3,252	248	-545	7,208	5,817	7.9%	6.4%	343
UBI	7,459	7,006	2,709	49	-3,115	161	-65	7,198	6,745	7.9%	7.4%	1,307
Italy	**94,084**	**82,316**	**51,538**	**-809**	**-51,310**	**278**	**-843**	**92,939**	**81,171**	**7.6%**	**6.7%**	**8,116**
SAN	56,615	48,366	50,893	-2,486	-31,321	-4,310	-1,916	67,475	59,226	10.6%	9.3%	21,166
BBVA	27,254	23,190	23,761	-1,126	-14,934	-1,831	-674	32,450	28,386	9.8%	8.5%	8,433
POP	8,473	7,948	5,454	219	-8,199	733	-31	6,649	6,124	7.1%	6.5%	509
BKT	2,312	2,048	1,302	-4	-1,599	90	0	2,102	1,838	6.7%	5.9%	-31
PAS	1,974	1,546	787	0	-1,900	312	0	1,173	745	6.2%	3.9%	-390
Spain	**101,999**	**87,622**	**84,883**	**-3,404**	**-62,400**	**-4,564**	**-2,629**	**113,884**	**99,507**	**9.7%**	**8.5%**	**29,361**
SocGen	34,693	27,300	18,753	372	-13,928	-1,455	-813	37,622	30,229	8.9%	7.1%	4,800
BNP	62,910	49,610	33,249	819	-24,037	-3,009	-2,139	67,793	54,493	9.0%	7.2%	9,197
France	**97,603**	**76,910**	**52,002**	**1,191**	**-37,965**	**-4,464**	**-2,952**	**105,415**	**84,722**	**8.9%**	**7.2%**	**13,996**
Danske	15,847	9,602	5,896	175	-7,782	453	0	14,589	8,344	11.2%	6.4%	500
Nordea*	19,577	16,589	8,553	0	-6,250	-576	-22	21,282	18,294	9.2%	7.9%	4,415
Swedbank	8,474	7,278	2,931	0	-2,459	-111	-126	8,709	7,512	13.2%	11.4%	3,557
SEB	10,748	7,888	3,015	0	-2,989	-6	-12	10,755	7,895	13.3%	9.8%	3,051
SHB	8,877	6,690	3,402	7	-1,885	-397	0	10,004	7,817	12.5%	9.8%	3,021
Nordics	**63,523**	**48,047**	**23,797**	**182**	**-21,365**	**-638**	**-160**	**65,339**	**49,863**	**11.1%**	**8.5%**	**14,544**
Barclay	60,061	46,509	32,637	46	-25,783	-1,863	-1,782	63,316	49,764	9.9%	7.8%	11,322
Lloyds	57,511	48,321	28,304	2,036	-29,679	-188	-305	57,679	48,489	10.1%	8.5%	14,165
RBS	76,107	58,263	26,704	-4,334	-40,863	5,178	-358	62,434	44,590	9.1%	6.5%	3,645
HSBC	97,726	92,774	58,397	3,046	-49,004	-2,737	-2,368	105,060	100,108	10.2%	9.7%	38,241
AIB	8,657	9,531	2,800	2,982	-10,491	706	-133	4,521	5,395	6.5%	7.7%	1,206
BOI	9,561	8,779	2,672	451	-7,403	642	-45	5,878	5,096	6.9%	6.0%	11
UK+ Ireland	**309,622**	**264,177**	**151,514**	**4,229**	**-163,222**	**1,738**	**-4,991**	**298,889**	**253,443**	**9.7%**	**8.2%**	**68,589**
BCP	6,109	4,216	2,162	-8	-2,701	107	-44	5,624	3,731	8.6%	5.7%	-206
BPI	2,245	2,041	975	-24	-586	-66	-218	2,326	2,122	8.9%	8.1%	558
BES	5,199	4,812	2,550	0	-3,388	193	0	4,554	4,167	6.7%	6.1%	93
Portugal	**13,553**	**11,068**	**5,687**	**-32**	**-6,675**	**235**	**-263**	**12,504**	**10,020**	**7.8%**	**6.3%**	**445**
DBK	34,400	23,784	19,110	-622	-16,724	-653	-15	35,496	24,880	8.2%	5.7%	-1,135
CBK	29,520	25,441	7,276	0	-9,010	434	-140	28,079	24,000	9.7%	8.3%	6,646
DPB	4,906	3,293	1,786	0	-1,949	49	0	4,792	3,179	6.4%	4.3%	-1,290
Germany	**68,826**	**52,518**	**28,172**	**-622**	**-27,683**	**-170**	**-155**	**68,368**	**52,060**	**8.6%**	**6.5%**	**4,220**
NBG	7,590	6,333	4,426	0	-6,831	565	-223	5,528	4,271	7.4%	5.7%	-233
Alpha	5,885	5,301	1,914	0	-3,832	451	-145	4,272	3,688	8.5%	7.3%	668
EFG	5,476	4,685	2,578	0	-4,170	374	-245	4,014	3,223	7.8%	6.3%	148
Piraeus	3,401	3,241	1,177	36	-2,853	385	-81	2,066	1,906	5.5%	5.0%	-364
Greece	**22,352**	**19,560**	**10,095**	**36**	**-17,686**	**1,775**	**-693**	**15,880**	**13,088**	**7.4%**	**6.1%**	**220**
Erste	11,450	9,732	7,221	0	-5,818	-308	-787	11,758	10,040	7.5%	6.4%	625
Total	**777,642**	**648,164**	**412,225**	**776**	**-389,677**	**-6,562**	**-13,464**	**780,939**	**651,461**	**9.2%**	**7.7%**	**141,178**

Source: Company reports and J.P. Morgan estimates.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

Table 4: European Banks: JPM Acid Sensitivity No.2 incl banking book sovereign countries at risk haircuts

	Tier 1 capital 2009	Core Tier 1 capital 2009	(+) pre-prov. profit 10-11E	(+/-) other P&L items 10-11E	(+/-) Impairments	o.w. impairment Acid Test	o.w. sovn haircuts on banking book	(+/-) taxes	(-) minorities	Resulting Tier 1 capital 11E	Resulting core Tier 1 capital 11E	Tier 1 ratio	Resulting Core Tier 1 11E	Excess/ (shortfall) vs. 6% Core Tier 1
UCG	39,054	34,456	24,238	-486	-27,026	-25,107	-1,919	963	-797	35,946	31,348	7.2%	6.3%	1,292
ISP	30,378	25,677	17,072	170	-17,550	-14,294	-3,256	108	-252	29,927	25,225	7.2%	6.1%	252
MPS	9,067	8,443	4,667	-322	-6,964	-5,542	-1,422	1,100	816	8,364	7,740	7.1%	6.5%	626
BP	8,125	6,734	2,852	-220	-3,581	-3,252	-329	380	-545	7,011	5,620	7.7%	6.2%	146
UBI	7,459	7,006	2,709	49	-3,516	-3,115	-401	341	-65	6,978	6,524	7.7%	7.2%	1,087
Italy	**94,084**	**82,316**	**51,538**	**-809**	**-58,637**	**-51,310**	**-7,327**	**2,891**	**-843**	**88,225**	**76,457**	**7.2%**	**6.3%**	**3,402**
SAN	56,615	48,366	50,893	-2,486	-34,717	-31,321	-3,396	-3,453	-1,916	64,936	56,687	10.2%	8.9%	18,627
BBVA	27,254	23,190	23,761	-1,126	-16,542	-14,934	-1,608	-1,449	-674	31,224	27,160	9.4%	8.2%	7,207
POP	8,473	7,948	5,454	219	-9,123	-8,199	-924	1,001	-31	5,993	5,468	6.4%	5.8%	-147
BKT	2,312	2,048	1,302	-4	-1,647	-1,599	-48	105	0	2,068	1,804	6.6%	5.8%	-65
PAS	1,974	1,546	787	0	-2,202	-1,900	-302	396	0	955	527	5.0%	2.8%	-608
Spain	**101,999**	**87,622**	**84,883**	**-3,404**	**-69,277**	**-62,400**	**-6,877**	**-2,809**	**-2,629**	**108,763**	**94,385**	**9.3%**	**8.1%**	**24,240**
SocGen	34,693	27,300	18,753	372	-14,848	-13,928	-920	-1,198	-813	36,959	29,566	8.7%	7.0%	4,137
BNP	62,910	49,610	33,249	819	-27,487	-24,037	-3,450	-1,974	-2,139	65,378	52,078	8.7%	6.9%	6,782
France	**97,603**	**76,910**	**52,002**	**1,191**	**-42,335**	**-37,965**	**-4,370**	**-3,172**	**-2,952**	**102,337**	**81,644**	**8.7%**	**6.9%**	**10,919**
Danske	15,847	9,602	5,896	175	-7,856	-7,782	-74	472	0	14,534	8,290	11.1%	6.3%	446
Nordea*	19,577	16,589	8,553	0	-6,341	-6,250	-91	-553	-22	21,214	18,226	9.2%	7.9%	4,346
Swedbank	8,474	7,278	2,931	0	-2,459	-2,459	0	-111	-126	8,709	7,512	13.2%	11.4%	3,557
SEB	10,748	7,888	3,015	0	-3,064	-2,989	-75	12	-12	10,699	7,839	13.3%	9.7%	2,995
SHB	8,877	6,690	3,402	7	-1,885	-1,885	0	-397	0	10,004	7,817	12.5%	9.8%	3,021
Nordics	**63,523**	**48,047**	**23,797**	**182**	**-21,604**	**-21,365**	**-239**	**-578**	**-160**	**65,160**	**49,684**	**11.1%**	**8.4%**	**14,365**
Barclay	60,061	46,509	32,637	46	-26,630	-25,783	-847	-1,634	-1,782	62,698	49,146	9.8%	7.7%	10,703
Lloyds	57,511	48,321	28,304	2,036	-29,679	-29,679	0	-188	-305	57,679	48,489	10.1%	8.5%	14,165
RBS	76,107	58,263	26,704	-4,334	-40,863	-40,863	0	5,178	-358	62,434	44,590	9.1%	6.5%	3,645
HSBC	97,726	92,774	58,397	3,046	-49,004	-49,004	0	-2,737	-2,368	105,060	100,108	10.2%	9.7%	38,241
AIB	8,657	9,531	2,800	2,982	-11,163	-10,491	-672	807	-133	3,950	4,824	5.7%	6.9%	635
BOI	9,561	8,779	2,672	451	-7,557	-7,403	-154	665	-45	5,748	4,966	6.8%	5.9%	-120
UK+ Ireland	**309,622**	**264,177**	**151,514**	**4,229**	**-164,895**	**-163,222**	**-1,673**	**2,091**	**-4,991**	**297,569**	**252,123**	**9.7%**	**8.2%**	**67,269**
BCP	6,109	4,216	2,162	-8	-2,979	-2,701	-278	162	-44	5,401	3,508	8.2%	5.3%	-429
BPI	2,245	2,041	975	-24	-1,430	-586	-844	86	-218	1,634	1,430	6.3%	5.5%	-134
BES	5,199	4,812	2,550	0	-3,987	-3,388	-599	331	0	4,093	3,706	6.0%	5.5%	-368
Portugal	**13,553**	**11,068**	**5,687**	**-32**	**-8,396**	**-6,675**	**-1,721**	**578**	**-263**	**11,128**	**8,643**	**7.0%**	**5.4%**	**-932**
DBK	34,400	23,784	19,110	-622	-16,976	-16,724	-252	-560	-15	35,338	24,722	8.1%	5.7%	-1,294
CBK	29,520	25,441	7,276	0	-10,992	-9,010	-1,982	929	-140	26,593	22,514	9.2%	7.8%	5,160
DPB	4,906	3,293	1,786	0	-1,949	-1,949	0	49	0	4,792	3,179	6.4%	4.3%	-1,290
Germany	**68,826**	**52,518**	**28,172**	**-622**	**-29,917**	**-27,683**	**-2,234**	**418**	**-155**	**66,722**	**50,414**	**8.4%**	**6.3%**	**2,575**
NBG	7,590	6,333	4,426	0	-9,111	-6,231	-2,880	1,101	-223	3,784	2,527	5.0%	3.4%	-1,977
Alpha	5,885	5,301	1,914	0	-4,967	-3,832	-1,135	718	-145	3,404	2,820	6.8%	5.6%	-200
EFG	5,476	4,685	2,578	0	-5,878	-4,170	-1,708	775	-245	2,707	1,916	5.3%	3.7%	-1,158
Piraeus	3,401	3,241	1,177	36	-4,524	-2,853	-1,671	778	-81	788	628	2.1%	1.7%	-1,642
Greece	**22,352**	**19,560**	**10,095**	**36**	**-24,479**	**-17,086**	**-7,393**	**3,372**	**-693**	**10,683**	**7,891**	**5.0%**	**3.7%**	**-4,977**
Erste	11,450	9,732	7,221	0	-6,158	-5,818	-340	-234	-787	11,492	9,774	7.3%	6.2%	360
Total	**777,642**	**648,164**	**412,225**	**776**	**-420,653**	**-389,077**	**-31,576**	**1,967**	**-13,464**	**758,492**	**629,014**	**8.9%**	**7.4%**	**118,732**

Source: Company reports and J.P. Morgan estimates.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

CEBS Stress Test: Key points

In the stress test below for a selected group of European Banks, we analyse the Tier 1 ratio under an adverse scenario including sovereign shock. We considered 6% as the floor for banks to pass the test, in which the banks' credit and market risk exposures were tested.

Tier 1 ratios for different banks as stated by CEBS for different scenarios in the bank by bank stress test exercise are given below in Table 6.

Table 5: Banks below 6% Tier 1 in CEBS stress test

€ million

Country	Bank	Shortfall
Germany	HRE Holding	1,245
Spain	Diada	1,032
Spain	Banca Civica	406
Spain	Unnim	270
Greece	Agricultural Bank of Greece	243
Spain	Cajasur	208
Spain	Espiga	127
Total		**3,531**

Source: CEBS stress test calculations

As outlined by CEBS in EU-wide stress test exercise-

- **The benchmark scenario** is mainly based on European Commission forecast numbers that were available when work on the exercise began in March 2010, i.e., the Autumn 2009 European Economic Forecast (November 2009) and the European Commission Interim Forecast (February 2010). This was complemented with more up-to-date information on country forecasts in cases of significant changes. Assumptions for market interest rates as well as for exchange rates were set in line with the methods employed by the European Commission to construct their forecast.
- **The adverse macro-economic scenario** has two main features: a global confidence shock, that affects demand worldwide, and an EU-specific shock to the yield-curve, also originating from a postulated aggravation of the sovereign debt crisis. The latter impact is differentiated across countries, taking into account their respective situation.
- **The sovereign shock scenario** included the series of valuation haircuts constructed to be applied to the outstanding trading book exposures to European sovereign debt.

Table 6: Stated Tier 1 ratio for different scenarios by CEBS for YE2011E

%

Benchmark scenario		Adverse scenario		Adverse scenario including sovereign shock	
Bank	Tier 1 ratio	Bank	Tier 1 ratio	Bank	Tier 1 ratio
UBI	7.6%	DPB	6.7%	PAS	6.0%
MPS	7.6%	PAS	6.8%	MPS	6.2%
BP	7.8%	MPS	6.8%	AIB	6.5%
DPB	7.9%	UBI	7.1%	DPB	6.6%
BKT	8.4%	AIB	7.2%	UBI	6.8%
PAS	8.7%	BP	7.4%	BKT	6.8%
BOI	9.0%	BES	7.4%	BES	6.9%
POP	9.2%	POP	7.5%	BP	7.0%
BES	9.2%	BKT	7.6%	POP	7.0%
BCP	9.4%	BOI	7.6%	BOI	7.1%
AIB	9.5%	SAB	7.7%	SAB	7.2%
SAB	9.6%	UCG	8.1%	NBG	7.4%
ISP	9.8%	Erste	8.1%	UCG	7.8%
UCG	10.0%	BCP	8.4%	Erste	8.0%
SHB	10.2%	ISP	8.8%	ISP	8.2%
Erste	10.4%	SHB	9.1%	Alpha	8.2%
CBK	10.5%	CASA	9.2%	BCP	8.4%
BBVA	10.6%	CBK	9.3%	SHB	8.9%
CASA	10.6%	Lloyds	9.4%	CASA	9.0%
Swedbank	10.7%	BBVA	9.6%	CBK	9.1%
Lloyds	10.8%	NBG	9.6%	Lloyds	9.2%
SAN	11.0%	BNP	9.7%	BBVA	9.3%
Nordea*	11.3%	KBC	9.8%	KBC	9.4%
BNP	11.4%	SAN	10.2%	BNP	9.6%
BPI	11.6%	SocGen	10.2%	Swedbank	9.9%
Danske	11.7%	Nordea*	10.2%	SAN	10.0%
HSBC	11.7%	BPI	10.3%	SocGen	10.0%
NBG	11.7%	HSBC	10.4%	Danske	10.0%
SEB	11.8%	Swedbank	10.5%	Nordea*	10.1%
SocGen	11.9%	SEB	10.7%	HSBC	10.2%
KBC	12.2%	Danske	10.8%	BPI	10.2%
Alpha	12.3%	Alpha	10.9%	SEB	10.3%
RBS	14.1%	RBS	11.7%	RBS	11.2%
Barclays	15.8%	Barclays	13.9%	Barclays	13.7%

Source: CEBS EU-wide stress testing exercise. Note: sorted in increasing magnitude of tier 1 ratio

CEBS Key Input Assumptions

Table 2 provides a snapshot of key macro-economic variables of both sets of macro-economic scenarios i.e. Benchmark and Adverse

- As outlined by CEBS, the benchmark scenario in the table assumes a mild recovery, with GDP increasing by 1.0% in 2010 and 1.7% in 2011 in the EU (+0.7% in 2010 and +1.5% in 2011 for the Euro area). The adverse scenario assumes a “double dip” situation, with an unchanged GDP in 2010 (0.0%) and decrease in GDP by 0.4% in 2011 for the EU27 (-0.2% in 2010 and -0.6% in 2011 for the Euro area).
- GDP growth is particularly affected in the adverse scenario, and is lower than in the benchmark scenario for all countries, on average by about one percentage point in 2010 and by close to two percentage points in 2011. The unemployment rate is higher, especially in 2011.

Table 7: Evolution of aggregate key macro-economic variables in the scenarios

%

	Realised			2010 Exercise			
				Benchmark		Adverse	
	2008	2009	2010 Q1	2010	2011	2010	2011
EU27							
GDP (y-o-y)	0.7%	-4.2%	0.2%	1.0%	1.7%	0.0%	-0.4%
Unemployment (% of labour force)	7.0%	80.9%	9.6%	9.8%	9.7%	10.5%	11.0%
Euro area							
GDP (y-o-y)	0.6%	-4.1%	0.2%	0.7%	1.5%	-0.2%	-0.6%
Unemployment (% of labour force)	7.5%	9.4%	10.0%	10.7%	10.9%	10.8%	11.5%
US							
GDP (y-o-y)	0.4%	-2.4%	0.7%	2.2%	2.0%	1.5%	0.6%
Unemployment (% of labour force)	5.8%	9.3%	9.7%	10.0%	10.2%	10.2%	11.1%

Source: Eurostat for realized figures, stress test scenarios, CEBS. Note: GDP changes for realized is real GDP growth rate, Q1 2010 GDP growth is compared to Q4 2009.

As stated by CEBS in the Aggregate outcome of the 2010 EU wide stress test exercise, the haircuts are applied to the market value of bonds at the end of 2009, separately for each year. The haircuts used (Table 8) are the future values of the outstanding sovereign bonds. The exercise is supposed to provide the values of the bonds to be booked in the end-2010 and end-2011 accounts. This implies that a 5-year bond, representative of the average maturity of this portfolio by banks, has duration of only 3 years at the end of 2011, when accounts are closed.

The haircuts can be decomposed to reflect the three main contributing factors: the overall rise in long-term interest rates foreseen in the benchmark macroeconomic scenario, the common upward shift of the yield curves, and the country-specific sovereign risk shock. The decomposition illustrates that for some non-euro area countries, the higher haircuts are driven primarily by the expected increase in long-term interest rates, with the impact of the sovereign risk shock playing a lesser role.

Table 8: Five-year bonds yields and haircuts used in the exercise

%

Country	Bond yields					Haircuts			
	end-2009	Benchmark		Adverse		Benchmark		Adverse	
		2010	2011	2010	2011	2010	2011	2010	2011
Austria	2.69	2.72	3.03	3.29	4.04	1.0%	2.8%	3.1%	5.6%
Belgium	2.79	2.92	3.23	3.66	4.47	1.4%	3.1%	4.3%	6.9%
Cyprus	3.75	3.58	4.07	4.30	5.29	0.3%	3.2%	3.0%	6.7%
Finland	2.62	2.35	3.16	2.91	4.16	0.0%	3.3%	1.9%	6.1%
France	2.48	2.63	2.94	3.18	3.92	1.5%	3.0%	3.7%	6.0%
Germany	2.42	2.25	2.74	2.81	3.49	0.1%	2.5%	2.3%	4.7%
Greece	4.96	5.97	6.28	11.03	13.87	3.9%	4.3%	20.1%	23.1%
Ireland	2.91	2.97	3.28	4.50	5.62	1.6%	4.2%	8.6%	12.8%
Italy	2.80	2.89	3.19	3.90	4.80	1.2%	2.9%	4.9%	7.4%
Luxembourg	2.79	2.92	3.23	3.72	4.53	1.4%	3.1%	4.3%	6.9%
Malta	3.69	3.52	4.01	4.13	5.07	0.7%	3.6%	2.9%	6.4%
The Netherlands	2.46	2.57	2.87	3.08	3.82	1.1%	2.5%	3.0%	5.2%
Portugal	3.08	3.53	3.96	5.83	7.40	2.3%	3.7%	11.1%	14.1%
Slovakia	3.24	3.07	3.55	3.46	4.41	0.1%	2.4%	1.6%	5.0%
Spain	2.96	3.31	3.61	4.74	5.78	1.3%	4.1%	6.7%	12.0%
Slovenia	3.52	3.35	3.84	3.84	4.80	0.0%	1.1%	1.4%	4.2%
Czech Republic	3.29	3.19	2.87	4.35	4.22	0.0%	2.7%	4.6%	11.4%
Denmark	2.80	2.63	3.12	3.63	4.29	0.0%	1.4%	2.1%	5.2%
Poland	5.96	6.56	6.78	7.72	8.13	2.6%	6.1%	6.4%	12.3%
Sweden	2.41	2.64	2.92	3.32	3.97	1.3%	2.3%	5.0%	6.7%
United Kingdom	2.81	3.67	4.02	4.34	5.07	5.0%	6.9%	7.7%	10.2%
Other non-euro area EU countries						1.3%	4.4%	5.5%	11.8%
EU average						**1.3%**	**3.3%**	**5.2%**	**8.5%**

Source: ECB calculations

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

In the EU wide stress test exercise by CEBS, a common upward shift in the yield curve was applied for each country in the EU (reaching 75 basis at end-2011), supplemented with country-specific upward shocks to long-term government bond yields (overall amounting to 70 basis points at end-2011 for the euro area). The rise in short-term rates reflects an assumption of tensions in the interbank market – as was seen during earlier financial turmoil episodes. The country-specific bond yield shock in turn accounts for differentiated fiscal situations and related market perceptions.

Table 9: Contribution of the sovereign risk shock to the five-year bond yields in the euro area under the adverse scenario

bps

Country	Five-year yields		Common upward shift of the yield curves	Country-specific sovereign risk shock
	Benchmark 2011	Adverse 2011		
Austria	3.03	4.04	75	25
Belgium	3.23	4.47	75	49
Cyprus	4.07	5.29	75	47
Finland	3.16	4.16	75	25
France	2.94	3.92	75	24
Germany	2.74	3.49	75	0
Greece	6.28	13.87	75	685
Ireland	3.28	5.62	75	158
Italy	3.19	4.8	75	86
Luxembourg	3.23	4.53	75	55
Malta	4.01	5.07	75	31
The Netherlands	2.87	3.82	75	20
Portugal	3.96	7.4	75	268
Slovakia	3.55	4.41	75	10
Spain	3.61	5.78	75	142
Slovenia	3.84	4.8	75	21
Euro area average	**3.15**	**4.6**	**75**	**70**

Source: ECB calculations. Note: Due to insufficient data on bond yields of Cyprus, Luxembourg, Malta, Slovenia and Slovakia, a uniform additional widening of 30 basis points was imposed for these countries by ECB

For the four private-sector portfolios, in the credit risk part of the exercise, the PDs and LGDs increase substantially across sectors and countries under the adverse scenario compared to end-2009 in both 2010 and 2011. In this regard, stresses on long-term interest rates that result from the sovereign shock feed through to higher PD and LGD levels.

Table 10: Changes in PDs in 2011 across sectors under the adverse scenario, compared to 2009

%

	Institutions	Corporate	Retail real estate	Consumer credit
Austria	10.8	47.4	21.9	24.9
Belgium	68.6	112.4	32.0	55.4
Cyprus	14.8	69.4	14.5	34.8
Finland	10.8	46.8	29.2	18.4
France	11.3	31.4	13.0	21.4
Germany	22.6	57.5	36.2	32.1
Greece	45.0	364.8	26.5	74.2
Ireland	-0.5	21.7	3.6	4.9
Italy	10.0	41.6	11.2	21.4
Luxembourg	11.0	71.6	21.8	34.6
Malta	11.9	54.9	18.5	36.0
The Netherlands	66.1	88.5	39.0	46.9
Portugal	31.0	147.0	30.3	102.3
Slovenia	0.7	23.9	24.9	4.2
Slovakia	-1.8	7.7	8.0	0.8
Spain	29.4	113.1	17.1	56.3
Euro area	**8.5**	**61.3**	**20.8**	**25.8**
Bulgaria	14.3	12.9	8.5	15.2
Czech Republic	87.4	61.2	41.6	66.7
Denmark	1.9	26.7	5.6	14.7
Estonia	-5.4	5.8	4.5	8.6
Hungary	36.2	35.3	21.5	40.8
Latvia	-1.0	13.1	9.7	15.9
Lithuania	9.5	6.9	12.6	10.8
Poland	58.9	56.0	39.7	62.3
Romania	16.9	19.8	14.9	23.4
Sweden	2.6	32.4	14.5	12.3
UK	0.9	22.6	6.2	13.9
Rest of EU	1.6	25.0	5.5	13.7

Source: ECB calculations

Country Analysis

Spanish banks

The stress test included 27 Spanish entities (8 private banks and 19 saving banks) of which 5 failed (Diada, Unnim, Espiga, Cajasur and Banca Civica). Using CEBS/BoS assumptions, total gross capital needs for the entire sector would stand at €2bn (all for cajas, on top of the €14bn already committed by FROB/Deposit Guarantee Fund), whereas private banks unsurprisingly showing a capital surplus (€37bn) with the two major entities, SAN and BBVA, still generating profits and paying dividends in the adverse scenario. Smaller private banks would pass the test, but enter loss making territory if the adverse scenario were to materialize.

From a qualitative perspective, our main conclusions can be summarized as follows:

- First and foremost, **we welcome Bank of Spain's efforts** to improve much needed transparency across the sector. Though our job implies always "asking for more", we believe the quality/depth figures provided compare well with those of other European systems. Information on savings banks is particularly appreciated.

- Though also recognizing the adverse scenario does not look completely out of reach in a more difficult economic climate, w**e see overall assumptions for the Spanish banking system as conservative or realistic enough for a stress simulation** (especially in what refers to loan losses), hence making the exercise credible from a big picture perspective. As an interesting note, our current estimates, more conservative than managements', imply a lower degree of losses than the test's benchmark scenario. Inevitably, we also believe by applying largely standard PD/LGD ratios across segments, higher quality players (BKT, for instance) are unduly punished, whereas losses for entities with looser lending standards (some local savings banks) are understated.

- For the **private banks** in our universe, **conclusions are very much aligned with the views we have maintained for some time about solvency not being the most pressing issue**, due to the combination of sound starting capital ratios (all around the 8% region, higher for POP, lower for BKT given its safer risk profile), elevated pre provision profits and available generic buffers (strengthened by an ongoing stream of disposal gains) standing as useful cushions to avoid an accelerated depletion of capital bases. We are also comfortable about the relative ranking of strength across banks, with SAN/BBVA appearing in the upper end of the European range, POP/SAB faring better than PAS, and BKT's figure somewhat penalized by the use of average expected loss assumptions.

- On the other hand, we **also believe a superior effort to allay market fears about the overall €16bn recapitalization needs for the savings banks being enough or not could or should have been done** by applying less generous assumptions on the revaluation of assets post-mergers (€5-6bn for all cajas), without which 8-9 savings banks (instead of the 4-5 mentioned in the base case) would fail the test and require additional capital injections.

Another controversial point might be related to savings banks' expected credit losses, which are not too dissimilar from those of smaller private banks, against conventional wisdom about cajas having generally shown poorer credit standards. Though understanding the political/reputation implications of such a decision, we believe the risk reward of coming up with a higher recapitalization need at the expense of those other cajas requiring funds was positive (€5-6bn incremental FROB debt is a mere 0.5-0.6% of GDP). Though more a long term consideration, we believe the recapitalisation needs for savings banks willing to be listed on the back of recent regulatory changes and hence attract private investor appetite are substantially higher than those implied in this exercise, as a 6% Tier 1 ratio would not suffice in the current environment in our view.

Market reaction to Spanish figures should be neutral to moderately positive in our opinion, though with the caveat of lower than expected caja recapitalization need spurring concerns about credibility, and also noting the great deal of anticipation to these results implied in recent share price outperformance. Our view about the sector post the stress test is mixed.

On the one hand, we see the exercise as going some way towards reassuring the market about the size of the overall recapitalisation of the Spanish financial sector, the timing which we believe was one of the main concerns investors have had with the country given the already sizeable debt refinancing needs the sovereign faces at this point. Though there may be skepticism about the €16bn total FROB/DGF injection being enough, we also believe fears about a non-manageable figure (around €100bn as suggested by some market commentators) have been laid to rest. With this, we believe the Spanish risk premium reduction seen in recent weeks (bond yields, CDS, and share prices) might remain in place as long as delivery on the proposed austerity measures remains on track. It will be very interesting to see how credit markets react to Spain's stress test, given the virtually complete inability of banks to access capital markets in recent months, which has led to record levels of recourse to ECB funding (25% of total European needs in June), an unsustainable trend in the long run.

On the other hand, we have been very cautious about Spain's underlying economic and property fundamentals, and this weekend's news does not alter that view. We still forecast a scenario of gradual balance sheet deleveraging, structurally higher funding costs (both in retail and wholesale terms) and additional NPL generation, this translating into subdued profitability ratios over the foreseeable future. We see stress test results building up a scenario that converges with our existing estimates, as our models incorporate a gradual reopening of wholesale markets and a peak of delinquencies throughout 11E, but recent results and the assumptions embedded in Bank of Spain's benchmark scenario in our opinion clearly highlight that visibility remains very limited in terms of when and to what extent banks will return to normalized RoTBV levels. Until then, and with dependence on government actions at critically high levels, we cannot build up a positive case around Spain.

Following fairly reassuring results, SAN/BBVA remain better options than small domestic banks, in our view, though we also note both banks are already trading on fairly demanding multiples (1.8x PTBV and 1.4x PTBV respectively) considering their sizeable exposure to Spain, so we struggle to find material upside on the back of today's news following a c.30% share price increase since bottoming in early June.

Within the domestics, we would not gain exposure to any of these names, though we retain our preference for BTO (albeit not participating on the stress test on a standalone basis) and POP over PAS and BKT.

Numerically, the exercise yields a total loss of €137bn stemming from further increases of non performing loans (€104bn, derived from €174bn gross impairment from which €70bn existing provisions are deducted, implying an expected loan loss of 6.1% for the whole system) and impairment charges from the trading and AFS (equities and corporate bonds only) portfolio of €34bn, confirming most problems are credit related in Spain, despite the recent increase of government debt holdings across the sector.

Table 11: Spanish stress test: Adverse scenario

€ m	Saving banks	SAN BBVA	Other Listed banks	System
Existing Tier 1 capital	**78,097**	**83,260**	**20,508**	**181,865**
(+) pre-provision profit 10-11E	24,197	64,069	11,217	99,483
(+/-) pending impairments	-75,711	-44,442	-17,401	-137,554
o.w. pending loan losses 10-11E	-55,545	-33,450	-14,705	-103,700
As % of book	4.9%	2.4%	4.9%	3.7%
o.w. securities writedowns	-20,166	-10,992	-2,696	-33,854
(+/-) taxes	12,879	-4,427	1,546	9,998
(-) others	5,563	-11,291	277	-5,451
Resulting Tier 1 capital 11E	**45,025**	**87,169**	**16,147**	**148,341**
RWA 11E	820,368	879,789	217,719	1,971,876
Resulting Tier 1 ratio (%)	5.5%	9.9%	7.4%	7.7%
Commited FROB/DGF capital	**14,766**	**0**	**0**	**14,766**
Resulting Tier 1 capital 11E (incl. FROB)	**59,791**	**87,169**	**16,147**	**163,107**
Resulting Tier 1 ratio (%) (incl. FROB)	7.3%	9.9%	7.4%	8.5%
Capital excess/(shortfall) vs. 6% Tier 1 ratio (CEBS stress test)	-9,970	34,382	3,084	27,496
Capital excess/(shortfall) vs. 6% Tier 1 ratio (CEBS stress test) (incl.FROB)	-2,039	34,382	3,084	35,426

Source: Bank of Spain and J.P. Morgan estimates.

We have a separate look at the listed banks we cover and the overall savings banks sector.

JPMC banks universe

With comparability distorted by SAN/BBVA figures being presented on a Group basis, table below discloses credit risk for entities under cover, largely consistent with our long held view about developers representing a disproportionate amount of banks' losses vs. their weight on the overall books. The only outlier in this table is POP's developer exposure (c.€39bn according to Bank of Spain's calculations), which we believe clearly overestimates the bank's disclosed exposure of c.€10bn. Though still passing the test, this issue distorts all numerical conclusions that can be extracted from the exercise for POP.

Table 12: Spanish banks – Implied balance sheet exposures

€ m	SAN	BBVA	POP	SAB	BKT	PAS	AGGREGATE	As % of total
Financial corporations	112,571	22,000	18,000	8,375	7,250	5,500	173,696	11%
Non financial corporates	215,154	154,115	11,475	16,098	7,545	4,745	409,132	26%
Developers and foreclosures	38,213	30,257	39,287	13,430	1,619	8,917	131,723	8%
SMEs	79,627	38,613	24,731	23,576	7,116	4,942	178,605	11%
Mortgages	302,667	101,839	21,077	12,778	22,750	5,000	466,110	29%
Other	152,638	60,817	5,786	2,530	3,914	1,052	226,736	14%
LOANS	**900,870**	**407,641**	**120,356**	**76,786**	**50,194**	**30,156**	**1,586,002**	**100%**

Source: Bank of Spain and J.P. Morgan estimates

In terms of total losses, we have summarized impairments for each entity and across different segments. The main points stemming from this table are the following:

Table 13: Spanish banks: total losses – benchmark vs. adverse scenario

	BENCHMARK						ADVERSE				
	SAN	BBVA	POP	BKT	PAS		SAN	BBVA	POP	BKT	PAS
Loans	**4.0%**	**4.5%**	**7.3%**	**3.1%**	**7.6%**		**4.5%**	**4.9%**	**8.8%**	**3.8%**	**9.0%**
Financial corporations	0.7%	0.3%	0.5%	0.8%	1.0%		0.9%	0.3%	0.7%	1.0%	1.2%
Non financial corporates	2.6%	2.6%	4.0%	4.4%	4.7%		3.1%	3.1%	5.5%	5.8%	6.2%
Developers and foreclosures	13.6%	10.5%	15.0%	16.8%	16.9%		15.2%	11.4%	17.7%	19.3%	19.3%
SMEs	5.9%	3.1%	6.7%	6.9%	6.9%		6.7%	3.7%	8.8%	9.0%	9.0%
Mortgages	1.2%	3.1%	1.3%	0.8%	1.5%		1.3%	3.4%	1.4%	0.9%	1.7%
Other	12.7%	10.9%	5.6%	5.8%	5.8%		14.1%	11.7%	6.8%	7.1%	7.1%
Sovereign exposure and other	**0.2%**	**0.3%**	**0.1%**	**0.1%**	**0.1%**		**0.6%**	**1.1%**	**0.7%**	**1.0%**	**0.8%**
TOTAL LOSS	**4.1%**	**4.5%**	**7.3%**	**3.2%**	**7.7%**		**5.1%**	**5.7%**	**9.5%**	**4.9%**	**9.8%**

Source: Bank of Spain and J.P. Morgan estimates

- It seems clear the regulator has applied similar expected loss assumptions per segment for all banks, with absolute losses mostly dependent on each banks' specific asset mix. As flagged above, this penalizes banks with better risk standards, both in terms of loan concession and recovery levels.

- There is not a material gap between the benchmark and the adverse scenario, which could suggest a lower than desired level of stress in the adverse one. We believe these fears should be mitigated by our view about the benchmark scenario already incorporating a reasonable degree of stress, as explained below by comparing it to our current estimates.

- In terms of property price declines, we believe CEBS assumptions are reasonable, with cumulative 50-55% decline of commercial property prices, and c.25% for residential prices under the adverse scenario. We also remind readers of our view that Spanish banks have been more careful in LTV terms at inception than in jurisdictions going through similar economic/property corrections, with recent figures of collateralized NPLs throwing average LTV figures of c.50% for most banks, which we reiterate should provide an additional buffer in LGD terms. We believe this point helps explaining the somewhat lower than expected losses on the developer book.

Table 14: Evolution of property prices – CEBS assumptions

	Baseline scenario		Adverse scenario	
	2010	2011	2010	2011
Commercial property prices yoy	-20.0%	-15.0%	-35.0%	-30.0%
Residential property prices yoy	-3.8%	-5.2%	-8.8%	-15.2%

Source: Bank of Spain and J.P. Morgan estimates

- Qualitatively, and under the assumption of average 40-50% LGDs for overall books, we believe implied problematic asset ratios in the benchmark scenario range from 5-6% at BKT to 7-8% for SAN/BBVA and c.15% for POP/PAS. In the adverse scenario, corresponding figures are 7%, 8-9% and 18% respectively.

  To illustrate our views, we offer here a comparison of those losses with our own estimate when available (POP, BKT and PAS). As seen in the table, we come up with expected losses of 5-6% for POP/PAS and 2.5% for BKT over 10-11E, standing below in all cases vs. Bank of Spain's benchmark and adverse scenarios. As detailed in recent research, our peak problematic asset ratios for banks like POP or PAS stand at 12% (vs. current impaired ratio of 7-8%), with required coverage of 45-50% (following Bank of Spain's regulation), which compares to the c.15% problematic asset ratios under the benchmark scenario and c.20% under the adverse.

Table 15: JPM vs CEBS: Loan losses estimates for selected Spanish banks

	JPM		CEBS benchmark		CEBS stressed	
€ m	Book loss	% of book	Book loss	% book	Book loss	% book
Popular	6,633	5.5%	8,697	7.3%	10,560	8.8%
Bankinter	1,258	2.5%	1,562	3.1%	1,943	3.8%
Pastor	1,650	5.5%	2,262	7.6%	2,684	9.0%

Source: Bank of Spain and J.P. Morgan estimates.

Table 16: Selected Spanish banks – PD/LGD assumptions

€ m	Total exposure 11E	Problematic assets 11E	Problematic asset ratio 11E	Provisions needed 11E	Coverage required 11E	Expected loss 11E
POP	120,356	14,554	12%	6,633	46%	5.5%
BKT	50,194	2,028	4%	1,258	62%	2.5%
PAS	30,156	3,638	12%	1,650	45%	5.5%

Source: Company reports and J.P. Morgan estimates

Other points of interest arising from the analysis are the following:

- **From a pre-provision profit perspective**, our estimates are higher on an underlying basis than those presented in the exercise (we have not seriously stressed top line for example, but simply incorporate a more difficult revenue environment due to muted loan growth and higher funding costs), but BoS has allowed domestic banks to include capital gains on disposals, some of which have not been announced publicly, or might not even happen (such as in BKT's case). Though we understand the rationale behind this decision given banks' decision to dispose of assets if necessary as seen in recent quarters, we believe it adds some noise in the whole calculation as the split between pure pre-provision income and gains has not been disclosed.

- **There are €1.4bn impairments related to securities** included in banks' trading and banking books which are naturally not in our existing forecasts. As mentioned above, our Acid Test incorporates the markdown of sovereign AFS exposures, which would imply additional €100mn impairments.
- **Our 11E RWA figures** are generally higher than those presented under both stress scenarios in SAN/BBVA's case (an issue for which we do not have a proper explanation at this stage), and largely in line for domestic banks.

With all these factors in mind, and only for illustrative purposes, we present here how our existing estimates compare with Bank of Spain's benchmark scenario. For SAN/BBVA, we fall below BoS estimates, mostly given our higher RWA estimate. For BKT, we fall below as we do not incorporate potential capital gains as those implied in official figures. For POP/PAS, we are materially above benchmark figures as stressed loan losses are materially higher than our estimates, as flagged above.

Table 17: Spanish banks – JPM estimates vs. CEBS benchmark scenario

€mn	Pre-provision income 10-11E			Tier 1 capital 11E			RWA 11E			TIER 1 RATIO 11E		
BASELINE	**JPM**	**CEBS**	**diff.**	**JPM**	**CEBS**	**diff.**	**JPM**	**CEBS**	**diff.**	**JPM**	**CEBS**	**diff.**
SAN	50,893	49,196	3%	65,399	63,869	2%	628,601	580,627	8%	10.4%	11.0%	-60
BBVA	23,761	21,083	13%	33,802	32,028	6%	322,268	302,151	7%	10.5%	10.6%	-11
POP	5,035	5,785	-13%	8,944	8,536	5%	93,582	92,783	1%	9.6%	9.2%	36
BKT	952	1,367	-30%	2,502	2,574	-3%	31,150	30,643	2%	8.0%	8.4%	-37
PAS	788	846	-7%	2,055	1,632	26%	18,921	18,759	1%	10.9%	8.7%	216
TOTAL	**81,429**	**78,277**	**4%**	**112,702**	**108,639**	**4%**	**1,153,084**	**1,082,816**	**6%**	**9.8%**	**10.0%**	**-26**

Source: Bank of Spain and J.P. Morgan estimates.

Unsurprisingly, the same approach used for the adverse scenario implies our numbers sit materially above official figures.

Table 18: Stress test: Spanish banks under cover

€mn	Pre-provision income 10-11E			Tier 1 capital 11E			RWA 11E			TIER 1 RATIO 11E		
STRESSED	**JPM**	**CEBS**	**Diff**	**JPM**	**CEBS**	**diff**	**JPM**	**CEBS**	**Diff**	**JPM**	**CEBS**	**diff**
SAN	50,893	43,599	17%	65,399	58,251	12%	628,601	582,510	8%	10.4%	10.0%	40
BBVA	23,761	20,470	16%	33,802	28,918	17%	322,268	310,946	4%	10.5%	9.3%	119
POP	5,035	5,548	-9%	8,944	6,469	38%	93,582	92,414	1%	9.6%	7.0%	256
BKT	952	1,313	-27%	2,502	2,077	20%	31,150	30,544	2%	8.0%	6.8%	123
PAS	788	814	-3%	2,055	1,131	82%	18,921	18,850	0%	10.9%	6.0%	486
TOTAL	**83,915**	**74,429**	**13%**	**118,077**	**101,042**	**17%**	**1,153,084**	**1,093,542**	**5%**	**10.2%**	**9.2%**	**100**

Source: Bank of Spain and J.P. Morgan estimates

The main conclusion across entities:

Santander and BBVA – as expected, both banks scored well on the exercise, with adverse Tier 1 ratios of 10% and 9.3% respectively. The analysis we can do on the back of the exercise is limited, however, as no disclosure between different geographies was provided. In the adverse case, we estimate both banks would remain profitable and still able to maintain their dividend payout ratios, a reflection of their resilience. Qualitatively, SAN's suffers more in its developer/SME exposures, with its sizeable UK mortgage portfolio (probably stressed to a materially lower extent than Spain's book) lowering the bank's overall expected loss to 4.1%, vs. BBVA's 4.5%. In our Acid Test including markdowns in the AFS sovereign portfolio, we come up with core Tier 1 ratios of 8.9% for SAN and 8.2% for BBVA.

Popular passed the test comfortably with a 7% adverse Tier 1 ratio although we note again the distortion provoked by the disclosed c.€40bn developer exposure, above SAN and BBVA figures, and way above our understood €10bn figure. We have usually flagged POP's credit quality as comparatively worse than the domestic peers' average, though believe published figures exacerbate that gap. If we were to distribute the difference between those two developer figures amongst other segments, we calculate total impairments would be c.€2-3bn lower, hence increasing tier one ratio by 250bps. We also note POP's pre-provision income includes the recent c.€375mn gains from the JV with Credit Mutuel and additional c.€500mn gains from an undisclosed transaction, which were naturally not included in our estimates. If sovereign AFS markdowns are included, the bank still shows a core Tier 1 ratio of 5.8%, largely in line with our minimum 6% threshold.

Bankinter – as mentioned above, we believe the lack of meaningful differences in terms of probability of default and LGD across the sector penalizes better quality entities such as BKT. Moreover, in terms of sovereign exposure, the company disclosed in its press release that €1.3bn Spanish t-bills included in the exercise have already matured, which would include a saving of €160mn vs. published numbers. On the other hand, we also reiterate BKT's pre-provision income is materially higher than our estimate (€1.4bn vs. €950mn), as the regulator has recognized BKT being the only bank not to have resorted to the sale of non-core assets to support results. In our acid scenario, we have BKT at virtually 6% core Tier 1 ratio.

Pastor, in line with our long held opinion, is a Spanish private bank showing a worse asset quality picture and hence falling closer to failing the stress test (6% Tier 1 ratio under the adverse scenario), given the bank's high developer exposure (including real estate foreclosures). In our acid scenario, PAS shows a c.€400mn capital shortfall vs. our required 6% core Tier 1 ratio.

Saving banks

As mentioned above, we foresee some market skepticism about savings banks' total recapitalization package standing at €16bn, with this weekend's stress tests representing only €2bn additional cost. Our analysis suggests that this injection might well be understated by weaker players probably benefiting from the implementation of average PD/LGD levels, and the regulator's decision to give merging entities full credit for the revaluation of assets as a result of their combination (€5-6bn).

The first point to be made relates to the comparison between savings banks' overall exposures to different segments and total expected losses with those presented for private small peers (we excluded SAN and BBVA as they also include foreign exposure). Under the adverse scenario, overall numbers show savings banks suffering gross losses of 9.5% of assets (7.7% of loans and 1.8% of securities), vs. 8.4% for small private banks (7.5% and 0.9% respectively).

Table 19: Total exposure and loss: Saving banks vs Private banks (ex SAN and BBVA)

	Total outstanding (€mn)		Breakdown (%)		Expected total loss - adverse scenario			
	Saving bnk	Private bnk	Saving bnk	Private bnk	Saving banks		Private banks	
Financial corporations	88,976	39,551	8%	14%	-1,010	-1.1%	-347	-0.9%
Non financial corporates	151,627	45,062	14%	16%	-8,975	-5.9%	-2,538	-5.6%
Developers and foreclosures	301,521	66,653	27%	23%	-54,800	-18.1%	-11,942	-17.9%
SMEs	117,069	66,308	10%	23%	-10,346	-8.8%	-5,812	-8.7%
Mortgages	399,479	67,976	36%	24%	-7,203	-1.8%	-790	-1.2%
Other	60,391	14,246	5%	5%	-4,425	-7.3%	-1,055	-7.4%
Total exposure	**1,119,062**	**288,106**	**100%**	**100%**	**-86,759**	**-7.7%**	**-22,484**	**-7.5%**

Source: Bank of Spain and J.P. Morgan estimates

We have extracted some conclusions from the exercise:

- The bulk of the pending losses that could arise in a stress scenario are mainly concentrated in loans to developers; €55bn for the saving banks, 63% of total, and €12bn for the private banks, 54%. However, expected total loss is around 18% for both types of entity, which leaves a differing loan book mix as the only material difference explaining the higher total loss for the saving banks. As we pointed out in the last section, we think that different credit policies across the sector justified different PD and LGD inputs. A closer look at the specific entities shows Diada/Cajasur/Unnim showing higher developer losses of c.20%, still not far away from that 18% average.

- For different segments we see the same unresolved issue, almost unchanged expected total losses in every sector. As a result of this, loan book split is the only key variable behind expected total loss.

- Interestingly, according to a recent Caja Madrid presentation, the total loss baseline for the merged entity is 6.8%, somewhere in the middle between the sector benchmark (6.1%) and adverse (7.5%) scenario. This seems to suggest the regulators' benchmark scenario is more of a "base case" for savings banks than it is for private banks, where the gap vs. our estimates seems bigger.

- Materially higher securities writedowns reflect savings banks' more active approach towards the acquisition of public debt portfolios in recent quarters, with bonds used as a way to support revenue generation and an instrument to improve liquidity by rediscounting them at the ECB.

- As mentioned above, total capital needs arising from the adverse scenario stand at €16bn for the overall saving banks, of which €10bn were already issued by the FROB and €4bn comes from the FGD. There are five entities failing the test. Therefore, total capital needs according to this test stand at €2bn. However, it is important to note that a 100bps increase in total loss would raise pre tax capital needs by €10bn.

- Finally, we bring to reader's attention the inclusion of €5-6bn gains derived from asset revaluation of merging entities, without which the number of savings bank failing the test would increase from 5 to 9. We would have welcomed a more open approach towards this issue.

Next steps look simple, with FROB funds becoming available for entities under trouble. We have no specific guidance on exactly how this will be addressed; however, FROB is trying to arrange a c.€2bn credit line with private banks and we expect this additional capital to be available in the next few days/weeks.

The next table summarizes the ranking of tier one ratio across entities.

Table 20: Tier one ratio: Saving banks

	Tier 1 ratio (incl. FROB)
DIADA	3.9%
CAJASUR	4.3%
UNNIM	4.5%
BANCA CIVICA	4.7%
ESPIGA	5.6%
CAJASOL	6.0%
CAI	6.1%
CAIXA POLLENSA	6.3%
JUPITER	6.3%
CAIXA ONTINYET	6.7%
IBERCAJA	6.7%
MARE NOSTRUM	7.0%
CAJA VITAL	7.1%
BREOGAN	7.2%
CAIXA	7.7%
CAM-CAJASTUR	7.8%
UNICAJA	9.0%
KUTXA	10.6%
BBK	14.1%

Source: Bank of Spain and J.P. Morgan estimates

Italian Banks

The EU-wide banks stress test included five Italian banks: Unicredit, Intesa, MPS, BP and UBI Banca, with results ranging between 8.2% and 6.2% and hence all banks passing the test.

However, we adjusted the reported figures to include our risk-weighted assets for 11E and our estimated cumulative net operating profit for the next two years, and analyzed results in light of not only tier one ratio but also core tier one ratio. For each entity we also include other adjustments stemming from different measures undertaken by each bank to increase their solvency during the current year, some of which have not been included in the official release.

On a group basis, the main differences between our existing estimates and those presented in the official release are the following:

- The only significant impact in terms of risk weighted assets applies to UCG and ISP, where we are using 6% and 10% higher figures, with a total impact of approximately 50bps. For the rest of the banks the impact is negligible.
- CEBS' pre provision profit includes substantial headwinds which will hurt revenue generation capacity. Our net operating income is on average 17% above with UCG and BP as the benefiting the most, 19% and 27%, respectively.
- We assume that Tremonti bonds will be converted into equity and therefore we adjust tier one and core ratio. The only banks in the sample that have issued Tremonti bonds are MPS and BP, €1.9bn and 1.45, respectively.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

As mentioned above, we have also made some adjustments across specific entities:

- **MPS -** we have included a total boost to capital of 115bps coming from different measures announced by the bank in its press release. Firstly, 50 branches disposed to ISP and Carige with a 25bps impact, roughly €200mn of capital gains. Secondly, the implementation of the AIRB model to Banca Antonveneta would provide some additional 50bps coming from RWA reduction (€7.5bn). Lastly, the reorganization effort of the real estate project "Chianti Classico" would provide some additional €420mn capital gains, (40bps).
- **Banca Popolare –** we have included the issue of €1bn of soft mandatory convertible bonds in March 2010, this having a positive impact of around 130bps. Other recent measures undertaken by BP include the disposal of Factorit with a €1.9bn RWA reduction, the residual offer and squeeze-out of Banca Italease (€127mn capital loss) and the acquisition of an additional 20.4% stake in CR Lucca Pisa e Livorno (€139mn capital loss).
- **UBI Banca -** We include the soft mandatory convertible of approximately €640mn, 75bps.

The next table shows the final outcome coming from the above mentioned adjustments. Our analysis includes two adverse scenarios: with and without including haircuts to AFS sovereign exposures. As highlighted, no Italian bank is under the 6% threshold in any of those 2 scenarios, with MPS/POP heavily dependent on announced capital replenishment measures summarized above. Again, note UCG/ISP figures are negatively impacted by our higher RWA forecasts (10% above public figures) and we don't expect solvency to be an issue. On a more negative note, we flag stressed loan losses of 2-3% across the sector might raise some skepticism from the market as not being conservative enough.

Table 21: Italian banks: Stress test results

	UCG	ISP	MPS	BP	UBI
Acid test					
Tier 1 ratio	7.4%	7.7%	7.7%	7.9%	7.9%
Core Tier 1 ratio	6.5%	6.6%	7.2%	6.4%	7.4%
Acid (including sov, markdown)					
Tier 1 ratio	7.2%	7.2%	7.1%	7.7%	7.7%
Core Tier 1 ratio	6.3%	6.1%	6.5%	6.2%	7.2%

Source: CEBS and J.P. Morgan estimates

French banks

Significant excess capital of €68.7bn under CEBS stress test

The four French banks come out very well from the CEBS stress test, with significant capital buffers of €68.7bn under the adverse scenario including sovereign shock, based on average stress test Tier I ratio of 9.3% end 2011E vs. minimum Tier I of 6%. CEBS's adverse scenario including sovereign shock would have a significant negative impact with i) €68.7bn on Tier I capital, ii) RWAs increasing by €178bn or 9% on average.

Note that the CEBS stress test exercise is applied to Credit Agricole Group and BPCE rather than the listed entities, CASA and Natixis, respectively. We only have forecasts for CASA and Natixis, and have not run Acid Tests for Credit Agricole Group and BPCE in the sections below.

The CEBS stress test is based on macro-economic scenarios that are adverse but could have been more pessimistic in our view. This is reflected in i) pre-provision profits assumed by CEBS which are not significantly lower than our base-case estimates (e.g. 4% below for BNPP), and ii) cost of risk and impairment losses on the banking book (e.g. €10.8bn for SG vs. €8.9bn in our base case 2011E). Trading losses excluding sovereign exposures haircuts are, however, conservative in our view with €3.2bn for BNP Paribas (vs. estimated €2.5bn in Q4 08), €2.3bn for Société Générale (vs. estimated €1.0bn in Q4 08).

Core Tier I ratio of av. 7.2% under our Acid Test based on min of 6%
We estimate that Core Tier I ratio would decline from average 8.2% to 7.2% for BNP Paribas and Société Générale, assuming i) the same impairments and trading losses as under the CEBS stress test, and ii) deterioration in RWAs due to default and migration risk as well as iii) increase in market RWAs from Basel 2.5 changes.

Based on a minimum Core Tier I ratio of 6%, these Acid Test Core Tier I levels would imply excess capital of €9.2bn for BNP Paribas (vs. €24.9bn under CEBS stress test) and €4.8bn for Société Générale (vs. €14.3bn under CEBS stress test).

French banks still well capitalized after additional haircuts with Core Tier I ratio of av. 6.9%
French banks still come out with decent Core Tier I ratios of 6.9% vs. our minimum of 6%, despite additional haircuts on sovereign banking book exposures under our more adverse Acid Test.

Core Tier I ratio would decline to 6.9% for BNP Paribas and 7.0% for Société Générale, assuming the same assumptions as in our Acid Test but also including haircuts on sovereign exposures in the banking book to Greece, Ireland, Portugal, Spain and Italy.

French banks’ sovereign exposures in the banking book are at least as large as in the trading book, and these government holdings would also incur impairments in a sovereign shock scenario in our view. Applying the same haircuts used by CEBS for sovereign exposures to Greece, Ireland, Portugal, Spain and Italy to the banking book holdings would add another €3.5bn of losses for BNP Paribas to €3.9bn (vs. only €0.4bn in CEBS stress test) and another €0.9bn for Société Générale to €1.8bn (vs. €0.9bn in CEBS stress test).

Based on a minimum Core Tier I ratio of 6%, these more adverse Acid Test Core Tier I levels would imply excess capital of only €6.8bn for BNP Paribas and €4.1bn for Société Générale.

- **BNP Paribas: excess capital of €6.8bn,** based on minimum Core Tier I ratio of 6%. We estimate Core Tier I of 6.9% in our Acid Test with sovereign banking book haircuts, down from 8.5% in our base case 2011E. The group would remain relatively well capitalized, despite the significant 160bp impact from our Acid Test. Whilst CEBS stress test would reduce Core Tier I ratio by 120bp, our additional haircuts on BNPP’s sovereign exposures in the banking book would reduce ratio by another 40bp.
- **Société Générale: excess capital of €4.1bn**. We estimate Core Tier I of 7.0% in our Acid Test with sovereign banking book haircuts, down from 7.9% in our base

case 2011E. The impact from the Acid Test would be a bit lower at 90bp, of which 10bp for the sovereign banking book haircuts.

Table 22: Stress tests including sovereign shock – JPMC vs. CEBS scenarios

€ billion

	BNP Paribas	Société Générale	Credit Agricole Group	BPCE	Total/Average
CEBS Stress Test					
Tier I ratio end 2009	10.1%	10.7%	9.7%	9.1%	9.9%
Tier I ratio benchmark 2011	11.4%	11.9%	10.6%	10.2%	11.0%
Total impairment and losses in CEBS stress test	**-24.0**	**-14.0**	**-19.4**	**-11.2**	**-68.7**
ow impairment and trading losses	-23.6	-13.1	-18.1	-10.2	-65.0
ow losses from sovereign exposures in trading book	-0.4	-0.9	-1.4	-1.0	-3.7
CEBS stress test impact on Tier I ratio end 2011	-1.8%	-1.9%	-1.6%	-1.7%	-1.8%
Tier I ratio under CEBS stress test end 2011	**9.6%**	**10.0%**	**9.0%**	**8.5%**	**9.3%**
Excess capital vs. Tier I ratio of 6% end 2011	*24.9*	*14.3*	*17.8*	*11.7*	*68.7*
Acid test					
Core Tier I ratio end 2009	8.0%	8.4%	-	-	-
Core Tier I base end 2011E	8.5%	7.9%	-	-	-
Total impairment and losses in CEBS stress test	**-24.0**	**-14.0**	**-**	**-**	**-**
ow impairment and trading losses	-23.6	-13.1	-	-	-
ow losses from sovereign exposures in trading book	-0.4	-0.9	-	-	-
Acid test impact on Core Tier I ratio 2011E	-1.2%	-0.8%	-	-	-
Core Tier I under Acid test end 2011E	**7.2%**	**7.1%**	**-**	**-**	**-**
Excess capital vs. Core Tier I of 6% under Acid test 2011E	*9.2*	*4.8*	-	-	-
Acid test with haircut on risk banking book sovereign exposures*					
Core Tier I ratio end 2009	8.0%	8.4%	-	-	-
Core Tier I base end 2011E	8.5%	7.9%	-	-	-
Total impairment and losses	**-27.5**	**-15.0**	**-**	**-**	**-**
ow impairment and trading losses in CEBS stress test	-23.6	-13.1	-	-	-
ow losses from sovereign exposures in trading book (CEBS)	-0.4	-0.9	-	-	-
ow impairment on sovereign exposures in banking book*	-3.5	-0.9			
Stress test impact on Core Tier I ratio	-1.6%	-0.9%			
Core Tier I Stress test incl. sovereign shock 2011E	**6.9%**	**7.0%**	**-**	**-**	**-**
Excess capital vs. Core Tier I of 6% under stress test incl. haircut on risk banking book sov. exp. 2011	*6.8*	*4.1*	-	-	-

Source: J.P. Morgan estimates, CEBS. * Greece, Ireland, Portugal, Spain, Italy.

Sovereign haircuts: €9.5bn of losses in our estimates vs. €3.7bn by CEBS

We estimate €9.5bn of losses and impairments on sovereign exposures for the four French banks, compared to €3.7bn under CEBS stress test. The difference comes from our additional Acid Test to the banks' sovereign exposures to Greece, Ireland, Portugal, Spain and Italy, in the banking book, applying the same haircuts as the ones used by CEBS for the trading book.

This would add €5.8bn of impairment losses for the banking book, leading to a total €9.5bn including both trading and banking book exposures. The €5.8bn of banking book losses is significant higher than the €3.7bn of losses in the trading book, as French banks have significant exposure to Greece, Ireland, Portugal, Spain and Italy in the banking book. Sovereign exposures to these countries amount to €52bn in the banking book, compared to only €22bn in the trading book. Hence, given the

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

significant exposures in the banking book, stress testing the sovereign risk in both trading and banking book is key in our view.

Overall, total sovereign exposures in the banking book account for total €196.2bn or 82% of total €238.6bn sovereign exposures.

Looking at geographies, France accounts for 39% or €93.5bn of total €238.6bn sovereign exposures. French banks also, however, have large exposures to Belgium (€23.5bn or 10%) and Netherlands (€15.4bn or 6%), but also Greece, Ireland, Portugal, Spain and Italy which account for total €73.7bn or 31% of total.

- **BNP Paribas: total losses of €3.9bn in our Acid Test**. The great majority of sovereign exposures are in the banking book with €91.3bn vs. only €4.6bn in the trading book. Under the CEBS stress test, trading losses were limited to €0.4bn; however, in our Acid Test including some haircuts on the banking book exposures, we estimate additional €3.5bn of impairments.
- **Société Générale: total losses of €1.9bn**. CEBS stress test on the €8.7bn trading book led to losses of €0.9bn or 2.7% of Tier I capital end 2009. In our Acid Test, we estimate an additional €0.9bn for the banking book, resulting in total losses of €1.9bn or 6.8% of Core Tier I capital end 2009. We note that total sovereign exposures to Greece, Ireland, Portugal, Spain and Italy amount to €11bn end Mar 2010, below company guidance of €13bn although these numbers might not be entirely comparable. Exposure to Greece is however larger at €4.2bn vs. previous indication of €3bn (split about €2.25bn in AFS and €0.75bn in trading.
- **Credit Agricole Group: total losses of €2.2bn**. Under CEBS stress test, Credit Agricole group had the highest absolute amount of losses with €1.4bn, as trading book sovereign exposures to Greece, Ireland, Portugal, Spain and Italy amounted to €10.3bn, vs. €4.4bn for SG and €2.0bn for BNPP. Our Acid Test would add another €0.8bn of losses for the banking book, resulting in total losses of €2.2bn.

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

Table 23: French banks' gross exposure to sovereign risk end Mar 2010

€ billion

	BNP Bank.	BNP Trad.	BNP Total	SG Bank.	SG Trad.	SG Total	CA Group Bank.	CA Group Trad.	CA Group Total	BPCE Bank.	BPCE Trad.	BPCE Total	Total Bank.	Total Trad.	Total Total
France	18.1	0.0	18.1	12.0	3.1	15.1	21.7	3.7	25.4	27.8	7.1	34.9	79.5	14.0	93.5
Belgium	18.1	0.6	18.7	1.1	0.2	1.3	2.7	0.6	3.2	0.1	0.1	0.3	22.0	1.5	23.5
Netherlands	12.6	0.0	12.6	0.1	0.2	0.3	1.2	1.1	2.2	0.0	0.2	0.2	13.9	1.5	15.4
Czech	0.2	0.0	0.2	6.8	0.0	6.8	0.0	0.0	0.0	0.1	0.0	0.2	7.1	0.1	7.1
Romania	0.1	0.0	0.1	3.0	0.0	3.0	0.0	0.1	0.1	0.0	0.0	0.0	3.1	0.2	3.2
Greece	4.8	0.2	5.0	2.4	1.8	4.2	0.4	0.5	0.9	1.2	0.4	1.5	8.7	2.9	11.6
Ireland	0.5	0.1	0.6	0.0	0.5	0.5	0.2	0.8	0.9	0.4	0.1	0.5	1.1	1.4	2.5
Portugal	2.2	0.4	2.5	0.1	0.3	0.4	1.5	0.0	1.5	0.2	0.2	0.5	3.9	0.9	4.9
Spain	3.0	0.0	3.0	0.7	0.2	0.9	2.1	0.2	2.3	0.1	0.3	0.4	5.9	0.7	6.6
Italy	21.8	1.4	23.2	3.4	1.8	5.1	3.5	8.8	12.3	3.5	4.0	7.5	32.2	15.9	48.2
Subtotal	*32.3*	*2.0*	*34.3*	*6.7*	*4.4*	*11.1*	*7.6*	*10.3*	*17.9*	*5.3*	*5.1*	*10.4*	*51.9*	*21.8*	*73.7*
Total	**91.3**	**4.6**	**96.0**	**33.8**	**8.7**	**42.5**	**36.5**	**16.1**	**52.6**	**34.6**	**13.0**	**47.6**	**196.2**	**42.4**	**238.6**
CEBS losses	**0.0**	**-0.4**	**-0.4**	**0.0**	**-0.9**	**-0.9**	**0.0**	**-1.4**	**-1.4**	**0.0**	**-1.0**	**-1.0**	**0.0**	**-3.7**	**-3.7**
% Tier I capital 09	*0.0%*	*-0.7%*	*-0.7%*	*0.0%*	*-2.7%*	*-2.7%*	*0.0%*	*-2.6%*	*-2.6%*	*0.0%*	*-2.5%*	*-2.5%*	*0.0%*	*-2.0%*	*-2.0%*
Acid test losses	**-3.5**	**-0.4**	**-3.9**	**-0.9**	**-0.9**	**-1.9**	**-0.8**	**-1.4**	**-2.2**	**-0.6**	**-1.0**	**-1.6**	**-5.8**	**-3.7**	**-9.5**
*% Core Tier I capital 09**	*-7.0%*	*-0.9%*	*-7.8%*	*-3.4%*	*-3.4%*	*-6.8%*	-	-	-	-	-	-	-	-	-

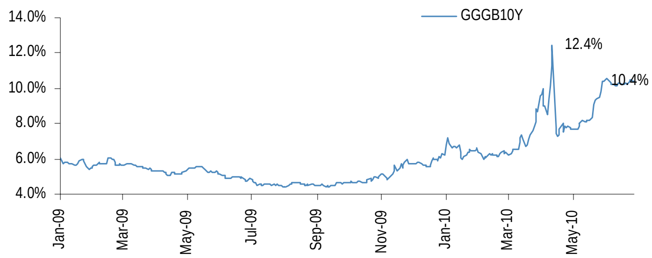
Source: J.P. Morgan estimates, CEBS. Note: total sovereign exposures excluding Americas, Asia.

CEEMEA Banks

Barring Agricultural Bank of Greece (failing the test with stress tier 1 4.4%) and Piraeus Bank (marginally passing with stress tier 1 6%), all CEEMEA banks fared well on the CEBS stress test, with the core CEE banks (PKO, OTP) coming out with much stronger capital positions as compared to their western European counterparts (reflective of the stronger fiscal position of CEE economies and relative balance sheet/capital strength of banks). Incorporating sovereign haircuts on banking book (in line with CEBS estimates) and taking into account RWA increase owing to credit migration, we conduct the JPMC Acid Test (as described in previous sections). Based on our calculations we see most of the Greek banks falling short of 6% core tier 1 levels. However, we highlight that Greek banks have been fairly conservative in their impairment estimates (c.92% higher than JPMCe; 129% higher for NBG) – resulting in higher deficit levels and weaker capital position (adjusting estimates to account for further disclosure provided by NBG, we see NBG reaching 6% core tier 1). Erste Bank passes our Acid Test, with core tier 1 of 6.2% (driven by its strong organic capital generation and limited exposure to GIIPS countries). Please note that we have not included KBC and RZB in our test (KBC– figures provided on bank level vs consolidated figures forecast by JPMC; RZB – JPM forecasts for RI).

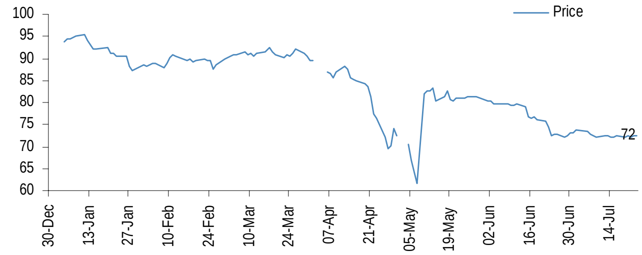
Greece: The CEBS stress test incorporates 2010-11 cumulative GDP contraction of 8.9%, 2011 unemployment ratio of 14.8% and 10Y bond yields of 14.7%. Whilst an 8.9% GDP contraction seems appropriate (JPMCe 6.6% contraction), we highlight an upside risk to 14.7% yield levels. In addition, we also question the 23% haircut assumption – given the current 5Y bond is trading at price of €73.32, representing a 22% depreciation from end-09 levels (thus implying 1% deterioration from current levels).

Figure 6: 10Y Government bond yields- reaching a peak of 12.4% in Q1'10



Source: Bloomberg

Figure 7: Current 5Y Govt bond trading at 22% haircut vs 2009 level



Source: Dataquery

Within the Greek banks, Agricultural Bank of Greece failed the Acid Test, with a stressed tier 1 of 4.4% vs. the 6% required, and implying a shortfall of €242.6mn. ATE has announced a share capital increase (details not provided), which will be fully subscribed by the Greek state (majority share holder, c.77%). In addition Bank of Greece announced that necessary steps would be taken to maintain the capital levels of Greek banks at adequate levels (there is a €10bn Financial Stability Fund already in place, which would act as a safety net). In addition Piraeus Bank just passed the CEBS test with stressed tier 1 of 6% (we highlight that Piraeus has made an offer of €701mn to the Greek government, for its 77% stake in ATE and 34% in Hellenic PostBank). NBG, Alpha, EFG and Postbank cleared the test with stressed tier 1 of 7.4%, 8.2%, 8.1% and 10.1% respectively.

Under the JPMC Acid Test scenario assumption of sovereign haircut on the banking book (23%, in line with CEBS estimate for haircut on trading book), we see the Greek banks falling below 6% core tier 1, with a cumulative shortfall (for 4 banks) of c. €4.2bn. We highlight that Alpha stands out amongst the Greek banks- passing the test under 6% tier 1 requirement and a modest shortfall of €200mn against 6% core tier 1 requirement (owing to the relatively less sovereign exposure).

Table 24: JPMC Acid Test – Greek banks

€ mn, %	NBG	Alpha	EFG	Piraeus
Existing Tier 1 capital 2009	7,590	5,885	5,476	3,401
Existing core Tier 1 capital 2009	7,070	5,301	4,685	3,241
(+) pre-provision profit 10-11E	4,426	1,914	2,578	1,177
(+/-) other P&L items 10-11E	0	0	0	36
(+/-) impairments incl. haircut on banking book sovn exposures	-9,111	-4,967	-5,878	-4,524
o.w. impairments Acid Test	-6,231	-3,832	-4,170	-2,853
o.w. sovereign shock on banking government exposures	-2,880	-1,135	-1,708	-1,671
(+/-) taxes	1,101	718	775	778
(-) minorities and government pref coupons	-223	-145	-245	-81
Resulting Tier 1 capital 11E	3,784	3,404	2,707	788
Resulting core Tier 1 capital 11E	3,264	2,820	1,916	628
RWA 11E	74,316	52,644	49,731	38,905
RWA 11E adjusted	75,065	50,333	51,237	37,840
Tier 1 ratio	5.0%	6.8%	5.3%	2.1%
Core Tier 1 ratio	**4.3%**	**5.6%**	**3.7%**	**1.7%**
Capital excess/(shortfall) vs. 6% core Tier 1 ratio	**-1,240**	**-200**	**-1,158**	**-1,642**

Source: Company reports and J.P. Morgan estimates.

We highlight that Greek banks have been fairly conservative with respect to impairment estimates – c.92% above JPMCe. In contrast, JPMC pre-provision income estimates fall below CEBS.

Table 25: Greek banks: JPM estimates vs CEBS

€ mn, %	2010-11 CEBS Pre prov income	2010-11 JPMCe Pre provision income	Δ vs JPMCe	2010-11 CEBS Impairments- Banking book	Impairments owing to sovn shock	Total impairments	2010-11E JPMCe impairments	Δ vs JPMCe	2011 CEBS RWA- adverse scenario	2011E RWA- JPMCe
NBG	4,264	4,426	-4%	5,102	1,531	6,633	2,892	129%	71,237	74,316
Alpha	2,021	1,914	6%	2,297	1,496	3,793	1,958	94%	49,212	52,644
Piraeus	1,282	1,177	9%	1,600	973	2,573	1,295	99%	37,115	38,905
EFG	2,760	2,578	7%	2,697	1,443	4,140	2,867	44%	53,410	49,731

Source: J.P. Morgan estimates Company data.

NBG, in particular, has taken the most conservative assumptions – with pre provision income 4% below JPMCe and impairment losses 129% above JPMCe. As per the details provided, NBG has factored in cumulative provisioning of 876bps for Turkey (vs 230bps in 2009 with GDP contraction of c.5%). The implied NPL ratio (based on 50% coverage) is 23% for Turkey and 20% for Greece. We do not expect Turkish NPLs to rise 23% over the next 2 years (even under a European double dip scenario) – hence we adjust the provisions NBG has taken against Turkey (on the assumption that adverse levels in Turkey should resemble 2009 levels) by €600mn (as per company disclosures). In addition we have also adjusted the GGB holdings of NBG by €5.7bn (to reflect for derivative exposure) while calculating haircuts on the banking book.

Table 26: NBG: Cost of risk assumptions under the stress test

		Baseline		Adverse		Cumulative	
Bps	**Q1'10**	**2010**	**2011**	**2010**	**2011**	**Baseline**	**Adverse**
Parent Bank							
Corporate	45	307	237	357	328	544	685
Mortgages	64	181	62	186	72	243	257
Total Domestic Loans	178	340	202	370	272	542	641
Finansbank	**146**	**300**	**174**	**453**	**423**	**474**	**876**
Group Loans	180	306	188	369	304	495	673

Source: Company reports.

Table 27: NBG- Implied NPL ratio under stress test assumptions (50% coverage)

		Baseline		Adverse		JPMCe
	Q1'10	**2010**	**2011**	**2010**	**2011**	**2011E**
Parent Bank	6.9%	13.7%	17.7%	14.3%	19.7%	
Finansbank	5.8%	11.8%	15.3%	14.9%	23.4%	
Group	**7.1%**	**13.2%**	**17.0%**	**14.5%**	**20.6%**	**10.1%**

Source: Company Data, J.P. Morgan estimates

Given the relatively high impairment charges incorporated under the adverse scenario (with group NPLs of 20.6% and provisioning of 673bps. In addition NBG, factors in much higher PD's for its banking book- stressed corporate PD’s 5% higher than the PD’s stipulated by CEBS under the adverse scenario), we believe the additional €1.5bn of impairments taken under sovereign shock scenario incorporates a loss on sovereign AFS and HTM exposure. If we adjust our impairments on the sovereign banking book for this €1.5bn of provisions we would get to a core tier 1 of 6% and tier 1 of 6.6% – and we see NBG passing our stress test.

We highlight that as a % of RWA, NBG has received the lowest proportion of government prefs (as part of 2008 recapitalization program) – if we were to assume similar levels for NBG (ie. Govt pref at c.2% of RWA), we would get additional €1bn of government capital, which would add c.1.4% to core tier 1 (under the assumption that government capital qualifies as core tier 1). In addition NBG recently announced the issuance of €450mn lower tier II capital – adding 34bps to core tier 1.

Table 28: Greek Banks- Government Preference shares

€ mn,%	2009 Equity	2009 RWA	Govt Preference shares	as % of equity	as % of RWA
Alpha	4,432	50,600	940	21%	2%
Eurobank	4,298	47,800	940	22%	2%
Piraeus	3,096	37,394	370	12%	1%
NBG	8,103	67,407	350	4.3%	0.5%

Source: Company reports.

Erste and RZB – both Erste and RZB cleared the stress test, with stress tier 1 of 8.1% and 7.8% respectively. We highlight that Bank of Austria has taken more conservative assumptions vs CEBS while accessing CEE risk (in contrast to some assumptions on the domestic market – under the adverse scenario, commercial and retail property prices are expected to increase 2.7% in 2011).

Table 29: OENB has taken more conservative assumptions than CEBS

GDP growth	OENB				CEBS			
	Benchmark		Adverse		Benchmark		Adverse	
	2010	2011	2010	2011	2010	2011	2010	2011
Czech c	1.3%	2.6%	-0.2%	-2.8%	1.4%	1.8%	0.9%	0.6%
Hungary	-0.2%	2.5%	-2.2%	-3.9%	0.9%	3.2%	-0.2%	1.6%
Romania	0.8%	3.1%	-1.2%	-3.3%	-0.7%	3.6%	-1.8%	2.1%
Slovakia	4.1%	4.5%	2.8%	-0.1%	1.9%	2.6%	0.8%	-0.6%
Croatia	-0.1%	1.8%	-1.6%	-3.6%	4.4%	4.8%	3.6%	3.5%
Serbia	2.0%	3.0%	-0.1%	-3.4%	4.4%	4.8%	3.6%	3.5%
Ukraine	3.7%	4.1%	1.7%	-2.3%	4.4%	4.8%	3.6%	3.5%

Source: Company reports.

Under the JPMC acid sensitivity test Erste had a capital buffer of €360mn (with 6.2% core tier 1 ratio), highlighting i) the strong organic capital generation of the franchise – capital buffer generated despite €5.8bn of cumulative provisions (c.115% above JPMCe), owing to c€7.2bn of pre provision profits (vs €7bn stress test estimate) and ii) relatively moderate exposure to Greece, Ireland, Portugal, Spain and Italy.

RZB – given that we forecast Raiffeisen International and the stress test was performed on the holding entity (RZB), we excluded RZB from our Acid Test calculation. We highlight that RZB's sovereign book has very limited exposure to Greece, Ireland, Portugal, Spain and Italy (total €222mn).

KBC – the test was carried out at banking level, with the impact of disposals/ restructuring factored in. We forecast at group level – hence we have excluded KBC from our current Acid Test calculation. Nevertheless KBC passed the CEBS test, with stress tier 1 of 9.4% (at bank level). The bank has c€46bn in sovereign exposure (banking book) of which Greece, Ireland, Portugal, Spain and Italy represent 21% (with Italy €6.5bn, Spain €1.4bn and Greece €0.9bn).

CEE banks – Both PKO and OTP pass CEBS stress test with flying colors – not surprising, given that these 2 banks remain among the best capitalized banks versus both CEE and developed European Banks. We highlight that CEEMEA economies are in a much better fiscal position than their western European counterparts.

German Banks

As per expectations, DBK, DPB and CBK passed the CEBS stress test, with Hypo Real the only German bank that failed to reach the Tier 1 ratio of 6% under stress test including sovereign shock. However, under JPMC's Acid Test scenario, including banking book haircuts on government exposures, DBK and DPB need €1.3bn of capital to reach 6% Core Tier 1. We do not assume any losses from government banking book exposure for DPB as it is not published with the report, while Commerzbank has the best disclosure of exposures to central and local governments among the German banks.

Table 30: Stress test including sovereign shock – JPMC vs. CEBS scenarios

€ billion

	Deutsche Bank	Deutsche Postbank	Commerzbank	Total/Average
CEBS Stress Test on Tier I				
Tier I ratio end 2009	12.6%	7.1%	10.5%	10.1%
Tier I ratio benchmark 2011	13.2%	7.9%	10.5%	10.5%
Tier I ratio stress test incl. sovereign shock 2011	9.7%	6.6%	9.1%	8.5%
Stress test impact on Tier I ratio	**-3.5%**	**-1.3%**	**-1.4%**	**-2.1%**
JPM acid Test on Core Tier I				
Core Tier I ratio end 2009	8.7%	4.4%	9.1%	7.4%
Core Tier I base end 2011E	7.5%	4.6%	9.0%	7.0%
Core Tier I JPM Acid Test incl. sovereign shock 2011E	5.7%	4.3%	8.3%	6.1%
JPM acid Test impact on Core Tier I ratio	-1.8%	-0.3%	-0.7%	-0.9%
Excess capital vs. Core Tier I of 6% under JPM Acid Test incl. sovereign shock 2011E	**-1.1**	**-1.3**	**6.6**	**4.2**
Core Tier I JPM Acid Test incl. haircut on banking book govt. exposure 2011E	5.7%	4.3%	7.8%	5.9%
JPM Acid Test incl. haircut on banking book govt. exposure impact on Core Tier I ratio	-0.1%	0.0%	-0.5%	-0.2%
Excess capital vs. Core Tier I of 6% under JPM Acid test incl. haircut on banking book govt. exposure 2011E	**-1.3**	**-1.3**	**5.2**	**2.6**

Source: J.P. Morgan estimates, CEBS.

Deutsche Bank

- DB has Tier 1 ratio of 9.7%, well above the Tier 1 ratio of 6% required in 2011 under CEBS stress test incl. sovereign shock.
- Under JPMCe Acid Test calculations, DB needs €1.1bn of additional capital to reach a 6% Core Tier 1 ratio in 2011E. However, if we include haircut on sovereign banking book exposures of DB, DB needs €1.3bn of additional capital to reach 6% Core Tier 1 ratio. CEBS stress test results assume €21.8bn of 2 yr cumulative pre-impairment income after the adverse scenario compared to JPMCe pre-provision profits of €19.1bn in 2010-2011E.
- The RWAs for DB increase by c.39% to €379bn from the base case RWAs of €273bn in 2009. This is surprising given that the increase in Market RWAs due to the impact of Basel changes has not been included in the calculation. The increase in RWAs is due to credit migration in our view. If we include €50bn of market RWAs in the adverse scenario, we get to a Tier 1 ratio of 8.6% compared to the 9.7% in the CEBS adverse scenario (including sovereign shock).

- We believe the €10.7bn of cumulative impairment losses on financial assets in the banking book after the adverse scenario is mainly related to the structured credit book of DB.

Deutsche Postbank

- Deutsche Postbank has a small surplus of €0.4bn over Tier 1 ratio of 6% in 2011 under CEBS stress test incl. sovereign shock.
- Under JPMCe calculations, DPB needs €1.3bn of additional capital to reach a 6% Core Tier 1 ratio in 2011E.
- For DPB, RWAs decrease in the adverse scenario to €62bn from the benchmark scenario RWAs of €66bn.
- CEBS stress test results assume €1bn of 2 yr cumulative pre-impairment income after the adverse scenario compared to JPMCe pre-provision profits of €2.5bn in 2010-2011E.

Commerzbank

- Commerzbank has a surplus of €9.4bn over Tier 1 ratio of 6% in 2011 under CEBS stress test incl. sovereign shock.
- Under JPMCe Acid Test calculations, CBK has €6.6bn of surplus capital over the 6% Core Tier 1 ratio requirement in 2011E. However, if we include haircuts on the sovereign banking book exposures of CBK, the surplus comes down to €5.2bn with Core Tier 1 ratio of 7.8%. We include the government silent participation capital of €17.2bn in both Core Tier 1 and Tier 1 for our calculations.
- CEBS stress test results assume €7bn of 2 yr cumulative pre-impairment income after the adverse scenario compared to JPMCe pre-provision profits of €7.3bn in 2010-2011E.
- For Commerzbank, the 2 yr loss rates on corporate and retail exposures after the adverse scenario are below the loss rates applied for DB, although DB corporate exposures would be more high quality in our view.
- Commerzbank also gives detailed exposures by country in its Banking book and Trading book. Commerzbank has €9.8bn of gross exposure to Italy in the banking book and €3.6bn and €2.9bn in Spain and Greece respectively.

Hypo Real Estate Holding

- Under CEBS stress test, HRE has additional capital need of €1.2bn to reach 6% Tier 1 ratio in 2011 under adverse scenario incl. sovereign shock.
- Hypo Real estate makes 2 yr cumulative pre-impairment losses of €384mn in the adverse scenario compared to profits for DB, DPB and CBK
- The loss rate used on Corporate exposures after adverse scenario and sovereign shock is also low at 1.6% compared to 1.7% for DB, 2.1% for DPB 1.7% for CBK.
- HRE, however, has already applied to SoFFIN for a recapitalization in an aggregate amount of €10bn, of which €7.87bn has been approved to date, and would exceed the 6% Tier 1 ratio after the recapitalisation according to the company.

- HRE also has plans to transfer €210bn of assets to FMS Wertmanagement which is scheduled for H2 10.

UK Banks

As part of the CEBS stress test release the FSA also put out some specific comments on the results and the FSA stress testing procedures. In particular, they note that since November 2008 they have required a more stringent definition of core Tier 1, adjusted for goodwill. It further notes that the assumptions used are of a static balance sheet and hence for some of the UK banks that are undergoing significant restructuring either as part of mandated EU disposals and/or voluntary de leveraging the change in business mix has not been taken into account especially for banks such as RBS and Lloyds Banking Group. The methodology is very similar to our previous exercises.

As expected, all UK banks passed. The earnings assumptions 2010/11E used are not to be taken as company guidance, and hence in many cases differ significantly from consensus and our expectations. We briefly comment on the individual banks' results:

- **Barclays** – This is one of the few European banks and the only UK bank where the 2011E capital position is better after the adverse scenario plus sovereign shock (Tier 1 at 13.7%) compared to the 2009 starting position (Tier 1 ratio of 13%) as a result of earnings expectations being higher than the expected losses. Note in the benchmark scenario they have £400bn of RWAs in 2011E base which go up to £420bn in the adverse scenario and compares to £415bn last reported in Q1 2010 and our estimate of £475bn. For the UK banks, (i) regulatory change has not been factored in so there is no adjustment for market RWAs (Barclays guide to £60bn increase in 2011E); (ii) some of the analysis is already out of date given the movement we saw in Q1. According to the results published, the retained earnings over 2010-11E would be £13.6bn which is significantly higher than JPMCe £8.0bn under the benchmark scenario.
- **HSBC** – For HSBC with significant Asian exposure this analysis is not as relevant as (i) assumptions were made for the European member states and the US, with all other geographies treated as rest of world i.e. Hong Kong had similar PD and LGD assumptions to those for Mexico; (ii) static balance sheet does not take into account the run off of HFC which is the primary driver of earnings growth for the Group. With a starting position of 10.8% tier 1 ratio YE 2009 the adverse scenario with sovereign haircut leaves HSBC at 10.2%. Note the reported tier 1 ratio includes $11.4bn of AFS reserves (YE 2009). According to the results published, the retained earnings over 2010-11E would be $15.7bn which are substantially lower than JPMCe $24.4bn. At the provisioning level, the estimate for the more severe scenario is for $56.2bn which compares to JPMCe $33.8bn and is more than two times the 2009 peak provisions.
- **Lloyds Banking Group** – In the adverse scenario with sovereign shock the Tier 1 ratio is indicated at 9.2% which compares with a starting position of 9.6% YE 2009. With total RWAs of £522bn under the base scenario and £544bn under the adverse scenario this compares to our estimates of £451bn, where we have assumed a substantial amount of balance sheet de-gearing and clearly limits the comparability with our estimates. Note further that in 2012E, even in the absence of regulatory changes, there will be a 50% EV deduction (c.£5.8bn). According to

the results published, (i) estimates for 10/11E provisions in the more adverse scenario are £24.3bn which compare to JPM estimates of £20.5bn; (ii) guidance on retained earnings over 2010-11E would be £9bn, which is substantially higher than JPMCe cumulative retained earnings of £3.0bn and consensus of £5bn.

- **RBS** – In the adverse scenario with sovereign shock the Tier 1 ratio is indicated at 11.2% which compares with a starting position of 14.4% YE 2009. According to the results published, the retained earnings over 2010-11E would be flattish at £0.6bn compared to JPMCe -£0.5bn. For the cumulative provision guidance the more adverse scenario points to £28.4bn which compares to JPMC's base case of £18.8bn. Note that under an even more severe scenario, the Asset Protection Scheme may kick in limiting losses and impact on RWAs.

Overall, whilst this exercise throws up some interesting numbers the static balance sheet limitations along with the absence of important factors such as regulatory changes make the results less meaningful, especially for UK banks that will see significant restructuring. Also we would note that the earnings estimates used are not to be taken as company guidance, and have been compiled independently. It was already expected that post the FSA stress tests in 2009 the UK banks would have no capital issues highlighted by this test. More importantly, this was more of a European exercise intended to reassure the market and so the same challenges in terms of higher funding costs, need to de-lever and balance sheet restructuring remain.

Nordic banks

The Nordic banks included in the stress test (Nordea, SHB, SEB, Swedbank and Danske) passed the stress test comfortably as expected with an average of 9.8% tier one ratio in the adverse and sovereign shock scenarios with Basel II transition rule RWAs, compared to an average of 9.1% JPMCe core tier one capital ratio under an adverse and sovereign shock scenario which adjusts for core tier one capital but uses current base line 2011E full Basel II RWAs (adjusted for further ratings migration impact on RWAs implied in the adverse scenario).

In general however we would characterise this as a limited stress test with some strange assumptions (e.g. a halving of 2011 Swedish GDP growth in the adverse scenario having almost no impact on the unemployment rate in Sweden) and only a limited view of the likely impacts of these scenarios given the limited application of losses to loans and trading books only. Even in terms of loan book impacts we note that the loan losses assumptions over 2 years range from 12bp cumulative for SHB to 40bp cumulative for Danske on RWAs in the adverse scenario (19bp to 45bp on JPMCe full Basel II RWAs).

Key things to note in term of the JPMC assumptions, calculations and conclusions

- **We assume on average 5% lower cumulative pre provision profit in 2010 and 2011 in our current base line scenario estimates** compared to the banks adverse scenario assumption of cumulative pre provision profits for 2010 and 2011 (Danske, Nordea and SHB all assume higher profits).
- **The assumptions on loan losses are relatively mild, ranging from 19bp of cumulative loan losses for SHB to 45bp of losses for Danske** (based on JPMCe 2011E full Basel II RWAS).

- **JPM tier one ratios use full Basel II RWAs** compared to the transition rule RWA assumptions used in this stress test. The most significant difference in RWAs for SHB where our 2011E RWAs are 35% lower than the transition values used in the stress test.
- **The JPMCe 2011E tier one capital assumptions in this exercise exclude the impact of dividend payments** in 2010E and 2011E – this is also the case for Danske Bank.

The weakest bank on our calculation was Danske Bank with a 6.3% JPMCe core tier one ratio under the adverse plus sovereign shock scenario including the haircut on banking book government exposures, whilst Swedbank and SHB had the highest ratios at 11.4% and 9.8% respectively.

It is interesting that some banks benefited to a small degree from the impact of the adverse scenario on their trading exposures (Swedbank and SHB), but in general the impact of securities on the trading book is limited in both scenarios. For the most exposed banks, Danske Bank with 15% exposure to Portugal, Italy, Ireland, Greece and Spain relative to JPMCe core tier one and SEB with 7% Portugal, Italy, Ireland, Greece and Spain exposure relative to JPMCe core tier one, it is interesting to note that all of SEB's gross exposure to Portugal, Italy, Ireland, Greece and Spain is in the banking book whilst 45% of Danske's gross exposure to Portugal, Italy, Ireland, Greece and Spain is in the banking book.

Table 31: Sovereign Exposure by Country

€ million

	UCG	ISP	MPS	BP	UBI	SAN	BBVA	POP	SAB	BKT	PAS	SocGen	BNP	CASA	Danske	Nordea*	Swedbank	SEB	SHB
Austria	7,692	6	-	-	-		118					245	855	645	-	-		57	-
Belgium	194	34	-	-	-		578			13		1,147	18,075	2 679	-	264	-	57	-
Bulgaria	414	-	-	-	-							151	5	-	-	-			-
Cyprus	-	-	-	-	-							-	5	-	-	-			-
Czech	1,344	-	-	-	-		15					6,769	161	-	-	-			-
Denmark	1	-	-	-	-					2		-	20	-	2,199	4,428			81
Estonia	-	-	-	-	-							-	-	-	28	114	144	181	7
Finland	32	-	-	-	-							-	487	618	835	3,403		123	325
France	630	45	-	-	3	1,081	2		53	390		11,981	18,087	21 676	-	-	26		-
Germany	14,299	335	129	-	-		152			175		490	4,741	731	102	979	160	7,975	-
Greece	**649**	**536**	**15**	**18**	**-**	**-**	**293**				**40**	**2,436**	**4,791**	**350**	**-**	**249**		**151**	**-**
Hungary	1,486	596	-	-	-		203					95	1,124	2	-	-			-
Iceland	21	-	-	-	-							-	11	-	-	-			-
Ireland	**58**	**156**	**-**	**-**	-	**-**	**15**					**6**	**473**	**170**	**576**	**-**			**-**
Italy	**22,871**	**41,121**	**19,103**	**4,145**	**5,422**	**-**	**4,965**	**209**			**103**	**3,399**	**21,840**	**3 536**	**-**	**393**		**146**	**-**
Latvia	15	-	-	-	-							-	-	-	-	268	35	46	-
Liechtenstein	-	-	-	-	-							-	-	-	-	-			-
Lithuania	1	-	-	-	-							-	35	-	54	51	169	717	-
Luxembourg	-	44	-	-	120							1,441	374	3	31	-	37		-
Malta	-	-	-	-	-							-	-	-	-	-			-
Netherlands	88	3	-	-	-	3				15		122	12,598	1 169	-	-	-		-
Norway	-	-	-	-	-	4						15	-	28	855	4,769	7		34
Poland	6,561	-	-	-	-		169		28			523	2,247	224	56	173			1
Portugal	**41**	**25**	**34**	**-**	**-**	**3,658**	**643**	**657**	**105**		**115**	**111**	**2,157**	**1 457**	**-**	**-**		**76**	**-**
Romania	1,014	-	-	-	-							2,966	86	43	-	-			18
Slovakia	437	2,956	-	-	-							104	28	-	-	-			-
Slovenia	379	177	-	-	-							242	60	-	-	-			-
Spain	**529**	**546**	**-**	**151**	**-**	**24,000**	**9,000**	**6,802**	**4,869**	**400**	**2,243**	**746**	**3,021**	**2 062**		**37**		**152**	
Sweden	7	-	-	-	-							-	25	1	2,441	4,760	1,960	1,254	2,005
UK	-	-	-	-	-	1,003						815	10	1 121	2,914	-			-
Total	**58,763**	**46,580**	**19,281**	**4,314**	**5,545**	**29,749**	**16,153**	**7,668**	**5,055**	**995**	**2,501**	**33,804**	**91,316**	**2,815**	**10,091**	**19,888**	**2,538**	**10,935**	**2,471**

Source: CEBS EU wide stress test exercise

Kian Abouhossein
(44-20) 7325-1523
kian.abouhossein@jpmorgan.com

Table 32: Sovereign Exposure by Country contd.

€ million

	AIB	BOI	BCP	BPI	BES	DBK	CBK	NBG	Alpha	EFG	Piraeus	Erste
Austria	90	0	0	0	0		500		15	0		5,473
Belgium	66	0	0	0	0		500			0		212
Bulgaria	0	0	0	0	0		0	42		357	105	126
Cyprus	0	0	0	0	0		200	123	25	97	19	12
Czech	0	0	0	0	0		400			0		4,156
Denmark	50	0	0	0	0		0			0		22
Estonia	0	0	0	0	0		0			0		0
Finland	25	0	0	0	0		100			0		88
France	845	21	0	0	0		600	60		162		308
Germany	525	0	0	0	0		38,600	110		294		1,057
Greece	**41**	0	**713**	**495**	**464**	**333**	**2,900**	**12,465**	**4,913**	**7,362**	**7,233**	**748**
Hungary	71	0	0	0	0		1,100	7		73		2,500
Iceland	0	0	0	0	0		0			0		0
Ireland	**4,136**	**1186**	**200**	**403**	**0**	**133**	**0**			**0**		**105**
Italy	**671**	**30**	**50**	**1,127**	**0**	**2133**	**9,800**	**4**		**100**		**1,223**
Latvia	0	0	0	0	0		100			0		33
Liechtenstein	0	0	0	0	0		0			0		0
Lithuania	0	0	0	0	0		300			27		44
Luxembourg	0	0	0	0	0		0			0		0
Malta	0	0	0	0	0		0			0		28
Netherlands	228	0	0	0	0		100			0		89
Norway	0	0	0	0	0		0			0		0
Poland	1,050	0	935	0	0		4,000	5		888		570
Portugal	**257**	0	**596**	**4,214**	**3,443**	**0**	**1,100**			**0**		**270**
Romania	0	0	121	0	0		0	301	486	637	390	1,950
Slovakia	0	0	0	0	0		500			0		2,955
Slovenia	0	0	0	0	0		200			0		129
Spain	**391**	0	**0**	**0**	**53**	**0**	**3,600**			**0**		**208**
Sweden	30	0	0	0	0		100			0		22
UK	1,088	0	0	0	1		2,300			0		67
Total	**9,564**	**1,237**	**2,615**	**6,239**	**3,961**		**67,000**	**13,117**	**5,439**	**9,997**	**7,747**	**4,322**

Source: CEBS EU wide stress test exercise.

Companies Recommended in This Report (all prices in this report as of market close on 23 July 2010)
Banco Pastor (PAS.MC/€3.90/Underweight), Banco Popular (POP.MC/€4.74/Neutral), Banesto (BTO.MC/€7.48/Neutral), Bankinter (BKT.MC/€5.54/Underweight), BBVA (BBVA.MC/€9.84/Neutral), Santander (SAN.MC/€10.07/Overweight)

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