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RESEARCH THESIS

The impact of Basel III on the European banking industry

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Abbreviations

BCBS – Basel Committee on Banking Supervision

CCR – Counterparty Credit Risk

CDS – Credit Default Swap

CET 1 – Common Equity Tier 1

CIB – Corporate and Investment Banking

CVA – Credit Valuation Adjustment

EBA – European Banking Authority

ECB – European Central Bank

EPS – Earnings Per Share

LCR – Liquidity Coverage Ratio

MLT – Mid-and Long Term

MSR – Mortgage Service Rights

NSFR – Net Stable Funding Ratio

OTC – Over-The-Counter

PIIGS – Portugal, Italy, Ireland, Greece and Spain

ROE – Return on Equity

RWA – Risk Weighted Assets

Executive summary

1. Basel III, what is it?

- A global regulation in response to financial crisis in late 2000s
- Stricter capital requirement, especially for counterparty credit risk
- Two new liquidity ratios (LCR and NSFR) requiring liquid assets and stable funding

2. Challenges for European banks

Study based on four sample banks: BNP Paribas, Banco Santander, Deutsche Bank and UniCredit

- Large exposure to PIIGS sovereign debt
- Large capital shortfall identified by EBA
- High financing costs and lack of stable funding
- Different country specific risk causing a different level of challenge for each bank

3. Overall, negative impacts on European banks

- Lower profitability due to higher cost of risk, higher cost of funding and reduced presence in profitable CIB business
- Business refocus on retail banking and private banking for deposits collection
- Reduced international presence while refocusing on core domestic markets
- Improved risk management in terms of capital solvency and liquidity funding

4. Disadvantage compared with US banks

- A less strict regulatory environment in the United States in terms of both capital and liquidity requirements
- US banks gaining time and enjoying substantial grandfathering thanks to Volker rule exceptions
- European banks lose market share in CIB and non-domestic markets.

5. Concerted efforts by banks and regulators to mitigate the negative impacts of Basel III

- Regulators need to work further to provide a more macro-prudential framework; and ECB should provide support in terms of funding and liquidity.
- Banks should work on risk management, product innovation, private client focus and strengths fostering in core business and markets to maintain their competitiveness.

Introduction

Following the subprime crisis in 2007 and European sovereign crisis in 2009, the capital and liquidity insufficiency in global banking system has been revealed as a great threat to the global economy. In order to better regulate the banking system, the Basel Committee on Banking Supervision (BCBS) reformed the regulation package to Basel III in terms of capital, liquidity and credit risk. Its objective is to improve banks' ability to absorb shocks arising from financial and economic stress and to avoid taking too much risk on their balance sheet.

As a result, European banks are required to achieve a minimal level in terms of capital ratio, conservation buffer, leverage and liquidity ratio etc. within a very short deadline. Since its release, there has been a heated discussion going on as to whether Basel III is beneficial to the overall economy as well as the banking industry.

This thesis aims to measure the true impact of Basel III on European banking system, **within the jurisdiction of European Union,** by conducting case studies on four large European banks and, for purpose of comparison, four top US banks.

The research paper is divided into five parts.

In the first part, we will talk about the key reforms in Basel III and its anticipated contribution to global economy. The main sources are the regulation documents of BCBS, reports published by audit and consulting firms, and also the research papers of some banks.

In the second part, we will pick up four largest European banks (BNP Paribas, Deutsche Bank, UniCredit and Banco Santander SA) to analyze the challenge for European banks facing Basel III. We will present the economic background and main concerns for each bank.

In the third part, we will conduct a detailed analysis of the mitigating actions of each bank and different impacts on each bank in terms of profitability, business model and risk management. The main sources used are banks' public release, analyst's report and press news.

In the fourth part, we will compare the four sample banks with four banks in the United States with regards to regulation limits, strategic move and anticipated impacts.

Finally, we will summarize the positive and negative impacts of Basel III for financial markets, European banks, shareholders and accounting. We will also propose our own opinions about Basel III regulation: Is Basel III necessary for banks? What if banks are forced to comply with Basel 3 only during crisis? And how can banks improve its capital and liquidity quality without deteriorating their competitiveness?

We would like to address special thanks to Risk Control experts of related banks for their comments on our thesis.

Part I. Basel III, a regulation standard for global banks

1. The rationale behind Basel III

Basel III, reformed from the first two Basel Accords, is a regulation standard for global banking system in response to the crisis by the late 2000s.

Indeed, the subprime crisis in 2007 and the sovereign crisis in 2009 have revealed the lack of capital quality and liquidity in global banking system. The banking system was not able to absorb the resulting systemic trading and credit losses nor could it cope with the reintermediation of large off-balance sheet exposures that had built up in the shadow banking system[1].

According to Stefan Water, General Secretary of the Basel Committee on Banking Supervision, "the vulnerability of the banking sector to the build-up of risk in the system was primarily due to excess leverage, too little capital of insufficient quality, and inadequate liquidity buffers".

As a result, in November 2010, the Basel Committee on Banking Supervision (BCBS) reformed the regulation package to Basel III in order to achieve the following objectives[1]:

- To improve the banking sector's ability to absorb shocks arising from financial and economic stress, thus reducing the risk of spillover from the financial sector to real economy
- To address the lessons of the financial crisis and improve risk management and governance as well as strengthen banks' transparency and disclosure

2. New requirements under Basel III compared to Basel II

Basel II failed to prevent subprime crisis and was criticized due to several limits such as lack of clear capital definition, lack of liquidity monitoring and procyclical effect etc. Accordingly, Basel III has carried out important reforms especially with regards to capital definition, the introduction of counterparty credit risk, leverage and liquidity ratios.

Limits of Basel II[2]	Reforms of Basel III[1,3]	Objectives[1,3]
Unclear and insufficient capital definition	**New capital definition (see 3.1)** - Tier 1 capital: going concern capital including common equity tier 1 capital and additional tier 1 capital - Tier 2 capital: gone concern capital - Tier 3 capital: eliminated	- Increase quality, consistency and transparency of the capital base

[1] Basel Committee on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems,* December 2010 (Rev June 2011)
[2] Imad A. Moosa, (2008)
[3] Accenture, (2011)

The mark-to-market losses not captured in case of counterparty default or Credit Valuation Adjustments (CVAs)	**Increased capital requirements** - Capital charge for potential mark-to-market losses - Higher standards for collateral management and initial margining - Higher capital requirements for OTC derivatives exposures	- Reinforce the Counterparty Credit Risk management
Pro-cyclicality of the banking system, tending to boost the amplitude of the business cycle	**New capital buffers** - Capital conservation buffer of 2.5% - Countercyclical buffer of 0-2.5% depending on macroeconomic circumstances	- Reduce pro-cyclicality and avoid the destabilizing effects experienced in the last crisis
No significant changes in the assessment of derivatives and off-balance sheet items	**New leverage ratio** - Leverage cap of 3% under test - Volume based and not risk adjusted (on-and off-balance sheet items)	- Constrain the build-up of leverage and avoid destabilizing deleveraging processes
Lack of monitor of funding gap between deposits and loans	**New liquidity standard** - Liquidity Coverage Ratio (LCR) - Net Stable Funding Ratio (NSFR)	- Promote short-term resilience of a bank's liquidity risk profile by ensuring that it has sufficient high quality liquid assets to survive a stress scenario lasting one month - Promote resilience over the longer term by creating additional incentives for a bank to fund its activities with more stable sources of funding
Over-reliance on the rating agencies to determine the riskiness of assets	**New standard** -Perform internal rating alongside external ratings -Incorporation of eligibility criteria for the use of external ratings	- Reduce reliance on external rating and minimize cliff effects

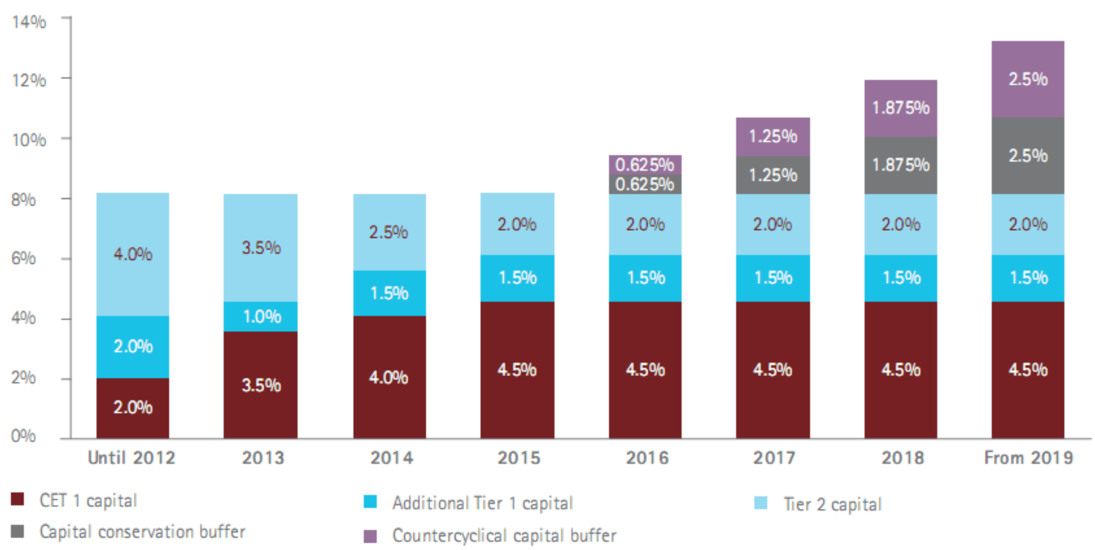
Compared to Basel II, Basel III has a higher capital requirement and new leverage and liquidity requirements.

Ratios	**Basel II**	**Basel III**
Capital requirement		
$\textbf{Common Equity Tier 1 capital ratio (CET 1)} = \frac{\text{Common Equity Tier 1 Capital}}{\text{Risk Weighted Assets}}$	2.0%	**4.5%**
$\textbf{Tier 1 capital ratio} = \frac{\text{Total Tier 1 Capital}}{\text{Risk Weighted Assets}}$	4.0%	**6.0%**

Total capital ratio $= \dfrac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk Weighted Assets}}$	8.0%	**8.0%**
+ Capital conservation buffer	NO	**2.5%**
+ Countercyclical buffer	NO	**0-2.5%** depending on macro-economic circumstances
Leverage requirement		
Leverage ratio $= \dfrac{\text{Tier 1 Capital}}{\text{Total exposure}}$	NO	**≥3%** (test)
Liquidity requirement		
Liquidity Coverage Ratio (LCR) $= \dfrac{\text{High quality liquid assets}}{\text{Total net liquidity outflows over 30} - \text{day time period}}$	NO	**≥100%** (in discussion)
Net Stable Funding Ratio (NSFR) $= \dfrac{\text{Available stable funding}}{\text{Required stable funding}}$	NO	**≥100%** (in discussion)

Basel III required the financial institutions to progressively increase their capital ratios and to reach a CET 1 capital ratio of 9.5% and a total capital ratio of 13% (including two capital buffers) in 2019.

Graph 1.1. Phase-in arrangements of Basel III capital requirements



Source: New proposals on capital requirements (July 2011), European Commission.

With regards to liquidity ratio, BCBS will introduce a minimum standard for Liquidity Coverage Ratio in 2015 and for Net Stable Funding Ratio in 2018.

Clearly, Basel III regulation is far more complete and stricter than Basel II. The BCBS aims to improve the capital and liquidity profile of financial institutions so that they can absorb financial and economic shocks and mitigate the potential influence on global economy. The proposals are considered useful related to the introduction of leverage ratio, capital buffers and the use of dynamic provisions based on expected losses to mitigate pro-cyclicality.[4]

3. Definition of capital, leverage and liquidity ratios

3.1. Focus on new capital definition[5]

Tier 1 capital: going-concern capital ensuring the solvency of institutions' activities

- **Common Equity Tier 1 capital:** replacing former Core Tier 1 capital with a stricter definition of common equity than Basel II (generally common shares and retained earnings).
- **Additional Tier 1 capital:** satisfying the following quality: fully subordinated to general creditors, full discretion to cancel coupons or dividends, no maturity date, no incentive to redeem early, not counted as "liabilities" for balance sheet purpose tests.

Tier 2 capital: gone-concern capital ensuring the repayment of deposits and senior debt in case of default. The corresponding instruments must have loss-absorbing characteristics including convertibility and principle write-down.

Tier 3 capital: eliminated

In addition, there are many items to be fully deducted from capital:

- Minority interests with exception to be recognized as capital if certain criteria are met
- Investments in own shares
- Deferred tax assets exceeding 10% of equity
- Mortgage servicing rights(MSR) exceeding 10% of equity
- Cash flow hedge reserves
- Shortfall on the amount of provisions to expected losses
- Gains on sale related to securitization transactions
- Cumulative gains and losses due to changes in credit risk on fair valued liabilities
- Deferred benefit pension fund assets and liabilities
- Reciprocal cross holdings in other financial institutions and excess holdings in the capital of banks and finance institutions which either individually or aggregated are material holdings (basically 10% or more of the capital of the issuer)

[4] Adrian Blundell-Wignall and Paul Atkinson, (2010)
[5] Linklaters, (2011)

Positive effect – Reducing excess risk taking

Basel III takes into account counterparty credit risk and forces banks to have a rigorous risk management and lower risk exposure. The excess risk taking through SPV (e.g. securitization) will be reduced.

Negative effect on banks – Sharp increase in risk-weighted assets

The risk-weighted assets increased sharply for banks mainly due to the higher risk weights for counterparty credit risk of trading assets, toxic assets and securitization. Banks that have large exposure to CIB activities are expected to be more impacted than the retail-oriented banks.

According to EBA 2011 stress test, the RWA has grown by 14% for average European bank in the adverse scenario without any mitigating actions of banks. With a high capital ratio requirement, the increasing RWA will magnify the capital needs of banks.

Implications:

- The counterparty credit risk can be reduced through higher collateral, hedging and trading in central clearing house.
- The change in business model and capital allocation should be optimized. Banks are expected to focus more on less risky and less capital consuming activities.

3.2. Focus on risk-weighted assets (RWA)

Basel has classified all the assets of the bank into four categories in terms of risk level. From assets with lowest risk to highest risk, a percentage of 0%, 20%, 50% or 100% will be allocated respectively.

Basel III included counterparty credit risk. As a result, banks' risk-weighted assets will increase mainly due to a higher RWA requirement for sales and trading, securitizations, securities lending and OTC derivatives.

Indeed, it gives a 1250% risk weighting to certain securitization exposures, certain equity exposures under the PD/LGD approach, non-payment/delivery on non-DvP and non-PvP transactions[6]; and significant investments in commercial entities, which, under Basel II, were deducted 50% from Tier 1 and 50% from Tier 2 (or had the option of being deducted or risk weighted). Under Basel II, only first-to-default credit derivatives[7] without eligible external assessment were charged with a 1250% risk weight.

[6] **Non-DVP** (Non- Delivery versus payment) trading is defined as securities trading where a client's custodian will have to release payment or deliver securities on behalf of the client before there is certainty that it will receive the counter-value in cash or securities, thus incurring settlement risk; **Non-PvP** (Non-Payment versus payment) transaction is when the final transfer of a payment in one currency occurs, the final transfer of a payment in another currency or currencies takes place will not necessarily take place.

[7] **First-to-default credit derivatives** refer to cases where a bank obtains credit protection for a basket of reference names and where the first default among the reference names triggers the credit protection and the credit event also terminates the contract.

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3. Focus on new leverage ratio[8]

The total exposure used in the calculation include both on-balance and off-balance items. It refers to valuation adjustments and provisions, off-balance sheet items (trade finance commitments and most commitments to lend), credit risk mitigation and on-balance sheet netting (collateral, guarantees and other forms of credit risk mitigation such as credit derivatives), securitizations, derivatives (excluding credit derivatives), netting of derivatives, and repurchase agreements and securities finance.

Positive effect – Increasing transparency and reducing risk taking

Off-balance sheet items will be more transparent and can no longer be used to reduce leverage.

Negative effect – Constrained leverage build-up limiting ROE

With a minimum leverage ratio of 3%, the leverage build-up will be constrained and banks are incentivized to strengthen their capital structure. As a result, the profitability for shareholders may be hurt and investors' appetite in banks will be reduced.

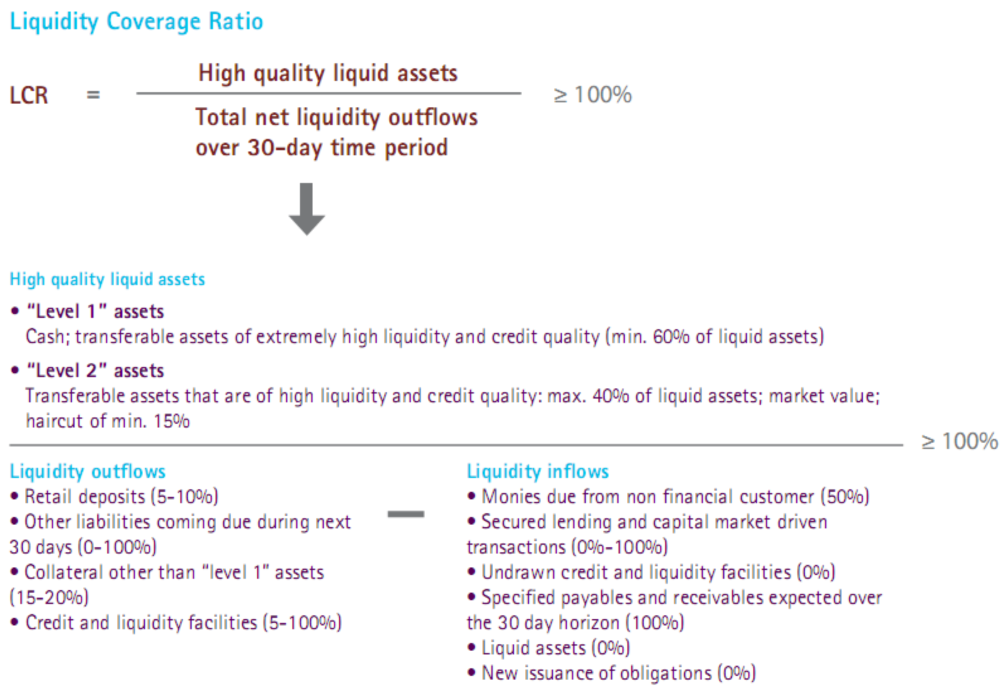
Implications:

- The interest of holding off-balance sheet items is reduced.
- Banks should now focus on high margin assets in order to increase the profitability and meet shareholders' requirement.

[8] Linklaters, (2011)

3.4. Focus on new liquidity ratios[9]

- **Liquidity Coverage Ratio**



Source: Accenture

Positive effect – Liquidity risk management

During the financial crisis, the liquidity issue of banks has been revealed. Under Basel III, banks are encouraged to hold more liquid assets and to increase stable funding such as customer deposits.

Negative effect – Problem of toxic assets and competition for deposits

It is difficult for banks to comply with LCR since banks are now holding large toxic assets during sovereign crisis and lacking deposit funding especially for CIB-oriented banks.

Implications:

- Banks should reduce businesses with unfavorable liquidity treatment and increase the liquidity of their investments. Consequently, banks need to sell their toxic assets at a discount and focus on liquid but low-margin assets, which will impose a negative impact on banks' profitability.
- Deposits should be increased, leading to a refocus on retail banking. The competition for deposits will therefore be fierce, leading to a high funding cost.
- High asset turnover (within 30 days) with non financial customers are encouraged while banks should reduce committed credit and liquidity facilities.

[9] Accenture, (2011)

- **Net Stable Funding Ratio**

$$\text{NSFR} = \frac{\boxed{\text{Available stable funding}}}{\text{Required stable funding}} \geq 100\%$$

Available stable funding

Items – ASF factor 100%

- Tier 1 & 2 capital
- Preferred stock not included in Tier 2 capital with maturity ≥ 1 year
- Secured and unsecured borrowings and liabilities with effective remaining maturities ≥ 1 year

Items – ASF factor 90%

- "Stable" non-maturity (demand) deposits and/or term deposits with residual maturity < 1 year

Items – ASF factor 80%

- "Less stable" non-maturity (demand) deposits and/or term deposits with residual maturities < 1 year

Items – ASF factor 50%

- Unsecured wholesale funding, non-maturity deposits and/or term deposits with a residual maturity < 1 year, provided by non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs

Items – ASF factor 0%

- All other liabilities and equity categories not included in the above categories

Source: Accenture

Note: Based on Basel III document from Basel Committee on Banking Supervision

$$\text{NSFR} = \frac{\text{Available stable funding}}{\boxed{\text{Required stable funding}}} \geq 100\%$$

Required stable funding

Items – RSF factor 0%

- Cash
- Unencumbered short-term unsecured instruments and transactions with outstanding maturities < 1 year
- Unencumbered securities with stated remaining maturities < 1 year with no embedded options
- Unencumbered securities held where the institution has an offsetting reverse repurchase transaction
- Unencumbered loans to financial entities with effective remaining maturities < 1 year that are not renewable and for which the lender has an irrevocable right to call

Items – RSF factor 5%

- Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, BIS, IMF, EC, non-central government PSEs or multilateral development banks that are assigned a 0% risk-weight under the Basel II standardized approach, provided that active repo or sale-markets exist for these securities

Items – RSF factor 20%

- Unencumbered corporate bonds or covered bonds rated AA- or higher with residual maturities ≥ 1 year satisfying all of the conditions for Level 2 assets in the LCR
- Unencumbered marketable securities with residual maturities ≥ 1 year representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs that are assigned a 20% risk-weight under the Basel II standardized approach, provided that they meet all of the conditions for Level 2 assets in the LCR

Items – RSF factor 50%

- Gold
- Unencumbered equity securities, not issued by financial institutions or their affiliates, listed on a recognized exchange and included in a large cap market index
- Unencumbered corporate bonds and covered bonds that are central bank eligible and are not issued by financial institutions

Items – RSF factor 65%

- Unencumbered residential mortgages of any maturity that would qualify for the 35% or lower risk-weight under Basel II Standardized Approach
- Other unencumbered loans, excluding loans to financial institutions, with a remaining maturity of one year or greater, that would qualify for the 35% or lower risk-weight under Basel II Standardized Approach for credit risk

Items – RSF factor 85%

- Unencumbered loans to retail customers and SME (as defined in the LCR) having a remaining maturity < 1 year

Items – RSF factor 100%

- All other assets not included in the above categories

Source: Accenture

Note: Based on Basel III document from Basel Committee on Banking Supervision

Positive effect – Appetite for longer term funding

Banks are encouraged to rely more on stable funding and less on short-term wholesale funding. The interbank activities are discouraged.

Negative effect – High funding cost

During the sovereign crisis, investors are turning away from banking debts while charging a higher rate of return for mid-and long term debt. Consequently, increased mid-long funding will have a negative impact on net income.

Implications:

- The preferred funding sources are respectively Tier 1 & 2 capital, mid-and long term funding, and deposits.
- The assets that consume least funding are respectively cash, short-term liquid assets, market securities (>1Y) with solid guarantee, and high rated corporate or non-financial covered bond.
- Asset sale and business disposal may be an alternative solution for banks to reduce funding need. This will probably be detrimental to their future development.

Conclusion:

Basel III regulation is meant to improve banks' capital solvency, liquidity quality and risk management. It overcame the limits of Basel II and provided a more accurate capital definition with new leverage and liquidity ratios and two capital buffers.

Under Basel III, banks are facing severe regulation challenges. In terms of capital adequacy, the capital definition is stricter while the risk weighting is higher for counterparty credit risk. Consequently, banks should reduce their risk exposure and increase high-quality capital. This is difficult since reducing risk exposure would have a negative impact on profitability and reduce investors' appetite for banks.

In terms of liquidity, banks are encouraged to invest in liquid assets and increase stable funding including customer deposits. However, a big issue during the sovereign crisis is the low appetite for long term debt in banks, and thus high related funding costs. Deposits are a good source of stable funding which may be chased by banks. However, the fierce competition for deposits and other stable funding will push up the funding cost, leading to a lower profitability.

In part II and part III, we will select some European sample banks and analyze the impact of Basel III based on banks' current challenges, their mitigating actions and corresponding results.

Part II. Challenges for European banks

1. Sample selection

In order to analyze the impact of Basel III on European banks, we have selected four banks from Europe (BNP Paribas, Banco Santander, Deutsche Bank and UniCredit).

Our selection criteria include:

- One sample from each of the four counties: France, Spain, Germany and Italy
- Largest bank in terms of assets in each country
- International presence
- With investment banking business
- Included in EBA Stress Test sample

Bank	Country	Assets (2011)	Long term ratings as of April 2012
BNP Paribas	France	€1.96bn	• S&P: AA- (negative) • Fitch: A+ (Stable)
Banco Santander	Spain	€1.25bn	• S&P: A+ (negative) • Fitch: A (negative)
Deutsche Bank	Germany	€2.16bn	• S&P: A+ (negative) • Fitch: A+ (stable)
UniCredit	Italy	€0.93bn	• S&P: BBB+ (negative) • Fitch: A- (negative)

2. Economic overview: market risk and country specific risk

After the crisis in the late 2000s, European banks have to face great challenges to gain investors' confidence. The crash in stock market and the increase in CDS put banks in liquidity drought. The exception is German banks benefiting from a lower funding cost.

Market risk	Challenges for banks
• **Sovereign crisis in Europe**	• Toxic assets in portfolio and large impairment of sovereign debt and loans
• **Increasing CDS and interbank funding spreads**	• Higher funding cost
• **Discount in stock market (Most of banks' Price to Book ratio <1)**	• Lower confidence of investors making it difficult to raise equity

Furthermore, banks are suffering from different country specific risks which can hinder them from complying with regulation and creating value for shareholders.

	Country specific risk	Challenge for banks
France (Real GDP Growth: 1.7% in 2011 1.4% in 2012e)	• Lack of customer deposits	• Need of more stable funding • Funding drought in USD • Increasing funding cost
	• Slowdown of domestic loan volume	• Pressure on revenues and margins
Spain (Real GDP Growth: 0.8% in 2011 1.1% in 2012e)	• Property bubble	• Large non-performing loans • Large impairment deteriorating profitability
	• High sovereign risk	• High funding cost
	• Loan portfolio double dips and slower savings growth	• Revenues and margin under pressure
Germany (Real GDP Growth: 2.7% in 2011 1.4% in 2012e)	• Economic slowdown due to weaker exports and investment	• Business pressure in Europe
Italy (Real GDP Growth: 0.6% in 2011 1.1% in 2012e)	• High sovereign risk	• High funding cost
	• Lack of growth (low growth in loans and deposits)	• Consolidation trend • Pressure on revenues and margins • Pressure on stable funding

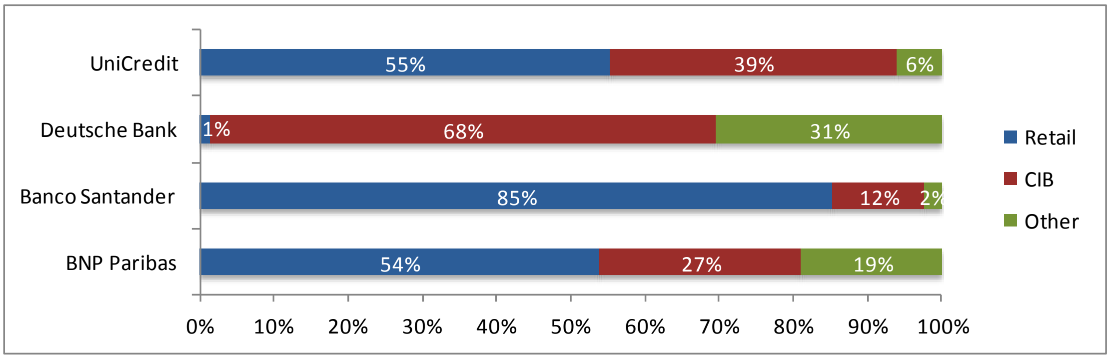
Source: IMF World Economic Outlook April 2012, Kepler Research "European banks", 20 January 2012

3. A close look at each bank in 2010

3.1. Business breakdown and geographic presence

The four European banks in our sample have distinctive business focus and geographical characteristics. We have taken the figures at the end of 2010 to see their status-quo before the launch of Basel III. In the section 5 of this part of discussion, we will be looking at their business evolution during the course of 2011 in face of the new regulations.

Graph 2.1. Sales percentage by Business Segments (Dec.2010)



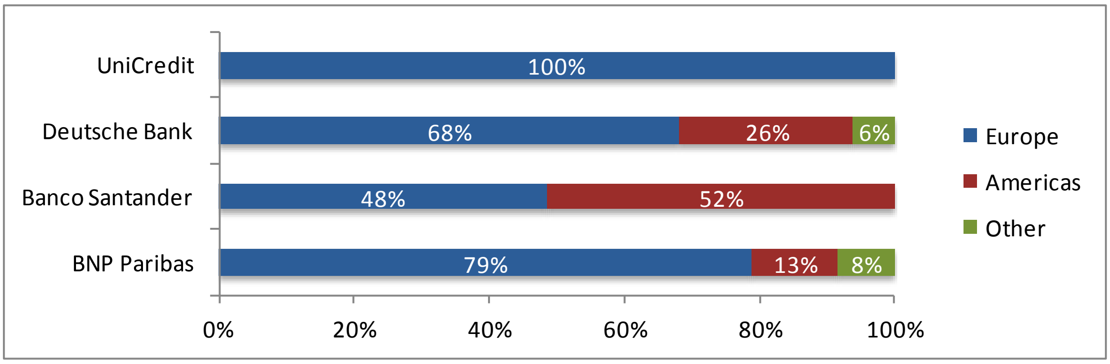
Source: Thomson One Banker, Annual Report

Other businesses include private banking, asset management, insurance etc.

Deutsche Bank has the largest business portion in corporate & investment banking while it started to develop its retail business by consolidating Postbank on December 3, 2010. All the other three banks have more than half business in retail banking, especially Banco Santander. Banco Santander has a very strong network in retail banking and limited exposure to CIB business. Note here that UniCredit has no investment banking but corporate banking.

Generally speaking, retail banking is less risky than Corporate and investment banking leading to a lower RWA, however, other factors such as less strict risk management (i.e. non-performing loans) have resulted in a higher RWA of UniCredit and Banco Santander versus Deutsche bank, section 4.1 for more details.

Graph 2.2. Geographical presence (Dec.2010)



Source: Thomson One Banker

In terms of geographical presence, UniCredit and BNP Paribas focus on European markets while the other two are more internationalized, especially Banco Santander (52% of its business is in Americas)

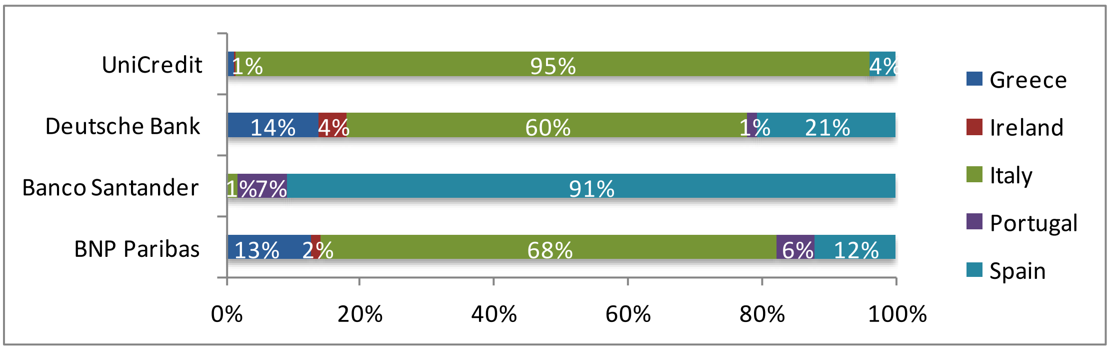
3.2. CDS and sovereign exposure

As we can see from the table below, UniCredit and Banco Santander have the largest exposure to PIIGS[10] sovereign debt mainly due to their financial support the local government. BNP Paribas has lowest exposure to sovereign debt among all the French banks; however, it has too much exposure to Italian debt.

Bank	PIIGS[9] (Dec. 2010)	Main exposure	5Y CDS (Apr 16, 2012)
BNP Paribas	€41.138bn	Italy (68%), Greece (13%)	243.1 bps
Banco Santander	€50.594bn	Spain (91%), Portugal (7%)	423.7 bps
Deutsche Bank	€12.811bn	Italy (60%), Spain (20%)	183.6 bps
UniCredit	€51.836bn	Italy (95%)	420.1 bps

Source: Datasteam, Bloomberg, EBA stress test

Graph 2.3. PIIGS exposure in December 2010



Source: Datasteam, EBA stress test

Compared with all these three banks, Deutsche bank has the lowest exposure, mainly composed of Italian and Spanish sovereign debt. More importantly, Germany is now considered the safe haven in Europe and has very low CDS. As a result, Deutsche Bank benefits from a very low cost of funding as reflected in its five-year CDS spread.

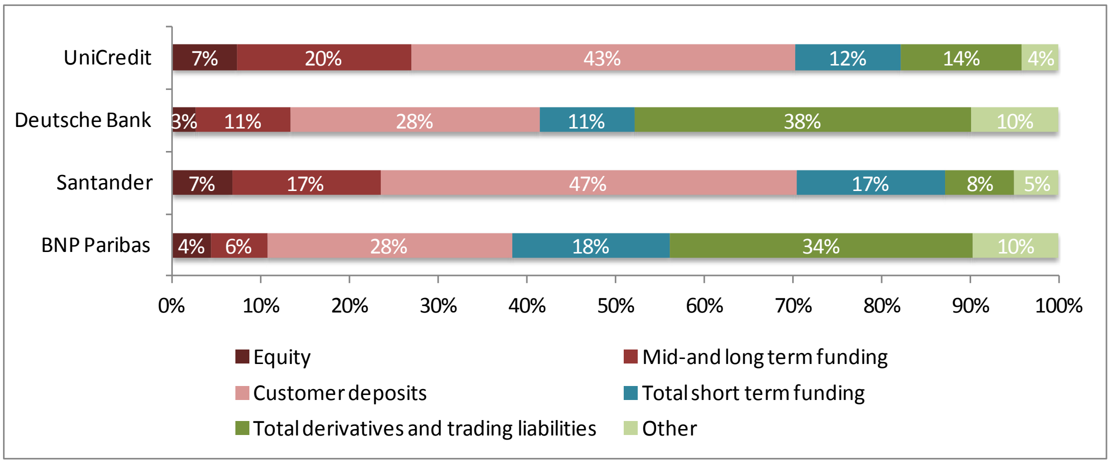
On the contrary, Banco Santander and UniCredit have the highest CDS mainly due to their support to local government sovereign debt. The high CDS reflects their high funding cost and difficulty to raise mid-and long term funding. This issue will be more severe for UniCredit who suffered a slow growth in deposits while Banco Santander could benefit from its strong retail network and has an easy access to deposits.

3.3. Capital structure and main funding sources

UniCredit and Banco Santander have larger portion of stable funding, mainly consisting of customer deposits. Deutsche Bank and BNP Paribas have large weight of trading book due to their CIB businesses.

[10] Portugal, Italy, Ireland, Greece and Spain

Graph 2.4. Breakdown of total equity and liabilities (Dec. 2010)



Source: Bankscope

Implication:

- Generally, retail-oriented banking has an advantage in deposits collection
- Banco Santander and UniCredit have a higher customer deposit ratio in total funding thanks to their focus on retail business.
- BNP Paribas is an exception: Despite 54% business in retail banking, it has lower customer deposits mainly due to its difficulties in deposits collection in France.
- CIB-oriented banking, i.e. Deutsche bank, has a large trading book and relative smaller portion of customer deposits (28% of total equity and liabilities).

4. Challenge faced by each bank

4.1. Capital stress

- **A shorter phase-in period required by EBA**

The European Banking Authority (EBA) requires banks to reach a Common Equity Tier 1 ratio (the Core Tier 1 capital ratio under Basel II) of 9% by the end of June 2012. Note that this phase-in period is shorter than that of Basel III. EBA does not allow the alleviation of buffer requirement even though banks sell their sovereign bonds.

- **Result of EBA Stress Test 2011**

In July 2011, EBA launched an EU wide stress test to assess the resilience of European banks against an adverse but plausible scenario. According to EBA, the capital shortfall is the sum of the difference between 9% of risk-weighted assets and the actual Core Tier 1 capital plus a buffer for sovereign debt exposure (BufferSOV) [11]:

Capital Shortfall= (0.09xRWA - CET1 capital) + BufferSOV

Based on the results in the following table, we can state that all the four banks face a great challenge to reach this requirement. Deutsche Bank has the best risk profile in its assets

[11] EBA, (2011)

while Banco Santanter and UniCredit have the highest capital shortfall mainly due to their large exposure to sovereign debt.
Please note that these results do not take into count the mitigating actions by banks in 2011.

Banks	RWA (M€)	CET 1 capital (M€)	CET 1 ratio 31 Dec 2010	CET 1 ratio* 2012	Capital shortfall (M€)
BNP Paribas	601,271	55,352	9.20%	7.90%	1,476
Banco Santander	594,284	41,998	7.10%	8.40%	15,302
Deutsche Bank	346,608	30,361	8.80%	6.50%	3,239
UniCredit	454,850	35,702	7.80%	6.60%	7,974

Source: EBA, Banks website, and Kepler Research "European banks", 20 January 2012
*under the adverse scenario not taking into account any mitigating actions in 2011

Implication: The capital stress mainly comes from 1) poor risk management (exposure to sovereign debt), 2) banking business model (CIB division), and 3) insufficient CET 1 capital under new definition.

4.2. Funding stress

Overall, Deutsche Bank has the easiest funding access thanks to the economic advantage in Germany and low funding cost. On the contrary, UniCredit is totally trapped in terms of liquidity mainly due to the high funding cost and low growth potential in deposits. In addition, Banco Santander has a relatively easy funding by deposits than BNP Paribas.

	Deutsche Bank	Banco Santander	BNP Paribas	Unicredit
Equity market	√√	√	√	√
MLT funding	√√√	√	√√	√
Customer deposits	√	√√√	√√	√√

Conclusion: The four sample banks actually face different level of challenge, largely depending on their risk exposure excluding sovereign (CIB business and risk management), CET 1 capital under Basel III (original capital ratio and deductions under new definition) and sovereign exposure.

Banks	**Main reason of capital stress**			**Overall level of capital stress**
	Risk exposure	**CET 1 capital under Basel III**	**Sovereign exposure**	
BNP Paribas	xx	x	xx	x
Banco Santander	xxx	xx	xxx	xxx

Deutsche Bank	x	xxx	x	xx
UniCredit	xxx	xx	xxx	xxx

Banks	**Main reason of funding stress**		**Overall level of funding stress**
	Limited access to deposits	**High funding cost (CDS)**	
BNP Paribas	x	xx	xx
Banco Santander		xxx	xx
Deutsche Bank	xx		x
UniCredit	x	xxx	xxx

- **BNP Paribas**

Capital stress: The capital shortfall of BNP Paribas is the lowest according to EBA stress test. It mainly comes from its large exposure to trading activities in CIB business (thus higher RWA) and PIIGS sovereign debt. The capital shortfall is the lowest among the sample banks thanks to its high capital quality under Basel III definition.

Funding stress: It has a relatively large reliance on short term funding compared to other sample banks. In addition, BNP Paribas suffered limited growth in deposits and medium high funding cost. The compliance with liquidity ratio will be slightly tough for the group. High funding cost will put pressure on its profitability.

- **Banco Santander**

Capital stress: Banco Santander has the largest capital shortfall according to EBA 2011 stress test mainly due to its large exposure to non-performing loans and sovereign debt, and large reduction in eligible capital under new capital definition.

Funding stress: The group has a large reliance on deposits funding based on its retail-oriented business model. Although the 5-year CDS is very high, the group could benefit from its strong retail network and easy access to customer deposits. The funding stress is less severe.

- **Deutsche Bank**

Capital stress: Deutsche Bank has largest exposure to CIB business. However, thanks to its good risk management and limited exposure to sovereign debt among sample banks, the capital shortfall is relatively small.

Funding stress: Deutsche Bank is least impacted in terms of funding thanks to its easy access to equity and MLT funding. It also benefits from the strong economic growth and low sovereign risk in Germany.

- **UniCredit**

Capital stress: UniCredit has a large capital shortfall mainly due to its large exposure to Italian sovereign debt, a lack of eligible capital under new definition and higher RWA.

Funding stress: UniCredit has the most disadvantageous position in terms of funding cost and funding sources. The negative economic growth in Italy makes it difficult to collect deposits and the high funding cost limits its access to MLT funding.

We will see in the next part how banks are reacting to solve the capital adequacy and funding problems and what the impacts are from those mitigating actions.

Part III. Mitigating actions and impact on European Banks

1. BNP Paribas

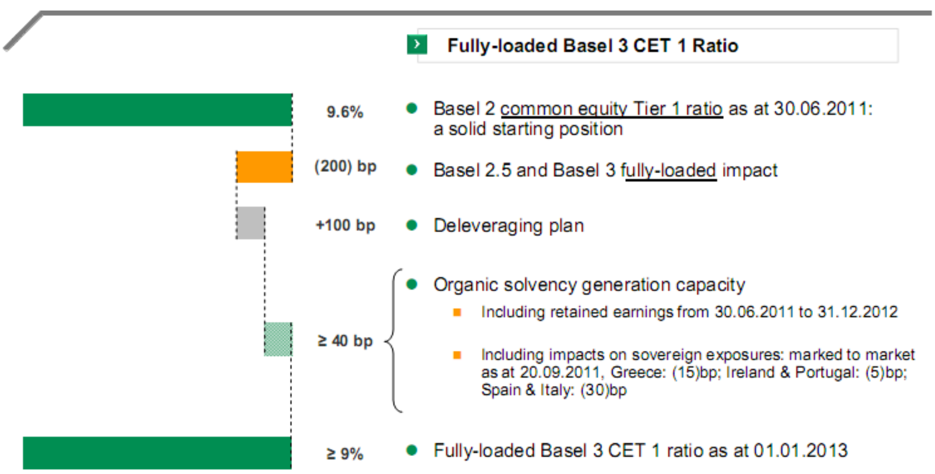
Under Basel III, there are three main issues for BNP Paribas to deal with: 1) exposure to sovereign debt, 2) tension in liquidity and funding, 3) solvency requirements reinforced and brought forward by the EBA.

In order to resolve those issues, the group took several actions including provision set aside for Greece, debt sales, specific dollar adaptation plan, and mid-and long term (MLT) issue program.

1.1. Actions to increase capital ratio and the corresponding impact

BNP Paribas has a CET 1 target ratio of 9% before 2013 which will be realized by organic solvency generation capacity (≥40bps) and deleveraging/adaptation plan (+100bps). The group aims to reduce its risk weighted assets (RWA) by €70bn by the end of 2012, mainly in its CIB division. This is equivalent to about 10% deleveraging.

Graph 3.1. BNP Paris CET 1 ratio under Basel III



Source: BNP Paribas Official Website, Cheuvreux Conference, “Addressing New Challenges, Securing New Opportunities”, as of September 2011

Action	Rationale	Positive impact	Negative impact
Increase Common Equity Tier 1 Capital			
Cut dividends	– Boost retained earnings	– Save €1.3bn retained earnings on balance sheet	– Dividend payout ratio decreased from 33.3% to 25.1%
Reduce Risk Weighted Assets			
Sell sovereign debt	– Reduce exposure to Italian sovereign risk	– Lower sovereign credit exposure	– €872m losses in revenue
Impair Greek sovereign debt	– Reduce exposure to Greek sovereign risk	– Lower sovereign credit exposure	– €3,241m losses as cost of risk
Sell doubtful loans in the financing businesses	– Reduce counterparty credit risk	– Lower counterparty credit risk – More cautious in credit management	– €152m in losses – Less active in financing activities
More derivatives trading on organized markets	– High capital requirement for OTC derivatives	– Lower counterparty risk – More transparency	– More costly in clearing house – Lower profitability by trading vanilla products

1.2. Actions to increase liquidity ratio and the corresponding impact

BNP Paribas aims to achieve CIB's dollar funding needs reduction of $65bn by the end of 2012 through an active portfolio management refocusing on its strategic activities. It involves a stricter origination policies combined with asset re-pricing, asset sales and business disposals.

Action	Rationale	Positive impact	Negative impact
Reduce trading assets and fixed income securities	– Reduce dollar funding needs – Reduce RWA	– Smaller US dollar funding needs due to decreased fixed income securities by $17bn	– Revenues from fixed income trading decreased by 34.8%
Reduce origination of long-term loans in dollars		– Smaller US dollar funding	– Decrease – in revenue from financing by 4.7% vs. 2010
Asset sales and business disposals[12]		– Capital gain – A large transfer of loan portfolio – Improve CET 1 ratio by about 37bps	– Smaller US dollar funding – Transfer of profitable assets and give up potential growth
Retail focus in domestic markets	– Increase deposits and cross selling	– Outstanding loans in domestic markets grew by 5.1% in 2011 (France, Belgium, Italy and Luxembourg)	– Lower profits than CIB businesses

[12] See Part III – 1.3 for detailed information

Mid-and long term funding program	– Increase available stable funding	– €6bn MLT funding has been completed as of February 22, 2012 – More stable funding while limited ST funding	– Bad timing of fund raising (higher cost during crisis)
Deleverage in retail banking (mortgage, leasing noncore perimeters and subscale countries)	– To focus on core less risky business – To reduce funding needs	– Less risk exposure – A total asset reduction of €9bn by the end of 2012 and up to €36bn in the medium term	– Business shrink/exit in retail mortgage and leasing – Lower revenues and profits

1.3. A close look at the portfolio management

Country	Business	Position	Transaction
North America	Financing	Sell whole	Reserve Based Lending business
Europe	Real estate	Sell part	28.7% stake in Klépierre S.A

From the above table, we can see that BNP Paribas has sold its financing business in North America and a large part of its stake in real estate business, to reduce dollar funding and RWA requirements, a potential consequence is lost future profits in US and less diversified business portfolio.

1.4. Positive and negative impact on BNP Paribas

	Positive impact	Negative impact
Profitability	• Capital gain from asset sale and business disposal	• Return on equity (ROE) decreased from 10% to 8% in 2011 • Group net income decreased by 22.3% to €6,050m in 2011 • Sharp decrease in revenues (-19.8%) and net income (-20.6%) of CIB division • One-off losses from sovereign debt impairment and loans disposal
Capital solvency	• CET 1 tier ratio increased by +32bps mainly in CIB • Risk-weighted assets reduced by €25bn	• Dividend payout ratio decreased from 33.3% to 25.1%
Liquidity/funding	• Dollar funding need sharply reduced (-30% in H2.11) • Funding needs of customer activity more than covered by stable funding	

Competitiveness	• Reinforcement of retail banking business • Increase business in domestic markets	• Reduced financing commitment, especially structured finance and long term loans in dollar • Reduced trading activities and fixed income transactions • Asset disposal may limit long term development • Step back from profitable business in North America

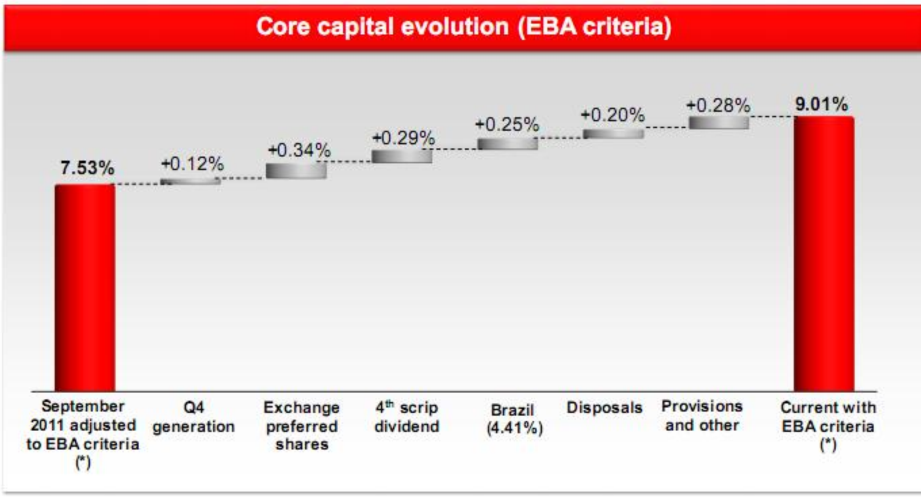
2. Banco Santander

During 2011, "Banco Santander has given priority to strengthening the balance sheet over short-term results, placing emphasis on capital, liquidity and provisions for real estate assets in Spain", said Alfredo Sáenz, CFO of Banco Santander.

2.1. Actions to increase capital ratio and the corresponding impact

According to the EBA, Banco Santander's additional capital needs amounted to EUR 15,302 million. Its capital shortfall is the highest among banks identified by the EBA. By the end of 2011 Banco Santander has already filled the capital gap and reached CET 1 ratio of 9%.

Graph 3.2. Banco Santander CET 1 ratio under Basel III



Source: Banco Santander Annual Review 2011

Action	Rationale	Positive impact	Negative impact
Increase Common Equity Tier 1 Capital			
Transfer of convertible bonds	– To be counted as common equity tier 1 capital	– €6,829m increase in Common Equity Tier 1 capital	– EPS Dilution
Exchange preferred shares	– Preferred shares are not considered	– €1,943m increase in Common Equity Tier	– Common shareholders may

for ordinary new shares	as Common Equity Tier 1 capital	1 capital – +0.34% to CET 1 ratio in 2011	not be happy – EPS Dilution
Scrip dividend[13] program	– Reduce cash dividend payout	– €1,660m increase in Common Equity Tier 1 capital – +0.29% to CET 1 ratio in 2011	– Shareholders may prefer cash
Stake sale and business disposal in Americas[14]	– Increase CET 1 ratio – Reduce funding requirement	– Increase capital gains	– Give up potential gains in Americas
Reduce Risk Weighted Assets			
Reduce proprietary trading activities	– Reduce risky assets and funding needs	– Less risk weighted asset	– Gross income from proprietary trading decreased by 16%
Reduce exposure to complex structured assets and focus on basic treasury products	– Reduce risky trading activities and capital requirement	– Decreasing VaR	– Low profitability – Reduce OTC trading activities in credit derivatives (-40%) and fixed income derivatives (-46%)
Increase exchange trading activities	– Boost revenues – Reduce capital requirement as OTC	– Lower counterparty risk – More transparency	– Charges in clearing house – Lower profit by trading vanilla products
Write-down of Greek sovereign debt	– Reduce sovereign exposure and RWA	– Lower sovereign exposure	– €3.61bn in loss

2.2. Actions to increase liquidity ratio and the corresponding impact

Banco Santander decided to improve its liquidity position by increasing its deposit base, capturing medium and long term funding and limiting its short term funding. Its financing strategy is to decentralize the funding program to subsidiaries and diversify the funding sources in terms of market, maturity, currency and instrument.

Action	Rationale	Positive impact	Negative impact
Strengthen retail and commercial banking in Europe	– Increase deposits	– Customer deposits increased to €16,000m – Reduction of commercial gap by €98bn – A loans/deposits ratio of 117%	– Retail banking has lower profitability than CIB

[13] Share dividend payment instead of cash payout
[14] See Part III – 2.3 for detailed information

Acquisition of retail banking business in Europe	– Expand market share in retail banking – Increase profits	– Profit contribution (e.g. BZ WBK contributed a net operating income of €366m and a profit of €232m to the group in 2011)	– Retail banking has lower profitability and corporate & investment banking
Capture mid-and long-term funding	– Increase stable funding – Limit short term funding	– Mid-and long-term funding represents 19.6% of total balance sheet – The ratio of deposits plus mid-and long-term funding to the group's loans is 113%	– Bad timing of fund raising (higher cost during crisis)
Stake sale and business disposal	– Increase CET 1 ratio – Reduce funding requirement	– Increase capital gains	– Give up potential gains in Americas

Source: Annual report and bank presentation

2.3. A close look at the portfolio management

Country	**Business**	**Position**	**Transaction**
Chile	Retail banking	Sell part	7.82% stake sale in Santander Chile
Brazil	Retail banking	Sell part	4.41% stake sale in Santander Brazil
Colombia	Retail banking	Sell whole	Disposal of Colombian subsidiaries
Latin America	Insurance	Sell majority	51% stake sale in Santander Insurance
USA	Consumer Finance	Sell majority	Introduction of partnership in Santander Consumer Finance USA
Germany	Retail banking	Buy	Acquisition of SEB
Poland	Retail banking	Buy	Acquisition of 96% in BZ WBK

From the above table, we can see that Banco Santander has strengthened its retail banking in Europe while reducing small part of operations in Americas for capital gains. We believe that the recent asset sales could be part of management's reduce overreliance on Latin America.

2.4. Positive and negative impact on Banco Santander

	Positive impact	**Negative impact**
Profitability	• Extraordinary gain from asset sale and business disposal (€1513m) • Fast increase in gross income by acquisition	• Trading gains and other investment income reduced by -3.9% y-o-y • Large sovereign debt write down pushing down the profitability

Capital solvency	• CET 1 ratio reached 9.01% under Basel III at the end of 2011	
Liquidity/funding	• The ratio of deposits plus mid- and long-term funding to the group's loans is 113% • Limited short term wholesale funding (1.2%)	
Competitiveness	• Strength its retail banking in European growing countries	• Give up potential gains in Americas • Reduced trading activities

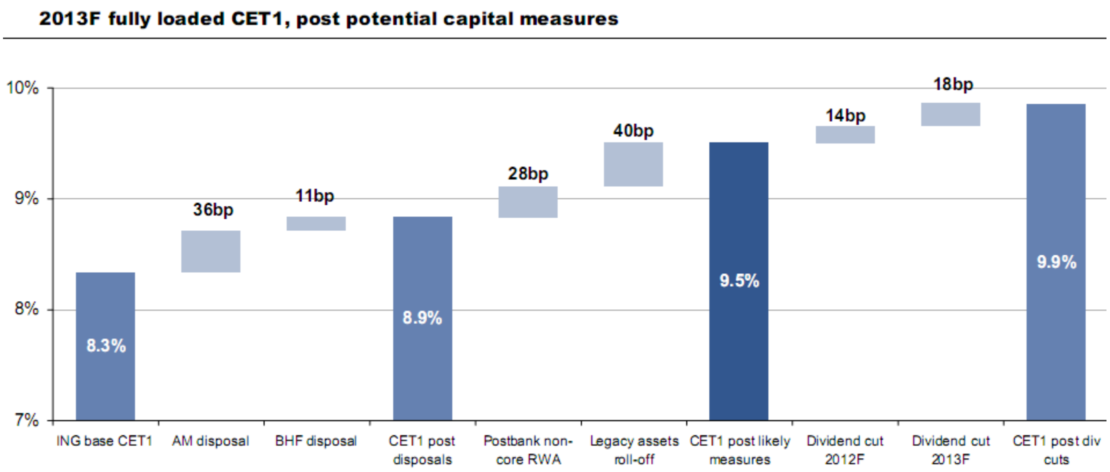
3. Deutsche Bank

Deutsche bank has one of the best risk profiles among all European banks with a viable business model and stringent risk management, benefiting from strong domestic backup and the lowest CDS spread.

3.1. Actions to increase capital ratio and the corresponding impact

Deutsche bank has built up a strong capital tool box including rights issue, asset sale and reduction in sovereign debt exposure to have reached a 9.5% Core Tier 1 ratio by Dec 2011.

Graph 3.3. Deutsche Bank CET 1 ratio under Basel 2.5



Source: DB 2011, June 2011 Investor Presentation; ING research March 2012

Action	Rationale	Positive impact	Negative impact
Increase Common Equity Tier 1 Capital			
Approved accelerated book building and rights issue	– Capability to quick capital boost if necessary	– CET 1 capital increased by €9.2bn – CET 1 increase by 45-65 bps	– 15% potential EPS dilution – Lower leverage effect (ROE dilution)

Reduce Risk Weighted Assets			
Business asset disposal or roll-off of American business and non private banking business[15]	– To increase regulatory hurdle – To refocus on high-value businesses in Germany, Europe and Asia	– RWA reduction – Less funding needs – CET1 ratio up 75bp in total	– Pressure on revenues and margins – ROE dilution – Lower market presence in US asset management
Legacy assets disposal or roll-off			
Disposals and hedging of emerging market sovereigns	– To reduce counterparty credit risk – To reduce legacy assets subject to higher capital requirements under Basel III, thus reducing total capital demand	– €30bn RWA reduction from sale or roll-off in 4Q 2011 – Additional €73bn TCD (total capital demand) roll-off post 2013 – Lower counterparty risk	– Limited gain by hedging – Hedging cost – Less financing and trading activities
Rolling-off correlation trading portfolios			
Rolling off/hedging of securitization portfolios			
Reduction by €7.4bn GIIPS sovereign debt exposure and impairment of Greek Government securities (€527m)	– Reduce credit risk from debt-stricken peripheral European countries	– With only €3.7bn exposure to sovereign debt by Dec 2011 – Improved market perception	– Capital loss (ROE dilution)

Source: DB CFO Analyst call Feb 2012; ING research report March 2012

3.2. Actions to increase liquidity ratio and the corresponding impact

Deutsche bank has strong access to MLT funding as reflected by lowest CDS and cash spreads. In order to reinforce its funding base and reduce funding cost, it will continue in its efforts in expanding retail and other classic banking activities while staying out of ECB funding.

Action	Rationale	Impact (quite positive)
Refocus on classic banking activities[16]	– Classic banking is less volatile than Investment Banking – Classic banking is not less profitable	– Revenue contribution from classic banking expected to increase from the current 17% in 2011 to 40% in 2013 – Reduce earnings seasonality and volatility – Reduce exposure to more capital-intensive assets in Investment Banking

[15] See Part III – 3.3 for detailed information

[16] Private Clients and Asset Management and Global Transaction Banking

Expand retail banking (e.g. acquisition of Postbank)	– To increase funding stability through retail clients, long-term capital markets investors and transaction banking clients	– Increased retail customer base – Higher percentage of stable funding sources
Not participant in ECB refinancing operations	– Strong liquidity position	– Boost market confidence, continued lower CDS spread

3.3. A close look at the portfolio management

Country	Business	Position	Transaction
The United States	Asset Management	Sell part	DWS Americas, the Americas mutual fund business; DB Advisors etc.
Germany	Investment Banking	Sell (in talk)	BHF bank
India	Non retail banking	Sell (under way)	Postbank non-core assets
Germany	Retail banking	Buy	Increase stake in Retail Unit Postbank to 93.7%

From the above table, we can see that in an effort to bridge capital shortfall, Deutsche bank has chosen to strengthen its retail operations in Europe and shed off non-core US asset business. The move will, to a certain extent, weaken the bank's global franchise but we believe this will have very limited impacts on DB's results and it is in the bank's interest to optimize its recourses to focus on growing regions such as Asia.

3.4. Positive and negative impact on Deutsche Bank

	Positive impact	Negative impact
Profitability	• More stable revenue-generating from classic banking (asset management and private & business and client)	• One-off write-down of €144m Greek debt • Lower revenues in emerging markets debts due to business de-risking • Lower revenues from CIB especially sales & trading (-30% in net revenue 4Q 2011)
Capital solvency	• CET 1 tier ratio increased by +0.5%bp • Risk-weighted assets reduced by €14.6bn in 2011 excluding impacts from Basel 2.5	
Liquidity	• Liquidity reserve increased from €184bn to €219bn	

Competitiveness ➕	• Reinforcement in classic banking and in core business in Germany, Europe and Asia • Improved market position in investment banking during 2011 as more mid-sized players gave up their investment banking operations	• Exit from Americas and real estate business post-sale of its asset management

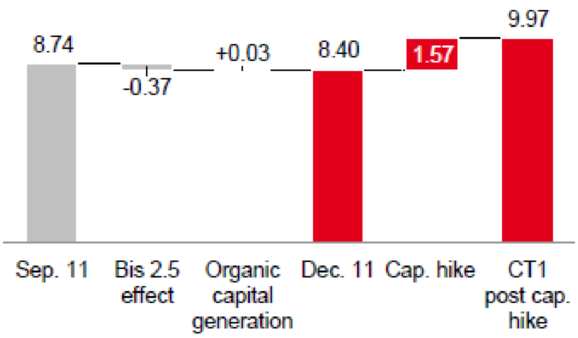
4. UniCredit

UniCredit Group is among the most badly hit European banks during the financial crisis, its major problems are:
1) **Risky asset quality** (total impaired loans €72.5bn, 16% of 2010 RWA), in particular its Italian loan portfolio (€48.1bn in Dec 2011)
2) **Contraction in local economy** posing threat to retail recovery, slowed lending to private sector (especially household loans) , worsened by high funding costs
3) **Liquidity problem as** reflected by heavy reliance on interbank lending (ECB lending)

4.1. Actions to increase capital ratio and the corresponding impact

UniCredit has successfully bridged its capital need through capital raise and restructuring, which should have brought its CET 1 capital ratio to over 9% under Basel III in 2012.

Graph 3.4. UniCredit CET 1 ratio under Basel 2.5



Source: UniCredit 4Q2011 Result Presentation

Action	Rationale	Positive impact	Negative impact
Increase Common Equity Tier 1 Capital			
€7.5bn rights issue in Feb 2012	– Increase capital by direct capital raise and share	– CET1 ratio up by 157 bps	– Dilution – Lower leverage effect

CASHES restructuring[17]	restructure	– CET1 ratio up by 50bps	
No dividend to be paid in 2011	– Increase retained earnings	– Increase retained earnings	– Negative signal
Cost reduction	– Increase retained earnings	– €1.5bn cost reduction by 2015	
Goodwill impairment	– Goodwill no longer accountable as regulatory capital	– Cleaner balance sheet – Increase return on assets	– One-off loss of €9.4bn
Purchase Tier 1 Upper Tier 2 securities	– Tier 1 UT 2 no longer accountable as regulatory capital – To avoid delaying coupon payments	– Capital Gain of €0.5 bn – CET 1 ratio up 10 bp – Save interest expense	– Less flexibility and liquidity
Reduce Risk Weighted Assets			
Ring-fencing of non-core assets	– Reduce RWA	– €48bn CIB assets RWA run-off, €35bn by 2015	– Hinder CIB business development
Write-down of Greek Government securities	– Reduce counterparty credit risk – Reduce RWA	– Lower sovereign exposure	– Loss in profit (€307m)
Capital reallocation to Core CIB clients	– Optimize RWA	– RWA usage down to €170bn in 2015 from €185bn in 2010 in mature markets	
Cutting exposure to unprofitable Western European equities through JV with Kepler Market	– Optimize RWA	– Reduce balance sheet burden and optimize capital allocation	– Limit future development in CIB

4.2. Actions to increase liquidity ratio and the corresponding impact

The thin wholesale market and high CDS for Italian banks limiting access to wholesale bond markets, UniCredit has shifted its focus to retail and covered bonds and relied on ECB

[17] UniCredit annual report 2011, "The CASHES are equity-linked instruments, issued for a counter value of Euro 2,983,000,000 in February 2009 by The Bank of New York (Luxembourg) SA, with a maturity on December 15, 2050 and convertible, under certain conditions, into the abovementioned Shares underwritten by Mediobanca. Since their issuance the Shares have been computed as part of the core capital (so-called "Core Tier 1") of the Group. The recent implementation in Italy of the new EU directives on capital requirements (so-called "CRD2") disqualifies computability of the Shares as part of the Core Tier 1 under the new provisions starting from December 2010, due to, essentially, of the remuneration structure of the usufruct agreement and of the CASHES instruments."

financing while at the same time working on deposit collection to enhance its liquidity and funding profile:

Action	Rationale	Positive impact	Negative impact
Refocus on domestic retail market	– To increase stable funding and improve liquidity profile	– Loan-to-deposit ratio expected to decrease from 1.4 in 2010 to 1.2 in 2015	– Retail banking has less profitability
Increase retail and covered bonds instead of wholesale market	– To reduce liquidity outflow as secured lending is exempt in the calculation of LCR – Lower cost of funding in order to grant mortgage loans for housing and non-residential property as well as to finance public debt	– Increase stable funding – 2012 funding plan around €30 bn via retail and covered bonds	– Higher capital requirement – Fewer assets available for pledge
Participation to ECB refinancing	– Tap into cheap funding and flexible repayment	– Increase stable funding	– Worse market perception, vicious circle

We expected UniCredit to further dispose its assets and businesses in order to reduce its funding pressure. "It could be forced to dispose of assets to offset higher funding costs if fears of eurozone contagion fail to abate over the next months, its chief executive said."[18]

4.3. Positive and negative impact on UniCredit

	Positive impact	Negative impact
Profitability	• Capital gain from assets disposal • Revenue increase from Italian commercial business +6.3%, cost/income -9.0%	• Rights issue will increase average cost of capital and decrease leverage effect, hurting stock market performance • Huge loss in net income (-€9.2bn) mainly due to large goodwill impairment and sovereign debt write-down
Capital solvency	• CET 1 tier ratio increased by +160bps under Basel 2.5 • Risk-weighted assets reduced by €6 bn excluding regulatory kick-in • Risk-adjusted return up by 0.5% to 4.3%	• Dividend cut to 0
Liquidity/funding	• Efforts to improve liquidity	• Difficult funding under severe market conditions (decreased stable funding in 2011)

[18] Financial times "UniCredit warns of eurozone contagion", August 3, 2011

		• Increased reliance on ECB refinancing before market recovery
Competitiveness	• Strengthened position in Italian commercial business	• Asset run-off may limit long term development • Focus on domestic core client give away competing edge in other countries and high-profit products

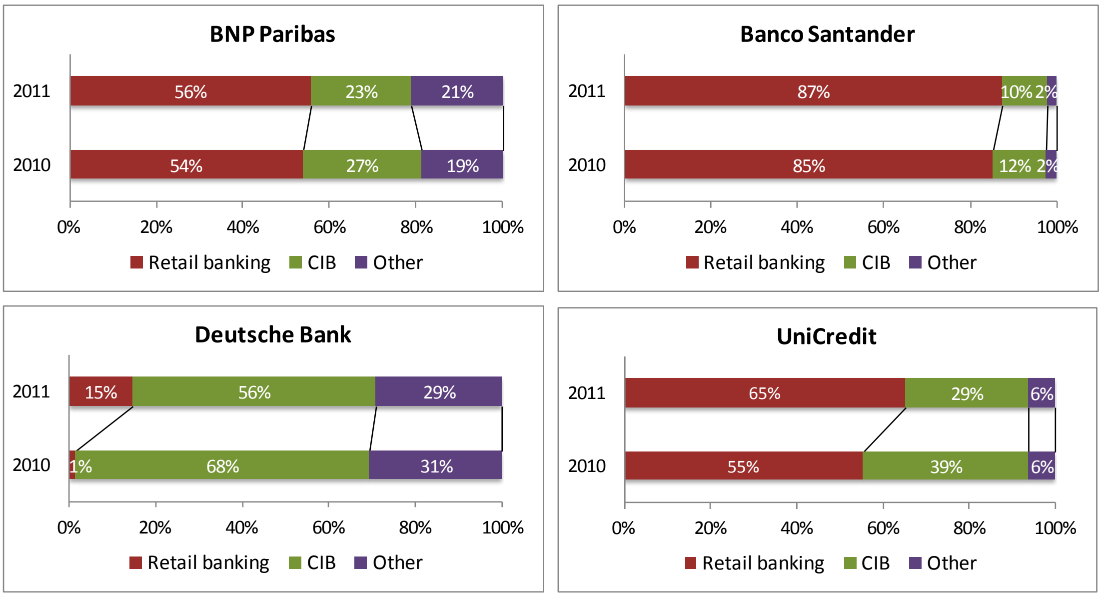
Source: UniCredit 4Q 2011 presentation, 2015 target plan, SG Cross Asset Research

5. A more general view

Overall, it is true that Basel III could reduce the risk exposure of banks and improve their capital and liquidity ratios. However, the mitigation actions by banks could bring more negative effects than positive ones.

5.1. Focus on business growth – Switch to retail and private clients

Graph 3.5. Revenues breakdown by business



Source: Thomson One Banker, Annual Report

Note: UniCredit Central & Eastern European results included in others due to lack to detailed breakdown

Observation:

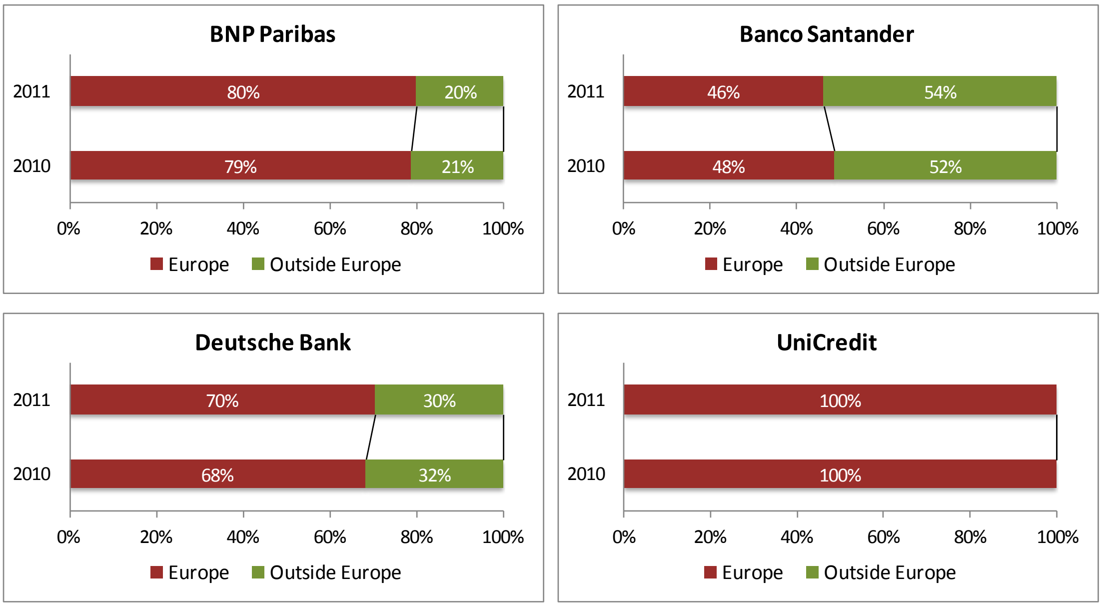
- **BNP Paribas:** It has greatly decreased its CIB business and refocused on domestic retail markets (France, Belgium, Italy and Luxembourg) by launching business projects in retail banking.
- **Banco Santander:** It benefits from its strong network and has reinforced its retail business with two acquisitions in Europe despite of small stake sales in Americas.
- **Deutsche Bank:** Deutsche Bank has refocused on classic banking in order to facilitate the deposit collection from private clients. Since December 2010, it has sold part of non-retail banking business and bought Retail Unit Postbank.
- **UniCredit**: It is also refocusing on its domestic retail market. The access to customer deposits is one of the limiting ways to ease its funding stress.

Implication:

- Banks are switching from corporate and investment banking to retail banking or private banking in order to collect deposits.

5.2. Focus on global presence — Refocus on core markets

Graph 3.6. Revenues breakdown by region



Source: Thomson One Banker

Observation:

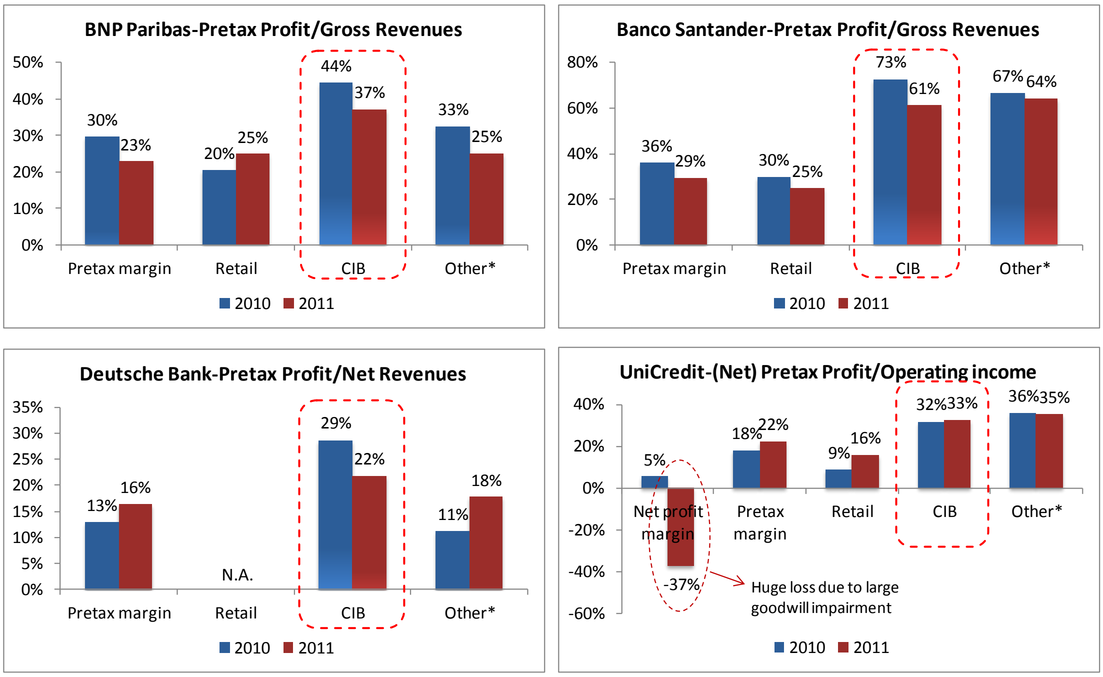
- **BNP Paribas:** The group has sold its Reserve Based Lending business in North America and refocused on domestic markets.
- **Banco Santander:** Its business in Latin America increased despite of its recent small disposals for capital gains.
- **Deutsche Bank:** It has sold its asset management business in the United States and refocused on local retail market by purchasing Postbank in Germany.
- **UniCredit:** The group has no plan for international expansion.

Implication:

- Banks are refocusing their core markets where they have larger presence and easier funding sources.

5.3. Focus on profitability – Detrimental to shareholders

Graph 3.7. Business profitability



Source: Banks (*other businesses include private banking, asset management and insurance)

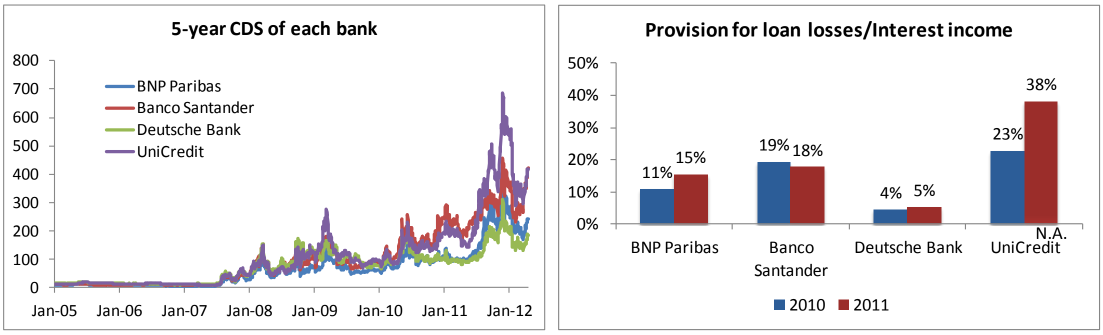
Observation:

- **BNP Paribas:** The decrease in group pretax margin is mainly caused by decreasing pretax profitability in CIB business (Impairment of sovereign debt and sale of low-credit loans). The performance of retail banking has been improved following the business reinforcement and efficient cost cutting.
- **Banco Santander:** With a large exposure to retail business, the falling group margin is largely due to the non-performing loans in retail banking. The asset sale and business disposal brought a one-off gain to the group while a large sovereign debt write down had a negative impact to its profitability.
- **Deutsche Bank:** Despite decreasing performance in CIB business, the group has increased margin thanks to its strategic move in private banking where the profit is relatively higher than retail banking.
- **UniCredit:** It suffered a great loss mainly coming from goodwill impairment. Goodwill can no longer be counted as eligible capital under Basel III. Besides, the pretax margin of its businesses remained robust thanks to the cost cutting.

Implication:

- The profitability of CIB division decreased in 2011 for all the sample banks except for UniCredit.

Graph 3.8. High funding cost and provision for loan losses

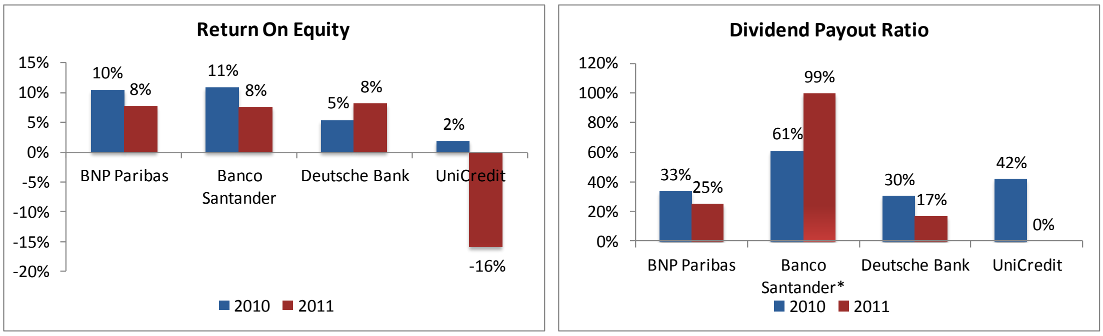


Source: Bloomberg as of 16 April 2012, Thomson One Banker

Observation:

- The interest expense increased a lot for all the sample banks. The main reasons are:
  - Higher deposits competition in retail banking
  - Decreasing confidence of investors (high CDS) during sovereign crisis
- Deutsche Bank has an easiest funding access and lowest funding costs, giving it an advantage over the other European banks.
- Provision for loan losses remains an important part of cost, especially for UniCredit and Banco Santander.

Graph 3.9. Management Effectiveness



Source: Thomson One Banker, Reuters

*Banco Santander launched a scrip dividend program in 2011

Observation of ROE:

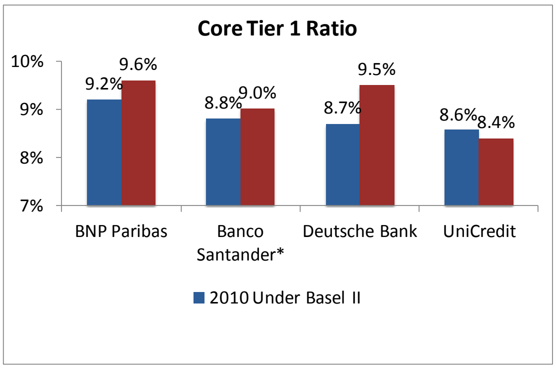
- **BNP Paribas**: It suffered a ROE dilution mainly due to the decreasing profitability in CIB division.
- **Banco Santande:** Its profitability was mainly affected by the non performing loans in retail division.
- **Deutsche Bank:** Although influenced by CIB division, it increased its ROE thanks to its refocus on classic banking.
- **UniCredit:** It suffered a huge loss due to goodwill impairment.

Observation of Dividend Payout Ratio:

- The cash dividend payout ratio all decreased for the sample banks.
- Banco Santander paid out, in forms of additional shares, almost 100% of its net income in order to increase the CET 1 capital through scrip dividend program.

- **Higher Core Tier 1 Ratio**

Graph 3.10. Funding sources excluding trading liabilities



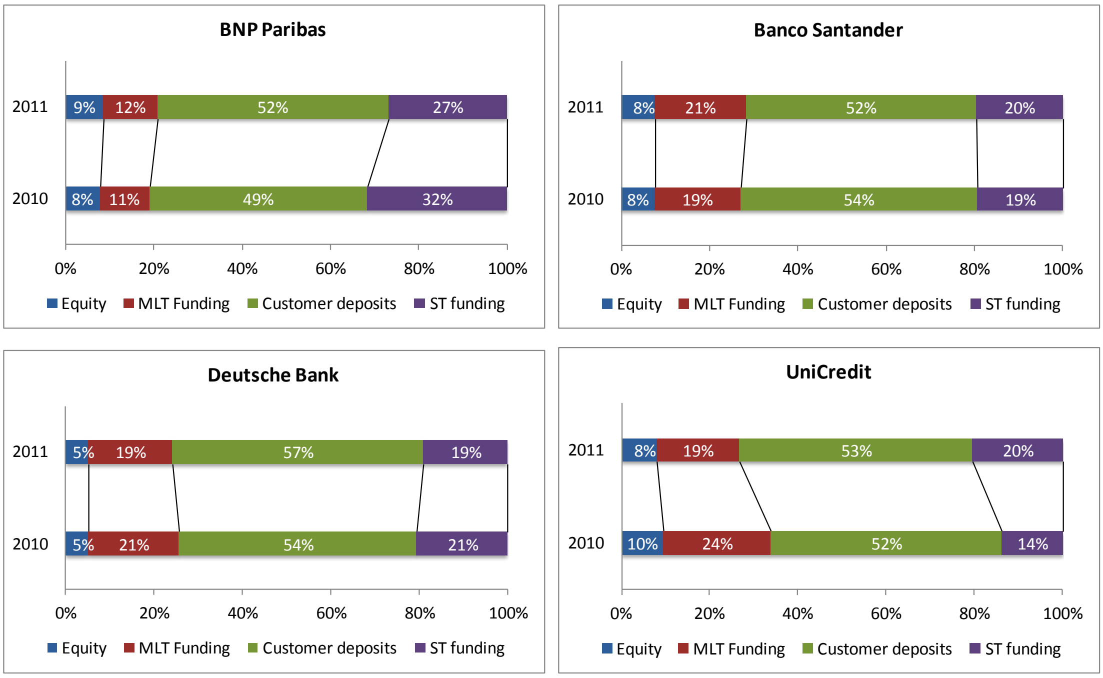
Observation:

- The Core Tier 1 Ratio improved in 2011 for almost all the sample banks although the regulation is stricter.
- UniCredit faced a great challenge to meet EBA's requirement to reach 9% of CET 1 ratio under Basel III in June 2012.

Source: Banks

- **More reliance on stable funding**

Graph 3.11. Funding sources excluding trading liabilities



Source: Bankscope, UniCredit Group Results Presentation 4Q2010 and 4Q2011

Observation:

- **BNP Paribas:** The group increased its MLT funding and customer deposits. Its short term funding has been largely reduced.
- **Banco Santander**: It has increased its reliance on MLT funding.
- **Deutsche Bank**: The group has largely increased deposits funding by refocusing on private clients and developing its retail business (Postbank).
- **UniCredit:** It suffered from reducing MLT funding sources during the sovereign crisis. The short term funding increased mainly due to its access to ECB funding which will be mature in less than one year.

Implication:

- Under Basel III, banks are making efforts to increase their stable funding.

Conclusion:

Based on the above analysis, we can conclude that the compliance with Basel III will have both the positive impacts and negative impacts on European banks. The net effect is that European banks will swift from high-risk/high-profit CIB business to retail banking and from international markets to core domestic markets. Although the risk exposure of banks will be reduced, the overall profitability and competitiveness in global markets and CIB business will be greatly impacted, reducing the investors' appetite for banks.

	Positive impact	Negative impact	Key elements
Business growth		**X**	
Retail banking	X		↑Deposits collection
Corporate and investment banking		X	↓FICCs trading and LT financing
Global presence		**X**	
Europe	X		↑More competition
Outside Europe		X	↑Asset/business disposal
Profitability		**X**	
Net income		X	↑Impairment, exit from activities of high profit
Return on equity		X	↓Profitability
Risk management	**X**		
Capital solvency	X		↑CET 1 capital ↓RWA
Liquidity/funding	X		↑Stable funding

However, it remains a case by case situation. Generally, banks with strong retail business, promising local economy, easy access to stable funding, and low exposure to sovereign debt will be less impacted. Of all the sample banks, Deutsche Bank has the most advantageous position with easy funding access and relatively strong growing prospects. On the contrary, UniCredit has to deal with liquidity issue and is impeded by the local economy growth.

- **BNP Paribas**

In order to comply with the capital and liquidity requirements under Basel III BNP Paribas launched deleverage plan, mid-and long term funding program, refocused on retail business in domestic markets and asset selling/business disposals to increase stable funding and reduce dollar funding needs.

The mitigating actions may lead to a shift from highly profitable investment banking to low-margin retail banking business, and refocus on its domestic markets. The group's profitability will be deteriorated especially in investment banking division.

Difficult access to deposits and US dollar funding are its main liquidity concerns. Thus, it could only raise mid-and long term funding and sell assets and businesses in the United States to save funding. Combined with reducing activities in trading, the asset/business disposal in the United States will hinder its long term development.

- **Banco Santander**

Banco Santander tried to comply with Basel III by capital restructuring, raising stable funding and asset sale/disposal. It reinforced its core business (retail banking) by acquisition and organic growth, and reduced its holding in American businesses.

Different from other banks, Banco Santander has a wide retail network in Europe and Latin America, providing an easy access to customer deposits. Since it has only a very small portion of CIB business, its business model is not so impacted by Basel III.

However, its profitability deterioration is mainly due to the large non-performing loans under property bubble in Spain. In 2011, Banco Santander recognized large extraordinary provisions related to Spain real estate (c.50%), portfolio write-down and amortization of intangibles, pensions etc. Consequently, the return on equity (ROE) decreased from 11% to 8% and the net profit decreased by 34.6%.

- **Deutsche Bank**

In order to comply with Basel III, Deutsche Bank reduced RWA by hedging and disposing legacy assets, refocused in the classic banking, and decided to dispose of underperforming US asset management activities but continue its focus in Asia.

Different from other European banks, Deutsche Bank has least concern in terms of liquidity thanks to its easy access to the cheap funding. It is taking proactive measures to increase equity capital.

We expect Deutsche Bank to have a more balanced business model post-Basel III and continue to expand its market share as small players continue to give way. However, it should also pay attention to decreasing confidence and slowing economic growth in Germany.

- **UniCredit**

UniCredit is the only bank in our sample that has resorted to capital increase and the 46% discount to the stock market value, reflecting nagging investors' anxieties, is the price it has to pay to quickly bridge up its capital shortfall. UniCredit is dedicated to an Italian retail turnaround and has not announced asset sales plan for the moment, given its pure European profile (few non-core regions to exit from). The huge goodwill and asset impairment, though a lethal hit to 2011 results, clears the way for future strategic moves.

UniCredit suffered has severe funding problem and profit-making weakness. It is at a disadvantage compared to its peers, suffering from volatile and high funding costs, deteriorating asset quality, continued deposit outflow, and sluggish private sector lending. In addition, it relies too much on domestic markets which are matured and even growing negatively. It is thus unable to generate profit and improve its self-funding capacity.

The rescue from ECB cannot really help. It cannot solve the fundamental problem and will even deteriorate the market confidence.

Its only hope to retrieve sound performance is when the domestic market starts to pick up and investor confidence is restored.

Part IV. Comparison with US banks

In order to understand the full implications of Basel III on the competitiveness of European banks, it is important to look at their major competitors in US. There are several issues to be addressed: 1) Will US banks be subject to similar regulations as those stipulated in Basel III? 2) How they have reacted in response to changing regulation and macro environment? 3) As a result, will European banks be more or less competitive in different business activities and in general?

1. The Dodd-Frank Act in the United States vs. Basel III

In July 2010, a new Dodd-Frank Wall Street Reform and Consumer Protection Act (hereafter referred to as "Dodd Act"), enacted by the Obama administration and considered as the most sweeping financial regulation launched post-depression of the 1930s, has put forward series of stricter regulations on banks.

In December 2011, the Federal Reserve Board proposed steps to strengthen regulation and supervision of large bank holding companies and systemically important nonbank financial firms, mandated also by the Dodd Act.

The Dodd-Frank Act creates at least four different levels of companies and prudential standards, based on size and complexity, for purpose of simplicity and comparability, the regulations introduced in this article are to be applied as "more stringent" standards applicable to all Bank Holding Companies with total consolidated assets above £50bn as well as nonbank financial institution designated by the Council.

1.1. Comparison of risk-based capital and leverage requirements

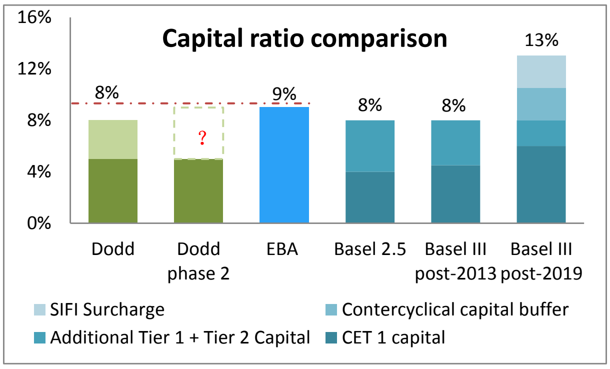
Taking the Collins Amendment in the Dodd Act, together with the newly released Capital Plan Rule, we can conclude the difference between Dodd Act and Basel III in the following table[19], bearing in mind that the Collins Amendment must be in line with the Basel III capital and liquidity requirements, which will come into effect by the end of 2012.

Capital ratio	Dodd Act[20] by Dec 2012	EBA by June 2012	Basel III by Jan 2013	Basel III by Jan 2019
CET 1 capital ratio	5.0%	9% Core Tier 1 ratio including seasonal and SIFI surcharges	4.5%	6.0%
Tier 2 capital ratio	×		3.5%	2.0%
Total capital ratio	8.0%		8.0%	10.5%
Seasonal buffering	×		×	2.5%
SIFI surcharge	×		×	0-2.5%
Leverage ratio	4.0%		3.0%	3.0%

Source: Fed website

[19] Refer to Appendix 1 for specific differences with regards to changes in capital ratio components.
[20] Harvard Law School Forum: http://blogs.law.harvard.edu/corpgov/2010/07/08/collins-amendment-sets-minimum-capital-requirements/

Graph 4.1 Illustration of capital ratio difference



Observation:

- EU banks subject to a higher CET 1 ratio by EBA, enforceable as early as June 2012
- US banks gaining time before finalization of additional charges

It is worth noting that, apart from the above mentioned differences stemming from external regulations, banks in US and in Europe have innate differences in terms of Business model and Balance Sheet components, rendering varying impacts even under the same regulation: 1) US banks have higher proportion of CIB activities 3) Most of the US banks are still observing Basel I, all of these imply that, under Basel III, US banks may suffer from higher RWA hike, compared to their EU peers.

1.2. Comparison of liquidity and funding requirements:

	Dodd Act		Basel III
Phase 1	Internal stress test and ratio	Single-counterparty credit limit	LCR
Phase 2	LCR and NSFR		NSFR

Observation:

- No liquidity ratio for US banks for the moment
- Single-counterparty credit limit will be a downbeat on US banks' liquidity

1.3. Comparison of regulations on business activities:

In specific sections or amendments, Dodd act has put forward regulations on certain business activities, which does not find exact counterpart under Basel III (though European Banks are subject to similar derivatives reform, consented in G 20 summit in 2009):

	Content	Affected Business	Bank's reactions	Implication for EU banks
Volker rule (Effective in July 2012)[21]	Prohibit proprietary trading Limited investment in hedge fund or private equity	Trading & Corporate Investment	Wind down proprietary trading	Migration of proprietary trading outside US Applicable to foreign banking groups, with entities controlled, even indirectly, by a US banking entity

[21] On April 19, 2012, Fed announced delaying the enforcement of Volker rule until July 2014

Volker rule exceptions	Proprietary trading restriction: not applied to repos, liquidity reserve management, sovereign or public sector securities, hedging operations, origination and linked market-making, trading of insurance companies of the same Group Alternative investment restriction: not including real estate funds, small business and public welfare investments funds, ABS “self-originated” funds, seed money provided its share is limited to 3 % of the value fund after 1 year			
Durbin amendment (Effective on Oct 1, 2011)	Debit card interchange fee capped	Consumer Banking	Move to credit card business	Lower profitability in Consumer Bank for US banks
Derivatives reform (Effective on Dec 31 2011)	Obligatory Central Clearing House for standardized OTC derivatives	Sales & Trading standardized OTC business, i.e. FX, interest rate	Reduced flexibility Higher transaction cost	EU banks benefit from a later compliance date (End 2012)

Observation:

- Strict regulations on Consumer banking, proprietary trading and derivatives on US banks
- However, negative impacts on US banks mitigated thanks to important exceptions in Volker rule

Conclusion:

Based on the above comparison of current Dodd Act and Basel III, European banks are in a competitive disadvantage facing tighter requirements on capital, funding and liquidity while US banks are gaining time before full implementation of Basel III in the States.

Certain activities in Consumer banking, proprietary trading and derivatives of US banks will suffer from setbacks, which, however, largely alleviated by the generous grandfathering in Volker rule, which will itself be delayed enforcement until July 2014.

2. Mitigating actions of US banks

We have selected four top-ranking US banks, Citi Group, Bank of America, JP Morgan and Morgan Stanley in our sample to understand how US banks have reacted, through Balance Sheet Restructuring and Business Model reshuffling to: 1) Regulatory changes in Consumer Banking, Trading, Derivatives 2) Sluggish domestic market driving down retail margins 3) Mortgage legacy assets and 4) Uncertainties in global economy, especially European sovereign crisis.

In response to capital requirements: Balance Sheet Restructuring	
1. Increase/Reduce Capital **2. Capital gains** **3. Cost reduction**	**4. Share repurchase** **5. Dividend payout increase**
Bank of America	– Exchange of Preferred and trust preferred securities for common stock and senior notes – Sale of China Construction Bank shares and Canadian consumer card business – Cost reduction
Citi Group	– Sale of shares in financial institutions: Shanghai Pudong Development Bank – Possible sale of 49% minority stake in MSSB[22]
Morgan Stanley	– Conversion of MUFG[23]'s outstanding convertible preferred stock to common stock – Cost reduction by $1.4 bn by 2014
JP Morgan	– Capital optimization: adjustment related to pension and availlable-for-sale securities – Repurchase of common stock – Raise dividend payout ratio
In response to capital requirements: RWA Reduction	
1. Sale of non-core assets **2. Model improvement**	**3. Reduce legacy mortgage assets/GIIPS exposure**
Bank of America	– Sale of non-core assets
Citi Group	– De-risk legacy mortgages – Manage European exposures
Morgan Stanley	– Lowering net PIIGS counterparty exposure to €3.1bn in Jan 2012 through an Italian derivatives deal
JP Morgan	– Model improvement – Legacy portfolio runoff
In response to liquidity requirements: Raising stable funding	
1. Increase deposits **2. Increase long-term funding**	**3. Funding diversification**
Bank of America	– N.A.
Citi Group	– Increase deposits – Secured long-term debt (€ 15 to €20bn in 2012) and equity
Morgan Stanley	– Grow deposits (13% of total funding in 2Q 2011) – Secured & Unsecured
JP Morgan	– N.A.
Business Model Shift: Retail Banking	
1. Core clients franchise **2. Move to credit card**	**3. Investment in mobile banking**
Bank of America	– Divesture of non-core US customers

[22] Morgan Stanley Smith Barney, a retail brokerage joint-venture between Morgan Stanley (51% stake) and Citi Group (49%)
[23] Mitsubishi UFJ Finacial Group, a Japanese bank holding company

	– Investment in Mobile payment
Citi Group	– Mobile Banking
Morgan Stanley	– Sale of Retail wealth management in 2010
JP Morgan	– Discourage debit card usage – Mobile banking
Business Model Shift: Corporate Banking	
1. Reduce MSRs	**2. Enhance wholesale**
Bank of America	– Exit in certain mortgage business, reduce MSRs
Citi Group	– N.A.
Morgan Stanley	– N.A.
JP Morgan	– Expand wholesale business in emerging markets
Business Model Shift: Investment Banking	
1. Reduce high capital-consuming activities **2. Growth in electronic trading platform**	**3. Increase certain trading & derivatives business**
Bank of America	– Reductions in trading risks
Citi Group	– Reduce certain trading & derivatives activities: proprietary trading/ credit and securitization – Growth in Rates & Currencies
Morgan Stanley	– De-emphasized certain securitized products and other capital intensive business – Disposal of proprietary trading unit by 2012 – Growth in electronic trading platform
JP Morgan	– Completed Sempra integration to enhance commodities business
Business Model Shift: International Market	
1. Selective expansion	
Bank of America	– N.A.
Citi Group	– Continued investment in Asia and Latin America
Morgan Stanley	– N.A.
JP Morgan	– Emerging market (wholesale market)

Source: Company Annual reports, investor presentations

In regards to US banks, they are apparently more inclined to using the least shareholder diluting measures such as capital instrument exchange and refrain from capital issuance and dividend payout. Durbin rule hurts to a larger extent, retail-intensive banks such as Bank of America; Stricter capital requirements and Volker rule have also prompted US banks to shed off heavy RWA-consuming trading assets, though expansion in certain wholsesale and trading activities and emergin markets remain on agenda in the hope to recouping bigger market share as foreign competitors scale down.

2.1. Comparison with European banks

We have, in the following table, summarized differences in their respective reactions in face of Basel III or local regulations, in order to interpret possible implications for European banks:

- **Impact of capital requirement on EU banks versus US banks**

US banks are taking more moderate capital hike measures such as common stock conversion and asset disposal with JP Morgan going the other way to reduce its outstanding capital; while EU banks are more aggressive in their measures including direct capital increase, sending negative signals and losing attractions to investors.

Impact of capital requirement on EU banks versus US banks

Mitigation actions	US banks	EU banks	Implications to EU banks
Rights issue	×	√	Capital issue at discount Negative signal: urgent capital shortfall EPS dilution
Instrument conversion	√	√	
Capital gain through sale of assets	√	√	
Sale and run-off of non-core assets	√	√	
Common stock repurchase	√	×	Worse market perception
Raise dividend **Cut dividend**	√ ×	× √	Investors turn away from EU banks
De-risk of mortgage assets, reduce MSRs	√√	√	US banks have to raise capital elsewhere
More derivatives on organized markets	√	√	
Cost reduction	√	√	

- **Impact of liquidity requirement**

US banks have stepped-up efforts in attracting deposits, though it is in no way going to be their core-business; EU banks are retreating from US markets to reduce dollar funding and refocus on domestic retail market.

EU banks' higher concentration on domestic market and heavier reliance on less profitable retail business will become a constraint on growth and profitability.

Impact of liquidity requirement on EU banks versus US banks

Mitigation actions	US banks	EU banks	Implications to EU banks
Reduced US dollar funding	×	√	Retrenchment from US FICC and commercial banking
Increase deposit as funding source	√	√	
Increase mid-and long term funding	√	√	

- **Business model adjustment**

In terms of business model shift, US banks, historically better positioned, have adopted very selective reshuffling in IB activities; EU banks are in an overall scale down in FICC activities and non-domestic markets, giving away market share to US banks, who benefit from strong expertise and economy of scale.

Impact of business model adjustment on EU banks versus US banks			
Mitigation actions	**US banks**	**EU banks**	**Implications to EU banks**
Retail business	√	×	+ US banks' retail business profitability negatively impacted by Durbin amendment
discourage debit card usage	√	×	
Reduction in trading & derivatives activities	√	√√	− US banks gaining market share in sales & trading
Growth in commodities, rates & currencies	√	×	
Expand in non-domestic markets	√√	√	− Only DB puts Asia in its core business area

2.2. Implications on the competitiveness of European banks

	Impact on EU Banks	Key elements
Business growth		
Retail banking	?	– No major direct impact
Corporate Banking	−	– US banks strengthen global franchise – Liquidity drain in EU market
Investment Banking	−	– US banks gain market share – Volker rule delay gives US banks more time
Global presence		
US	−	– EU banks reduce US presence
EMEA	−	– EU banks gain in retail business offset by losing part of IB business – US banks continue to gain momentum
International markets	−	– European banks retreat from noncore countries while US banks continue seek expansion opportunities
Profitability		
Return on equity	−	– Growth decline due to more product and market exit into less profitable retail business – EU banks' profitability hit harder by one-offs (i.e. sovereign debts) and loan provisions

With structural retrenchment of European banks in capital-intensive capital market activities and complex structured products, US banks are winning grounds in terms of both market share and geographical presence, thanks to their traditional expertise, economy of scale and innovation.

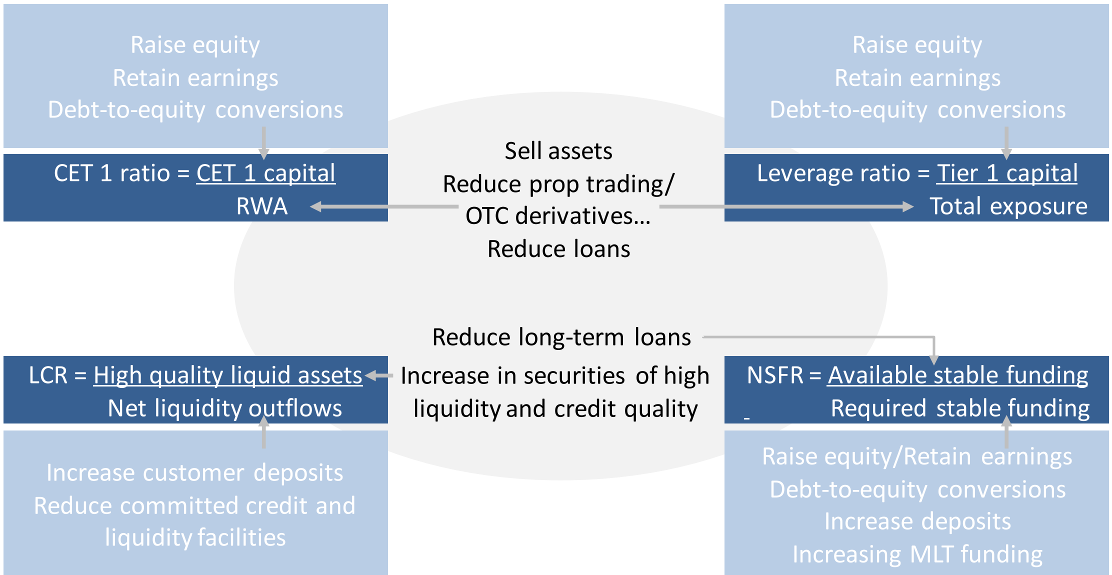
In equities and bonds activities, as US banks are less capital intensive and European companies are more prone to bond issuance than direct interbank borrowing, European banks can still maintain competitiveness in domestic market.

Sustainable profitability will be a major concern for European banks due to flagging growth in crisis-stricken Europe as reflected by deal volume and reduced presence international markets.

Part V. Conclusion

1. Overall, what is the impact of Basel III?

In order to comply with Basel III, European banks are mainly involved in the following mitigation measures:



- **Individual European banks**

The effect of mitigating measures will depend greatly on its starting position, its business model, and the competitive environment. Liquidity/funding is the main concern for most European banks, and the hardest hit are banks with large exposure to sovereign risk, i.e. UniCredit, Banco Santander as well as banks suffering from deposit drains in home countries, i.e. BNP. The essential issue is country risk and high correlation between government and financial institutions: Deutsche bank, backed by strong German economy and stable government, is to prove a winner among European peers, thanks to its accessibility to capital markets and well-balanced business model.

- **Financial market**

Reduced risk of systematic banking crises

Stricter Capital ratio, liquidity and funding requirements will incentivize concerted efforts by banks to de-emphasize higher risky business and countries to reduce risk of bank failure. Moreover, **h**igher risk-weight and liquidity rules penalizing interbank exposure will decrease overall correlation between financial institutions.

Catalyst for Capital market development in the long-run

Spin-off of high-risk activities spin-off to specialized investment vehicles i.e. hedge fund or private equity will push for a more diversified and competitive global financial arena. At the same time, as banking are more picky in counterparty credit ratings to save RWA consumption, demanding higher spreads and reducing product scope, companies will be encourage to revert to capital markets for bond issuance, enhancing direct lending between investors and private borrowers, i.e. recent boom of online microloans. All of these are conducive for a deeper and healthier capital market in Europe, where traditionally banks are playing a more important intermediary role than in US.

…Despite a contracted market liquidity

To comply with Basel III, banks are already seen clamping down on credits to lower-grade counterparties (-1.7% credit supply to businesses and households by end 2013[24]). The negative impacts are particularly devastating in a time where liquidity is urgently in need to boost market recovery.

- **European banking industry**

Lower profitability

Average bank ROE will reduce by about 4 percentage points in Europe[25], due to higher capital requirements, increased market-risk RWAs and lower margins in CIB activities and retail banking.

Shrinking banking sector balance sheet

In an effort to meet Basel III capital and liquidity requirements, European banks have mostly chosen asset sale, disposal or run-off to reduce total capital requirements and reduce US dollar funding, resulting in a smaller balance sheet for European banks as a whole. It is expected a 7% sale in assets and a shrinkage in balance sheet of $2.6 trillion by end 2013,[26] absent adequate mitigating actions by European administration.

…And weakened global competitiveness of EU banks

With structural retrenchment of European banks in capital-intensive capital market activities and complex structured products, US banks are winning grounds in terms of both market share and geographical presence, thanks to their traditional expertise, economy of scale and innovation.

Sustainable profitability will be a major concern for European banks due to flagging growth in crisis-stricken Europe as reflected by deal volume and reduced presence international markets.

- **Shareholders**

We expect an overall reduced shareholder appetite on banking debts and equities due to downbeat prospective on industry ROE and profitability, though new contingent debt-instrument (Cocos) with proven market appetite ($17.6bn issuance as of Feb 2012 by Credit

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[24] IMF April 2012 report
[25] Philipp Härle and al., (2010b)
[26] IMF April 2012 report

Suisse, Rabobank, Lloyds Banking Group and UBS) will appeal to certain investors risk appetite.

- **Accounting**

Cleaner balance sheet post-goodwill impairment and assets write-off and legacy assets run-off/sale to help banks to start from a clean slate and improve balance sheet quality

Accounting standards convergence is to be accelerated to reduce international arbitrage for banks within different jurisdictions.

	Negative	**Positive**
Financial Markets	• Contracted market liquidity	• Reduced systematic risk • Capital market development
European banking industry	• Lower profitability • Weakened global competitiveness • Shrinking Balance sheet	• Improved risk profile • Strengthened local presence • Industry consolidation
Shareholders	• Reduced dividend payout	• Contingent debt-instrument appeals to certain investors
Accounting		• Cleaner balance sheet • Push for international convergence

To sum up, we expect Basel III regulation to have profound impacts on financial markets, European banking industry as well as shareholders, hereafter confined to Europe.

In the short run, financial market will inevitably face liquidity pressure as banks are rushing to find buyers to take over non-core assets and risky businesses amid austerity policies by most European governments and confined to clamp down on credit loans, especially to counterparties with lower credit profiles. Lower ROE and dividend payout ratio will divert shareholders away from banking equity and bonds, notwithstanding some innovative Cocos products meeting certain investors' risk appetite.

In the long run, current industry consolidation are likely to put major European banks in disadvantage to their US counterparts as they give up profitable business and retreat to domestic markets. US banks are subject to less strict capital and liquidity regulations for the moment but eventually, the regulations in EU and US are expected to converge.

On the bright side, strict capital, liquidity and funding requirements will enhance financial market's stability and reduce systematic risk as a result of lower correlation among financial institutions. Moreover, a more significant role of by institutional investors such as pension funds and hedge funds through direct investment in corporate bonds is beneficial to developing a deeper capital market.

2. Implications

2.1. Implications for regulators

The regulators play a crucial role in monitoring and accessing the stability of banking system, financial market, and the whole economic environment.

One may ask what if banks are forced to comply with Basel III only during crisis. The rationale is that banks need higher capital and liquidity buffers in bad times while it may not be necessary in good times.

It sounds reasonable. However, this argument forgets the most important responsibility of regulator: to monitor the whole financial system and to prevent the financial crisis. In a world with asymmetric information, investors should be protected from the excess risk taking of banks.

Regulation is thus indispensable. If banks do not have to comply with Basel III when there is no crisis, it would be difficult to ensure a fair competition, to monitor the risk management, and to alert and prevent the outbreak of another financial crisis.

However, when making rules, BCBS and other banking regulators should take into account different aspects to alleviate negative effects of mitigation measures under Basel III.

For example, with regards to market liquidity, ECB should be committed to providing liquidity support to banks and national funding guarantees to sovereigns, especially those severely suffering sovereign crisis. ECB can also launch accommodative programs to encourage lending to SMEs with limited funding resources. In addition, regulators should well monitor the banks to avoid the benefit shifting to shareholders through dividend. Measures should also be taken to reduce the dependence between sovereign and banks.

2.2. Implications for bankers

Then the question comes up about how banks could do to improve its capital and liquidity quality without deteriorating their competitiveness. We think that banks could make efforts in the following areas:

- **Risk management**

One main reason of decreasing profitability under Basel III is that banks have taken too much risk on their balance sheet. If banks pay more attention on credit analysis and risk taking, they could reduce their cost of risk and boost earnings.

In terms of liquidity management, banks should focus on asset and liability management and diversify their funding sources with a low funding cost. This would be an important issue especially after the sovereign debt crisis.

- **Innovation in CIB**

In terms of financial products and services, there is a significant change. Basically, complex and risk exposure activities are discouraged under Basel III such as prop trading, leveraged investments, structured and speculative derivatives etc. However, banks could take advantage of its innovative feature in CIB and provide investment products and services regarding toxic assets, sovereign debt, distressed assets etc.

- **Spot on private clients**

Private banking is becoming more and more attractive for European banks. It can bring not only more margin than retail banking but also the access to large deposits. Furthermore, as European banks are more or less refocusing on retail business in Europe, the competition in customer deposits is expected to be fierce, pushing up the cost of funding in the near future. A focus on private clients may be an alternative way of deposits collection.

- **To foster strengths and circumvent weaknesses**

Banks should make a thorough analysis of their strengths and weaknesses. Since the optimization of capital allocation is extremely important under Basel III, banks should focus on their core businesses and exit low profit and low growth businesses.

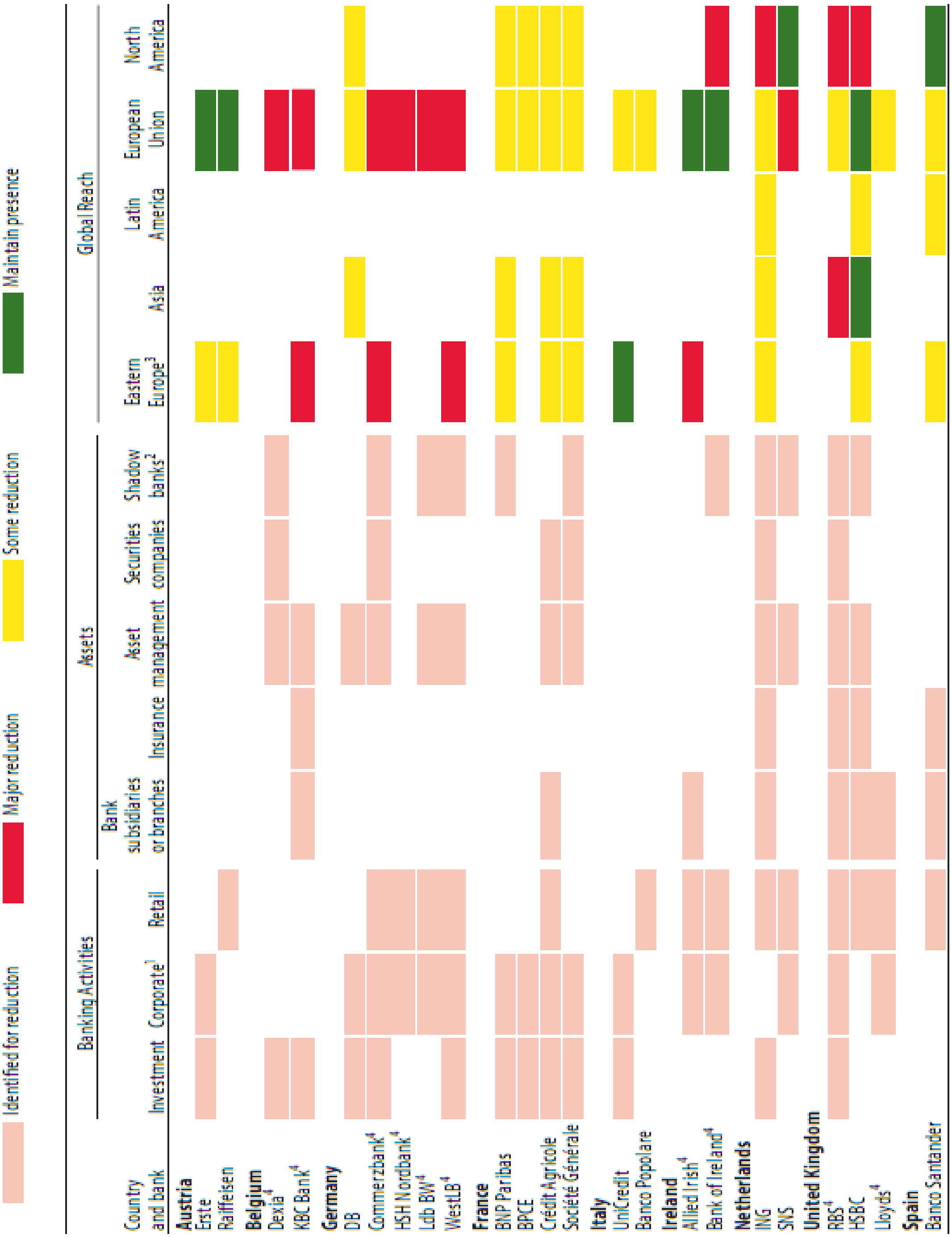
In addition, banks should also think twice when exiting a market. The funding difficulties may be temporary during the sovereign crisis. The exit of a promising market to reduce funding is not wise if it hinders the future growth and profitability.

Appendix 1. Important specific requirements of Dodd Act vs. Basel III

Requirements	Dodd Act	Basel III
Mortgage Service Rights	– Require more information be saved with consumers regarding how payments are applied and when interest rates will change	– Instead of a full deduction, the following items may each receive limited recognition when calculating Common Equity Tier 1, with recognition capped at 10% of the bank's – common equity
Trust preferred securities	– Depository institution holding companies with total consolidated assets of US$15 billion or more, the requirement to exclude trust preferred securities issued before 19 May 2010 from Tier 1 capital will be phased in over a period of three years, beginning on 1 January 2013	– Requirement to exclude trust preferred securities from Tier 1 capital will be phased in over a ten-year period beginning on the same date
	– Trust preferred securities issued before 19 May 2010 by bank holding companies with consolidated assets of less than US$15 billion in consolidated assets as of 31 December 2009 are grandfathered as Tier 1 capital	– No such exception
Off-balance sheet activities	– Incorporated into new capital requirement calculation as well as leverage ratio	– Only into leverage ratio calculation
Use of rating agency	– Prohibits the use of credit rating agencies in the rules to implement new capital standards for US banking institutions. The US regulatory agencies are in the process of developing alternatives to the use of rating agencies	– Heavy reliance on rating agency to determine the riskiness of the securities

Appendix 2. EU Banks with Announced Changed to Business Strategy

Source: IMF "Global Financial Stability Report" April 2012



Glossary

Available-for-sale security[27]

A security purchased with the intent to be sold before it reaches maturity, or prior to a lengthy time period in the event the security does not have a maturity.

Counterparty Credit Risk (CCR)[28]

The risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. An economic loss would occur if the transactions or portfolio of transactions with the counterparty has a positive economic value at the time of default. Unlike a firm's exposure to credit risk through a loan, where the exposure to credit risk is unilateral and only the lending bank faces the risk of loss, the counterparty credit risk creates a bilateral risk of loss: the market value of the transaction can be positive or negative to either counterparty to the transaction. The market value is uncertain and can vary over time with the movement of underlying market factors.

Common Equity Tier 1 (CET1)[28]

Tightened definition of core capital under Basel III to focus on fully loss-absorbing tangible common equity (shareholder reserves and retained earnings) while excluding debt-like products.

Covered bonds[29]

Debt instruments secured by a cover pool of mortgage loans (property as collateral) or public-sector debt to which investors have a preferential claim in the event of default. While the nature of this preferential claim, as well as other safety features (asset eligibility and coverage, bankruptcy-remoteness and regulation) depends on the specific framework under which a covered bond is issued, it is the safety aspect that is common to all covered bonds

European Banking Authority (EBA)[30]

London-based authority responsible for how the EU adopts the Basel regulatory standards, stress tests (replaced Committee of European Banking Supervisors, CEBS, on 1 Jan 2011).

Liquidity Coverage Ratio (LCR) [28]

A short-term liquidity coverage ratio to meet cash outflows over a 30-day stress-scenario (implementation date Jan 2015).

[27] http://www.investopedia.com/terms/a/available-for-sale-security.asp#axzz1y9TFQ4la

[28] Basel Committee on Banking Supervision, (2005), "Annex to International Convergence of Capital Measurement and Capital Standards"

[29] http://ecbc.hypo.org/content/default.asp?PageID=311

[30] Philip Richards and Gert van Rooyen, (2011), "European Banks Regulation – All roads lead from Basel," Société Générale Research

Legacy Assets[31]

An asset stays on the balance sheet for a long period of time. This type of asset has generally decreased in value to the point of a loss for the company.

Mortgage servicing rights (MSR)[32]

A contractual agreement where the right(s) to service an existing mortgage are sold by the original lender to another party who specializes in the various functions of servicing mortgages

Net Stable Funding Ratio (NSFR)[28]

Based over a one-year time horizon, the NSFR required a minimum amount of stable funding relative to the liquidity profile of the assets and potential contingent liquidity needs arising from off-balance sheet commitments (implementation date Jan 2018).

Over-the-Counter Derivatives[28]

Non-standardized, or customized, bilateral agreements to transfer risk from one party to another, as opposed to cleared derivatives which are booked with a central counterparty (CCP).

Proprietary trading[33]

When a firm trades for direct gain instead of commission dollars. Essentially, the firm has decided to profit from the market rather than from commissions from processing trades.

Provision for loan losses[34]

Allowance for bad loans (customer defaults, or terms of a loan have to be renegotiated, etc).

Repurchase agreement[35]

A form of short-term borrowing for dealers in government securities. The dealer sells the government securities to investors, usually on an overnight basis, and buys them back the following day.

Reserve Based Lending (RBL)[36]

Reserves based lending (RBL), also known as ‘borrowing base’ financing, in the context of oil and gas is a commonly used technique for financing assets which are already in production or where production is expected to commence shortly.

Scrip dividend[37]

Dividend payment in forms of additional shares rather than cash payout

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[31] http://www.investopedia.com/terms/l/legacy-assets.asp
[32] http://www.investopedia.com/terms/m/msr.asp
[33] http://www.investopedia.com/terms/p/proprietarytrading.asp
[34] http://www.investopedia.com/terms/l/loanlossprovision.asp
[35] http://www.investopedia.com/terms/r/repurchaseagreement.asp
[36] http://www.smbcgroup.com/emea/eu/lending/index
[37] http://www.investopedia.com/terms/s/stockdividend.asp

Securitization[38]

The process through which an issuer creates a financial instrument by combining other financial assets and then marketing different tiers of the repackaged instruments to investors. The process can encompass any type of financial asset and promotes liquidity in the marketplace.

Systemically Important Financial Institution (SIFI)[28]

A financial institution whose disorderly failure, because of its size, complexity, and systemic interconnectedness, would cause significant disruptions to the wider financial system. The precise terms which specify an institution to be categorized as a SIFI are expected to be clarified by the FSB or BCBS by mid-2011.

Vanilla products[39]

The most simple and standardized financial instruments such as options, bonds, futures and swaps

[38] http://www.investopedia.com/terms/s/securitization.asp#axzz1y9TFQ4la
[39] http://www.investopedia.com/terms/p/plainvanilla.asp

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