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The capital structure of banks and practice of bank restructuring

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CFS WORKING PAPER

No. 2013/04

**The Capital Structure of Banks and
Practice of Bank Restructuring**

Achim Dübel





CFS Working Paper Series

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The Capital Structure of Banks and Practice of Bank Restructuring

Eight Case Studies on Current Bank Restructurings in the Eurozone

Final Report

Study commissioned by
Center for Financial Studies
University of Frankfurt

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October 8, 2013

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Note

This study is a companion piece to “Creditor Participation in Banking Crisis in the Eurozone – A Corner Turned?”, June 28, 2013. Both studies were written jointly under a co-finance scheme.

This study therefore contains occasionally verbatim passages from the earlier published study.

Executive Summary

This study presents an empirical analysis of capital and liability management in eight cases of bank restructurings and resolutions from eight different European countries. It can be read as a companion piece to an earlier study by the author covering the specific bank restructuring programs of Greece, Spain and Cyprus during 2012/13.¹

The study portrays for each case the timelines between the initial credit event and the (last) restructuring. It proceeds to discuss the capital and liability management activity before restructuring and the restructuring itself, launches an attempt to calibrate the extent of creditor participation as well as expected loss by government, and engages in a counterfactual discussion of what could have been a least cost restructuring approach.

Four of the eight cases are resolutions, i.e. the original bank is unwound (Anglo Irish Bank, Amagerbanken, Dexia, Laiki), while the four other banks have de-facto or de-jure become nationalized and are awaiting re-privatization after the restructuring (Deutsche Pfandbriefbank/Hypo Real Estate, Bankia, SNS Reaal, Alpha Bank). The case selection follows considerations of their model character for the European bank restructuring and resolution policy discussion while straddling both the U.S. (2007 - 2010) and the European (2010 -) legs of the financial crisis, which each saw very different policy responses.

The drivers of creditor participation identified in this study are:

- delay between first risk realization and comprehensive restructuring - a negative driver. Restructuring delay provides room for evasion by creditors whose interests are aligned with those of bank managers trying to preserve future issuance options for near-insolvent banks against the odds. Redemptions, liability management exercises and early calls have in this way reduced the bail-inable capital over time in a number of cases substantially (Anglo Irish Bank in 2009, Bankia, Dexia, Laiki, Alpha Bank). This is particularly true for hybrid capital and subordinated debt first in line to take losses. Also, restructuring delay favors creditor rotation, which has maneuvered retail customers (Bankia, SNS Reaal, Laiki) and government (universal) into riskier positions of the capital structure.
- depth of participation imposed on the capital structure both before and during the restructuring - a positive driver. Depth is associated with the legal options available to supersede liability instrument contracts outside insolvency, e.g. a conducive bank restructuring and resolution law (existed for the cases of Amagerbanken, Bankia, SNS Reaal, Laiki). Yet, as important is political willingness to raise stakes with investors in voluntary exchanges prior to the restructuring (Anglo Irish Bank in 2010) and to avoid delaying passing legislation (negatively affected the cases of Hypo Real Estate, Dexia, and Alpha Bank).

With senior debt only having been bailed in in isolated cases so far (Amagerbanken, Laiki), the study takes junior debt creditor participation as a yardstick for measuring the degree of burden sharing. The finding is that the depth of participation imposed during the restructuring dominates the impact of delay. One intuitive reason, established for several cases (Bankia, SNS Reaal, Laiki) is a high degree of junior creditor rotation caused by restructuring delay, with new legislation options as a result hitting the next investor generation.

When sorting individual cases by their depth of creditor participation it is found that in line with the general policy turnaround the early restructuring cases (Anglo Irish Bank, Hypo Real Estate) feature the lowest creditor participation levels and the latest restructuring cases the highest (Bankia, SNS Reaal, Laiki). However, there are both early restructuring cases realizing high creditor participation (Amagerbanken)

¹ Dübél, Hans-Joachim. 2013. "Creditor Participation in Banking Crisis in the Eurozone – A Corner Turned?" Study commissioned by Bundestagsfraktion Bündnis 90 / Die Grünen in Bundestag and The Greens / European Free Alliance in European Parliament. June. Download: http://finpolconsult.de/mediapool/16/169624/data/Duebel_Bank_Creditor_Participation_Eurozone_Final.pdf

and late restructuring cases realizing low creditor participation (Dexia). Importantly in this context, some governments have decided to write down their own early share or hybrid capital investment (Amagerbanken, SNS Reaal, Laiki) to capture junior debt for participation while others have opted instead for a second or third government recapitalization while leaving junior debt positions largely intact (Hypo Real Estate, Dexia).

Of interest is also the expected loss from recapitalizations undertaken by government, which is a function of the amount and value of shares received in exchange for cash or bond expenditure. Here the single junior creditor expropriation case in the sample (SNS Reaal) yields a better expectation for government than all others. Frequently government must be expected to lose almost all (Hypo Real Estate, Anglo Irish Bank) of its investment. Likely total loss (Amagerbanken, Laiki) is associated with early government capital injection. At a price-book assumption of 100%, the median expected loss for government in the sample is 75%. This mirrors the results of the companion study.

The counterfactual discussion reverse engineers the government interventions and asks at what point and what costs for private creditors they could have been replaced through creditor participation. For essentially all cases the result is significant potentials for creditor participation has been wasted. This should give rise to questions; some highlights:

- German taxpayers may want to demand response from their government why despite a fiscal price tag nearing EUR 19 billion there is still some EUR 4 billion debt outstanding to junior debt investors in Hypo Real Estate, de facto still owed by them.
- French or Belgian taxpayers might ask how it comes that by December 2012, months after junior creditor debt equity swaps had been agreed on with Spain, still 65% in cash was offered to subordinated debt and 25% in cash to hybrid capital investors during debt buybacks, with the holdouts of subordinated debt looking forward to full recovery going forward.
- Similarly Greek taxpayers should be curious why the stressed Greek sovereign who de-facto owns the largest banks paid junior debt investors large cash amounts both in 2012 and 2013 and will going forward likely pay back in cash the full principal to the holdouts. In our Alpha Bank case alone EUR 700 million in fiscal cost will be added in this way.
- Irish taxpayers may finally wonder why Denmark was permitted to let historic senior bond government guarantees expire by late 2010 and bail these creditors in, while Ireland had to shoulder at least another EUR 7 billion in fiscal losses as a result from being kept from using this option.

The case study findings suggest a number of policy lessons. Against the background of large wasted creditor participation potential, the classic European approach to banking crisis targeting a soft landing on the macro level through forbearance combined with a prevalence of public bailouts has little credibility left. Here minimizing restructuring delay and increasing the depth of participation is paramount. This suggests that the first recapitalization should come faster than in most cases reviewed, and as a rule should be funded from inside the capital structure before government comes in, even if a final non-sustainability of the bank is not evident.

On the micro level, especially when a decision has been taken in favor of an initial public capital injection for fear of macro instability, governments may want to observe a few rules: these include avoiding paying cash to shareholders and at least junior creditors, not guaranteeing historic senior bond cohorts to keep future options for bail-in open, investing government funds if anything into hybrid capital – ideally senior hybrid - instead of shares, capturing uncertainty by trying to tie the fate of historic share capital, junior debt and possibly also senior debt through a credit-linked approach to the fate of the bank's historic assets as per the first intervention date, similarly generally preferring the Good Bank model (horizontal balance sheet split with dubious asset pricing to be determined in the future) over bad banks (asset swaps at arbitrary current valuations of dubious assets), and conducting less erratic investor relations policies that treat private and public investors in the same rank the same, including the central bank and in particular in the neighborhood of a looming restructuring. Secured creditor over-collateralization in excess of the minimum necessary to satisfy investors, including in covered bonds, should finally be potentially bail-inable, too, since they reflect excess claims on other creditors of the bank. Bailing senior unsecured credit in general should be a last resort only, protected going forward by a sufficiently high combined junior debt and capital buffer.

Introduction

Focus and Purpose

Europe in the 2010s is facing a bank credit and capital crisis of historic proportions. This study presents 8 case studies that describe how the capital structure of banks as well as external financiers responded to the capital gaps and recapitalization plans determined by regulators in this crisis. We try to approximate two dimensions:

- The volumes of participation of bank shareholders, bank creditors (internal financing) as well as of government, new investors (external financing) in filling the determined capital gaps. This is the key regulator perspective.
- The loss expectation of a particular investment position taken in the recapitalization efforts, e.g. through ordinary share or hybrid capital subscription. This perspective is typically left out by the regulator, but will be of interest for both fiscal policy makers and investors.

By multiplying the scale of participation ('PD') with loss expectation of a given participation ('LGD') one may crudely approximate expected loss for the participants in the recapitalization plans or their alternatives. A counterfactual analysis approximates changes in the outcome with regard to different sequencings and strategies of recapitalizations. A particular sequencing of interest is who first invests in share capital – government or investors.

In terms of the liability and equity positions analyzed, the focus of the study is on shares, hybrid capital and subordinated debt ('SLE capital'), as well as senior unsecured bonds. Deposits and covered bonds are discussed where they have been part of the recapitalization discussion.

For the policy debate it is important to differentiate in the discussion between the pre-restructuring phase, characterized by redemptions of instruments, calls and voluntary bank liability management, from the regulator-induced restructuring or resolution, which often, but not always, includes mandatory liability management. Many restructuring options are forfeited because regulators wait too long, or necessary legislation to enforce creditor participation is not in place.

From this analysis conclusions can be drawn for a wide range of topics that are at the heart of today's regulatory and institutional discussion in European banking sector policy.

Case Selection

The empirical cases reviewed comprise eight individual banks from eight different EU Member States that all faced large volumes of losses and subsequent capital gaps to be filled.

This covers as a first criterion for case selection a relatively wide range of countries with their (partially) local causes for losses and local policy approaches. Local idiosyncrasy in bank restructuring policies has a variety of causes whose impact are difficult to trace: including the setup and experience of public resolution institutions, their historically preferred restructuring approaches and available legal room for maneuver ('culture'), fiscal space available relative to the scale of losses, systemic importance at the local level as well as local investor and banking sector peer pressure.

A second criterion is to cover both the first and second leg of the European financial crisis. In this time dimension we have seen a certain pan-European evolution path of bank restructuring approaches evolving. The first leg of the crisis was characterized by the absence of national bank restructuring and resolution law which made enforcing a greater participation of the creditor hierarchy in filling the capital gaps more challenging. It also was still under the direct impression of the fall of Lehman in late 2008 that had induced a global policy agreement to rescue failing 'systemically relevant' banks, with little consideration given to the precise definition of systemic relevance, nor to the fiscal implications of rescues. Cases from this phase are therefore expected to produce a higher level of expected loss for government and lower level of creditor participation.

The second leg of the European crisis between 2010 and 2013, in contrast, has seen the balance between fiscal and systemic risk considerations changing. Pressure from official lenders on stressed sovereigns has been rising in order to enforce deeper creditor participation. Interestingly, the sovereigns dealing with local banking stress in our cases had uniformly failed to adopt national bank restructuring and resolution law despite countries affected by the first leg of the crisis already doing so. Within the liability hierarchy of the banks, the change in approach first impacted hybrid capital and subordinated debt (Spain, July 2012) and subsequently hit senior unsecured bonds and deposits (Cyprus, March 2013). The expectation is to find lower expected losses for government and higher creditor participation in these later cases.

For a more in-depth review of this phase, see the companion piece of this study “Creditor Participation in Banking Crisis in the Eurozone – A Corner Turned?” by Finpolconsult of June 28, 2013.

Some of the selected banks have been restructured or at least recapitalized during both legs of the crisis, which permits a cursory assessment of the weight of local idiosyncrasy in policy approaches vs. the path dependency of European policy approaches.

The banks selected fall thirdly mostly into the category of mid-sized regional banks, with balance sheets between EUR 25 and 100 billion to keep one central determinant of systemic risk – scale – relatively constant. The smaller Danish bank case chosen in that regard is paralleled by about a dozen additional Danish cases handled in a similar manner, which taken together gives similar scale. Two larger public finance lenders in terms of balance sheet are included, which both however have very low risk-weighted assets.

The banks selected fourthly do cover a certain range of economic setups such as core areas of operations/losses (esp. sovereign finance and real estate) and governance (public and private banks, with the former expected to attract higher government subsidies). Also, the depth of capital gap varies, and in particular the cases chosen are not routinely the worst cases in a given national banking crisis situation.

The presentation of cases makes a chronological order, and here takes the *last comprehensive restructuring intervention* as the cutting point. This permits the reader amidst all the heterogeneity to evidence to trace the time evolution of policies, even though the first point of intervention may lie much earlier (*date given in italics*). The list of banks presented in this order is:

- Ireland: Anglo Irish Bank (2009),
- Germany: Hypo Real Estate (2009),
- Denmark: Amagerbanken (2010, 2008),
- Spain: Bankia/BFA (2012, 2010/11),
- France/Belgium: Dexia (2012, 2008),
- Netherlands: SNS Reaal (2013),
- Cyprus: Laiki Bank (2013, 2012),
- Greece: Alpha Bank (2013).

Methodology and Data

The study’s central methodology is the development and analysis of time series from bank balance sheet and cash flow data.

Used are the annual reports presented by the case banks and/or their groups from 2007 to 2012. The dates vary in the cases of earlier terminations of banks (Denmark) and later crisis entry points (Cyprus, Greece). Within the bank reporting, the structure and changes of the equity and junior liability positions (subordinated debt and hybrid capital) as well as the cash flow (from financing activities) is of central interest. Detail given in the respective notes to the annual reports, in particular on the bank equity and junior liability positions, is analyzed and enters the analysis where useful. Similarly, occasionally individual bond issues and their conditions are analyzed.

Supporting is an analysis of both the offer and acceptance conditions of exchanges in which the banks have engaged with their investors (liability management exercises, or “LME”). This requires screening

publicly available investor relations documentation, and in some cases information offered by the relevant securities commission. With the same methodology we review prepayments ('calls') of liabilities. There is also some specialized bank research in this area.

A difficulty in performing this analysis is identifying the correct balance sheet to analyze if the bank is operating under a holding structure. If the holding company is restructured simultaneously due to its solvency being deeply affected by the solvency situation of the bank, data are consolidated (BFA/Bankia) or measured only the group level (SNS Reaal).

Finally, available public information that detail the stress tests used to determine the capital gaps as well as the restructuring or resolution solutions, in particular regarding mandatory liability management and public recapitalizations, is compiled and presented. Such information stems from the consulting firms involved as well as applicable regulators.

Data limitations abound. Despite a certain level of standardization reached through bank and general accounting regulations, as well as the ongoing efforts by the European Banking Administration to further standardization, the quality and depth of the data varies considerably. For example, the detail of liability classes reported under 'cash flow from financing activities' in the annual reporting varies between EU Member States. Also, sometimes cash flows reported do not match investor relations documentation. Both issues make it more difficult than necessary to determine how much cash has been paid to investors prior to the restructuring.

In many cases, also public reporting about the restructuring gives only very limited detail. While for instance SNS Reaal devotes whole sections of the annual report for 2012 detailing the assumptions and balance sheet impacts of the restructuring, there is not even an annual report 2012 available by September 2013 for Cyprus Popular Bank and information about the bank's restructuring given by the Central Bank of Cyprus is rather anecdotal.

Finally, we note that both data concerning the capital gaps and their financing are right-censored, i.e. there could be future burden whose volume and distribution between government and investors the study does not record.

Testing the before discussed hypotheses with any econometric significance would clearly require a far larger set of bank cases to be reviewed as well as more in-depth data mining than what was possible under this study. Objective data gaps also impede a deeper analysis, in particular regarding the generally undisclosed or unknown identity of investors in bank liabilities. Nevertheless it is hoped that some tentative conclusions can be drawn from the presented material.

Structure

We discuss the 8 cases in the subsequent section in chronological order. For each case we present a discussion of the pre-restructuring and the restructuring situation, as well as an analysis of balance sheet and cash flow. The discussion is organized by the rank of liabilities/equity. The analysis is followed by a counterfactual analysis regarding earlier and more in-depth information. Each case is concluded with individual policy lessons.

The case section is followed by a synopsis section presenting the results in comparison across cases (jurisdictions).

The study is concluded through a synopsis of both policy lessons both regarding forbearance and creditor participation policies (macro level) as well as those learned from the individual case managements (micro level).

Bank Case Studies

Anglo Irish Bank²

Timelines

Anglo Irish Bank had grown feverishly in the Irish real estate boom years. As a commercial bank, as opposed to a building society, she had focused on the corporate segments of lending, mostly to property developers and partly to private households investing in rental properties or speculations. Total assets had quadrupled in just five years to reach EUR 103 billion by 2008, turning the bank into Ireland's third largest domestic banking institution.

By the fall of 2007 Irish property prices started to decline, only slightly lagging the United States and leading Spain by a full year. The first Irish developers stopped servicing their loans. Despite the warnings on the wall, it took Ireland until the Lehman collapse in September 2008 to realize the degree of infection of its banking system. This permitted the bank to keep doing risky lending and engage in numerous window dressing exercises over losses incurred in real estate.

These were finally called when an illegal large share buyback program became known that had permitted insiders an early exit. A sudden EUR 1.5 billion recapitalization need announced in December 2008 made the loss of trust complete. On January 2009 the bank was nationalized, becoming the first large European real estate lender to face this fate.

Ireland later over 2009 and 2010 followed the U.S. example and embarked on massive write-downs of property, and to a lesser extent retail mortgage, loans. The bad bank National Asset Management Agency (NAMA) created in 2010 purchased real estate loans and was used as an early vehicle to determine the haircuts for loans in the portfolios of lenders and thus capital needs of lenders.

The losses of Anglo Irish Bank over this time span continuously widened: by December 2009 the bank had already booked EUR 9.7 billion in negative retained earnings, a figure that by December 2010 reached the staggering value of EUR 27 billion, 17% of Irish GDP. Until 2012 then little was added to these losses.

Pre-Restructuring Phase

A pre-restructuring phase is hard to define for Anglo Irish. While shareholders were materially hit already in January 2009, de-facto mandatory restructuring measures imposed on bank creditors arrived only in late 2010. Acknowledging the difficulty, we focus on the phase between the Subprime Crisis mid-2007 until the end of 2009.

Shares

The bank had been last active on the equity market in February 2007, which by July 2007 became shut down with Subprime. Anglo Irish's excessive confidence and the complacency of Irish regulators are exemplified by the decision to pay / permit a 20% higher dividend for 2007 than for 2006 by February 2008. In the same category fall share buyback operations during the years 2007 and 2008 that led to a cash payment to shareholders of EUR 28 million. At least one buyback took place through illegal borrowing activity by managers financed by the bank. These policies were centrally motivated by pervasive share-based payment schemes benefiting managers and employees.

In January 2009, the bank was nationalized through the expropriation of existing shares and transfer to the Irish government under the Anglo Irish Bank Corporation Act, 2009. During 2009 the Group received

² Data note: data presented in this sub-section has been collected from annual reports and investor relations documentation provided by Anglo Irish Group, Irish Nationwide Building Society and the Irish Bank Restructuring Corporation. Data on Irish Nationwide suffer from due to gaps due to non-public reporting and are partly excluded from the analysis.

a total of EUR 12.3 billion in capital support through cash (EUR 4 billion) and promissory notes (EUR 8.3 billion).

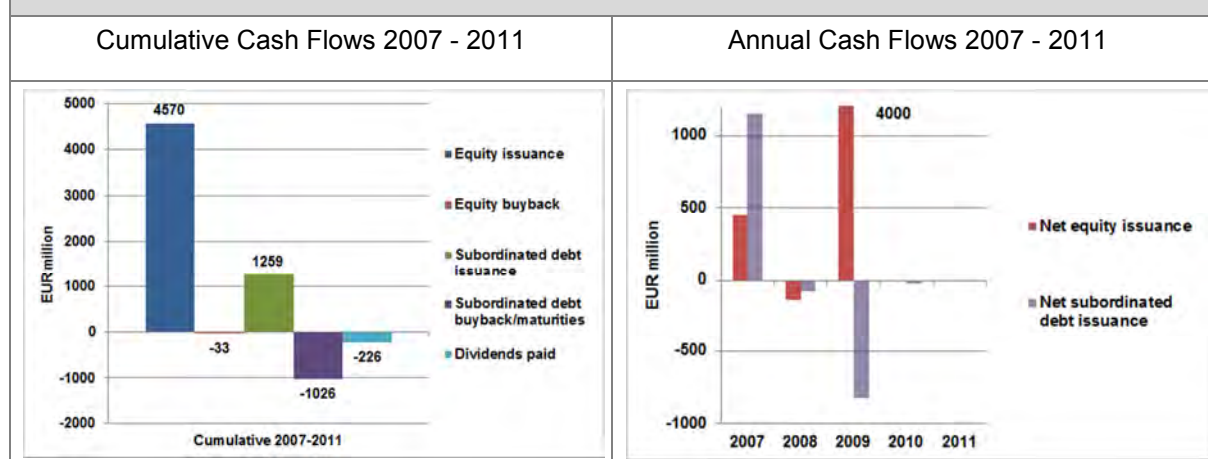
Subordinated debt and hybrid capital

Anglo Irish had been last active as issuers on the subordinated bond and hybrid capital markets in June 2007, prior to U.S. Subprime, when EUR 1.2 billion in fresh junior debt was issued. The total junior debt outstanding in 2007 was EUR 5.3 billion. Hybrids by that time made up 40% of equity. Cash payouts to subordinated investors during 2007 and 2008 remained limited to redemptions of dated debt as well as coupon payments, which were mandatory.

After Lehman, in October 2008 the Irish government extended its temporary government guarantee scheme to cover even dated subordinated debt until 2010. After the nationalization in January, the Irish government in August 2009 raised additional capital through a large voluntary liability management exercise, whose results are reported in Figure 2. As a result, the Group reported a Tier 1 gain of EUR 1.8 billion. While the bank proudly boasted the Tier 1 benefit of the deal, she also had spent EUR 820 million in cash paid to investors at the event. These were able to recover between 27c and 55c/EUR at a time when the deep insolvency of the bank was firmly established.

A combination of peer group pressure and going concern hopes might have dictated these favorable LME terms for investors. The following year an LME was conducted under significantly harsher terms only (see below). Finally, in July 2009, coupons on the hybrid capital outstanding became suspended under EU state aid ruling.

Figure 1 Anglo Irish Bank – Subordinated Debt Buybacks Came Together with the Public Recapitalization in 2009, Were Terminated Afterwards



Source: Anglo Irish Bank reporting (Cash Flows from Financing Activities), Finpolconsult computations.

Notes: Reported equity issuance covers EUR 4 billion public cash recapitalizations in 2009, but excludes the proceeds of EUR 25 billion of promissory notes injected by the Irish government between December 2009 and November 2010 as well as the EUR 2.7 capital injection to Irish Nationwide Building Society in August 2010. RHS - net equity issuance includes dividends. Net subordinated debt issuance excludes coupon payments.

Senior bonds and covered bonds

Anglo Irish had amassed a veritable pile of senior unsecured bonds by 2007, totaling EUR 23.6 billion. In 2007 alone, the bond position had grown by 56%. During 2008 and 2009, investors went in reverse: one third of bonds left the bank until the end of 2009. The large commercial paper position of EUR 5.7 billion in 2007 had almost disappeared by 2009. Despite government guarantees covering new issues, interest rates had risen sufficiently for Ireland and the bank to force it towards the ECB's cheap funding. By 2009, the ECB already funded 28% of Anglo Irish's liabilities.

Government intervention started with a guarantee in late September 2008 that covered liabilities existing by that time or at any time thereafter up to and including 29 September 2010. It covered all retail and cor-

porate deposits in excess of deposit insurance coverage, interbank deposits, senior unsecured debt, asset covered securities, and even dated subordinated debt.

This scope of protection reaching explicitly into legacy debt was unrivalled at the time in Europe, except for Denmark (see Amagerbanken case below). The economic differences in expected guarantee cost between both countries were large, though: while Denmark guaranteed only 20% of GDP and faced moderate real estate losses in a rather typical cycle, Ireland guaranteed 50% of GDP and was confronted with a veritable market collapse. Subsequent guarantee programs, such as the Eligible Liabilities Guarantee Scheme of 2009 therefore narrowed down commitments substantially.

Restructuring Phase

Shareholders

Forced by mounting losses during 2010, the government had to increase the capital reserve of Anglo Irish by EUR 17 billion to EUR 25.3 billion. This happened technically through the injection of a government promissory note, debt that the Central Bank of Ireland would accept for her extended liquidity assistance (ELA).

In July 2011 the government injected EUR 2.7 billion into Irish Nationwide and transferred both its assets and liabilities to Anglo Irish Bank. At the occasion, the Irish Bank Resolution Corporation (IBRC) was created by name-changing of Anglo Irish Bank as the unwinding vehicle for the merged banks. Anglo Irish bank in the process got effectively split up: in particular Anglo's NAMA bonds were transferred to Allied Irish Banks together with Anglo's deposits. The unwinding vehicle IBRC retained Anglo Irish's remains and was funded mostly by short-term loans by the Central Bank of Ireland.

In October 2012, the Central Bank of Ireland took a floating charge over all unencumbered assets on IBRC's balance sheet. The effect was to put the assets out of reach for other creditors and shareholders of IBRC. This meant economically the government gave up its equity position for the much larger benefit of a super senior creditor position.

In the spirit of this operation, the IBRC was liquidated in February 2013. The formal trigger was a loan restructuring deal reached with the ECB regarding a permanent financing solution for the promissory notes. IBRC's assets are being unwound or transferred to NAMA under a short-term horizon.

Subordinated debt and hybrid capital

Even as losses in Anglo Irish mounted, investors encouraged by the 2009 LME by 2010 were still hoping for cash recovery in the range of 35-40% for Lower Tier 2 securities.³ Yet, the European creditors of Ireland had no objection to deeper bail-in. During the year the Irish government prepared the legislation necessary to restructure junior debt without letting the issuer Anglo Irish/IBRC go insolvent. In October 2010 it offered investors only 20% on EUR 1.6 billion of the outstanding Lower Tier 2 series of Anglo Irish.

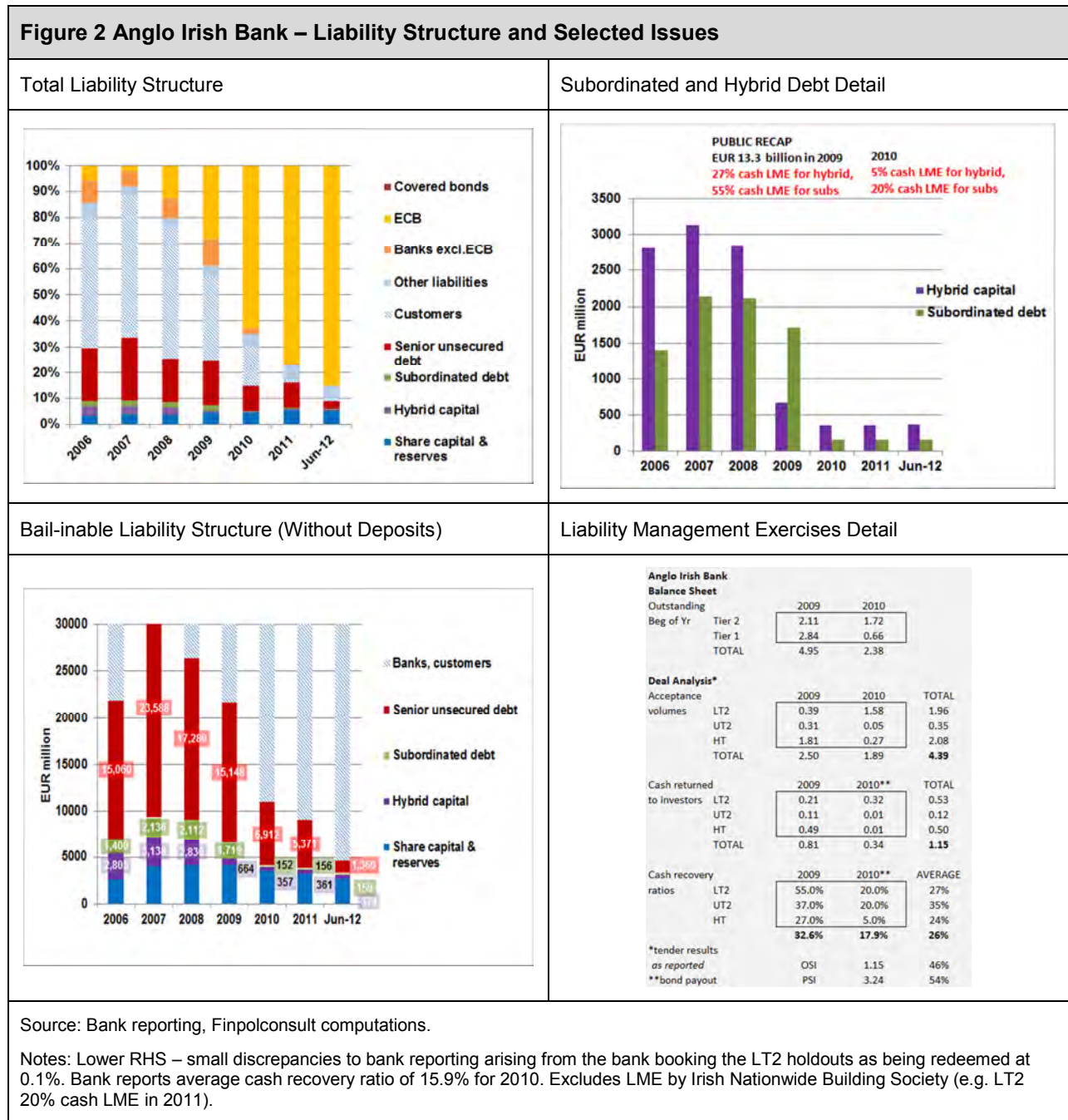
The legal scenario was more complicated than promulgating a domestic law: Irish banks had UK law for issuance, partly through Channel Island offshore trusts and partly when issuing directly, which offered far greater protection to investors. Under normal circumstances, investors would have rejected the offer, which was also far below recent market prices of the bonds. However, the government played game-theoretic tactics by demanding from accepting investors an 'exit consent', a vote permitting it to reduce the capital for all subordinated bonds to 1 cent per EUR 1,000 of nominal value. This threatened expropriation to the investors holding out, by simple investor vote. The tactics bore fruit: in the votes on the different series during December 2010 investor acceptance between 80 and 92% was reached.

At the occasion, a hybrid capital total of EUR 270 million was exchanged at 1 cent, with the government agreeing to pay a 'consent fee' of EUR 50, for each EUR 1,000 owned. Anglo Irish ultimately paid EUR 300 million in government-guaranteed bonds to investors or an overall ratio of 16c/EUR, half of the cash payout obtained by investors still at the 2009 LME. In total, however, the government had still paid a face amount of EUR 1.15 billion to investors during 2009 and 2010 (see lower RHS in Figure 2).

³ See Daniels et. al. (2013) tracking the fate of Anglo Irish Lower Tier 2 securities.

We note that Irish Nationwide Building Society by March 2011 before its merger with Anglo Irish Bank undertook a similar LME for Tier 2 securities that paid investors 20c/EUR in cash.

Figure 2 Anglo Irish Bank – Liability Structure and Selected Issues



Some holdout investors, however, sued Ireland in court in London in 2011 and reached a reinstatement of their claims into the balance sheet. These investors are now taking the government to court against the attempt to liquidate them via liquidation of IBRC in combination with the material protection withdrawal

effect of the collateral seizure/transfer by/to CBOI/NAMA. In their lawsuit they have put the government gains at upward from EUR 9.1 billion.⁴

Investors also claim that the Irish Bank Resolution Act of March 2013 was uniquely geared towards unwinding IBRC with the primary intention of re-clawing protection granted to junior and unsecured investors through the earlier bad bank operations. They also object to the fire-selling of IBRC assets over 1 year (initially 6 months), as opposed to initially foreseen 10 year unwinding period, as well as the fact that the government as an interested party is not only overseeing the sales process but also determining non-market asset prices through 'valuations'.

Senior unsecured and covered bonds

By the end of 2010 Anglo Irish's debt to the ECB had ballooned to 64% of total assets, or EUR 46 billion, turning the bank into one of the largest recipients of ECB funding. Collateral pledged included the EUR 25 billion in promissory notes injected by the Irish government as well as covered bonds. Its lack of eligibility for standard repo operations meant that the promissory notes had to be funded by ELA.⁵

Anglo Irish was not the typical covered bond issuer, being weak on retail business that usually was needed to stabilize the ratings of commercial-heavy deals. The bank had thus entered the market in 2007 in an 'unconventional' way through the structured covered bond market, bypassing the local law. With the need to tap the ECB for funding after the nationalization, covered bond issuance nevertheless became a funding workhorse during 2009 and 2010.

At expiration date in September 2010, the 2008 guarantee scheme covering Anglo Irish's legacy senior unsecured debt was not renewed. Most of the fresh lending given after 2008 had been dated to expiration day of the guarantees only and left the bank again. During October 2010 Ireland lost access to the sovereign market. In one of the most controversial moves during the crisis, as a condition of international official creditors the country was forced to keep servicing the legacy debt of Anglo Irish. The possibility of bailing in Anglo's and Irish Nationwide's unsecured bond was a central issue during the elections in early 2011 and was raised as discussion point with international creditors by the incoming Irish government again, without a change in the outcome.

There has been some public irritation regarding the split among bondholders that took place during the July 2011 IBRC creation. The IBRC construction was in fact designated to potentially permit the bail-in of bondholders through liquidation, which also ultimately happened in February 2013. Yet, almost all senior bonds left in IBRC were government-protected. De-facto the entire senior unsecured debt inherited from Anglo Irish and Irish Nationwide in the meantime has been paid back.

For a small amount, however, this turned out to not to be the case during the liquidation process.⁶ Also, IBRC's other unsecured creditors, which include pension funds, goods and service suppliers, with individually small amounts may also be wiped out. The fate of these investors could well become tied to the success of the junior bond investor lawsuit mentioned above.

All eligible deposits up to EUR 100,000 are covered by the Deposit Guarantee Scheme in operation in the State and eligible deposits beyond this limit are guaranteed under the Eligible Liabilities Guarantee Scheme. Most of IBRC's deposit accounts had been moved to other banks in 2011 are unaffected by the liquidation.

⁴ The figure is mentioned in Case No. 13-12159 (CSS) filed with the U.S. Bankruptcy Court for the District of Delaware on September 16, 2013. It is limited to the promissory notes. This is a mark-to-market argument regarding the high coupon payments of the promissory notes that were withdrawn from private creditors of IBRC through the CBOI execution into the collateral.

⁵ See Whelan (2012) for a detailed discussion of the ELA exposures.

⁶ <http://www.irishtimes.com/business/economy/ireland/credit-unions-the-only-anglo-bondholders-the-government-has-faced-down-1.1456844>

Public vs. Private Loss Participation Outcome, Counterfactuals

The total capital gap filled in Anglo Irish and Irish Nationwide can be approximated as the sum of public capital injections – share capital and the promissory notes – and the contributions of hybrid capital and subordinated bond issuers.

Public share capital injection stood at EUR 4 billion in Anglo Irish and EUR 2.7 billion in INBS, the face value of promissory notes at their absorption by the Central Bank of Ireland in February 2013 was EUR 25 billion. Private investors contributed EUR 3.1 billion through the LME at Anglo Irish as well as EUR 0.2 billion through the LME at Irish Nationwide. In addition, the liquidation of IBRC can be expected to wipe out residual claims of junior and certain unsecured investors of in the neighborhood of EUR 1 billion, giving a total of EUR 4.3 billion. This back of the envelope calculation would give a meager creditor participation, or private sector involvement (PSI), ratio of $4.3/36 = 12\%$. Even that number is subject to downside risk, given the pending legal actions.

Let us assume that the government will ultimately keep some of the claimed liquidation gains, say in the neighborhood of EUR 3 billion, and that the bad bank NAMA will break even. Then she would have bought this gain against spending EUR 31.7 billion, or in other words have lost over 90% of her investment. Reducing the liquidation gain for government would mean vice versa greater protection levels for junior bond investors and – assuming full recovery of the remaining positions - an improvement of their loss ratio from ca. 75% (cash/bonds paid vs. 2008 position) into the lower 60% or upper 50% levels. Also, the PSI ratio would drop to below 10%. Should government be able, in contrast, to book the full (EUR 9.1 billion minimum) gain, she would have lost ‘only’ 70% or less of her investment, i.e. have a higher recovery ratio than junior bond investors. For the summary discussion below we will keep the first, more conservative loss assumption for government.

A more comprehensive bail-in of junior creditors would have been possible at an earlier stage, by either conducting a debt-equity swap or applying the Good Bank resolution approach, with the help of a dedicated bank restructuring and resolution law. Given that the first dated subordinated security still outstanding at Anglo Irish by 2008 was maturing only by 2014 and that hybrid capital was perpetual, it made little economic sense in hindsight to ‘buy’ Tier 1 capital through the 2009 and 2010 LMEs. Regarding the 2009 LME it has been suggested that the government still harbored hopes to keep Anglo Irish a going concern, which spoke in favor of a benign treatment not only of senior but also of junior investors. In 2010, when insolvency was widely discussed, as in other cases discussed further below in this study the aversion against writing off of an already large government position before being able to claim the full amount of junior debt, a result of the sequencing of the intervention, may have been a factor. Ultimately the Good Bank split was applied, however, and insolvency of the unwinding vehicle materialized. If this policy would have been implemented as early as 2009, it could have caught the entire junior debt outstanding and have increased the PSI ratio to 18%.

Given the 2008-2010 guarantees, a reasonable time slot to bail in senior unsecured debt, again through application of the Good Bank approach, existed only since the fall of 2010. Taking the senior debt outstanding at Anglo Irish only, and assuming cumulation with a non-call/LME policy on hybrid capital and subordinated debt, another EUR 6.9 billion could have been bailed in and the PSI ratio could have been raised to 37%.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**

2009 should have seen a Good Bank horizontal balance sheet split before the government invested. Since the bank had to be resolved, a debt equity swap would have been unsuitable.

- **Provide for future asset risks:**

Be extremely careful with the bad bank (asset swap) concept determining fixed asset transfer prices today, either through demanding sufficient price buffer or by tying the fate of junior debt to transfer price risk.

Ireland is now fighting since 2009 junior bond investors – i.e. economically frivolous claims – because it had prioritized asset swaps over tying asset risks to the lower end of the capital structure. The belated attempt to reverse the approach through the IBRC liquidation may legally backfire, and even if it does not will burden government-investor relations.

- **More tightly control the cash outflow to junior bond investors in the neighborhood of public recapitalizations:**

It remains unclear why Anglo Irish Bank paid cash to subordinated bond investors in 2009 and 2010, if the intention was always to bail-in these investors in and there was no early maturing subordinated debt. Adopting the Good Bank approach from the start (executed in 2011 through the insolvency of IBRC) would have provided clarity.

- **Do not government-insure historic senior unsecured bonds (issued before crisis).**

Unlike Denmark (see below) the Irish government was politically unable to cancel this insurance when it became clear that it jeopardized its fiscal solvency.

- **As a last resort consider bailing in senior investors:**

Confronted with the risk of sovereign default, the government should have acted on bailing in historic senior unsecured bond investors (Good Bank approach) rather than speculating on beneficial sovereign funding terms.

Hypo Real Estate⁷

Timelines

Hypo Real Estate Group was the result of multiple mergers and splits and re-mergers during the 2000s.

In 2001 German mortgage and public finance lender and large covered bond issuer Depfa carved itself up into Aareal Bank, a Germany-based mortgage bank, and Depfa plc, an Ireland-based public finance bank. The reason for Depfa's move was that the razor-thin margins in public finance funded by covered bonds required high-leverages, high asset-liability-mismatches and low taxes, which were incompatible with the German regulatory and tax environment. Under the far more lenient Irish conditions, Depfa's profitability ballooned. By 2006 management felt strong enough to enter the U.S. public finance market.

2003 saw the spin-off of Hypo Real Estate AG from the debris of HypoVereinsbank, a universal bank with mortgage focus that faced insolvency through risky East German property lending activities. Several specialized mortgage banks that were owned by HVB were merged on HRE; at the same time it was widely thought that some of the non-performing and underperforming assets of HVB, which itself had been sold to Unicredit, remained at Hypo Real Estate. To clean up balance sheet, HRE became the largest non-performing loan seller in the German market. Under pressure from weak German asset performance, HRE was also told to U-turn new business activity from Germany to European and global commercial real estate markets, an abrupt strategy shift that tends to be seen with suspicion by investors.

In the fall 2007, Depfa Bank plc was sold to Hypo Real Estate AG. The creation of a large combined public and mortgage finance covered bond issuer followed the logic of the earlier creation of Eurohypo AG from three German mortgage banks. The deal passed the German regulator even though the U.S. sub-prime crisis had already put the covered bond funding model in Germany under severe stress.

The Group got nationalized in a stepwise process between its cut-off from unsecured funding after Lehman in October 2008 to full nationalization by June 2009. In 2010, a dedicated external bad bank was created (FMS Wertmanagement) that absorbed non-core, dubious and non-performing assets. In October

⁷

Data note: data presented in this sub-section has been collected from the annual reports of Hypo Real Estate Group as well as FMS Wertmanagement GmbH. In addition, investor relations documentation by the subsidiaries of Hypo Real Estate Group has been reviewed.

2010 all Depfa Greek government debt was transferred to FMS Wertmanagement, months before the first agreement on its restructuring was reached and a year and a half before restructuring became official.

Per October 2008, the holding owned 100% share participations in Hypo Real Estate Bank AG, Hypo Real Estate Bank International AG, DEPFA Deutsche Pfandbriefbank AG, the Irish Depfa Bank plc and Luxembourg-based subsidiary Hypo Pfandbrief Bank International (HPBI). During 2009 all banks except for Depfa Bank plc and HPBI, which will be wound up, were merged on Deutsche Pfandbriefbank AG, the sole operational daughter of Hype Real Estate Holding.

Pre-Restructuring Phase

Even more so than in the case of Anglo Irish it is difficult to define the pre-restructuring phase. A mandatory restructuring affecting bank creditor positions beyond isolated contractual instruments never took place. We briefly describe the main changes in the capital structure between mid-2007 and the nationalization in mid-2009.

Shareholders, hybrid capital and subordinated debt

Figure 3 shows very little equity activity during the run-up to nationalization. However, in October 2008, a swap was performed on a EUR 450 million mandatory convertible bond that had been issued in 2007 in order to fund the purchase of Depfa Bank plc. It generated an increase in equity of EUR 350 million, of which EUR 30 million (the maximum permissible amount) were booked as a contingent share capital increase and the remainder into reserves. The swap provided for an example that helped starting the contingent convertible bond discussion during 2009.

Yet, it did little to save the group that with a leverage ratio of 66 (equity-to-assets 1.5%) in 2007 was chronically undercapitalized. The key source for this had been the newly acquired daughter Depfa plc, which had featured a leverage ratio of 120 in 2005.

The nationalization of HRE began with a combination of regulatory forbearance – the bank was kept open despite having too little capital on the basis of the 2008 financial statement - and a minority share purchase by the German federal bank rescue fund SoFFin. The initial small government investment of EUR 60 million in March 2009 bought 8.7% of the bank, at prices far above the market values.

Senior bonds and covered bonds

When the takeover of Depfa Bank plc was finally completed in October 2007, the Group as a result of the impact of Subprime Crisis on mortgage bonds already had de-facto exited the German Pfandbrief market. The market became characterized in late 2007 and 2008 by spread increases, shortening maturities and increasing selectivity by investors. Access to secured and unsecured funding alike turned from public into private. Many covered bond investor preferred bespoke deals. Name Pfandbriefe, where regulations - unlike in the case of Bearer Pfandbriefe - did not force investors to mark their investment to market, blossomed. HRE was specifically hit by suspicions about the credit quality related to the bank's genesis.

To bridge its increasing short-term funding problems the bank built up massive short-term senior unsecured debt positions, which were privately collected from banks and institutions, most of them in the local Munich market place.⁸ By the end of 2008 a total of EUR 100 billion in senior unsecured debt had been reached, matching the covered bonds in funding relevance. This created extreme liquidity and mismatch risks for the bank.

With the Lehman insolvency in October 2008 the unsecured EUR market closed. Public speculation about the insolvency of the bank that included a statement by the German finance minister prompted the Federal Reserve Bank of New York to cancel HRE's USD repo lines. In contrast, these lines – secured by the most shaky collateral - were kept open for Landesbanken and other German banks and proved vital in

⁸ It should be noted that this process would have been impossible without the 2005 liberalization of the German covered bond system. Covered bond issuers before had to observe leverage ratios that implicitly limited the amount of unsecured debt issued. Possibly, under the old German law, HRE would have abstained from taking over Depfa plc while Pfandbrief issuance was in crisis.

stemming the impact of the collapse of the private USD repo market on them. The funding cut-off made large guarantee commitments by the SoFFin federal rescue fund necessary, also because private stakeholders made themselves scarce: the private bank system deposit insurance fund who would be in charge of backstopping failing private banks had de-facto become insolvent, and its key stakeholder Deutsche Bank negotiated hard and successfully to minimize the guaranty contribution of the private industry. Also, on the very day of the public backup agreement, on September 29, 2008, the period for a possible liability of the former owners of HRE (HypoVereinsbank/Unicredit) for legacy assets had expired. This left the German government to shoulder the bulk of funding and solvency risks.

Restructuring Phase

Shareholders

As guarantee commitments kept mounting, in April 2009 a federal law was passed that permitted a mandatory squeeze-out and takeover of the bank by the federal government. The law was quickly dubbed ‚Lex HRE‘⁹. Despite the existence of the law, a rather friendly offer was made to existing shareholders at EUR 1.39 per share, 10% above the legal minimum tied to recent market prices. This offer was rejected by key shareholders.¹⁰

The federal government continued not by enforcing the new law, but by pushing for a capital increase of EUR 3 billion that gave it in June 2009 in return the controlling majority in the bank. In order to pass this capital increase, use was successfully made of another recently passed federal law that permitted a reduction of the voting threshold for capital increases implying dilution from 75% to 50% of the general assembly. An additional EUR 3 billion cash injection was then made in November 2009 bringing the total of the year to EUR 6 billion. As Hypo Real Estate deleveraged, under guidance of the European Commission, the government over time withdrew some of its capital.

Subordinated debt and hybrid capital

Voluntary coupon payments on hybrid capital had been intercepted by SoFFin after it had taken control of the bank. However, it turned out impossible to write down or convert this hybrid capital into shares.¹¹ The key issues were legal impediments and lobby pressure:

- Generally in Germany haircuts at the time were possible only in the case of silent participations and profit participations while debt equity swaps were impossible. Since these instruments were non-standardized contractual instruments, the options depended on the individual contractual language. Securitized Tier 1, which was prevalent at HRE, generally did not permit any such capital measures.
- This idiosyncrasy was encouraged by the absence of dedicated law overriding such contractual limitation outside insolvency. While Germany was fast to act in this regard on bank shareholders by the spring of 2009, the discussion about a bank restructuring and resolution law affecting bank creditors only started at that time.
- When a draft of the law was finally presented in the fall of 2009, it became subject to in-depth discussion rather than fast promulgation and so was unable to pre-empt a second large government capital injection in November 2009. At the time, junior bond investors were fighting for recovery in numerous

⁹ The generic German name is „Gesetz zur weiteren Stabilisierung des Finanzmarktes (Finanzmarktstabilisierungsergänzungsgesetz – FMStErgG)“ of April 4, 2009.

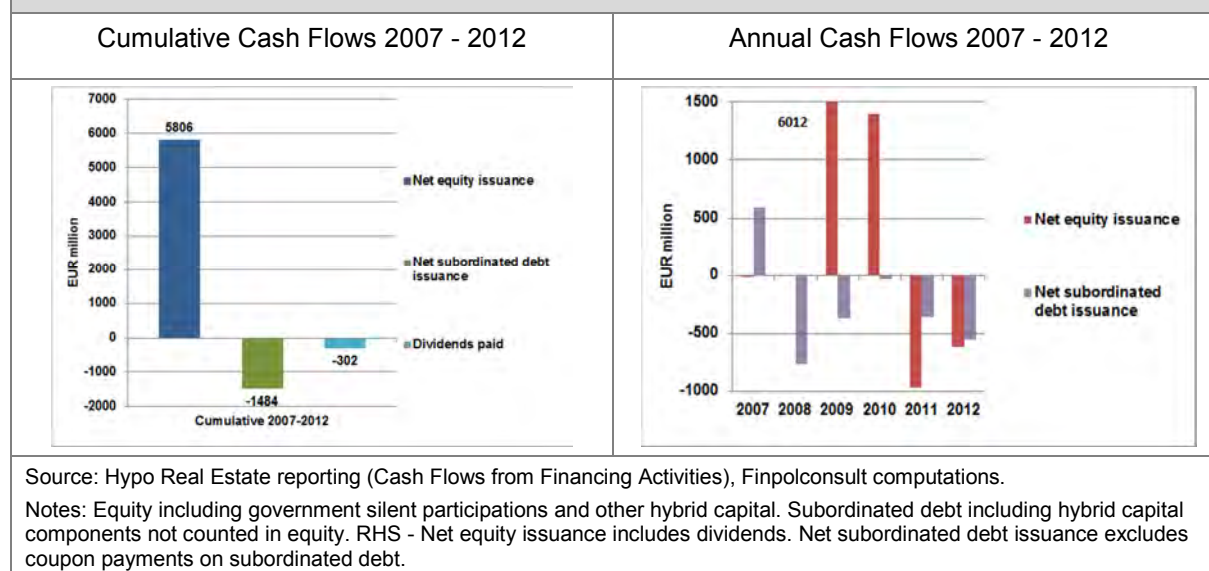
¹⁰ In hindsight any share cash payout doubtlessly must be seen as excessive when considering the second leg of the European financial crisis causing Greek government bond losses incurred by the bad bank FMS Wertmanagement. At the time, however, these sovereign credit losses had not materialized. The main issues facing the bank – the goodwill write-offs of 2008 and funding access, in particular to the Federal Reserve repo window – were seen by many investors as transitory.

¹¹ At restructuring time in 2008/2009, HRE Group had four outstanding hybrid capital issues:

- 3 preference share issues of Depfa Bank plc Ireland,
- 1 preference share issue of Deutsche Pfandbriefbank (issued under ‘HRE Trust’)

German banks hit by credit losses. In particular among junior bond investors in Landesbanken, but also in the case of HRE, there were many public entities and publicly owned banks, pension funds and insurers that were able to influence the law-making process.

Figure 3 Hypo Real Estate Group – Payouts to Subordinated Debt Investors Continued after Public Recapitalization in 2009/10



However, there was also economic misjudgment: when the political decision was taken to execute a full nationalization, despite much public rhetoric to the contrary HRE credit losses inside government were still seen as manageable. In particular the realization of Greek government bond losses in the Depfa plc portfolio was still lying in the future.

After the public recapitalization these hybrid capital and subordinated debt positions continued to be carried on the balance sheet of the holding and her subsidiaries. During 2009 and 2011 there were plenty of options to repurchase hybrid capital for 10%-30% (see Figure 4 for a Depfa Bank plc issue). Under the enhanced legal options since a banking act reform in 2009 such LME could be prevented the German regulator BAFIN in order to pre-empt a loss of capital, and this was apparently for some time done so. A late 2012 attempt to repurchase Depfa bank plc issues around 30% then failed.

Given that all dubious and non-core assets, including Greek government bonds, had been transferred to the bad bank FMS Wertmanagement by 2010 already, the balance sheets of both hybrid issuers over time had seen greatly improving health and future profit expectations had arisen. As a result, hybrid capital prices during 2013 have recovered into the 40% range.¹² The residual hybrid capital positions form an impediment for the re-privatization of HRE subsidiaries since their embedded claims on future profits will have to be honored, and thus reduce the potential sales price of the bank for government.

Important for creditor participation is the case of Upper Tier 2 subordinated debt presented in Box 1.¹³

¹² We quote Morgan Stanley (2011): “Looking at comparisons (*to Dexia, remark by the author*) in the market, we have both DePfa and Hypo Real Estate Tier 1s, which both trade in the mid-20s. However, these are in very different situations to Dexia. Hypo Re effectively has a clean balance sheet, as all of the weak exposures were shifted into a bad bank, and thus it is able to fund itself in the market. As such, there are clear grounds that Hypo Re has a future business and therefore at some point will resume paying Tier 1 coupons. For DePfa, the cover pool is over-collateralised, so there is a view that this excess collateral will ultimately be available to DePfa and thus service/provide recovery for the Tier 1s. Hence, both of these situations are different from Dexia, which has a more opaque balance sheet and still needs to work through €76 billion of legacy bonds.”

¹³ For a detailed discussion see Daniels et.al. (2013).

Box 1 Upper Tier 2 – Main Creditor Participation Vehicle in the Hypo Real Estate Case

The wide use of a type of Upper Tier 2 subordinated debt called ‚Genussrechte‘ (profit participations) has been almost a German specialty. The instrument class offered rather surprising options for creditor participation in upper levels of the capital structure.

Genussrechte are typically dated subordinated debt ranking clearly higher in insolvency than Tier 1. Yet, in contrast to most publicly issued Tier 1, Upper Tier 2 paper generally permitted loss sharing pro-rata of the share of the UT2 in total extended capital during the going concern. As in Tier 1, coupon payouts in UT2 also are tied to a commercial code (GAAP) profit of the lender.

Also as in the case Tier 1, since HRE received state aid, voluntary coupon payments on UT2 were interdicted by the EU Commission. The loss-sharing feature implied that the UT2 of the HRE holding ended up with a large loss of 80%-90%, so that at maturity repayment claims had been reduced to only 10%-20% of par. These UT2 hence carried a far larger creditor participation burden in HRE than Tier 1, which could not be haircut outside insolvency.

A mirror effect was, however, that some UT2 of the subsidiaries of the holding were not haircut at all. This was related to fact that coupon distribution was tied to GAAP of a profitable subsidiary. In this way short-dated UT2 issued by Depfa Deutsche Pfandbriefbank was fully reimbursed. In the case of long-dated UT2 of the same bank, there continued to be fears that the existing guarantee declaration for the bank would be nullified after its merger with Hypo Real Estate Bank. Yet, due to legal considerations at the time of the merger, ultimately the long-dated UT2 was treated ‚as if‘ the merger had not happened and as if Depfa Deutsche Pfandbriefbank would have continued to be profitable on a stand-alone basis.

None of the Lower Tier 2 of the entire HRE Group was finally haircut, for the same legal reasons as for hybrid capital. Also, all coupons were paid in full as LT2 coupons had to be serviced regardless of the profit situation of the bank. Nevertheless pricing dropped to very low levels during the crisis, giving new investors opportunities to make windfall gains as the government kept absorbing the bulk of balance sheet losses. Finally, no buyback of Lower Tier 2 was attempted.

Senior unsecured and covered bonds

Senior unsecured debt of HRE was entirely serviced, as were covered bonds. Immediate large federal guarantees, with some private bank deposit insurance participation, were implemented that essentially guaranteed all existing unsecured debt as well as newly issued debt in October 2008.

The large volume of senior unsecured funding issued by HRE in particular during 2007 and 2008 had prompted systemic risk concerns in Germany. However, a journalist investigation revealed that the bank investor share in this unsecured debt was only ca. 30%, and losses in the individual case regarding the haircuts in question at the time would have been manageable.¹⁴ The rescue fund SoFFin weakened the systemic risk argument himself by pointing to the role of politically important public and semi-public institutional investors, who were to be protected from losses by the state.¹⁵

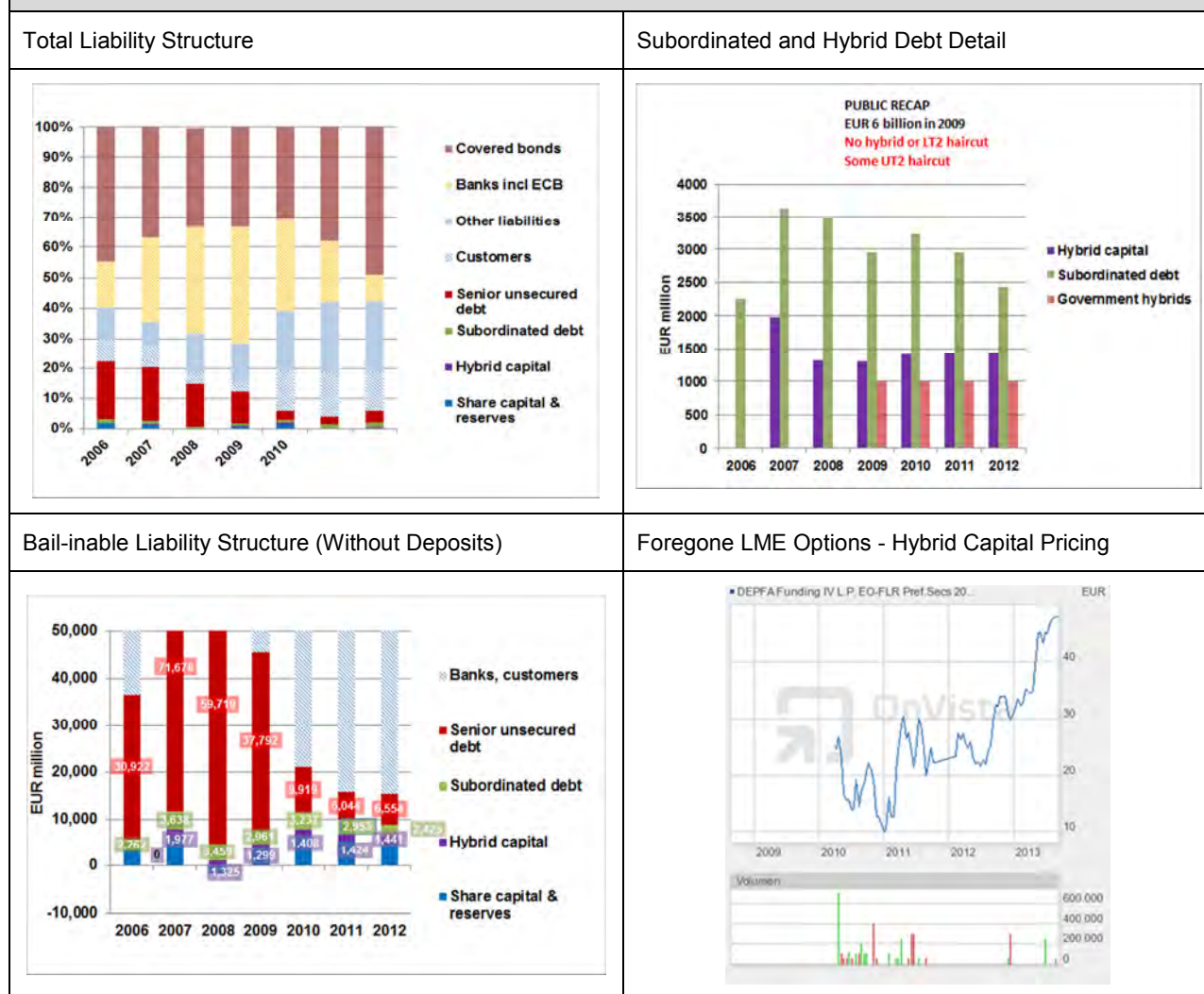
Beyond political clout of the unsecured investors, systemic risk concern in the covered bond market was the most important reason for the strong public intervention. There was great reluctance to test the German covered bond law against the background of its main marketing argument to investors that Pfandbriefe had never defaulted.¹⁶ HREs mortgage assets already at restructuring time were seen as shaky, affecting potentially mortgage bonds, and later events in the European sovereign bond market made it clear that public covered bond investors would have faced losses with certainty, if they had been left with the unwinding vehicles prescribed by the law for an insolvency case.

¹⁴ The review was undertaken by a financial journalist, Harald Schumann. Results were published by the Berlin daily Tagesspiegel: <http://www.tagesspiegel.de/wirtschaft/finanz/hypo-real-estate-die-geretteten/1598962.html>

¹⁵ <http://www.faz.net/aktuell/wirtschaft/unternehmen/im-gespraech-hannes-rehm-schlimmer-als-die-pleite-von-lehman-brothers-1923302.html>

¹⁶ This is technically incorrect: both in 1924 and in 1948, Pfandbriefe had been haircut by the government through taxation following the comprehensive currency reforms.

Figure 4 Hypo Real Estate – Liability Structure and Selected Issues



Source: Bank reporting, Onvista.de, Finpolconsult computations.

Notes: Upper RHS – subordinated debt definition includes securitized hybrid capital. Hybrid capital provided through preference share issues by daughter Depfa bank plc, booked as equity (non-controlling interest). Lower RHS – Issuer is Depfa Bank plc.

Public vs. Private Loss Participation Outcome, Counterfactuals

The accumulated capital gap produced by HRE Group between 2008 and 2012 so far can be estimated at EUR 18.8 billion. The bulk of the losses has been incurred by the bad bank FMS Wertmanagement with EUR 13 billion booked in the years 2010 and 2011. EUR 5.8 billion has been the net equity flow into HRE Group during 2008-2012.

This contrast with close to EUR 4 billion in hybrid capital and subordinated debt still outstanding in HRE Group by the end of 2012, which previously in addition must have accumulated some EUR 500 million in coupon payments (for Lower Tier 2). Private shareholders had retrieved EUR 300 million through the generous squeeze out conditions offered in 2009, taking the sum of already made and future expected cash payments to the bottom of the capital structure into the neighborhood of EUR 5 billion. HRE’s cash flow reporting shows us an aggregate cash loss of EUR 1.3 billion to subordinated debt investors between 2009 and 2012, likely maturities, which would suggest a total cash drain beyond EUR 6 billion.

So what *did* creditors contribute? Only Upper Tier 2 has been haircut in the volume of ca. EUR 300 million, reflecting an average of 85% write-down on the outstanding EUR 350 million plus missed coupons. Also hybrid capital coupons of ca. EUR 350 million have not been paid. We arrive at creditor contribution of only EUR 650 million, which in relation to the EUR 18.8 billion capital gap means a PSI ratio of just 3.5%. There is even risk for that outcome to be lower, as some EUR 90 million worth of Upper Tier 2 investment is subject to a lawsuit.

Going beyond the financing level we could consider what actual value the government bought with the financing she provided. The shell of Irish Depfa plc had received a bid in 2013 for EUR 100 million, possibly the bank could be sold for EUR 300-500 million. For the new operating entity Pfandbriefbank (pbb) with a book value of EUR 2.6 billion, we can assume the typical price-book ratio of 60% paid currently in the European market, which makes EUR 1.6 billion. In total we arrive at EUR 2 billion, or only about 10% of government expenditure. In other words, the federal government must be deemed to have lost 90% of her investment.

In the counterfactual analysis, we start with bailing-in junior creditors, which should have been possible on a number of occasions between 2009 and 2011:

- The German bank restructuring and resolution law in preparation during 2009 that would have permitted debt-equity swaps outside insolvency was simply not applied to HRE case, for the above mentioned reasons. A faster promulgation of the draft that was ready even before the decision of the second recapitalization in November 2009 was made could have been used at least to pre-empt the third recapitalization of 2010.
- The creation of the bad bank FMS Wertmanagement in 2010 was not accompanied by a transfer of existing shares, hybrid capital and subordinated debt, the standard when creating unwinding vehicles following the Good Bank concept. The resulting reduction of expected loss further protected the junior debt positions which entirely remained within HRE.

The Greek government bond losses that later hit FMS Wertmanagement exemplify the dangers of a bad bank approach that disconnects the fate of liabilities of the originating bank from the asset quality. It appears bizarre in this context that the initial Greek government bond investor Depfa Bank plc still by 2012 owes EUR 1.2 billion in hybrid capital to investors.

An alternative approach to the transfer of assets to the bad bank could have been the one taken for Dexia and Anglo Irish Bank (see below and above) of separating only the good bank - with high-ranking liabilities - and using the initial bank or holding as the unwinding vehicle.

In both cases this would have required the government to accept a loss of already injected capital as well as having to come up with fresh capital for the good bank, against gaining additional protection against future losses through creditor participation.

- The regulator also appears to have pre-empted HRE from performing a bond or cash LME, as Dexia did at the end of 2012 (see below) to avoid paying par. However, the cost savings potential from the LME was rather limited, given that FMS Wertmanagement had already cleaned up HREs balance sheet.

For counterfactual calculations consider thus the options to either avoid the asset transfers to FMS Wertmanagement and restructure the Group after Greek government bond (GGB) losses in 2011 through a debt-equity swap, or with the creation of FMS Wertmanagement in 2010 transfer all junior debt to it under the Good Bank approach.¹⁷ Let us consider first for both cases that the banks' senior unsecured and covered bond debt would have remained protected:

- FMS Wertmanagement booked losses of EUR 3 billion for 2010 and EUR 10 billion for 2011 which were entirely absorbed by the federal government, through loss absorption contract.

¹⁷ This would have led to the desired result probably only under a law permitting FMS to extend and/or haircut lower tier 2 subordinated debt. Such a procedure was e.g. applied in Greece.

- HRE Group by 2011 had still a public capital of EUR 5.5 billion (including the EUR 1 billion silent participation) and private hybrid capital and subordinated bonds of EUR 4.4 billion, totaling EUR 9.9 billion in bail-inable capital. The corresponding 2010 figures are EUR 6.6 and EUR 4.6 billion, totaling EUR 11.2 billion.

The 2011 bail-in and the 2010 Good Bank restructuring options - limited still to subordinated bond and hybrid capital bail-in - would have permitted to save fiscal resources of EUR 4.4-4.6 billion, plus unpaid coupons. It would have added some 25% to the PSI ratio reached so far through UT2 only and would have brought the total to 28-29%.

Additional bail-in of senior unsecured debt would have been a possible option in both cases, too. Taking the outstanding senior unsecured debt of EUR 38 billion by December 2009 as a yardstick, the additional EUR 7.5 billion required would have meant a moderate 20% bail-in ratio. This would have limited federal losses to the first loss exposures taken in 2009 under the share nationalization. The caveat here is that a transfer of larger amounts of senior unsecured debt as early as 2010 prior to the emergence of the fully blown GGB crisis of 2011 at the time could have appeared as excessive rigidity and been fought in court by investors.

Finally, clearly also the early 2009 options were wider than just nationalization. The options range from zero compensation for shareholders combined with a debt equity swap of hybrid capital and subordinated debt, putting government only into second loss only, via swapping some conservative ratio, e.g. 10%, of senior unsecured debt into junior debt, via requiring higher co-guarantees by the private banking system for the public senior unsecured guarantees, to winding down the entire bank in a liquidation entity. All these options were publicly discussed in Germany at the time.

Policy Lessons

- **Do not pay cash to historic shareholders.**
- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**

As soon as possible split good bank and unwind dubious assets together with share, hybrid capital and subordinated debt. Recapitalize (transfer fresh capital to) good bank only.

This would have permitted the government to invest at least in part into senior hybrid capital rather than ordinary shares. The case highlights the extreme fiscal risks of direct recapitalization.

- **Provide for future asset risks:**

Be extremely careful with the bad bank concept determining fixed asset transfer prices today, either through demanding sufficient price buffer or by tying the fate of junior debt to transfer price risk.

Regarding additional asset risk materialization (Greek government bonds), reserve the right to exchange assets between good bank and bad bank at a later stage or create loss participation instrument referenced to legacy portfolio remaining in good bank (e.g. CDS-based). Amply capitalize bad bank to create space for additional cash assets.

- **Do not government-insure historic senior unsecured debt (issued before crisis).**

Germany did so only implicitly, in contrast to Ireland, but nevertheless effectively and at high fiscal cost. Co-insurance by the private deposit insurance scheme should have been higher.

- **Streamline covered bond legislation:**

The case raises questions regarding the covered bond law liberalization of 2005, which facilitated the ad-hoc move in 2007/8 from secured to unsecured financing. Also, as the testing of the law was avoided through government subsidies, investors remain in uncertainty whether its provisions will work in practice.

Amagerbanken¹⁸

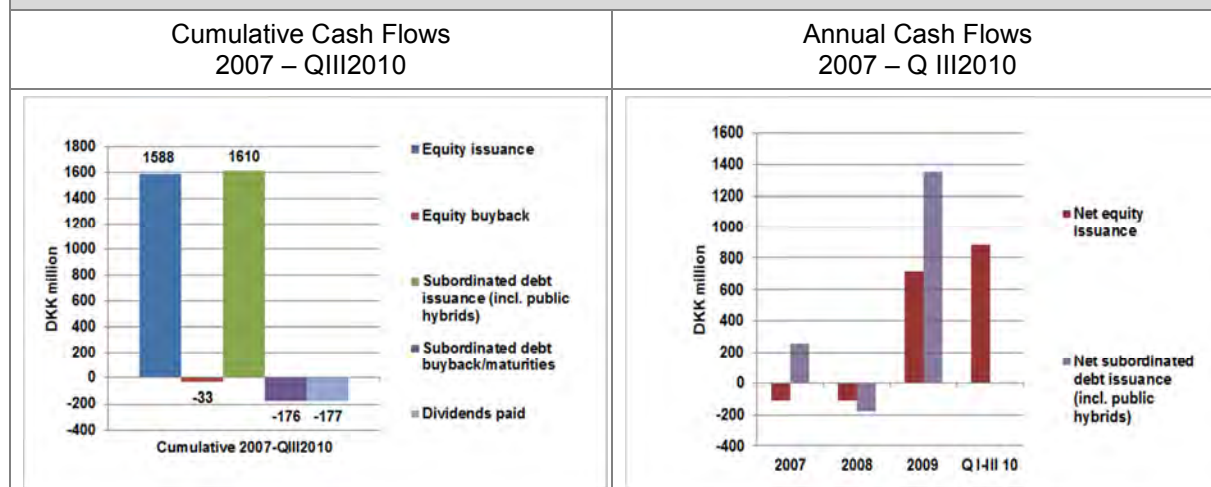
Timelines

Amagerbanken was a small Copenhagen-based lender that was heavily engaged in the highly cyclical Copenhagen real estate market of the 2000s. Copenhagen condo prices had doubled within 3 years between 2003 and 2006. With large mortgage banks dominating the safer homeowner market, the bank expanded in niches. In 2006 ca. 2/3 of its new lending were loans to property developers as well as commercial and private ('buy-to-let') rental housing investors. Most of these investors had limited equity and performance depended on continuously rising prices.

After the Danish market turned in 2007 and 2008, given that many investors were financed through variable rate loans whose rates dropped fast borrower insolvencies were delayed for some time. Yet, the bank like others immediately after Lehman got cut out from the senior unsecured market and required high volumes of central bank loans and government guarantees for new bond issuance. Most of the bank's direct real estate lending was not eligible for Danish covered bond refinancing.

The first major loss recognitions were made in 2008; however, the losses reported for the year had to be substantially revised upwards in November 2009. Additional large write-offs were made in May 2010 and, after the replacement of management over the summer, in November 2010. In February 2011 Amagerbanken was closed by the Danish bank regulator due to insufficient capitalization after efforts to strengthen its capital base had failed.

Figure 5 Amagerbanken – Unsuccessful Rescue Attempts through Private Share Capital, Government Hybrid Capital Injections, Subordinated Debt was Preserved



Source: Bank reporting (Cash Flows from Financing Activities), Finpolconsult computations.

Notes: Includes government hybrid capital issuance in 2009 of DKK 1.1 billion. RHS - Net equity issuance includes dividends. Net subordinated debt issuance excludes coupon payments on subordinated debt. 7.45 DKK = 1 EUR.

Pre-Restructuring Phase

Shares, hybrid capital and subordinated debt

During 2008, at a time of increased market stress, as the cash flow accounting shows the bank still bought back shares and repaid subordinated debt. The scale was minor, though, and the phase of market activity with Lehman was replaced by an enrollment into Bank Package I, the first of a series of Danish

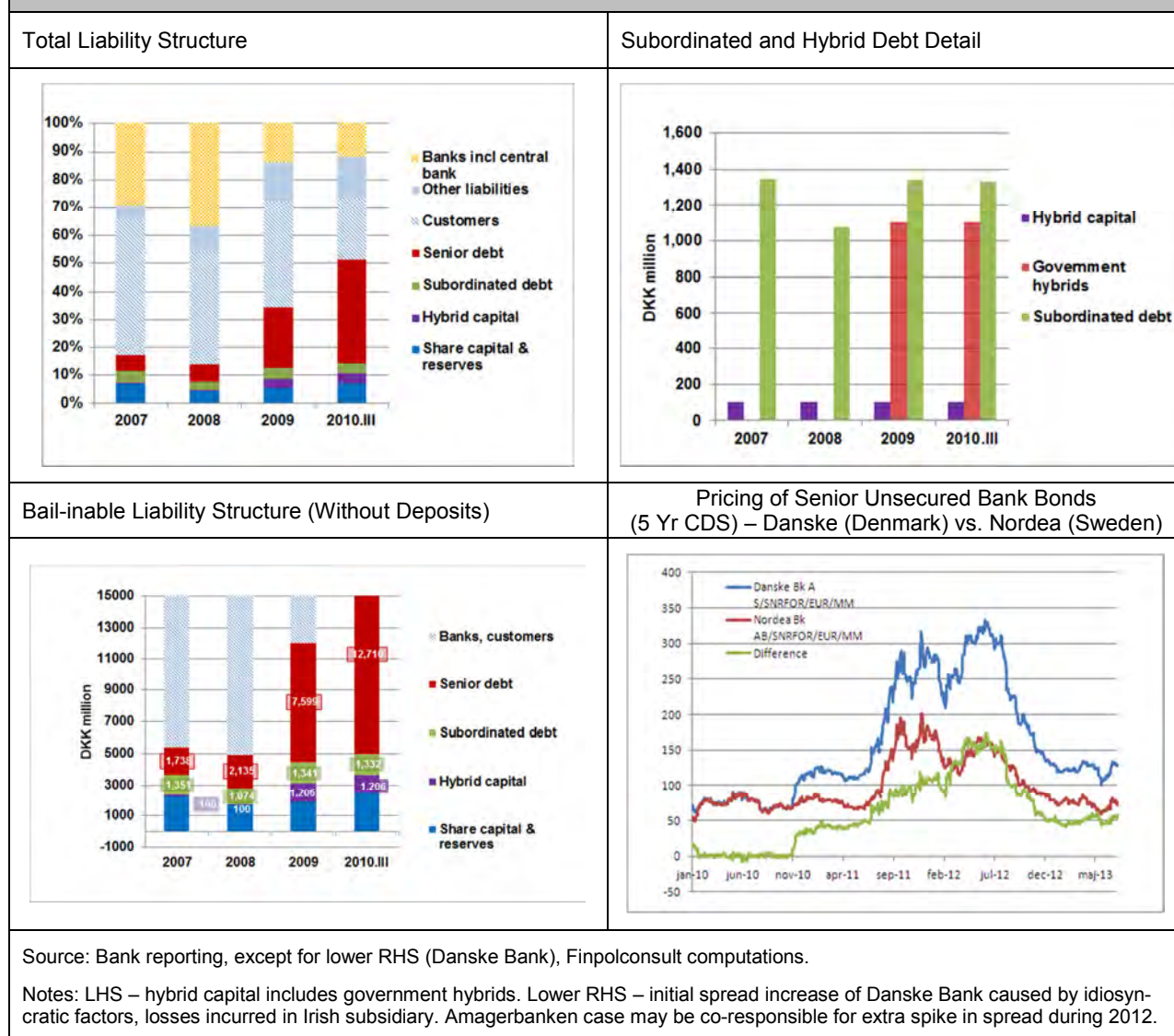
¹⁸ Data note: data presented in this sub-section has been collected from the annual reports of Amagerbanken Group. Amagerbanken reporting ends in Q III 2010.

government recapitalization and guarantee programs benefiting banks. The bank did not take up equity under this first package; however, she enrolled existing bonds into the guarantees provided.

In April 2009, after the publication of the first quarter results that brought about enhanced loss recognition for 2008, the Bank applied to equity support - already under Bank Package II. In contrast to many other European bank rescues, shareholders actively participated: by December 2009 they injected three times the volume of the existing share capital into new shares and reserves as a quid pro quo for government providing a hybrid capital injection of EUR 150 million (DKK 1.1 billion).

Most of this fresh share capital was wiped out again through loss recognition during 2010, forcing the owners to come up with another large capital injection by the third quarter of 2010. The government upheld its hybrid capital position until the restructuring, which forced her to take losses.

Figure 6 Amagerbanken – Liability Structure and Selected Issues



Senior unsecured bonds

Bank Package I had provided unusual benefits for investors in bonds that had already been issued before Lehman, as opposed to new issuances. These received a two-year Danish state guarantee that only expired in September 2010.

Bank Package II then permitted Amagerbanken to issue some EUR 1.3 billion in new senior unsecured bonds with state guarantees until 2013. With this government support, as Figure 6 shows, the bank during 2009 and 2010 massively expanded its senior bond funding and was able to cut back the large central bank exposure of 2008.

Restructuring Phase

A central reason why a EUR 4.5 billion total asset institution is included in this study is to highlight the typical Danish resolution approach, which follows closely U.S. FDIC resolution principles that prioritize the Good Bank approach. The lack of systemically relevant size in the individual case is not an argument for exclusion: by the time of resolution of Amagerbanken, Denmark already had wound up 12 banks through this approach.

Importantly, also, Amagerbanken was the first European bank to be resolved under new regulations passed in October 2010 that was designated to assign potential losses in bank resolution *also to senior bondholders* and depositors.

In February 2011 the bank was wound up in accordance that regulation. EUR 2 billion in assets as well as a pro-rata share of 59% of deposits and senior bonds, *regardless of their government-guaranteed or non-guaranteed nature*, were transferred to a bridge bank. That entity became fully controlled and owned by the Danish regulator and later was sold to Nordik Bank.

Shares, hybrid capital and subordinated debt

The remaining lowest ranking equity and liability positions worth EUR 1.75 billion were kept in the Amagerbanken joint stock company, which filed for bankruptcy and underwent an asset sales process overseen by the Danish regulator. The trading of shares and bonds issued by the bank on the Copenhagen exchange was immediately suspended.

In the ongoing unwinding process of the assets of the bank, shareholders and historic subordinated debt holders are expected to be entirely wiped out. Importantly, the 2009 EUR 150 million government hybrid capital injection was also kept in the bankrupt entity and is expected to be entirely lost.

Senior unsecured bonds and deposits

Bonds were split up pro-rata between the unwinding vehicle and the good bank. The October 2010 regulations in combination with the expiration of public guarantees for the pre-Lehman issued bonds enrolled under Bank Package I in September 2010 in that regard permitted to impose losses on senior unsecured bond holders holding ca. EUR 260 million.

In contrast, the ca. EUR 1.3 billion in bonds issued under Bank Package II from 2009 onwards remained fully government insured and in case of a loss would have to be paid off by the regulator. The Danish government for covering this exposure has set aside EUR 280 million in the 2013 budget. This allocation, reflects a loss expectation of ca. 20%, a reduction from the initially assumed 41% since so far the bankrupt entity was more successful than thought in recovering assets.

Deposits – both insured and uninsured – were split up pro-rata in the same way as bonds. However, within the bankrupt entity deposits received a senior recovery status over bonds. As in the case of insured bonds, the insured deposits were immediately paid off by government, in this case from the Danish deposit guarantee scheme.

The Danish government in both cases – insured bonds and deposits – in return for its payments received a first claim on sales proceeds of the bridge bank to Nordik Bank as well as assets remaining to be sold from the bankrupt entity.

In other words, de-facto uninsured bonds were treated junior. It is important to stress that none of the unsecured debt that remained in the bankrupt entity after the good bank spin-off was legally haircut. Rather

it did participate in the asset sales proceeds, receiving those proceeds according to the described waterfall.

Public vs. Private Loss Participation Outcome, Counterfactuals

The fundamental narrative of bank rescues in Denmark is that the government and the Danish taxpayer shall not have to bear the cost of bank resolution, and that banks should have to pay for "own sins", as one interview partner for this study put it.

This principle was not entirely executed in the case of Amagerbanken. The government has incurred losses through the early hybrid capital injection, and possibly through the bond insurance provided under Bank Package II.

A calibration is difficult, since the asset sales have not yet been completed at the time of closing this study and loss figures have been constantly revised. Assuming that only the EUR 700 million QIII 2010 equivalent to the sum of capital, hybrid capital and subordinated debt was lost, the government share would be limited to the loss of hybrid capital of EUR 150 million. This translates into an official sector involvement (OSI) ratio of 20%. Assuming EUR 1 billion in losses would eat into the senior bond position, i.e. some of the budget made available for senior bond insurance under Bank Package II could be drawn upon. This would mean a moderate increase of the OSI ratio.

The main counterfactual to consider is hence whether government could have saved some of these costs by avoiding the hybrid capital injection made under Banking Package II in 2009. This would have meant a commensurately higher private capital injection, which seems unlikely, given the already strong efforts made by the owners.

However, an option to at least improve ranking of government claims would have been a prior debt equity swap of subordinated debt, e.g. into junior hybrid capital, with the government investing afterwards into senior hybrid capital only. Such a move would possibly not have avoided loss in hindsight, but it would have led to a reduced loss expectation. A higher rank also would have changed the perspective of government when taking the resolution decision in February 2011.

It is worth mentioning that execution into senior bonds was assisted by the fact that the guarantees of bonds issued until 2008 under Banking Package I had just expired when the resolution decision was taken. Would Bank Package I have been handled more generously, as e.g. in the Irish case where guarantees were rolled-over and extended, a bail-in of senior unsecured bonds would not have produced any fiscal benefit. To what extent this would have changed the ultimate OSI result is a matter of final loss data, which are not yet available.

A question finally is whether the shocks imposed on the uninsured senior bond market caused by the withdrawal of government protection for bonds initially enrolled under Bank Package I could or should have been avoided. In reality, these bonds received some protection through the government hybrid capital position causing the economic shock to be mitigated. Also, government insurance of new bonds issued were fully honored. Still, the small and mid-sized bank segment in Denmark was shut out of the senior unsecured bond market until early 2012, a realization of systemic risk. It seems to be that the stop and go of government, which had first enrolled the pre-Lehman bonds and then withdrawn protection on them, rather than the protection level for these historic bond vintages per se was the factor that upset investors.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government hybrid capital investment.**

The government's hybrid capital investment under Bank Package II is likely entirely lost, the loss waterfall at the time was not observed. The high expected loss on hybrid capital investment seems to have been a motivation for the government to pursue a heavy-handed rescue approach during late 2010.

Investment into senior hybrid capital ranking above standard hybrid capital would be preferable.

- **Do not government-insure historic senior unsecured bonds (issued before crisis).**

The government first insured and then cancelled this insurance, generating a shock for the senior unsecured bond market.

Bankia¹⁹

Timelines

Bankia's is a merger of seven Cajas that is dominated by two large Cajas, Bancaja and Caja Madrid (together 90% of total assets). Both were located in the centres of the Spanish real estate boom at the Mediterranean coast (Valencia) and in central Castile. Smaller regional Cajas from Castile, the Canaries and Catalonia joined the merger.²⁰ Bankia by its creation in 2010 was Spain's third largest bank and largest real estate lender.

The Cajas had traditionally been strongly engaged in real estate financing. This was partly a result of the directed credit system practiced in the Franco era that had channelled corporate finance through specialized commercial banks.²¹ With the massive real estate lending boom of the mid-1990s, their deposit base came to depletion by the late 1990s; only large-scale bond issuance could ensure a continuation. The decade from ca. 1998 to 2007 thus saw a major boom in covered bond and mortgage-backed securities backed by Caja lending.²² A key catalyst role was played by the centralized issuance vehicle, 'Ahorro y Titulización' (AyT) in Madrid, which helped small Cajas to access the market in large volume 'multi-seller' covered bond issuances. The larger Caja Madrid both issued on its own account and joined multi-seller deals.²³

2007 saw the burst of U.S. subprime bubble followed by rather fast write-downs, large related bank and non-bank insolvencies (Bear Stearns, Fannie Mae, Freddie Mac, Lehman). Large European mortgage lenders including the two large Bankia predecessors got infected by U.S. events in the light of their own high real estate risk exposure. Policy makers in Spain, in contrast to Ireland, reacted defensively and embarked on a large-scale regulatory forbearance program to protect the balance sheets of the system. Real estate prices did fall only moderately in the coming years as a result of reduced pressure on banks to dispose of distressed assets, internal valuation techniques permitting large scale mispricing and resistance to accept lower valuations in new lending.

¹⁹ Data note: data presented in this sub-section has been collected from the annual reports of Bankia and its holding Banco Financiera de Ahorros (BFA) for the years 2011 and 2012, both institutions have been consolidated. Data presented on earlier years have been compiled by aggregating the balance sheet data of the seven founding cajas of Bankia, and - where indicated - through extrapolating the positions of Bancaja and Caja Madrid. Investor relations information provided by these entities on exchanges and calls has been very limited.

²⁰ La Caja de Canarias, Caja de Avila, Caixa Laetitana, Caja Segovia, Caja Rioja.

²¹ In order to diversify the banks and thus enhance stability, during the current crisis resolution efforts Spain has frequently merged former Cajas with private banks. An example would be the merger of Caja Mediterranea with Banco Sabadell.

²² At the peak in 2010 Spain had EUR 660 billion in housing loans outstanding, funded by EUR 340 billion in mortgage covered bonds issued by banks as well as EUR 190 billion in mortgage-backed securities (MBS) off the balance sheet of banks.

²³ Multi-seller covered bond deals seemingly eliminated the need to underwrite every individual Caja, in the way that Collateralized Loan Obligations worked in corporate finance. The high ratings of the deals permitted foreign investors to channel funds right to the centers of the construction boom. Weak Spanish covered bond legislation helped: it was formulated such that almost all stages of construction activity could be funded, including land and unfinished construction. In addition, during the credit boom even mid-sized Cajas were able to place unsecured bonds and loans on a large scale in the interbank market.

The consequence of the attempt to engineer a 'soft landing' was that in 2010 and 2011 only a partial restructuring of bank balance sheets of the most affected lenders was undertaken. The merger of the seven regional Cajas into Bankia in 2010 came after moderate initial moderate write-downs. Both the 2009/2010 issuance wave of junior debt and the 2011 IPO of Bankia is widely seen to have been based on misrepresentation of the true scale of write-down needs. Only 2012 saw finally inflated house prices materially deflate, a more in-depth bank restructuring and the creation of a bad bank along the Irish model.

Pre-Restructuring Phase

Because of the policy approach taken the Bankia case is characterized by the longest pre-restructuring phase in the sample, lasting from 2007 to 2012.

Shares

During the 2010 merger, a significant amount of real estate losses were recognized and historic regional and local government shareholders and other social groups took large hits. In 2010 Caja Madrid in this way saw its capital declining from EUR 9.7 to EUR 5.7 billion. Bancaja, after losing EUR 2.5 billion of its EUR 3.4 billion capital base, entered the Bankia merger with a capital level of under EUR 1 billion.

The Spanish bank rescue fund Fondo de Reestructuración Ordenada Bancaria ('FROB') co-financed the remaining necessary equity by investing EUR 4.47 billion into hybrid capital of the newly created holding company Banco de Financiamiento de Ahorros ('BFA'). This permitted BFA to fulfill regulatory requirements and brought the total consolidated capital of Bankia/BFA to EUR 13.7 billion.

In a second step, during 2011 BFA daughter Bankia raised fresh capital of EUR 3.1 billion from investors through an IPO. The new private Bankia shareholders thus implicitly protected BFA stakeholders, the regional Cajas and the government of Spain against future Bankia losses. An estimated 400,000 of the new private owners were households, mostly depositors of Bankia that had been subjected to aggressive advertisement and selling practices. The historic Bankia shareholders in the restructuring of 2013 lost almost their entire investment.

BFA during the merger phase had taken over additional dubious assets from Bankia to help beautify the bride; however these transfers turned out by far not to be sufficient in scale. Bankia's combined retained earnings and revaluation reserves were a positive EUR 11.2 billion by December 2010, which were the figures on which the IPO was based. After the IPO was concluded, the reserves massively deteriorated to *minus* EUR 3.6 billion by December 2011 and *minus* EUR 22.2 billion by December 2012, which formed the reference data point for restructuring.

Subordinated debt and hybrid capital

Under the prevailing capital regulations of Basel II, Spanish banks from the mid-2000s onwards had issued large amounts of hybrid capital and subordinated liabilities. For the non-profit charter of the Cajas, hybrid and subordinated debt had the particular advantage of counting as capital and materially sharing risk while not requiring the concession of voting rights.²⁴ The first wave of securities issuance during the boom years of 2006 and 2007 was absorbed by Spanish professional investors, which could be assumed to understand their risks.

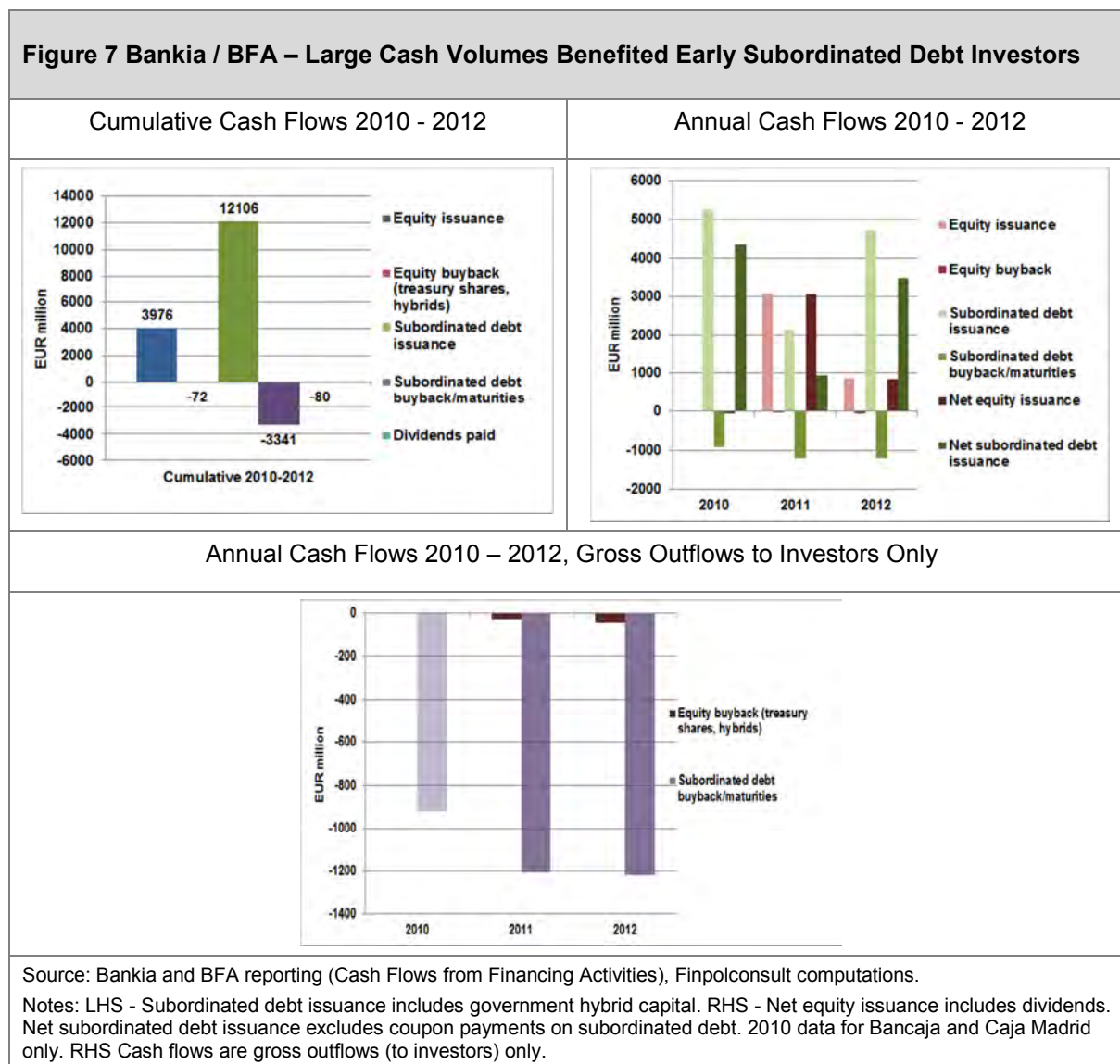
A second issuance wave occurred during 2009, after the institutional investor market for high-risk Spanish bank debt had closed in 2008. Even large Spanish banks at that time tried to avoid nationalization; however, obtaining capital, including hybrid, in the open market were prohibitively expensive. Banks and Cajas alike proceeded in 2009 and 2010 to issue hybrid capital ('preferentes') and to a lesser extent subordinated debt through their distribution networks to their retail clients. Figure 8 shows that the outstanding

²⁴ Caja funding menus at the time showed strong analogies with the issuance menu of German Landesbanken. This got to the point that even the idiosyncratic approach of issuing bespoke silent participation hybrid deposits ('stille Einlagen') was practiced in Spain – these non-standardized deposits combined the general advantages of hybrid capital with purely contractual conditions (involving often recovery and termination clauses) and an exclusion of voting rights.

volumes in the seven Cajas constituting Bankia/BFA later reached EUR 10 billion in 2009, up 30% from pre-crisis levels. In the event, first liability exercises were undertaken

The net balance sheet figures do not reveal the gross flows from and to investors. According to its cash flow statement, Caja Madrid in 2009 and 2010 cumulatively added EUR 2.7 billion in cash through subordinated debt issuance while paying EUR 570 million in cash to subordinated debt investors. Bancaja, whose solvency was in even greater doubt than Caja Madrid's, in the same period attracted EUR 589 million while paying out EUR 347 million to investors. Total payouts to subordinated investors at a highly critical time for the banks thus totaled EUR 930 million (see Figure 7). The beneficiaries of cash payouts must be assumed to be earlier professional investors while the cash inflows came largely from retail investors.

Figure 7 Bankia / BFA – Large Cash Volumes Benefited Early Subordinated Debt Investors



Retail customers that had little idea about characteristics, pricing and risk associated were lured into the deals by the promises of interest rates approx. double the going deposit rate.²⁵ Supporting was wide-

²⁵ Spanish banks had been hardly alone in Europe in that approach, even though nowhere the context of issuance was as dramatic. Most European regional banks had used their distribution network to retail to distribute also higher-risk paper, including uninsured bank certificates and subordinated debt. Commercial banks in contrast were

spread risk amnesia in the financial media, even though the fact that Spain was facing large real estate losses and that banks could go insolvent was already widely recognized. Spanish government assurances coming in the wake of parallel ones e.g. in Germany that the banks would not be allowed to fail, added to the amnesia.²⁶ An estimated 300.000 retail customers in Bankia alone thus ended up in taking a de-facto derivative position in the Spanish real estate finance boom. According to a UBS estimate, of EUR 32 billion in preference shares sold between 2007 and 2010, ca. 60% were held by retail customers in 2012.

Both the subordinated bond/hybrid capital and share sales suggest a significant amount of creditor and shareholder rotation by restructuring time in 2012 over the status at the peak of the credit boom in 2007, when retail customers were still mainly invested in senior debt.

Soon the market prices of these instruments started to collapse in the light of the increasing restructuring risk of banks and Cajas. Also, the changed regulations of Basel III implemented by the European Banking Authority ('EBA') enforced a focus on core capital and made numerous hybrid and subordinated debt instruments redundant. Spain thus started to see a large wave of LME that culminated in early 2012.

The diversity of both conditions and instruments offered in the exchanges in particular during the six months prior to payment moratorium on hybrid capital and subordinated debt in July 2012 is astounding. The apparent limited control of the Spanish regulator and hands off approach of the FROB, who eventually would have to compensate the capital losses, permitted a climate of competition between banks over deal terms. Haircuts came out extremely diverse as banks were torn between the motives of preserving customer loyalty and of EBA core capital demands. The instruments offered in exchanges ranged from cash over deposits and senior bonds, typically with minimum maturities of 4 or 5 years to assure funding, to new mandatory convertible notes.

Bankia/BFA in this climate and under pressure from EBA to strengthen core capital rather ran a radically different course and in March 2012 made a controversial debt-equity swap offer:

- The bank would pay 75% in shares at today's price for a menu of hybrid and subordinated securities today, and 100% if investors held on to the shares until June 2012 with the exercise price being determined as the average of the preceding three months.
- This turned out to be a bad deal for accepting investors as Bankia share prices collapsed from the offer price of EUR 3.31 in March to under EUR 1 in June 2012. Recovery ratios for those who sold the stock by June – likely insiders of the loss situation at Bankia – have been estimated at 43%.²⁷ However, those holding on to the stock were wiped out in restructuring in April 2013 as all other existing shareholders. Finally, investors that did not accept the March 2012 offer and remained invested in their junior bond positions were rewarded with better terms in April 2013. The LMEs main effect therefore was to split investors into several groups receiving vastly different payouts.

While fulfilling EBA demands for greater Core Tier 1 capitalization, the debt equity swap turned out to have zero economic recapitalization effect. Effectively, only some classes of Tier 1 and Tier 2 capital were exchanged against Core Tier 1, while the Bankia/BFA capital gap determined during the fall of 2012 far exceeded the sum of Tier 1 and Tier 2 capital. While cash was not directly paid to investors, Bankia spent cash on buying back her own shares to prop up the pricing during the LME offer phase in March (see data in Figure 24 in the annex) which is likely to have led to considerable cash loss.²⁸

rather likely to distribute such paper to institutional and other professional investors, and also used more complex legal structures for their issuance available in offshore centers, which tended to protect investors better.

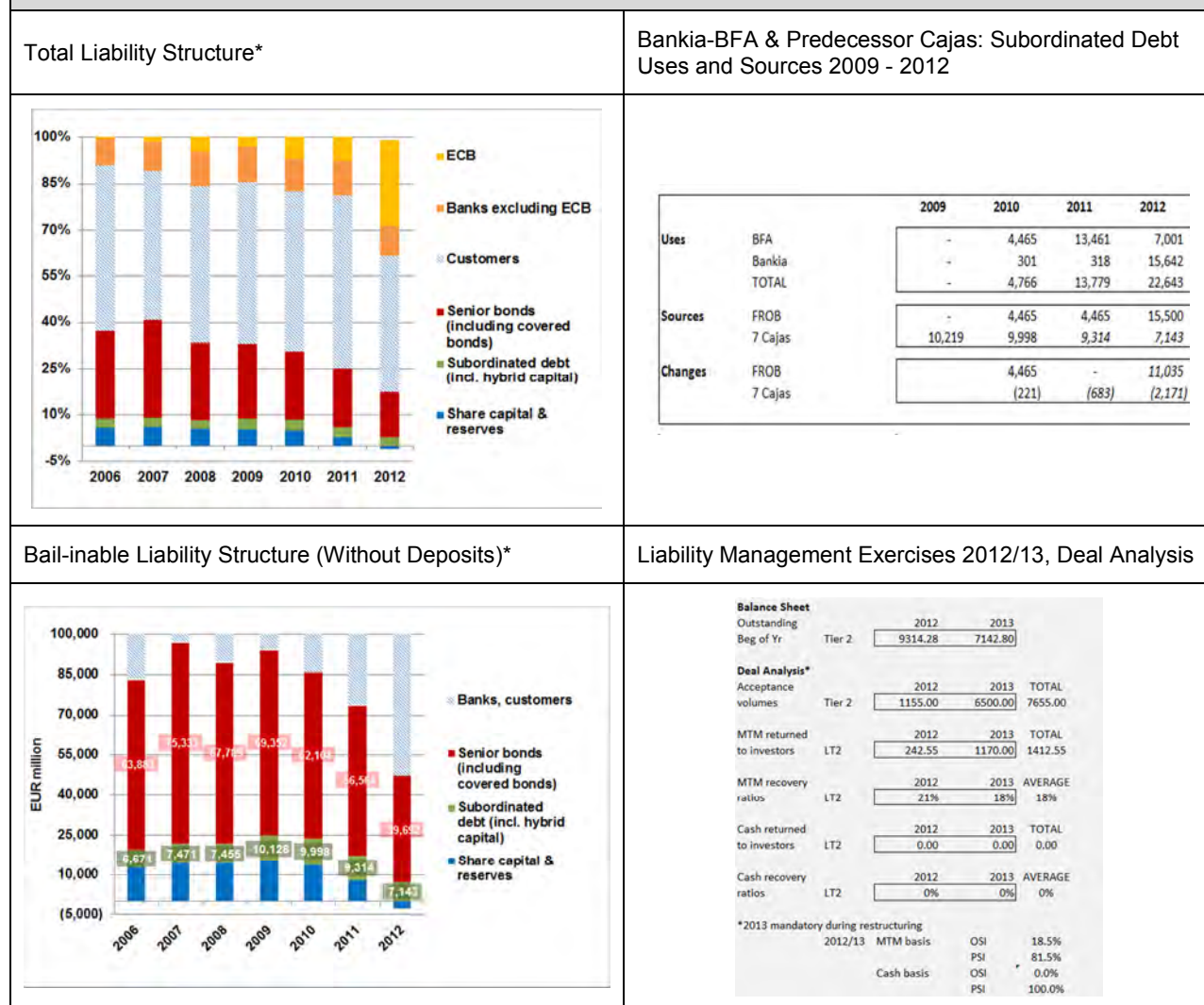
²⁶ A typical report reflecting the mood at the time:
http://www.elconfidencial.com/mercados/archivo/2009/02/01/noticias_91_banca_espanola_coloca_hibridos_clientes.html

²⁷ Source: http://economia.elpais.com/economia/2012/06/22/actualidad/1340391920_353111.html

²⁸ Bankia for the whole year of 2012 posted a loss from trading with own shares of EUR 75 million and a gross investment in own shares of EUR 255 million.

Nevertheless, as the RHS of Figure 7 suggests, Bankia/BFA lost considerable amounts of cash to subordinated investors during 2010 and 2011. And while two thirds of the EUR 1.2 billion cash outflow to investors in 2012 was immediately reinvested in EUR 800 million Bankia stock, the accounting still records a EUR 400 million cash loss. Adding figures up, Bankia/BFA is likely to have lost ca. EUR 2.5 billion in hybrid and subordinated debt through buybacks or maturities of dated paper between 2010 and 2012. It is noteworthy that Spain classifies factually hybrid capital, which is perpetual or undated, frequently as subordinated debt. This approach might have supported the regulators inclination to accept cash payments, since hybrid capital remained subject to a strict EU state aid regime inter alia preventing calls.

Figure 8 Bankia/BFA – Liability Structure and Selected Issues



Source: Bank reporting, LME tender offers and other investor relations documents, Finpolconsult computations.

Notes: for assumptions and discussion see text. *LHS charts based on the following definitions: 2010-2012 - Bankia/BFA; 2006-2009 - Bancaja and Caja Madrid data multiplied by 2010 shares in individual liability position to extrapolate to seven Cajas.

Senior unsecured and covered bonds

The boom had been fuelled through large issuances of covered and senior unsecured bonds.²⁹ Between 2003 and 2006 Spain became the largest European covered bond issuer, taking over Germany's long-

²⁹ See Dübel (2012), comparing Spain on a number of dimensions with the United States.

standing leader position in the market. The explicit target group for these bond sales was foreign investors, which in the case of highly rated covered bonds could extend even to highly conservative central banks in Asia. The Spanish banks' strategy has parallels in the global mortgage bond sales by Wall Street firms before 2008. Figure 8 shows the large volumes of senior bonds (covered and senior unsecured) in 2006 and 2007 outstanding in Bankia; remarkably for a merger of depositories they funded 30% of the balance sheet. Most of these bonds were short-term only, however – typically covered bonds only had a 5 year maturity – and thus were scheduled to mature from 2009 onwards.

Essentially all senior unsecured bonds and the majority of covered bonds responsible for credit inflation thus matured as scheduled during the vast loss recognition and restructuring delay phase between 2007 and 2012. Any new issuance of Bankia members from 2008 onwards was supported by public guarantees (FROB), and importantly in the case of covered bonds soon became primarily funded by the European Central Bank through repo operations. In fact, while new senior bond issuance reduced sharply, covered bond issuance still accelerated during 2009-2012. In order to obtain ECB funding, a Spanish bank would issue a covered bond and keep it in her own portfolio, then pledge it to the ECB against a small haircut.³⁰

Bank liability accounting in Spain generally reports the senior bond position as a whole, including both unsecured and covered bonds. It is thus not detailed enough to permit a full analysis regarding transfer of risk from investors to government, if we assume that covered bonds cannot be easily bailed in. However, it is certain that the potentially bail-inable senior bond position that was not government-guaranteed dwindled strongly during the long delay phase. Perhaps the best measure of risk transfer is the central bank position: the ECB by December 2012 funded 28% of Bankia/BFAs consolidated balance sheet. With EUR 74.7 billion exposure, the bank was the largest single borrowing bank in the Eurosystem.

Restructuring Phase

Shares

Bankia became restructured in April 2013. Existing nominal share capital, including all LME results, was cut at a ratio of 1/200, de-facto expropriating shareholders (see Table 1).

This was followed by share investment by the FROB and hybrid capital and subordinated debt investors subjected to a debt equity swap into the fresh capital, whose nominal value had been before increased by a reverse split of 100/1 to EUR 1.

Subordinated debt and hybrid capital

After a political showdown on the Spanish crisis³¹, in July 2012 the Troika subscribed to idea of greater creditor participation and a Memorandum of Understanding was negotiated with Spain determining bail-in conditions for hybrid and subordinated liabilities (subordinated liability exercises, 'SLE'). With haircuts imposed through SLE, the FROB would be able to reduce its cost and the Spanish sovereign would avoid tapping the European rescue fund and/or the IMF. Spain in the process received funds from the Eurozone directly for banks, but outside the usual policy conditionality framework.

The fall 2012 due diligence exercises classified the banks in recapitalization needs into groups, sorted by the expected depth of the capital gaps. The total outstanding subordinated debt and hybrid capital at the so-called 'Group 1 banks', Banco Financiero y de Ahorros, (Bankia's parent), Banco de Valencia, NCG

³⁰ In this way, the amount of covered bonds that can be identified in bank accounting also has been sharply reduced. Covered bonds held on the asset side and covered bonds issued on the liability side are netted out against each other. Proportionally, the ECB funding position in the bank gets inflated. This may lead to an exaggeration of the decline of the senior bond outstanding position, of which some is hidden in ECB funding.

³¹ The European Union summit in late June 2012 had insisted on direct recapitalization of banks through the Eurozone, a move that would have supra-nationalized the FROBs policy to invest in high expected loss positions. In the meantime, generous voluntary LME were kept being proposed by Cajas (e.g. Liberbank in June 2012) to bail junior creditors out. This prompted large parts esp. of the German political system and economists to revolt and call for greater creditor participation prior to providing external funds, in addition to a Spanish sovereign guarantee.

Banco, and Catalunya Banc, by moratorium date was estimated to be around EUR 13 billion. Of this amount ultimately EUR 10.6 billion became haircut and swapped. In Group 2, this happened with another EUR 2.1 billion outstanding. The terms of these mandatory exchanges were considerably harsher than the ones of the voluntary exchanges made before.

Table 1 Bankia – Expected Loss for Different Stakeholders of the Mandatory Liability Management Exercise and Public Recapitalization Executed During April 2013

Swap / Haircut Nr	Class	Book Volume		Shares Exercise		Shares MTM value			Expected loss	
		EUR mln	%	EUR	EUR mln	Price/book (implied)	Price EUR	Value EUR mln	Initial haircut	& MTM of shrs
1	SHAREHOLDERS	20	0.1%	1.00	20	0.2%	64.9%	13	99.5%	100%
2a	HYBRIDS & SUBS	4800	30.9%	1.35	3556	31.0%	48.0%	2306	26.2%	64.5%
2b	GOVERNMENT	10700	68.9%	1.35	7910	68.9%	47.9%	5131	0%	52.1%
TOTAL		15520	100.0%	1.35	11486	100.0%	48%	0.65	7450	

Source: Bankia reporting, FROB notifications, Finpolconsult computations.

Notes: MTM – mark-to-market (May 30, 2013 share prices).

Even with a bank restructuring and resolution law in place by August 2012 permitting considerable leg-room to FROB for valuation, the subsequent months until the final determination of bail-in parameters ca. March 2013 were characterized by tactics over applicable haircuts and share prices underlying the swaps.

Initial attempts to buy back hybrid and subordinated

debt at up to 10% over the ‘market price’, which the new law permitted, were discouraged by the Troika. Instead, a generic valuation model³² was applied to determine haircuts. With the exception of EUR 190 million investment in dated subordinated debt that was swapped into senior debt under a haircut equivalent zero coupon formula, only shares were distributed.³³ The Spanish practice in convertible bonds to adjust reference share prices for conversion with market prices over time downwards prevailed, however, and so ultimately the swapped bondholders received rather large volumes of shares in the banks giving them a potentially significant upside.

In the case of Bankia, bailed in investors ended up with 31% of the bank (see Table 1). From a regulatory standpoint this made no difference as both haircut and swaps got entirely booked as core Tier 1 capital. However, from an economic perspective the larger share for old creditors in the new banks means a lower recovery expectation for the Spanish government and a de-facto pari passu treatment. In contrast however to the Greek program – see Alpha Bank case below, these shares derived through ‘banking PSI’ did not receive additional subscription rights or warrants.

In the case of Bankia, the mandatory subordinated liability exercises (‘SLE’) were completed in April 2013. In a first step, EUR 6.5 billion of hybrid and subordinated instruments were haircut to EUR 5.2 billion. Average haircuts were 36-38% on perpetual (equity-like) debt and 13% on term debt. This was followed by a swap of somewhat less than the residual amount – the bank counts with ca. EUR 4.8 billion – at only EUR 1.35 per share, which can be seen as a concession. Existing shareholders at Bankia had been haircut at a ratio of 1:200, meaning de-facto zero recovery. At a book value in the neighborhood of 60c/share after restructuring, assuming a price-book ratio of 50% (reflected inter alia in the large negative pre-provision income estimate of the consultant), and considering the haircuts, Bankia hybrid and subordinated investors can be expected to recover ca. 15-20% of their initial investment. Considering a price-book ratio of 100% possible, if losses turn out less dramatic, recovery would rise to the mid-30% (see calculation in Table 1).

Taking a look at other Spanish SLE cases there is evidence that retail investors were treated slightly more favourably than institutional investors. For example, in the Liberbank exercises, retail investors were largely swapped into mandatory convertible bonds (coco) while institutional investors had to accept full conversion into shares. Thus retail investors ended up with a higher rank. This was not the case in Bankia.

³² See Analistas Financieras Institucionales (2013) for detail.

³³ For results, see <http://www.bankia.com/recurso/doc/corporativo/20130209/ingles/130527recompra-acciones-ingles.pdf>

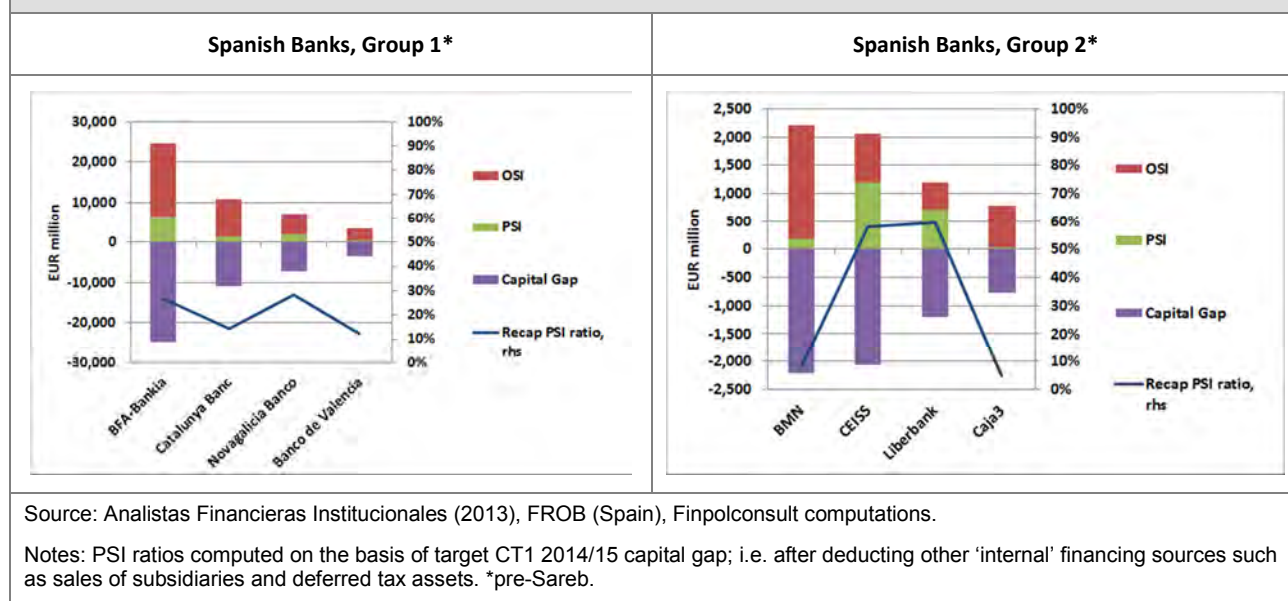
We find positive, if generally very small economic recovery for retail investors even in the worst Spanish bank cases. This political act tries to achieve a certain balance, both in the inter-temporal dimension considering the partly favourable pre-restructuring LME in some corners of the system which the regulator apparently was unable to reign in, and in the material dimension defending the outcome against legal risk in the light of considerable evidence of mis-selling of those bonds to retail investors. Nevertheless there is a long tail of lawsuits materializing in the Spain over mis-selling of hybrid and subordinated debt, and including also shares issued under the Caja IPOs in 2011. Bankia alone has currently 150,000 clients in arbitration over selling debt securities only. It is hard to forecast to what extent the outcome of the lawsuits might tip the balance of fiscal cost savings through SLE.

Public vs. Private Loss Participation Outcome, Counterfactuals

Analistas Financieras Institucionales (2013) present a summary of the SLE burden sharing exercise that is the empirical basis for Figure 9. Total private burden sharing for Group 1 and Group 2 banks come out at EUR 12.7 billion or some 24.2% of the capital gap.³⁴

The consolidated groups (Bankia/BFA) PSI burden sharing in the April recapitalizations has been calibrated as 27%, calculated on the basis of EUR 18 billion in government expenditure divided through a capital gap of EUR 24.6 billion. If the analysis is limited to the operating entity Bankia, the PSI ratio increases: of the EUR 15.5 billion capital gap of the entity, 31% was funded by private investors.

Figure 9 Banking OSI vs. PSI in Spanish Bank Restructurings



This is the regulatory capital perspective. Compensating economic value has been distributed to subordinated investors in the form of shares - as per **Fehler! Verweisquelle konnte nicht gefunden werden.** EUR 2.3 billion – and earlier cash payments, as portrayed in Figure 7. Both were however accruing to two different generations of investors.

The counterfactual analysis focuses on two aspects: an earlier point in time of restructuring, which appears perfectly possible given 5 years of delay, and a deeper restructuring involving the bail-in of senior

³⁴ Interestingly, creditor participation has been higher in the Group 2 banks (34%) than in the Group 1 banks (23%). This is partly due to the low bail-in volumes at Catalunya Banc and Banco de Valencia which had only very low volume of subordinated debt outstanding. The Group 2 ratio in turn is pushed up by Liberbank (60%) and CEISS (58%), which had still relatively large volumes outstanding and both got pre-empted at the last minute from voluntary LME plans promising investors high recovery ratios through the provisions of the MoU (see LME discussion above).

unsecured debt e.g. following the Danish example (and Irish attempts) of late 2010. For simplicity, we assume a 50% bail-inable ratio of the senior bond volumes published in the balance sheet. This includes some amount of covered bonds that in the Spanish case benefit from large volumes of overcollateralization, i.e. some capital not strictly required to service the bonds in full and that could be clawed back by regulators.

By the end of 2010, the subordinated debt of the 7 merging Cajas combined stood at EUR 10 billion, compared to the EUR 7 billion found on restructuring day in late 2012. The additional EUR 3 billion alone could have cut the fiscal expenditure for Bankia by 28% and at the Group level by 17%. As a result the PSI ratios would have risen to 50% in the bank and to 39% in the Group.

By the same resolution date, also, with the tailwinds from Denmark and Ireland Spain could have avoided both fiscal cost and any haircut in deposits through haircutting a reasonable ratio of the senior bond position, at least inside Bankia. If we exclude BFA, which had no material senior debt issued at the time, and focus on the Bankia entity only, a 25% swap ratio of the above mentioned bail-inable ratio (EUR 7.7 billion) would have sufficed. If implemented at the ultimate restructuring date in 2012 the bail-in ratio would have increased to one third.

These calculations still assume the presence of the EUR 3.2 billion in IPO proceeds, which have cut the capital gap. It may be unlikely, although not impossible, to do simultaneously do loss recognition, a comprehensive debt equity swap, and attract new shareholders. The operation would therefore have required a credible resolution approach where the IPO proceeds would have flown only into capitalizing the good bank. Again the Irish analogy with the transfer of the good bank to Allied Irish Banks comes to mind.

Even if raising additional private share capital in this way would have failed, and the government would have had to foot the same residual bill as currently (as the IPO proceeds and the additional subordinated debt proceeds obtainable in 2010 cancel each other out), Spain would have had the benefit to avoid a large litigation tail coming from disenfranchised retail clients that lost most (subordinated) or all (shares) of their investment.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**

While the Spanish government has muddled through financially at the expense of losses borne by retail clients, it should have acted far earlier and prioritized a full debt equity swap or Good Bank split over the early hybrid capital investments.

This would have permitted bailing in more of the professional investors that had bought hybrids from Bancaja and Caja Madrid during the mid-2000s. Charter concerns of the Cajas standing in the way of private shareholdings have proved to be immaterial. This approach would not have avoided direct government share investments, and it would have complicated an IPO. But it would have permitted a higher ratio of senior hybrid capital exposure relative to shares of government and lower loss exposures of households.

- **Minimize loss recognition and comprehensive restructuring delay:**

Bankia is the most extreme example of the dangers of prolonged loss recognition delay in the sample. This first permitted many of the original investors to fully recover their investments, including in particular foreign investors that held senior unsecured and covered bonds – the key vehicles of inflating the Spanish market. It secondly misled new investors, many of them domestic small savers, into investing in seemingly sound balance sheets.

- **Observe minimum standards in investor relations:**

Dubious sales of subordinated debt and hybrid securities to retail investors made years after the U.S. housing bubble burst permitted the bank to artificially inflate capital levels. Shares sold to retail investors implicitly protected these investors, earlier investors and the govern-

ment. These sales constitute probably the single worst breakdown of financial market ethics during this crisis.

- **As a last resort consider bailing in senior investors:**

As Ireland discussed and Denmark executed senior bond bail-in, the Spanish government should have moved on this front. In the particular Spanish case also a bail-in of the overcollateralization portion of covered bonds should have been considered, in conjunction with legal reform measures.

- **Streamline covered bond legislation:**

The Spanish law de-facto forbids putting a bank into liquidation since almost the entire mortgage portfolio will be withdrawn from the insolvency mass to protect covered bond investors. The associated overcollateralization should be limited through a dedicated cover concept for the construction of the bond to the amounts strictly necessary to protect investors.

Dexia³⁵

Timelines

Dexia Group was formed in 1996 through a merger of Belgian, Luxemburg and French local government finance banks. The Group was a major player in European local government finance with a focus on France, Belgium, Italy and Spain, and also active in retail banking. At the peak in 2008, it had EUR 650 billion in assets.

The parent company that emerged from the 1996 transaction, Dexia SA, is the main subject of this case study. During the period of interest 2007 – 2012 the Group balance sheet was severely and repeatedly damaged through both ad-hoc losses and a loss of her wholesale business franchise. Ad-hoc losses were caused by the U.S. subprime crisis, into which Dexia was directly involved through U.S. insurance operations and investment portfolio holdings, as well as from 2011 onwards the Greek sovereign crisis. The wholesale business was hit by rising refinancing costs coupled with mismatches and unsustainably low loan margins. Additional losses came through mismanaged hedging activities.

The severe annual losses accumulated in large volumes of negative reserves. These twice, in 2008 and in 2012, had to be covered by comprehensive public recapitalizations through the stakeholder governments Belgium, Luxemburg and France. Also, in October 2008 and in 2011 Dexia's new unsecured bond issues and interbank deposits had to be enrolled into large public guarantee programs (EUR 100 billion and EUR 90 billion) due to loss of market access.

Both the years 2008 and 2011 saw major structural measures adopted for the Group encompassing the sales of operational franchises in a number of countries. The 2011/12 restructuring plan led to the disposal of the Belgian and Luxemburg operations under Dexia Bank Belgium (DBB) and Dexia Bank Internationale a Luxembourg (BIL). It left the parent company under an orderly resolution plan with EUR 350 billion in residual assets to be wound down.

Pre-restructuring Phase

As in the case of other banks hit several times by losses, it is difficult in Dexia's case to define a pre-restructuring phase. Moreover, in parallel to Hypo Real Estate, Dexia was never comprehensively restructured and rather only nationalized with a gradually deepening public financial involvement. We decide to deal with the phase between the first and the second recapitalization in the subsequent section and focus here on the years 2007 and 2008.

³⁵ Data note: data presented in this sub-section focuses on the parent company Dexia S.A. and in particular leaves out the spin-offs from the 2011 restructurings in Belgium (DBB) and Luxemburg (BIL).

Shares

Remarkable about the phase between the U.S. Subprime Crisis and Lehman is the confidence of Dexia's management in a sufficiently high capitalization, which led to a large share buyback program launched in September 2007. Over 2007 and 2008, in the middle of a developing crisis, Dexia bought back EUR 410 million in own shares. Also, a dividend for the first crisis year 2007 of over EUR 1.1 billion was paid in cash to shareholders in 2008. This EUR 1.5 billion cash drain from equity accounts puts the 2008 capital injection of EUR 6.35 billion into perspective, i.e. the involved public shareholders on net only put up only just under EUR 5 billion.

Subordinated debt and hybrid capital

Both years are also characterized by strong amortization activity of subordinated debt. As Anglo Irish Bank, Dexia was still issuing a large amount of such debt before U.S. Subprime in the spring of 2007. However, from the summer of 2007 to Lehman the bank it paid some EUR 1.4 billion in cash paid to investors, in addition to EUR 700 million in interest. Net issuance turned from a positive EUR 600 million into a negative EUR 400 million by 2008. Gross issuance reduced to a EUR 300 million trickle in 2008.

Summing up dividends, equity and subordinated debt redemption activity yields a total cash outflow of EUR 2.9 billion, i.e. 46% of the upcoming 2008 public recapitalization.

Restructuring Phase

In terms of its market coverage and the genesis of its losses, and since 2009 also its ownership structure, Dexia is roughly comparable with Hypo Real Estate after the Depfa plc acquisition. In contrast to Hypo Real Estate, the involved governments at Dexia did not create a separate bad bank, but rather permitted the parent company after a process of subsidiarization and sales of its operating entities to mutate into a de-facto bad bank. This can be seen as a slow-motion Good Bank resolution approach, which in theory permits a significant level of creditor participation in financing the capital gaps.

Shares

In 2008, the bank received its first series of capital injections totaling EUR 6.35 billion. An additional implicit recapitalization measure were EUR 17 billion in asset guarantees provided in 2008, of which the EU Commission regarded EUR 3.2 billion as state aid.

After the group was split up in 2011 in the wake of Greek government bond losses national and local governments of the stakeholder countries on Dec. 31, 2012, made another capital injection of EUR 5.5 billion into Dexia S.A.

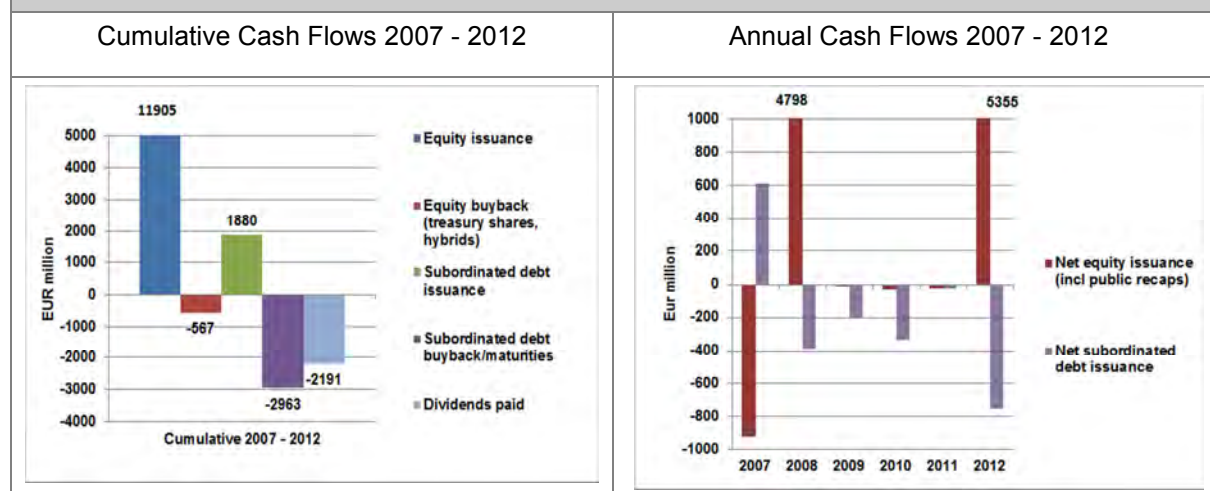
The public sector on both dates – 2008 and 2012 - invested into the first loss position through acquiring new shares against cash. While diluting private shareholders, this move also in both cases comprehensively protected investors in the next higher ranking positions, subordinated liabilities and partly in hybrid capital. This radically protective approach for investors is typical for an owner intending to keep the bank open as a going concern.

However, while going concern hopes - and systemic risk fears - dominated in 2008 with some reason, the second public capital injection in December 2012 raises questions: it came 5 months after a subordinated debt bail-in was agreed in Spain under a combined Eurozone-IMF program and at a point at which the parent company already was designated to be wound down and just needed capital to fulfill these limited functions. By bailing in hybrid capital and subordinated investors first in 2012, the public sector could have significantly improved the loss expectation of her fresh capital injection.

Subordinated debt and hybrid capital

Under rules imposed by the EU Commission, Dexia after its first recapitalization in 2008 was permitted only to fulfill contractual obligations for coupon payments on hybrid capital and subordinated debt while committing itself to make no early calls. Yet, dividend payments and calls or discretionary payments on any of this debt could be made subject to the condition that the Group's Core Tier 1 ratio would always exceed 10% (risk-based) of risk-weighted assets.

Figure 10 Dexia S.A. – Cash Buybacks/Maturities Benefiting Subordinated Debt Investors vs Equity Issuance (Public Recapitalization)



Source: Dexia reporting (Cash Flows from Financing Activities), Finpolconsult computations.

Notes: Includes EUR 6 billion and EUR 5.5 billion public recapitalizations in 2008, 2012. RHS - Net equity issuance includes dividends. Net subordinated debt issuance excludes coupon payments on subordinated debt.

The support for cash payment to the investors under this language was consequently possible thanks to the public capital injection, which essentially – in combination with deleveraging - ensured that the 10% core capital level remained fulfilled. We note in passing that the risk-weighted asset benchmark of the EU decision was a poor metric for the capital risk of the bank, since it entirely ignored sovereign credit risk that ultimately severely hit the bank. While less spectacularly than its German-Irish counterpart Depfa plc, Dexia S.A. was also chronically undercapitalized running leverage ratios in the range of 50 (see also upper LHS of Figure 11).

Finally, some of Dexia's Tier 1 instruments were grandfathered from pre-Basel II conditions and carried de-facto mandatory coupon payment language. As a result of these conditions³⁶, the bank kept making dividend/coupon payments on two of the three outstanding hybrid capital securities between 2008 and 2012 (more than half of its total hybrid capital), as well as on the 2 outstanding subordinated debt issues. Back on the envelope we arrive at payments of ca. EUR 360 million paid in coupons/dividends to investors over the period of 2008-2012.

The leniency of the conditions imposed by the EU also permitted that discretionary cash reimbursements of principal of the above securities were made during numerous buyback activities and redemptions.

- We analyze the 2012 liability management exercises in Figure 11. Cash ratios offered to investors were bold: 24 and 25% were still offered for hybrids in the spring of 2012, and 65% for Lower Tier 2 made just weeks before the December public recapitalization in November 2012 and a full 4 months after the agreement on bail-in of hybrid and subordinated investors between the Troika and Spain.³⁷

³⁶ Also, both coupons and the principal of subordinated debts and hybrids were excluded from the scope of the guarantees provided by the three national governments that backed Dexia's senior debt issuances from 2008 onwards.

³⁷ Informal feedback provided by EU Commission staff on the draft of this study suggests that the 'market price plus 10%' cash payment formula was applied to clear Dexia's December 2012 LME to clear it from a state aid perspective. The author was unable to locate a formalization of this policy in KOM documents. By the end of 2012, the Troika and Spain had already agreed to discard a parallel provision in the Spanish law, determine haircuts through a

- Interesting is the timing of the liability management as well as its generosity relative to market pricing. Prices of the above securities had already precipitously fallen in 2011, together with Dexia's new solvency crisis, and remained low since. Yet, Dexia had repeatedly rejected to undertake LME; managers were quoted by Morgan Stanley in late 2011 with the fear that liquidity could be leaving the company. We note that the 25% offered on Tier 1 in November 2012 is ca. double the average market price of the securities since late 2011.³⁸
- Unsurprisingly then the Tier 1 investor acceptance ratios in 2012 were high, 92% for 2 of the 3 securities. In contrast, even the generous Tier 2 offer did not attract more than 48 and 58% acceptance, given that holdout investors have reasons expect to receive 100% payment when the bonds mature by 2017/2019. Dexia through the 2012 buyback operations, on 4 of the 5 junior securities, lost EUR 537 million in cash as the bank awaited to receive EUR 5.5 billion in fresh public capital, i.e. nearly 10% of the public injection.

Figure 10 widens our angle from 2012 back to 2007 reporting the bank's cumulative cash flow for financing activities throughout the crisis as well as selected cash flow items.

Adding up the years of 2009-2012, the bank has paid EUR 1.6 billion in redemptions and EUR 270 million in interest to subordinated debt and hybrid capital investors, i.e. a third of entire fresh capital received from government in 2012. Taking the longer period 2007-2012 that ratio remains unchanged.

Finally, if in addition the remaining subordinated bondholders that have not accepted the 2012 LME will receive 100% at maturity date, the bank will incur an additional EUR 388 million in cash loss through redemption as well as future interest estimated at ca. EUR 90 million. There is little reason for bondholders in Lower Tier 2 to fear future haircuts since the government has once again fully recapitalized the bank.

As a result of the reorganization of the Group, also EUR 2.6 billion in subordinated debt and EUR 225 million in hybrid capital left Dexia S.A. in 2012 to the spin-offs (e.g. EUR 1.8 billion to DBB). The fate of these securities is not tracked in this study.

Senior unsecured debt

By the first recapitalization date in 2008, the bank had EUR 188 billion in senior debt securities outstanding, of which EUR 59 billion was under the state guarantee program. The difference includes covered bonds as well as likely still a considerable amount of uninsured senior unsecured bonds that could have served for bail-in in a possible early resolution in 2008.

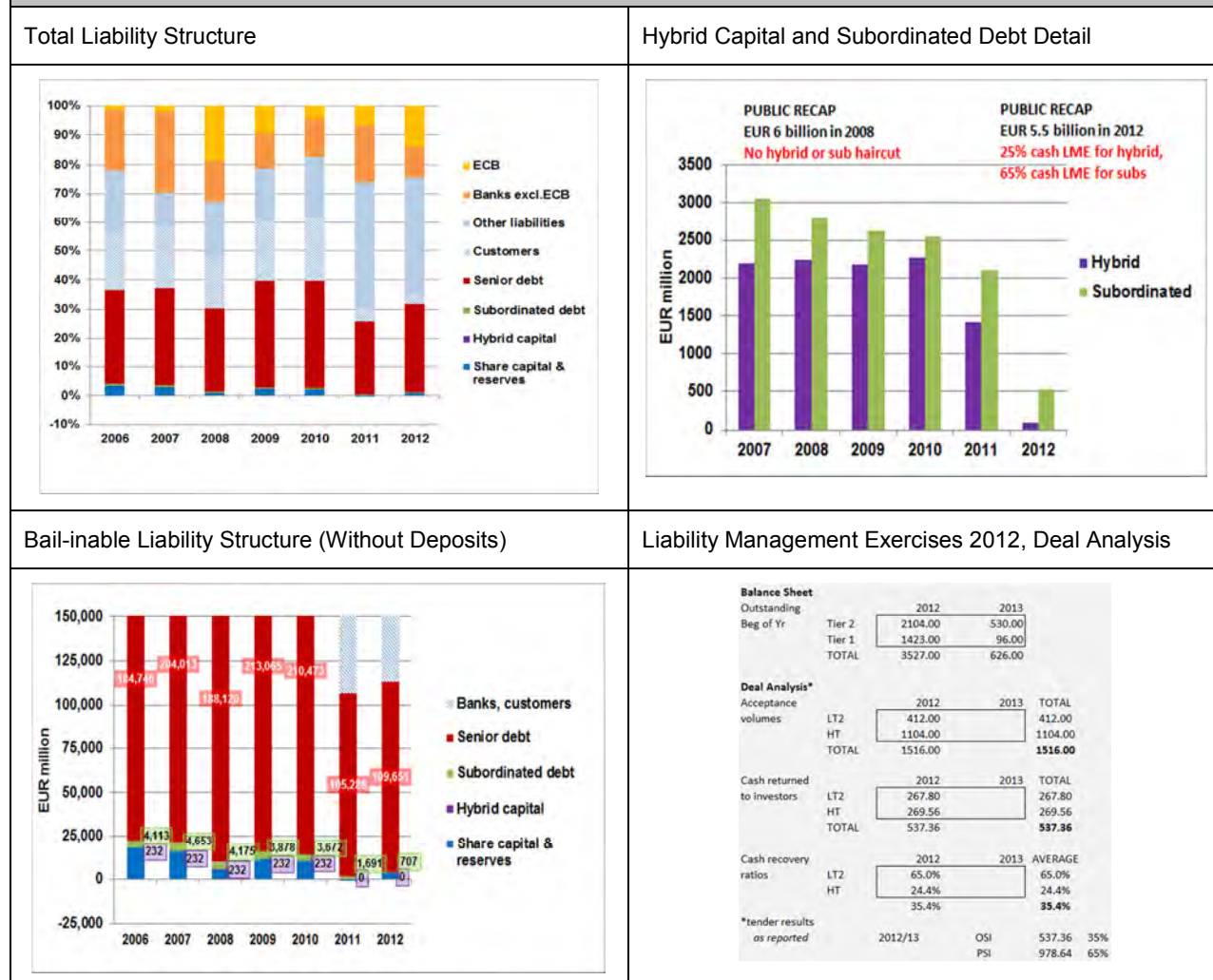
By mid-2012, still EUR 48 billion of debt was under state guarantees. The senior debt figure of EUR 109 billion by the end of 2012 includes this guaranteed debt plus an unknown proportion of the ca. EUR 90 billion outstanding covered bonds (which are partly refinanced by the ECB and thus straddle both categories, senior bond and ECB funding). It is likely that no major bail-inable unsecured debt position was left by the second recapitalization date in 2012.

valuation model and pay junior bondholders the residual overwhelmingly in shares. See discussion in the Bankia section.

³⁸

It is instructive to read the comment of the investment bank Morgan Stanley regarding their recommendation to investors to hold out on to Dexia's Tier 1, Morgan Stanley (2011). "**Tier 1: DCL 4.3% and Dexia 4.893%** As we note above, we find it very unlikely that Dexia will be permitted to pay a scrip dividend, which would serve to push the 4.892% Tier 1. With the bank unlikely to pay coupons until it has repaid all its guarantees, we could easily see a scenario where these securities do not get paid for multiple years (if ever again). Thus, we believe that both bonds risk becoming zero-coupon perps. Simplistically, we would regard a zero-coupon perp as being worth 0. Against this, there is a chance of some form of LM, although it is not our base case, as we discuss above. In the case of LM, we would expect a premium to incentivize investors, so if we assume a 10 point premium from the offer side, this gives a price of circa 25. In terms of probability, if we attach a 25% chance of LM and a 75% chance of becoming a zero-coupon perp, this gives an implied value of 6.25 (note that if we assume a 50% probability, it translates to a price of 12.5). Given this, we see the Dexia Tier 1s as having option value and, with both the 4.3% and 4.892% bid at around 10, we see little downside from current levels. Hence, we do not recommend that investors sell securities at these levels, although we accept that if LM does not materialise, market liquidity may disappear going forward."

Figure 11 Dexia S.A. – Liability Structure and Selected Issues



Source: Bank reporting, Finpolconsult computations.

Notes: the bank was restructured in 2011. Upper and lower RHS data report gross hybrid capital and subordinated debt positions, lower LHS data report net positions as per official capital reporting (net of hybrid capital and subordinated debt owned by the institution).

Public vs. Private Loss Participation Outcome, Counterfactuals

We exclude the 2011 de-consolidations from this analysis. The public participation rate in recapitalizing Dexia S.A. was 100% of the capital increases between 2008 and 2012 that totaled EUR 11.6 billion. Private share investors did not participate in the capital increase and got heavily diluted. Public shareholders also lost from book value reductions as a result of the two restructuring events. Private investors were hit proportionally – they held 26.9% of stock in 2008 and 4.5% in 2012.

The book value of hybrid capital securities, in contrast, was *not* decreased. The participation of hybrid capital investors thus came entirely through the prohibition of coupon payments and the almost fully accepted 2012 LME (75% loss). Subordinated capital investors are participating in Dexia’s losses only to the extent of acceptance of the voluntary LME in 2012 (35% loss). Total PSI reached in this event was EUR 980 million. In contrast to the voluntary LME, Upper Tier 2 securities issued by the German daughter Dexia Kommunalkreditbank participated mandatorily in losses (see chapter on Hypo Real Estate). Adding a crude estimate of the early buyback gains in the 2007 and 2008 redemptions, the PSI ratio in the group

perhaps has reached EUR 1.5 billion, ca. 11% of the total capital cap (counting as the sum of public and private contributions).

The generally unsatisfactory outcome has been dictated by the failure of both France and Belgium to pass conducive legislation which could have intervened into contractual terms, in particular of subordinated debt (coupons and book capital reduction), but also of hybrid capital (book capital reduction). Market participants were constantly aware of this self-limitation of options by the sovereigns involved.³⁹

A counterfactual incidence analysis would start with a mandatory debt equity swap of hybrid capital and subordinated debt. These options were on the table as much in 2008 as they were in 2012.

- Since we would have to net out the public investments for the fiscal incidence analysis, a central question would be what proportion of hybrid and subordinated instruments in Dexia were or are being held by the private sector. Regarding the publicly listed instruments, as opposed to loans or contractual instruments which mostly were cancelled during the split, the share of private investors is likely high.

Even if we limit the bail-in discussion to listed securities discussed before only, a hypothetical 2008 bank resolution and restructuring law permitting bail-in would have permitted saving public recapitalization in the neighborhood of EUR 3 billion, taking the PSI ratio to one third. A late 2012 promulgation – months after Spain and 2 years after Ireland – would have still saved in excess of EUR 1 billion, a PSI ratio of 19%.

Important is also the sequencing scenario: with government coming in only behind subordinated debt investors, the loss expectation of the both public recapitalizations would have significantly declined vs. the current first loss position.

Finally, rather than letting the parent company itself mutate into a bad bank, the explicit decision should have been taken – at the latest in 2011 and supported by a conducive law that supports debt equity swaps – to create a more narrowly confined unwinding vehicle into which shares, hybrid capital, subordinated debt and possibly some 10-20% of senior debt would have been transferred together with bad debt. There was clearly reluctance to do so, given the high level of public investment that already had occurred. However, sovereign finance losses and their impact on Dexia's capital levels were already known at that time and it was likely only to get harder to haircut creditors going forward in 2012.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**

The 2008 government share capital investment has been entirely lost in the subsequent sovereign crisis and the fate of the 2012 injection is questionable. The opportunity to swap at least junior bond investors comprehensively into equity was missed twice, in 2008 and 2012.

- **Provide for future asset risks:**

Analogous case to Hypo Real Estate (double-hit) with analogous recommendations (Good Bank or debt equity swap approach, tie historic junior debt payouts to future asset performance).

- **More tightly control the cash outflow to junior bond investors in the neighborhood of public recapitalizations:**

Coupons on some hybrids were paid out based on a questionable handling of state aid case by the EU Commission. As late as 2012 only a voluntary liability management was executed, i.e. cash was disbursed to investors. Moreover, subordinated debt investors holding out after the second public recapitalization will likely receive full payment.

³⁹ We quote again Morgan Stanley (2011): “Despite the Irish experience, where LT2 suffered an 80% haircut and Tier 1 a 90% haircut, we see little impetus for a bail-in of Dexia’s subordinated securities in the foreseeable future.”

- **Minimize the risk of distorted restructuring action:**

Rather than letting the parent company slowly mutate into an unwinding vehicle, the explicit decision should have been taken earlier to follow the Good Bank approach and thus tie the fate of junior debt directly to the performance of bad and dubious assets. Additional legacy bad assets arising can be tied to the unwinding vehicle through CDS or other credit-linked mechanisms.

SNS Reaal Group⁴⁰

Timelines

SNS Reaal Group is a Dutch banking and insurance group which in 2012 had a EUR 133 billion balance sheet. Of this volume, SNS Reaal bank represented EUR 80 billion.

In the early and mid-2000s, SNS Reaal made a number of acquisitions, including the purchase of the property lending specialist Bouwfonds from ABN Amro in 2006 which was later turned into the firm's property finance division. Other acquisitions included Dutch regional banks and insurers.

The strategy was to build the Group around the specific Dutch version of the bankassurance concept that had been founded on massive tax subsidies.⁴¹ These in turn had propelled Dutch mortgage debt to the highest level in Europe relative to GDP. Yet, with the acquisitions the Group also became significantly exposed to both domestic and international commercial real estate.

The first events that challenged the Group was the U.S. Subprime Crisis, which induced investors to see financial institutions concentrated in real estate with great suspicion. SNS received its first government equity injection in 2008; at the time, however, the firm was in denial of potential real estate risks and injected most of the proceeds into its insurance arm.

The sizeable commercial property risks that the Group had acquired through Bouwcentrum in Spain and the United States, however, subsequently led to major write-downs. These started in 2009 and deepened in 2010, after which the decision was made to wind down the international operations.

After a less dramatic 2011, a second wave of large real estate write-downs began in 2012 and continued into the first half of 2013. This time, domestic commercial real estate exposure in the Dutch market took center stage, especially in the retail and offices segments.

The property finance assets at the end of 2012 totaled EUR 8.5 billion, 80% of which in Dutch locations. Of these, EUR 3 billion were classified as non-performing. The property finance arm had accumulated

⁴⁰ Data note: data reported in this subsection focuses on the annual reports of SNS Reaal Group and where indicated refers to the bank profit center. SNS Reaal provides detailed information on the restructuring solution in the annual report for 2012.

⁴¹ The Dutch model was essentially to subsidize the co-selling of banking products and insurance products. The co-selling work horse were mortgages whose demand was artificially inflated through the following mechanics:

- A household would be eligible for tax deductibility of mortgages – a subsidy and preference treatment of home buyers, since saved rent payments of being a homeowner remained untaxed – and/or a subsidized government-guaranteed mortgage loan.
- The same household yet would also receive a subsidy for saving into an insurance vehicle which would be dedicated to pay off the mortgage at final maturity. This in turn helped to maximize the subsidy received on the mortgage, since the mortgage under these conditions did not have to be amortized.

The winner in this construction was inevitably the lender-insurer, through double-charging and hiding of fees and spreads while minimizing client acquisition and network cost. Much of the client acquisition relied on brokers, which also were able to reap dual fees. The losers were the government as the subsidy provider and the client, who usually bought housing at excessive prices with 100% and higher loan-to-value mortgages. This debt moreover would not amortize in time to avoid vulnerability to over-indebtedness when prices started to fall after 2010. At the same time there was risk that the insurance vehicle would not be able to fully amortize the mortgage as advertised.

EUR 1.9 billion in losses over 2009-2012 while the remainder of the Group companies remained profitable. The Dutch state finally took control and ownership of SNS Reaal on February 1, 2013 due to insufficient capitalization.

Pre-Restructuring Phase

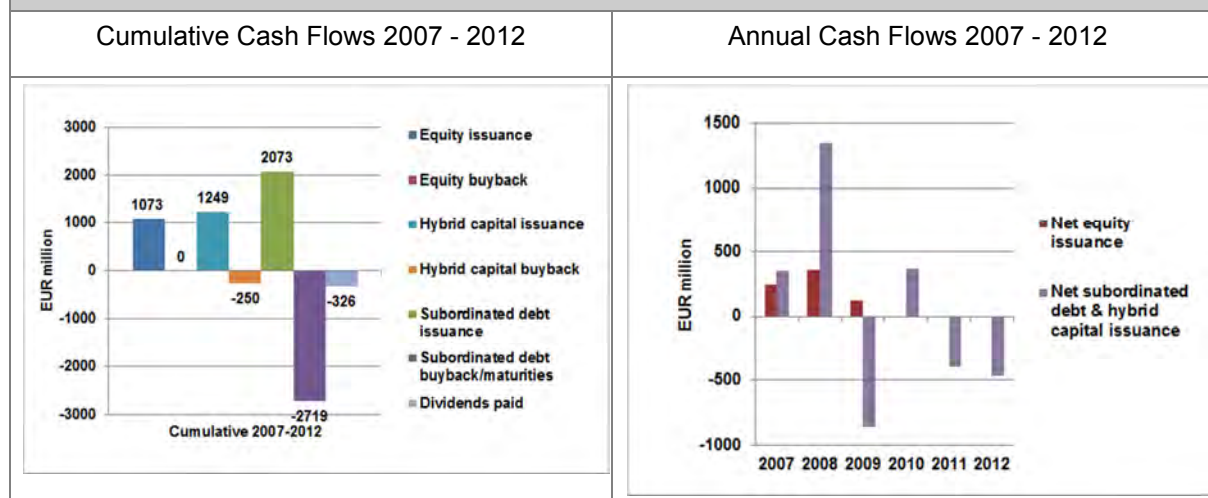
Shares, hybrid capital and subordinated debt

In December 2008 SNS Reaal had received a EUR 750 million capital increase from the Dutch State in the form of hybrid capital securities. More specifically, these were non-voting, perpetually subordinated securities ranking *pari passu* with ordinary shares. However, like many securitized hybrids at the time, they were formulated as non-loss-absorbing in the going concern. In parallel, the bank issued another EUR 500 million of hybrids through a trust that in contrast were loss absorbing, and thus de-facto protecting the government in the going concern.

The capital increase by the time was described as a ‘precautionary’ measure, which seems to be the reason why no action was taken over the banks EUR 300 million in hybrid capital and EUR 1.8 billion in subordinated debt outstanding at the time. Later, hybrid coupon payments were suspended under general EU rules for banks with state aid.

In 2009 the profit situation was still seen as healthy enough for SNS to buy back EUR 250 million of the hybrids, most of which from government, and retire other junior debt (see RHS of Figure 12). In 2010, SNS Bank even was able to place a EUR 500 million subordinated bond with a 10-year maturity on the market. While the bank kept retiring existing subordinated debt, it thus had a surplus net subordinated debt issuance in that year.

Figure 12 SNS Reaal Group – Cash Flows from Financing Activities



Source: Bank reporting (Cash Flows from Financing Activities), Finpolconsult computations.

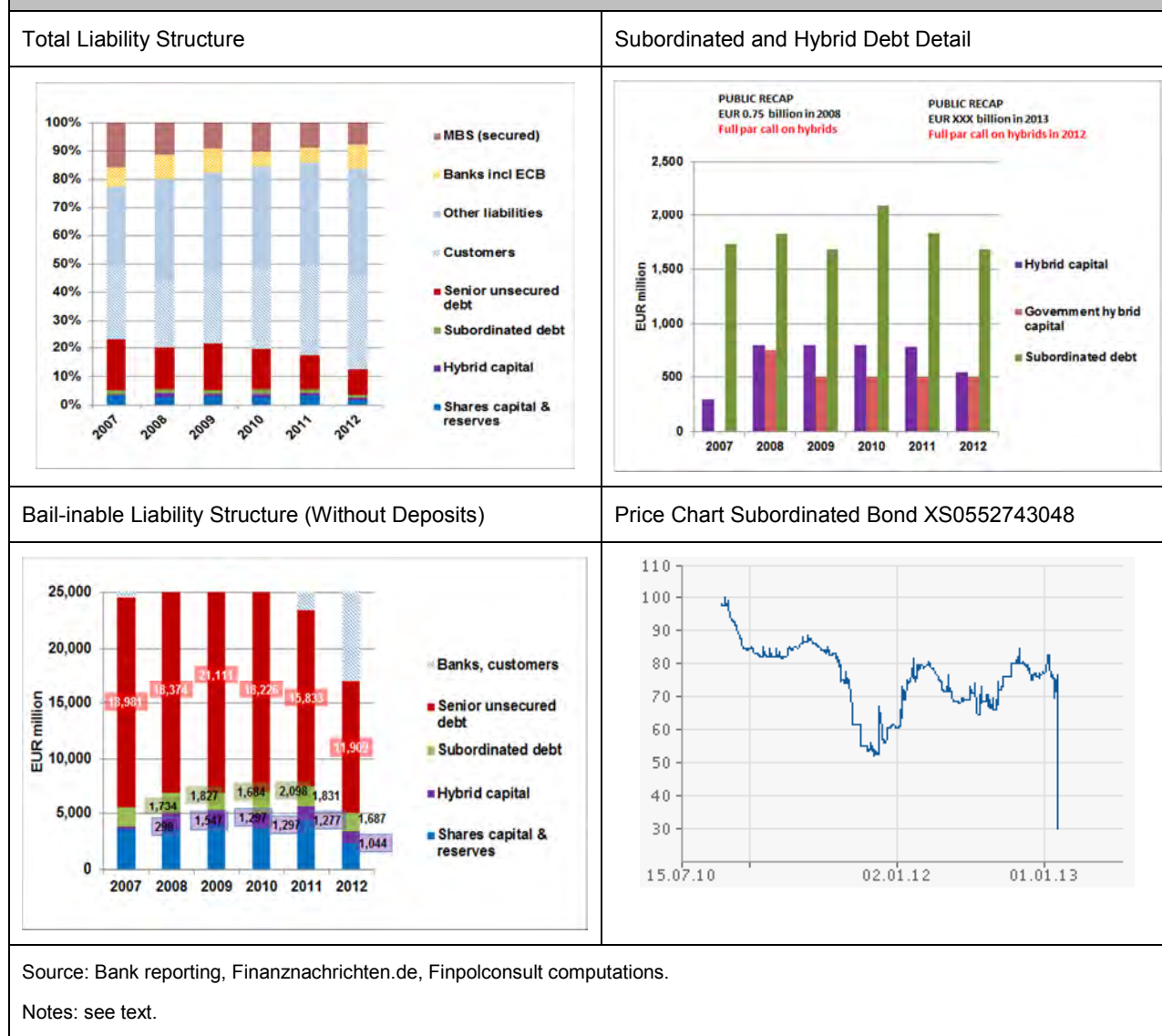
Notes: Subordinated debt issued includes EUR 750 million received by the Dutch state in December 2008. RHS - Net equity issuance includes dividends. Net subordinated debt issuance excludes coupon payments on subordinated debt.

Matters started to get more critical in 2011, when the first cracks in the Dutch real estate market appeared. At the same time, the transition from Basel II to Basel III provided lenders with strong incentives to do LMEs. Neither the regulator nor the Dutch government as key equity investor took objection when SNS Bank conducted a EUR 420 million buyback transaction. This generated early redemption of two subordinated bonds issued by SNS Bank in exchange for a new issuance of debt certificates under the Medium-Term Note program. The bank claimed a 72 million Tier 1 benefit, which indicates a 17% average haircut - about the discount of the subordinated bonds below par at the time. Yet, it also meant EUR 350 million in lost bail-inable capital at the level of junior debt.

2012 saw even worse outflows of junior debt with a total cash loss to investors of EUR 464 million, according to cash flow statistics. A significant part was the full early redemption at 100% of two 2003 issued participation securities, legacy hybrid capital, at their first possible call dates as 10 years had elapsed. Balance sheet data suggest that out of EUR 298 million at the end of 2011, at the end of 2012 only a bail-inable value of EUR 57 million remained for the Dutch state. The bureaucratic reason for clearance provided was that the Dutch regulator no longer considered the securities as Tier 1 eligible.

The companion piece was subordinated debt redemptions of another EUR 200 million at the group level. In total EUR 322 million in subordinated debt was lost between the peak in 2010 and 2012, reducing the total bail-in potential in the bank available in 2012 from Tier 2 from EUR 1.9 to 1.6 billion.

Figure 13 SNS Reaal Group – Liability Structure and Selected Issues



Senior unsecured and covered bonds

As the crisis built up during 2008, SNS still had reasonable access to the senior unsecured funding market. In May and June the Group issued EUR 800 million with a maturity of 2 years. After Lehman the bank enrolled into the Credit Guarantee Scheme of the Dutch state, which by the end of 2009 covered EUR 5.4 billion out of the EUR 19.4 billion medium term note program.

Senior unsecured issuance activity declined strongly during 2010 – 2012. The bank between 2008 and 2012 retired a gross EUR 17 billion, in the last two years alone EUR 10 billion. By 2012, the government-insurance only covered EUR 2.8 billion out of a remaining EUR 11.7 billion medium term note program.

The bank was engaged throughout the period in significant MBS issuance activities, of which ca. 50% were held in own portfolio. The companies became fully consolidated, so the residual debt appears on the balance sheet. It is nevertheless non-bailinable because it is issued by separate, bankruptcy remote special purpose vehicles whose collateral is ring-fenced and pledged to investors.

Restructuring Phase

Shares, hybrid capital and subordinated debt

For 2012, SNS Reaal reported a loss for the year of EUR 972 million to which the property finance arm contributed 90%. Equity attributable to shareholders, however, had declined by a full EUR 2 billion, wiping out nearly 40% of the capital base. A key factor was a EUR 1.7 billion write-down on the property finance portfolio. On 1 February 2013, the company was consequently nationalized by the Dutch State and in March the government made a EUR 2.2 billion share capital injection.⁴²

This injection took place, however, after shares as well as the remaining hybrid capital and subordinated debt of the bank and the Group had been nationalized. This decision by the finance ministry hit the EUR 57 million in participation hybrids as well the EUR 435 million booked in the hybrid capital trust issued in 2008. It included the governments' own hybrid capital position of EUR 565 million. EUR 1 billion of subordinated debt was expropriated, too, leaving EUR 490 million in subordinated bonds issued by the life insurance arm out. However, coupon payments on this leg of the debt were suspended as contractual conditions permitted the issuer to do so.

The technique applied was expropriation of the securities with zero compensation under a freshly promulgated Dutch law. The nationalization decision taken became irrevocable after a ruling from the highest Dutch administrative court on February 25. As no shares were offered to investor for compensation, unlike in the parallel Spanish cases, and many investors had speculated on a government or at least industry bail-out based on past experience, the impact on the price of the instruments was devastating (see lower RHS of Figure 13).

Investor groups subsequently challenged the regulators decision in court on the basis of insufficient material grounds given for the expropriation as a full solvency review had not been presented by the regulator. First compensation offers made by the government were rejected. By July 2013 claimants were handed a court victory on the ground of the missing review. The best guess at the closing of this study points towards no or small compensation offered by government as the liquidation value of the subordinated debt without taking into account prior state aid is taken as the yardstick. However, as will be discussed further below, there is a potential for the Dutch government to make a net profit from the expropriation, which could become a factor in future court decisions.

Regarding the bailed-in participation hybrid capital position, which were deemed a mis-selling case, compensation to investors has been contemplated by the government.

Senior unsecured and covered bonds

As the discussions in Cyprus and the Eurozone as a whole evolved, and since the capital gap was larger than what shares and subordinated capital could provide, by January 2013 even senior unsecured haircuts had been considered by the Dutch government. An outstanding volume of EUR 9 billion medium term notes had remained unprotected by the government by December 2012. This idea was rejected.

An amount of EUR 1 billion was levied from the Dutch banking system that can be seen as economically related to this decision. The Dutch finance ministry commented to the author in a mail exchange in July 2013 that the rationale was to compensate the government for avoiding the negative impact of an SNS

⁴² Also, a EUR 5 billion government guarantee for liquidity provided to a special asset management company taking up assets from the property finance arm was granted. This move reduced the required capital support for SNS.

Reaal default on other Dutch lenders. The proceeds partially sponsor the government share capital injection.

Public vs. Private Loss Participation Outcome, Counterfactuals

Based on the pro-forma consolidated balance sheet reported, the total capital gap of SNS Reaal to be plugged in February 2013 can be put at EUR 1.8 billion in capital loss attributed to the property finance arm (realized during H1 2013)⁴³ and EUR 2.5 billion in capital needs, after deducting existing shareholder capital, required to meet minimum regulatory requirements of the residual group (as well as its own contribution to the EUR 1 billion levy). EUR 2.1 billion in hybrid capital and subordinated debt have been deposited as share premium or expropriated, leaving the government and Dutch banks to fund EUR 2.2 billion of the recap. If one adds the share of government in hybrid capital of EUR 565 million, the OSI (government and Dutch banks) has been EUR 2.8 billion. This is 58% of the total of the private and public creditor contribution, excluding shareholders.

- This calculation disregards additional cash costs incurred by the Dutch state, whose loss expectation is unclear or dubious. The government indicates that it will invest ca. EUR 500 million into a real estate management organization set up for winding down the property finance portfolio, whose recovery expectation is uncertain. Also, she claims to have lost a contractual penalty on the earlier capital injection of EUR 565 million. Clearly, finally, some of the contribution of Dutch banks to the recapitalization could be classified as OSI, given that two contributing banks are state-owned.
- It is moreover subject to vagaries regarding court action of the expropriated subordinated debt investors. Assuming, heroically, that these could claim receiving the instrument's market prices prior to the expropriation of 70c/EUR (see lower RHS of Figure 13), the OSI would increase by another EUR 700 million or 73%. Given the legal risks of the zero compensation approach, and in particular the intrinsic problems to properly determine the losses of a real estate lender before the cycle has fully played out, a debt equity swap might have been the preferred solution.

That this is not a theoretical consideration is demonstrated by a different form of calculation: by expropriating shareholders and subordinated debt holders, the Dutch government in February 2013 obtained full ownership of a book equity of EUR 4.75 billion. Given that it has only invested EUR 2.8 billion, the government is thus expecting ca. EUR 2 billion in profit, assuming that the value of the shares equals the book value. Even if one assumes only a 60% price-book ratio - despite having ring-fenced the critical real estate exposure - the Dutch government would break even.

The argumentation of course will change if additional losses (or profit) come up at the unwinding vehicle for the real estate (finance) assets and the EUR 500 million in upfront cost cannot be recovered. The deteriorating outlook for the Dutch retail mortgage market could also mean increasing vulnerability for the going concern retail bank, depressing the value of government shares. Due to the excessive tax subsidies of the past, it is believed that a third of homeowners in the Netherlands currently owe more than their house is worth. While cash flow motives for defaulting, such as a drop in income, might stay low in the context of the well-developed Dutch welfare state, option-theoretic motives, i.e. the desire of the borrower to correct a deep over-indebtedness situation and regain financial degrees of freedom, may rise going forward.

Whether the so far presented write-downs are the end of the story or not: sharing economic value in shares in combination with a profit/loss share in the unwinding vehicle (e.g. through CDS written) with subordinated debt investors, beyond certain initial haircut levels justified by the level of losses, could have been the fairer solution in order to match uncertainty of asset performance with the capital structure. Alternatively, subordinated debt investors could have become the equity financiers of the unwinding vehicle, which is the solution under the classic Good Bank approach. The government argument that a non-

⁴³ A Dutch finance ministry commissioned expert assessment had calibrated the total expected loss of the property finance arm per H1 2012 at EUR 2.8 billion, of which already EUR 770 million had been written down in H2 2012. The difference to the remaining EUR 1.8 billion booked in H1 2013 is due to tax effects.

intervention and bankruptcy of SNS Reaal would have generated a liquidation value of zero, while likely to be true, seems detached from the asset performance argument and could possibly even be true for far stronger bank balance sheets. Finally, the investors in the 2010 subordinated bond issue that effectively were manoeuvred into the risk position of earlier subordinated bond investors may argue that government as regulator did little to inform investors and as co-investor took action to correct the situation at SNS Reaal only when it was late.

The counterfactual analysis focuses on the past two years, 2011 and 2012, during which net subordinated debt cash flow out of the bank was minus EUR 860 million. Clawing these sums back through earlier action could have brought the Dutch government a reduction in expenditure to below EUR 2 billion, or down to an OSI ratio of 40% only. In this context, the recognition delay inside both in Dutch banks and government regarding the unsustainability of the real estate market policies and the unavoidability of adjustment is worth pointing out. Possibly also losses could have been cut through earlier action.

Continuing with hybrid capital, the government injection of 2008 that created a de-facto senior preferred share seems rather elegant and in line with U.S. best practice at Fannie Mae and Freddie Mac. Clearly, however, with a reformed legislation available at the time already, subordinated debts of the time would have bailed in before the government put money in, which would at least have saved years of coupon payments.

Finally, a partial contribution of some 30% of the remaining senior bondholders, worth EUR 9 billion, would have made both government and Dutch banks whole, a less than 20% contribution of the bondholders at least government. Whether such a move would have been legitimate given both the governments and Dutch banking systems co-responsibility of the lack of speed in real estate market adjustment is a different question. After all, SNS Reaal due to these deficiencies in the Dutch economic policy making process was resolved a full two years after Amagerbanken, and even three years after Anglo Irish bank.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**

The Dutch government in 2008 invested one rank too low – in a higher rank than standard hybrid capital as far as loss participation is concerned, but effectively protecting subordinated debt. This could have been avoided by an earlier debt equity swap.

- **Minimize loss recognition and comprehensive restructuring delay:**

The failure to bail-in junior debt holders in 2008 led to an exchange of the investor population over time. In particular, new investors tapped in 2010 had to shoulder losses that should have been taken by an earlier investor generation.

- **More tightly control the cash outflow to junior bond investors in the neighborhood of public recapitalizations:**

Too much cash was paid to subordinated bond investors, the most extreme example being the cash call on hybrid capital weeks before the second restructuring in late 2012.

- **In hybrid capital and subordinated debt liability (SLE) management prefer debt equity swaps over haircuts:**

This is particularly advisable if asset performance is cyclical and final recovery ratios are highly uncertain, as in the case of a real estate lender. Also the legal risks of zero compensation policies are substantial.

Cyprus Popular Bank ('Laiki')⁴⁴

Timelines

Cyprus Popular Bank (also known as Laiki) was the second largest banking group in Cyprus behind the Bank of Cyprus with peak total assets of EUR 43 billion by 2010 and EUR 30 billion at the time of last reporting, September 2012.

Throughout the 1990s and 2000s, Laiki developed from a local Cyprus co-operative bank to a de-facto commercial bank. The main initial growth driver was large corporate deposit inflows attracted by the countries low-tax and low-transparency policy in the financial sector. The corporate tax rate in Cyprus during the time was only 10% (now 12.5%). A Deloitte review of the two large banks by May 2013 revealed that the names of 90% of deposit account owners were unknown and policing of money laundering rules was effectively absent. Under such conditions, many international corporations and individuals, often of Russian origin but also from the Balkan and the Middle East, selected Cyprus banks for tax evasion and other illicit purposes. Both large banks operated 'International Business Units' that collected the deposits centrally. Laiki's IBU at the time of the outbreak of the Greek crisis in 2010 held more deposits than all other Cyprus branches together.

Laiki secondly grew non-organically through expansion into Greece. In 2006, the bank was acquired by Marfin Investment Group, which already owned Marfin and Egnatia banks in Greece and consolidated all three banks under Marfin Egnatia Bank. This entity in 2007 and 2008 grew further through acquisitions in Eastern Europe, Russia and Australia. In December 2009, a joint inspection of the bank by Cyprus and Greece had produced evidence of significant irregularities and mismanagement. Through 2010 the Cypriot central bank put pressure on the group with the goal of keeping the headquarter in Cyprus and convert the Greek operations from a subsidiary into a Cypriot branch. This became reality in March 2011 and Cyprus Popular Bank re-emerged as the name of the bank.⁴⁵

Yet, this at first sight reasonable decision turned out to have disastrous consequences for Cyprus already by later the same year, since Laiki's Greek operations became ineligible for both Greek central bank ELA as well as the Greek bank recapitalization program. Tapping these programs had become imperative during 2011 as a result of the agreement on GGB haircuts emerging from June 2011 onwards, for which the bank provided EUR 2.3 billion by December, and which induced a flight of international depositors.

Through parallel downgrades of Greek and Cypriot securities held, Laiki's assets also became increasingly ineligible for ECB repo operations. The result were spiraling exposures for the Central Bank of Cyprus ELA to Laiki, which peaked at EUR 9.8 billion by September 2012.

During the spring of 2012 negotiations between Greece and Cyprus regarding a reconversion of the Greek branch into a subsidiary failed, despite the intervention of ECB President Draghi. A recapitalization became unavoidable by June 2012, in which the government bore the lions' share. Over the summer, the Cyprus government agreed to an asset quality review performed by U.S. consulting firm PIMCO. Rising non-performing loans from the Greek economic crisis, but also at a house price bubble had been pricked, combined with dubious provisioning policies prompted large recapitalization needs established by November 2012. After long and heated discussions over the extent of creditor participation, accompanied by additional large deposit outflows, Laiki was finally resolved in March 2013 and its good parts were sold to Piraeus Bank (Greece) and Bank of Cyprus at home. The unwinding vehicle became a co-owner of Bank of Cyprus.

⁴⁴ Data note: Laiki reporting ends in Q III 2012. An annual report for the year 2012 has not been presented (note: for Bank of Cyprus, the 2012 report has been announced for October 2013). Investor information regarding the restructuring measures and outcomes offered by the banks' receiver, the Central Bank of Cyprus, has been rather anecdotal. Due to the close connection with the Greek government bond crisis we start the analysis with the year 2009.

⁴⁵ Detail of the events at the bank between 2009 and 2012 is provided by a report of the consulting firm Alvarez & Marsal for the Central Bank of Cyprus: http://static.cyprus.com/AM_Marfin.pdf

Pre-Restructuring

We discuss the phase between the emerging GGB haircut agreement in mid-2011 and Laiki's resolution in March 2013. In that phase, in June 2012 the bank had been subjected to a first restructuring that failed.

Shares

Laiki during 2011 underwent a series of capital increases that netted EUR 450 million in cash (see Figure 14). The largest rights issue was made in September when the need to provision for GGB haircuts had become apparent.

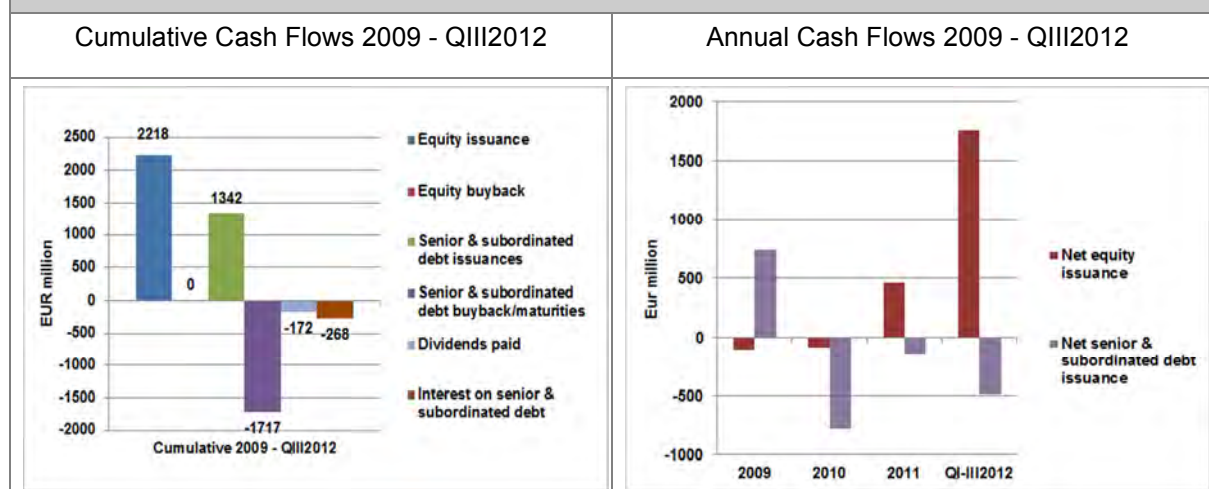
2011 annual losses then reached EUR 3.7 billion as a result of GGB haircuts and goodwill write-downs on the Greek acquisitions, which made a more comprehensive recapitalization necessary. Laiki dealt with this issue – 8 months earlier than Greek banks - on July 2, 2012 by decreasing the capital for existing shareholders and obtaining EUR 1.8 billion in recapitalization through the Cyprus sovereign.

A notable aspect of this operation is the depth of concessions made by Cyprus towards existing shareholders and hybrid capital owners: apart from jumping right into first loss by subscribing to shares and thus only diluting existing shareholders, the government reduced the number of shares it received by paying four times the market price (10 cent instead of the 2.5 cent prevailing over the second quarter of 2012) to the bank.

Hybrid capital and subordinated debt

Laiki Bank as well as Bank of Cyprus had issued a significant amount of hybrid capital in 2009 and 2010 in the form of contingent convertibles. The EUR 737 million hybrid capital position in June 2012 was converted into shares only parallel with the government and at concessionary conversion rates. Participation also was at that stage voluntary only. Only by December 2012 conversion of the remaining hybrids was turned mandatory. Also, as a result of sequencing and contractual features, hybrid capital owners suffered no prior nominal capital reduction.

Figure 14 Cyprus Popular Bank (Laiki) – 2012 Cash Outflows to Bond Investors Despite Public Recapitalization and Subsequent Due Diligence



Source: Bank reporting (Cash Flows from Financing Activities), Finpolconsult computations.

Notes: No separation of senior and subordinated debt cash flows available. RHS - Net equity issuance includes dividends. Net senior & subordinated debt issuance *includes* coupon payments. 2012 senior bond maturities includes EUR 330 million in September. For 2012 subordinated bond redemptions, see Figure 16.

The government in summary left some EUR 964 million in book value in the bank to existing shareholders and hybrid capital owners. This turned out later to be a theoretical calculation only, since the bank was resolved later, but it throws a flashlight on the hands off approach of the regulator.

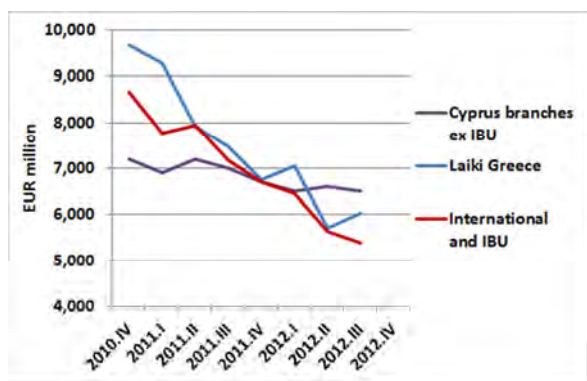
Laiki also still had EUR 530 million in subordinated debt outstanding, largely in a single Eurobond due to mature in 2016. Figure 16 tracks the destiny of this bond. The purpose of the Lower Tier 2 LME was two-fold: to compensate investors for the non-call of the bond at its first date, in May 2011, which was still seen as coming with stigma at the time esp if compared to neighbouring Bank of Cyprus⁴⁶, and to increase Laiki's Core Tier 1 capital while the government was investing in it.

The problem was that, given the situation of the bank, the LME offered far too generous terms:

- Investors were offered to swap their subordinated bond holding, minus a 27.5% haircut, into a senior bond carrying an 8% coupon with the same 2016 maturity. The concession of such a high coupon for senior unsecured – twice the already elevated going deposit rate in Cypriot banks - reduced the haircut on a mark-to-market basis to a meager 17.4%.⁴⁷
- The alternative offered was a 55% cash payout. Greek Alpha Bank only weeks before had offered cash against a 60% haircut for the same type of instrument.

EUR 132 million in outstanding accepted the bond exchange, producing a EUR 96 million senior bond for Laiki. An additional EUR 182 million opted for receiving EUR 100 million in cash. Tier 2 for Laiki Bank declined by EUR 314 million, for which the bank booked only a EUR 118 million increase in core Tier 1. Tier 1 would be reduced further going forward through future interest payments on the senior bonds. Our calculation presented in Figure 16 yields a net loss of bail-inable SLE (Tier 1 plus Tier 2) capital through the voluntary LME for the bank of EUR 277 million.

Figure 15 Cyprus Popular Bank (Laiki) – Changing Structure of the Deposit Base of Large Banks Q IV 2010 – Q III 2012



Source: Bank reporting, Finpolconsult computations.
Notes: reporting only available until Q III 2012.

Senior bonds and deposits

By final restructuring time in March 2013 the two large banks Bank of Cyprus and Laiki Bank were already looking back on a long history of loss of potentially bail-inable debt. Senior unsecured bonds had disappeared even faster than in Greece: Laiki Bank had lost 2/3rd of its senior unsecured bonds already by December 2010, as Figure 16 shows.

Laiki did not touch senior bonds in the June restructuring and the largest part of the position left through the ordinary redemption of EUR 337 million in senior bonds in late September 2012. The redemption took place just days before the consultant PIMCO started with, and weeks after they had received, the due diligence mandate. The senior bonds that remained in Laiki stemmed from a subordinated LME, detailed further below, and entered the resolution in March 2013.

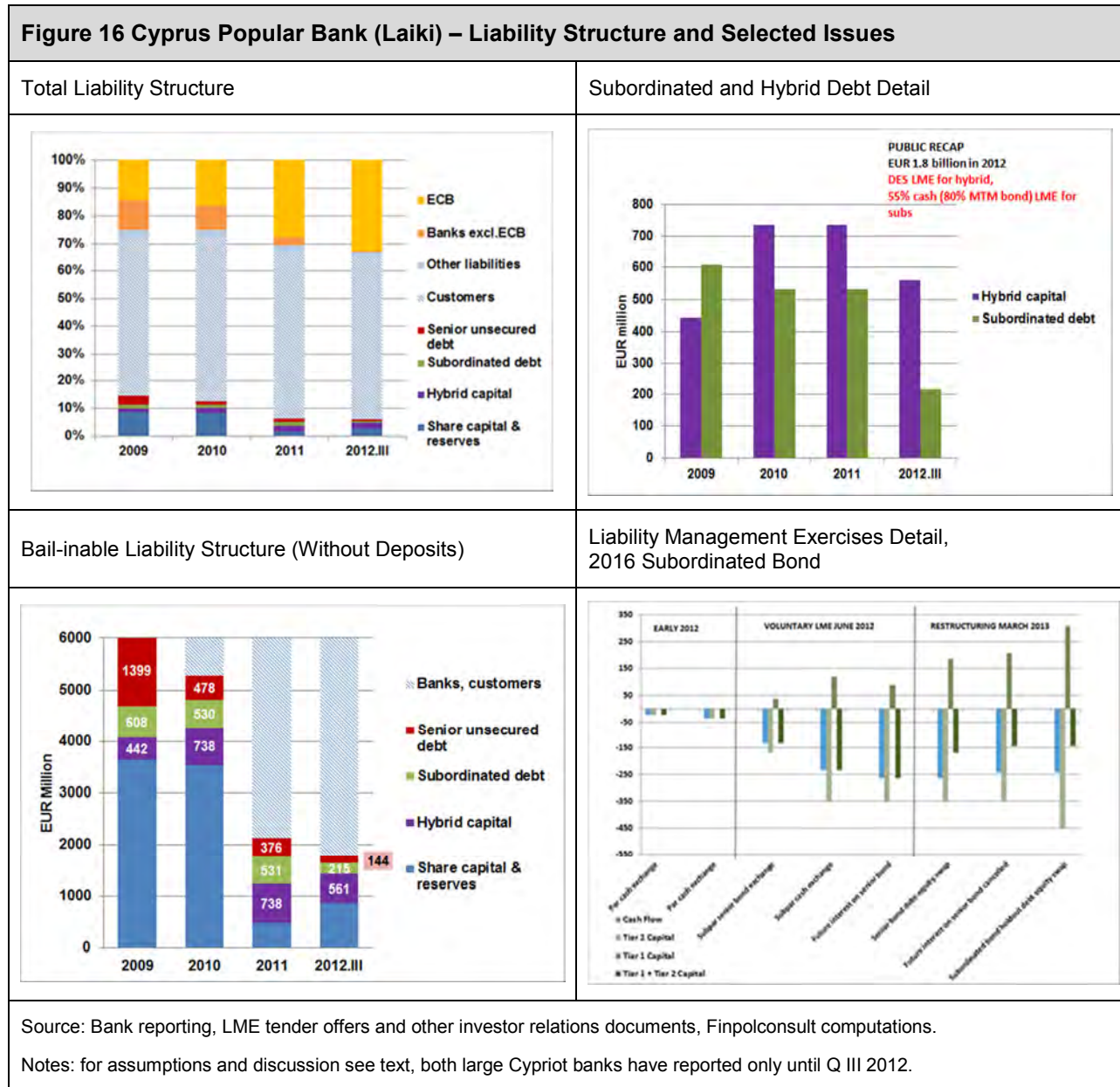
In the Cyprus context, uninsured deposits were of greater relevance for potential bail-in than senior unsecured debt – with an estimated ca. 50% ratio in uninsured to total deposits according to estimates of the Cyprus finance ministry in contingent liability reporting of early 2012. Figure 15 shows that the bank lost

⁴⁶ When the GGB haircut discussion was already in full swing - only weeks later the French banking association broke with their first restructuring proposal - Bank of Cyprus in May 2011 called the residual EUR 130 million outstanding of a EUR 200 million subordinated bond maturing in 2016 at par, at the first possible call date 5 years after its issuance date.

⁴⁷ This calculation assumes a 4% deposit rate as benchmark for senior debt.

more than EUR 7 billion in deposits between late 2010 and the last reporting date in September 2012. Only domestic Cypriot deposits from retail customers remained almost unchanged. This means that an institutional / foreign resident run on deposits had begun well before discussions about a bail-in of depositors started in late November 2012. The ECB was accommodating these outflows, as it had done earlier in Greece, yet in contrast to Greece without an explicit consensus for sponsorship through an official aid program to Cyprus of the necessary recapitalizations. In a highly unusual turn of events the President of Cyprus Anastasiadis who took the position after the elections in March 2013 attacked this policy of the ECB and the Central Bank of Cyprus.⁴⁸

Figure 16 Cyprus Popular Bank (Laiki) – Liability Structure and Selected Issues



⁴⁸ Source: <http://static.cyprus.com/20130415+-+Letter+to+Draghi.pdf>

Restructuring

Laiki Bank can be seen as the first mid-sized bank during the financial crisis of the Eurozone that was resolved through application of the Good Bank approach. For comparison, the bank was approx. 8 times the size of Amagerbanken. However, far larger banks had been resolved in this way in the United States during the crisis, the largest case being Washington Mutual.

The second Cyprus Memorandum of Understanding that was agreed on in March 2013 to this end demanded a reformed bank restructuring and resolution law (BRRL) that next to laying down the Good Bank approach also determined a new hierarchy of investors, endowing insured depositors with seniority over other claims. It also laid down that the Cyprus sovereign was not permitted to inject additional capital into Laiki.

As in the case of Amagerbanken the resolution entailed horizontally splitting the balance sheet. This meant selling the 'good assets' and high-ranking liabilities through 'purchase and assumption' to absorbing banks - Piraeus Bank for Greek assets and liabilities and Bank of Cyprus for Cypriot assets and liabilities - and leaving the remainder in an unwinding vehicle.

Shares, hybrid capital and subordinated debt

These three capital classes were allocated in March 2013 to the unwinding vehicle, which is managed by the Central Bank of Cyprus. It has not been published whether additional write-downs of nominal share capital over those made already in June 2012 have been conducted in the process. While hybrid capital owners had already been converted into shares in December 2012, the government still owned the majority of Laiki at the time of resolution. This generates a motivation against further diluting its ownership rights, also in the interest of a uniform control over Laiki's stake in Bank of Cyprus.

It is also unclear whether the original creditor hierarchies and the waterfall will be preserved, i.e. what the position of the EUR 99 million subordinated bond holdouts that had not accepted the June 2012 LME will be. In the case of Bank of Cyprus, shareholders, hybrid capital investors, subordinated and senior bondholders received their own separate share class each, with dividends to the next lower class only paid out once superior classes are fully serviced. This de-facto creates senior preferred share classes for bond investors.

Box 2 Trying to Claw Back the Outcome of the 2012 Voluntary LME During the Resolution Process of Laiki in 2013

The March 2013 resolution tried to limit the negative impact of the 2012 Laiki subordinated bond LME deal for depositors in two ways:

- Most of the senior bonds remaining in Laiki Bank stemmed from the June 2012 subordinated bond exchange. These bonds were now both moved into the unwinding vehicle, a de-facto debt equity swap, and within this vehicle ranked behind the swapped large depositors. At the same time senior bond interest payments got cancelled and implicitly replaced by the uncertain future income of the unwinding vehicle, and again behind depositors.
- The holdout investors of the subordinated bond, mostly related to the Bank itself, were swapped also and ranked behind both the senior bonds and the deposits.

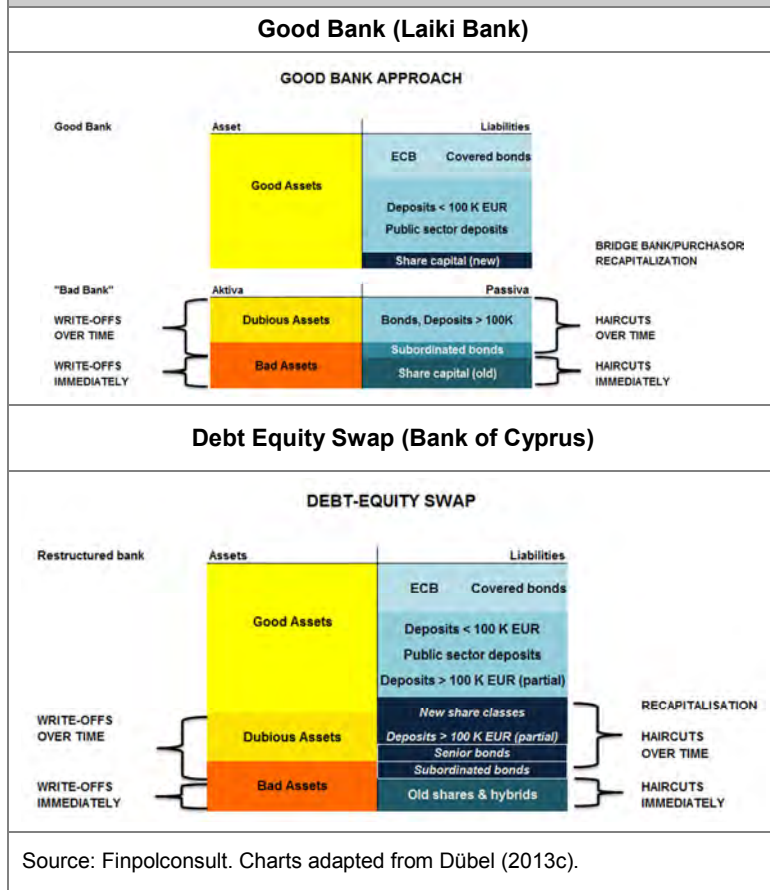
In total, Cyprus recovered in this way EUR 218 million for Tier 1 capital and gained EUR 119 million in total Tier 1 and Tier 2 capital. This reduced the scope for bail-in of uninsured depositors.

However, as a result of the voluntary LME done in June 2012 as well as earlier buybacks by Laiki, EUR 144 million in bail-inable capital ranking below deposits was permanently lost. Given that the lower rank of the lost capital provided a credit enhancement effect for higher ranking liabilities, this means that the likelihood of a bail-in of uninsured deposits in order to compensate for the loss in capital had risen, with potentially far greater systemic implications.

Senior unsecured bonds and deposits

Each large-scale banking crisis as the current European one seems to have a point at which fiscal conservatism wins over fiscal largesse towards bank creditors. When the U.S. savings and loan crisis turned this corner in 1991 and adopted the least cost resolution approach, senior unsecured bonds and large depositors became far more frequently bailed in than before. Cyprus can be seen as the European version of this turning of a corner, with motivations including both external and domestic considerations. We do not repeat the widely publicized discussions between Cyprus and her international sponsors here.

Figure 17 Good Bank and Debt Equity Swap Bank Restructuring Approach



It is worthwhile to stress, though, that the design of the bail-in was as much driven by the change of policy inside Cyprus as it was by European pressure. One domestic reason to reach into senior unsecured debt for the incoming government in March 2013, for instance, was to claw back some results of the frivolous 2012 subordinated bond LME (see Box 2) that had been performed under the responsibility of the previous government and central bank management. Cyprus then also rather aggressively implemented the US bank resolution waterfall in the March 2013 Bank Restructuring and Resolution Law, a law without parallel in Europe. It came with a number of idiosyncratic changes over U.S. practices:

- Deposits insured by the Deposit Guarantee Fund in Cyprus through the law received senior rank over uninsured deposits and senior unsecured bonds.

In the U.S. uninsured deposits rank *pari passu* with insured deposits, and both senior over senior unsecured bonds. Also, in the U.S. insured deposits only receive their preferential treatment de-facto, by being the preferred class liabilities to be transferred in the Good Bank resolution approach to a buyer.

- Claims by financial institutions were similarly by the new law treated as senior (even though junior to insured deposits). This approach seems to have been partially revoked

and limited to ECB claims. Nevertheless, the seniority poses a serious problem, given the scale of ECBs claims on Laiki (see Figure 16 and discussion below).

- Similarly, claims by public sector creditors are treated as senior to uninsured deposits and senior uninsured bonds by the law. Again that approach seems to have been later partially revoked in order to limit private sector losses.

A full evaluation of whether the new rules have been fully observed can only be made once the final terms of the restructurings have been published.

While the waterfall determinations are partly idiosyncratic, the resolution measures taken are rather international standard. Figure 17 gives a visual representation of the Good Bank approach that can be applied – *mutatis mutandem*, esp. regarding individual liability positions placed into the good bank – also to the other cases discussed in this study.

While we still lack the necessary data detail to do loss estimates by closure of this study, it is important to qualify the widespread interpretation that Laiki creditors were subjected to 'haircuts'. It is not even clear whether Laiki shareholders had to suffer book value haircuts. The concept for depositors rather was to swap holders of debt claims in a going concern Laiki against the holders of de-facto equity claims against the unwinding vehicle whose performance will depend on the performance of assets retained, including shares in Bank of Cyprus.

A second problematic aspect of the Laiki resolution from the creditor perspective next to the rank issues has been the urgency under which the purchase and assumption of the 'good parts' - the Greek branches (to Piraeus Bank) and the good bank in Cyprus (to Bank of Cyprus) - has been performed:

- The Greek sales operation has indeed been strongly criticized by Laiki management and the Central Bank of Cyprus. Clearly, the potentially unfavorable conditions resulting for Cyprus from a firesale out of resolution can be traced back to Eurozone interest, in particular of the ECB, to fully shield Greek depositors and thus preserve the above described status quo of the Greek banking program. Cyprus for over a year had tried to sell the Greek operations of Laiki on better terms and always had met Greek resistance.⁴⁹ Now only a single bidder for Greek operations was available, moreover owned by the Greek state himself; this is a striking difference to the U.S. where for banks of the size of Laiki typically several bidders are available.⁵⁰
- Bailed-in creditors of Laiki through the particular form of P&A thus got some protection from downside losses from Greek operations against taking a sizeable certain loss and giving up any future Greek upside. The better option might have been a warrant on the potential upside of the Greek assets, splitting proceeds between the selling entity (the unwinding vehicle) and the purchaser Piraeus Bank, and potentially Bank of Cyprus.
- The transfer of good assets to Bank of Cyprus agreed on in March 2013 looked weakened by the absence of a warrant agreement benefiting Laiki creditors for the potential upside. It took between March and July 2013 to determine the full conditions of the transfer. By July it was determined that the Laiki unwinding vehicle would receive 18% of the shares of Bank of Cyprus permitting it to share upside in the transferred portfolio indirectly.

Such problems had also arisen historically in the initial phase of the U.S. S&L crisis in the early 1980s, when few buyers of banks were available. They were at the time a key motivation for the rise of open bank assistance. The larger the bank is in relation to the relevant market for bank mergers and acquisitions, the bigger they are: in the most recent case of the large bank Washington Mutual, dozens of lawsuits were brought forward by creditors that remained in the unwinding vehicle questioning the purchase price that JP Morgan paid on the good assets and insured deposits during the resolution. As Piraeus Bank in the case of Laiki's Greek operations, JP Morgan had been de-facto the only bidder for Washington Mutual's good assets and insured deposits.

Potentially jeopardizing Laiki's resolution plan is the transfer of the entire volume of ECB claims to Bank of Cyprus. This means that the ECB is de-facto treated like an insured depositor, deserving special protection. This seems at odds with the history of the ECBs involvement.⁵¹ Given that the P&A of Laiki's Greek operations – without any assumption of ELA debt - withdrew EUR 3.8 billion of collateral and that other Laiki collateral transferred in the process to Bank of Cyprus may be of questionable quality, this forces Bank of Cyprus to stump up large amounts of own collateral to back the ECB networks' loans. This

⁴⁹ Both Bank of Cyprus and Laiki Bank had tried to dispose of their Greek operations saddled with ballooning non-performing loans. A 2011 Central Bank of Cyprus decision had converted these from Greek bank subsidiaries to branches of Cypriot banks in Greece, i.e. de-facto put the liquidity and capital risk on the Cypriot fiscal balance sheet. Pressure was put on Greece during 2012 to re-subsidiarize those operations, recapitalize them through the HFSF and extend Greek ELA. These efforts failed due to Greece's resistance, which prompted Laiki Bank to sue Greece before the Washington court for the settlement of international investment disputes.

⁵⁰ See e.g. <http://www.nytimes.com/2013/06/11/business/global/a-wily-banker-reaches-the-top-in-greece.html>, which questions the emerging role of Piraeus Bank after the restructurings.

⁵¹ <http://s3.amazonaws.com/se-site-data/A+letter+from+the+President+of+Cyprus+to+Eurogroup.pdf>

increased the banks' asset encumbrance and thus her access to the capital market. Moreover it deepens both the debt equity swap needs and the loss expectation of swapped senior creditors to the extent weak or no collateral only entered the bank together with the fresh debt owed to ECB.

It had thus been proposed by the government of Cyprus in June 2013 to either unwind the transfer, and possibly continue with Laiki's operations under the same debt equity swap concept as applied to Bank of Cyprus, or at least transfer ECB claims together with their applicable collateral to a separate unwinding unit. These variants were rejected by the Troika. However, as of August 2013, Bank of Cyprus was reinstated as an eligible counterparty and in combination with the July 2013 recognition of Cyprus sovereign-guaranteed bonds and other collateral was able to substantially reduce the ELA share of her debt and thus interest cost. This ECB strategy parallels events in Ireland, where ultimately interest rates were reduced and tenors were expanded for Anglo Irish legacy debt while the debt itself was not haircut.

Finally, a risk factor for the success of the Laiki restructuring is a permanent loss of deposit franchise and dependence on ECB funding for Bank of Cyprus and possibly other Cypriot banks going forward. Clearly, the goal of the Bank Restructuring Program to reduce the size of the banking system has been reached: deposits by July 2013 dropped under EUR 50 billion, down from EUR 70 billion in July 2012. Yet the numerous capital control measures taken after March 2013, the larger than necessary debt-equity swap resulting from ad-hoc seniority for the ECB, and other arbitrary measures benefiting unilaterally the public sector – from ad-hoc seniority for public sector deposits to conflicts of interest of the Central Bank in managing the resolution – may have damaged confidence more than the restructuring concept itself. This could be reflected in further expanding ECB claims, at least for a transition period.

Public vs. Private Loss Participation Outcome, Counterfactuals

A regulatory capital gap financing analysis can be based on the PIMCO assessments and recapitalization events and is presented in Figure 18. Despite the comprehensive bail-in under MoU II closed in March 2013, the PSI ratios differ between Laiki and Bank of Cyprus as a result of the earlier public recapitalization of Laiki (total capital gap is adjusted accordingly). In both banks we assume a small share of OSI resulting from the bail-in of deposits held by public entities.

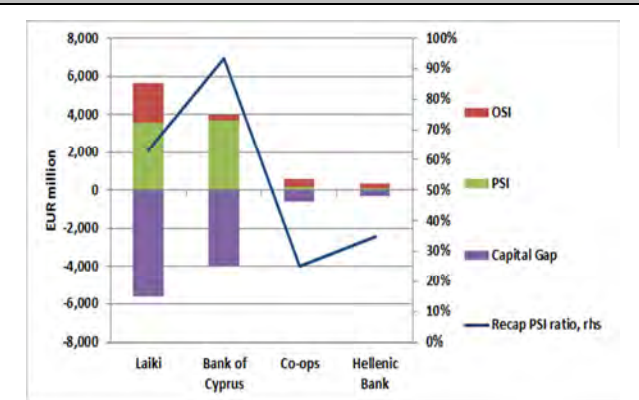
The resulting estimate is that some 65% of Laiki's capital gap can be seen to have been PSI funded, against more than 90% of Bank of Cyprus'. We note that no similar bail-in provisions have been agreed on for the smaller Cypriot banks, whose PSI mainly consists of future profit contributions to capital.

The allocation of Laiki's 2012 government share investment to the unwinding vehicle, and here likely to the bottom of the waterfall (see above), also means that the economic loss ratio for the government is likely approaching 100%. This has created motivation for Cyprus to insist on changing the MoU and proposing e.g. to keep Laiki as a going concern, which would create a potential economic upside for this government investment. Such attempts have been rejected by the Troika.

Cyprus is the case where the 'alternative' has been executed, however imperfectly, and thus the counterfactual analysis is more limited. We see three additional points of interest:

- A first question is what would have happened with the government offering less generous terms of its capital subscription in 2012. The risk profile of the government investment could have been improved significantly by first writing down shareholders and hybrid capital owners to zero and secondly turning subordinated bond investors into co-shareholders. This would have yielded ca. EUR 1.3 billion in prior

Figure 18 OSI vs. PSI in Cyprus Bank Resolutions & Restructurings



Source: Bank reporting, Finpolconsult computations.

Notes: Cyprus OSI data includes the June 2012 recapitalization of Laiki Bank, and assumes some OSI in the debt-equity swaps at Bank of Cyprus and Laiki.

capital decreases – EUR 733 million in remaining private share capital and EUR 560 million in hybrid capital holdouts (who were swapped only in December), as well as EUR 450 million in additional share capital from subordinated investors. Government (and co-investors) would have taken full control of the bank effectively on the basis of significantly higher reserves: for June 2012 the bank reports exactly the negative EUR 1.3 billion in reserves that a zero write down of shareholders and hybrid capital owners would have brought up to zero. This sequencing would have provided at least some risk buffer for government towards covering the upcoming fresh capital needs determined by PIMCO, even if it might not have shielded it entirely from taking losses.

- Secondly, one might ask to what extent a more radical bail-in approach taken already in June 2012 would have had the potential to protect government partly or entirely against losses. One option would have been to bail in the senior bond position in addition to subordinated bonds. Doing the same with a smaller portion of uninsured deposits would have eliminated government exposure. Bailing in both senior bonds and subordinated bonds in this way would have afforded Cyprus a risk share of EUR 900 million in addition to the rank improvement from the EUR 1.3 billion zero write-down of shares and hybrid capital. Bailing then in only 7% of deposits, another ca. EUR 1 billion, and some 15% only of total uninsured deposits, would have filled the capital hole and added to reserves for the future PIMCO capital gap. While this is hindsight, it goes almost without saying that a full internationally organized due diligence prior undertaken to any recapitalization decision would have been far preferable to the inadequate domestic capital gap estimates made at the time. The delay that such a more in-depth review produces of course demands moratorium action, an action that was also missing before the review finally came in the fall of 2012. This caused most senior bonds to disappear from Laiki.
- A third issue is whether a different handling of purchase and assumption with Piraeus and Bank of Cyprus could have changed the outcome. The alternative to purchase and assumption was creating bridge banks and government-managed unwinding vehicles, which was practiced e.g. in Iceland. Bridge banks require additional government capital injection, which was the core stumbling point with Cyprus's international creditors. However, in this case, this might have been a worthwhile investment. While it is speculative, and available data over relative loan servicing quality between Laiki and Piraeus in Greece suggests caution, given the economic situation both in Greece and Cyprus a bridge bank buying time for proper asset valuation and structural improvements might have reduced expected losses of Laiki creditors. Technically total Cyprus-Greece program cost combined would have remained the same since capitalizing a Cyprus bridge bank would have removed some of the public recapitalization cost for Piraeus bank.

Clearly the case underlines again that LME and redemptions or calls, and even scheduled maturities, should be handled restrictively in the neighborhood of bank restructurings. The net loss of subordinated and senior unsecured bond liabilities of ca. EUR 500 million during 2012 hurt depositors significantly. While the amount of deposits that was placed into the unwinding vehicle of Laiki in March 2013 was affected only slightly, their expected loss grew significantly through the reduction of lower ranking tranches absorbing losses first in the waterfall.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**
The June 2012 government share capital investment has likely been entirely lost in the March 2013 restructuring. The loss waterfall was not observed in 2012. Even shareholders and hybrid capital owners received a favorable deal.
- **More tightly control the cash outflow to junior bond investors in the neighborhood of public recapitalizations:**
The June 2012 voluntary liability management regarding the subordinated Eurobond was a substantial subsidy by the government of Cyprus to private investors. The large senior unsecured bond redemption of October 2012 looks at least dubious against the background of the parallel due diligence exercise.
- **Minimize the risk of distorted restructuring action:**

- In 2012 the explicit decision should have been taken earlier to do a comprehensive debt equity swap (or follow the Good Bank approach) and thus tie the fate of junior debt, senior unsecured bonds and only a small proportion of deposits directly to the performance of Laiki's problem assets.
- Given what was decided, a moratorium decision should have been made before the due diligence effort started, by September 2012, to keep the senior bond position from maturing. In fact, deeper due diligence should have preceded the June 2012 recapitalization decision.
- The November 2012 to March 2013 phase characterized by infighting over the restructuring solution and insider capital withdrawals has severely reduced the bail-inable capital volume and created random losers and winners.
- The rejection of public lenders to Laiki – in particular the ECB - to accept losses in March 2013 has deepened private losses, both at Laiki and Bank of Cyprus. In a liability management approach, public and private stakeholders should be treated the same. Ad-hoc rank changes in the neighborhood of liability management come with high cost in terms of both loss of investor trust and enhanced legal insecurity, and should be avoided.

Alpha Bank⁵²

Timelines

Today's Alpha Bank Group has its roots in one of Greece's oldest commercial banks. It is still partially family-owned. The Group's banking arm, Alpha Bank, focuses on retail lending: to consumers, in particular mortgages, and to small and medium enterprises. Bulkier commercial activities concentrate on ship financing.

The bank grew spectacularly during the 2000s, with total assets increasing sevenfold between 2001 and 2009. This turned it into Nr. 2 in the Greek financial system with 2009 EUR 70 billion in assets, only second to National Bank of Greece.

In the mid-2000s the bank expanded into South Eastern Europe, Ukraine and Turkey. The concept was to build a regional network bank with focus on retail lending. Growth was largely organic, based on small acquisitions that were expanded rather than through large acquisitions, which kept portfolio arrears rates outside Greece low. In Greece, however, the bank also engaged in risky retail lending strategies: an example would be 100% loan-to-value ratio mortgages tied to the ECB refinancing rate.

Supported by its profitable regional franchise, Alpha Bank had a rather good start into the crisis. The bank was able to significantly strengthen its capital base through a capital increase in 2009. It was then in 2011 hit by Greek government bond (GGB) write-downs, as well as over 2011 and 2012 increasing defaults on domestic loan exposures. The GGB hit was milder relative to the capital base than in the case of other Greek banks, given that the capital base had just been strengthened. Nevertheless, even in this case the EUR 4.8 billion PSI loss wiped out the entire capital. Alpha Bank was also somewhat less hit by the Greek economic crisis than other banks; much of this is due, however, to the quasi automatic bail-out provided by the ECB through low reference interest rates. The Bank's median (mortgage) interest rate in its covered bond program by 2013 lies below 3%; in 2010 it was still between 4 and 5%. Nevertheless the NPL ratio by 2013 stands at 30%, driven in particular by SME loans.

Alpha Bank is one of the four large Greek banks that received a special treatment regarding the public recapitalizations completed in April 2013. After a phase of delevering since 2009, the bank in 2012 grew again through acquisitions, in particular of Emporiki Bank (sold by Societe Generale).

⁵² Data note: data reported in this subsection refer to Alpha Bank Group. Due to the close connection with the Greek government bond crisis we start the analysis with the year 2009.

Pre-Restructuring Phase

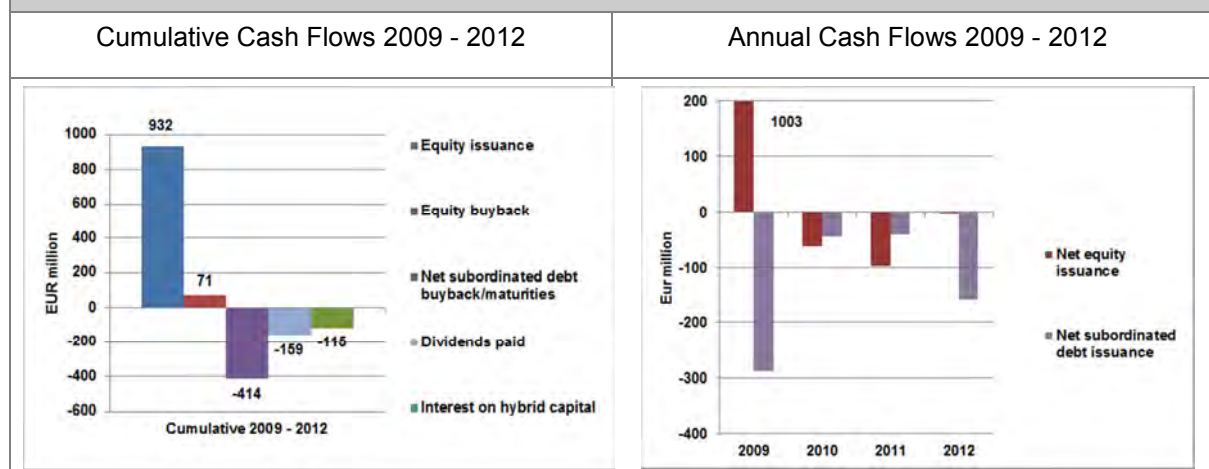
We define here the period between international agreement forming on a Greek government bond haircut – June 2011 – and the recapitalization that was formally concluded in April 2013 as the pre-restructuring phase. Within that period, there are grey areas: the public recapitalization as a result from GGB haircuts was agreed on already in principle by February 2012 with the Troika, and funding amounts to be injected were determined as early by June 2012.

Shares

In November 2009 while the shares were still trading at EUR 5 the bank issued shares over Euro 986 million. These were mostly subscribed by existing shareholders.

No further equity management was undertaken until April 2013, as share prices subsequently collapsed. Alpha kept paying dividends until for 2010 in 2011.

Figure 19 Alpha Bank – Cash Buybacks Benefiting Hybrid Capital and Subordinated Debt Investors



Source: Dexia reporting (Cash Flows from Financing Activities), Finpolconsult computations.

Notes: RHS - Net equity issuance includes dividends. Net subordinated debt issuance *includes* coupon payments on hybrid capital.

Hybrid capital and subordinated debt

The bank had issued junior debt through different Jersey Trusts under British law, as other Greek banks did. The peak issuance volume for Lower Tier 2 instruments was in 2007. Hybrid capital issuance has been dating back as far as 2002.

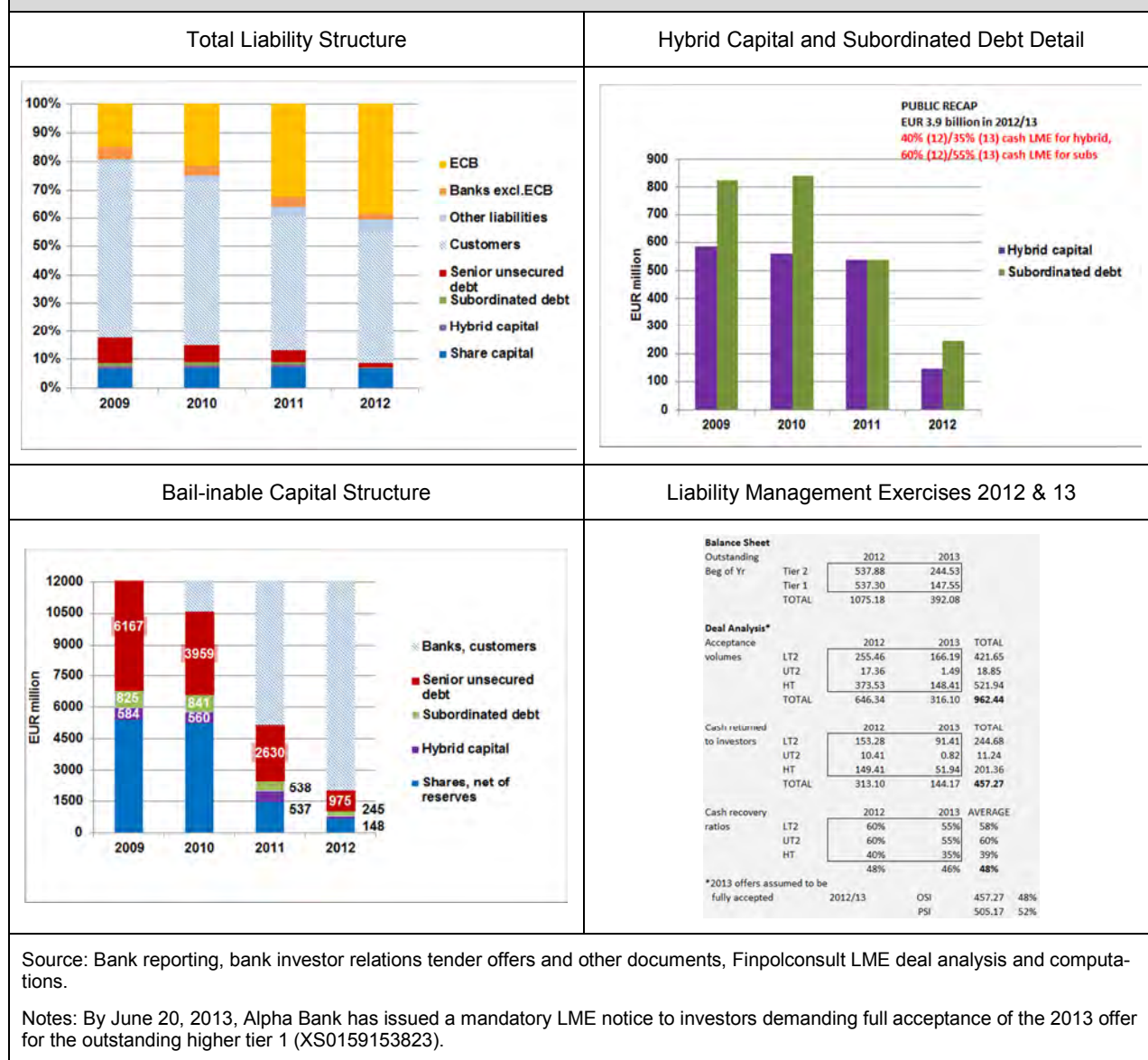
As Alpha strengthened its capital base through share issuance in 2009, in the same year it called EUR 355 million in subordinated debt at par. Figure 19 shows that the net subordinated debt repurchases of that year substantially reduced the net cash inflow from an extended (Tier 1 + Tier 2) capital definition standpoint by almost 30%.

Of interest are the banks' LMEs undertaken in the spring of 2012 and of 2013. By the time the first offer was made in April 2012, the Memorandum of Understanding between Greece and the Troika covering the banking program had already been signed since two months and the bank had made large GGB writedowns. According to investor relations documentation presented in Figure 20 Alpha Bank in February 2012 repurchased EUR 646 million in securities against paying investors EUR 313 million in cash. The bank paid 60% on Lower Tier 2 and 40% on Tier 1 instruments.

As we have seen in the case of Bankia, large Spanish banks at that time already engaged in debt equity swaps. Peer pressure might have played a role on Alpha Bank's decision to ignore the GGB situation.

The 2012 LME can for example be seen as a compensation for the non-call of the 2002 hybrid security coming up for first call date in 2012. However, also neither regulator nor Troika seems to have exercised much pressure (continued below).

Figure 20 Alpha Bank - Liability Structure and Selected Issues



Source: Bank reporting, bank investor relations tender offers and other documents, Finpolconsult LME deal analysis and computations.

Notes: By June 20, 2013, Alpha Bank has issued a mandatory LME notice to investors demanding full acceptance of the 2013 offer for the outstanding higher tier 1 (XS0159153823).

Senior bonds and deposits

Senior unsecured bonds dramatically declined in Greek banks from the spring of 2010 onwards when the funding problems of the sovereign became apparent. The vehicle was ordinary redemptions of the rather short-term bonds. Alpha Bank lost over 60% of the senior unsecured position between 2010 and 2011 and by the end of 2012 the outstanding was less than one sixth of the level of 2009. New issuances of bonds had to be guaranteed by the Greek state, and - as covered bonds - were directly placed as collateral for long-term repo operations of the European Central Bank. Deposits had fallen less in volume than unsecured bonds, by ca. one third between 2009 and early 2012 after which the situation stabilized.

The mirror effect of the declining market funding was a dramatically increased ECB funding position. Alpha Bank's ECB exposure doubled between 2009 and 2011 from EUR 10 to EUR 20 billion. This was still lower than in other Greek bank cases: Piraeus Bank exposure tripled from EUR 7 vs. EUR 28 billion in

2011, and EFG Eurobank exposure quadrupled from EUR 8 to EUR 32 billion by 2011. By 2012 Alpha Bank's debt to the ECB had grown to 40% of total liabilities and equity.

Restructuring Phase

A revision of the Greek bank resolution legislation of 2006 in 2011 under the supervision of the Troika produced inter alia options for applying the Good Bank restructuring approach. In the law this is combined with the option to transfer subordinated liabilities (and *only* subordinated) to the unwinding vehicle.

However, a political decision was made under the MoU of 2012 to only apply this concept to smaller and 'non-viable' banks. Examples are Hellenic Postbank and ATE Bank.

The four large Greek banks including Alpha Bank, in contrast, were afforded a classical taxpayer funded bailout through direct government recapitalization. Creditor participation was not mandated and liability management remained voluntary. The 'restructuring' remained limited to measures affecting existing shareholders and raising fresh share capital.

We describe here the phase between late 2012, when the scale of these recapitalizations was finally determined, and their completion in spring 2013.

Shares

In 2012 and 2013, the Hellenic Financial Stability Fund (HFSF) recapitalized the large four Greek banks by de-facto exchanging on their asset side defaulted GGBs through current GGBs. On the liability side for this injection initially only a loan was booked in June 2012. In April 2013, the loan was swapped into a subscription to new shares issued under the recapitalization plan. In order to keep private voting rights intact, the government required a minimum contribution of 10% by private investors in this exercise.

The Bank of Greece in November 2012 had determined the recapitalization amount for Alpha Bank of EUR 4.6 billion, a number that remained remarkably robust vs. the initial June 2012 calibrations despite the asset stress tests performed by the U.S. consulting firm BlackRock. It also relied on fairly optimistic mid-term profitability assumptions – the capital needs were calibrated on an expected 2014 basis. This profitability risk was partly addressed by an additional EUR 1.6 billion available on a 'standby' basis under the Greek banking program.

In May 2013, Alpha Bank announced a fully underwritten EUR 460 million rights issue from the private sector to fulfill the 10% private participation floor. In the process, additional shareholders could be won through the exercise of warrants on government shares as well as private placements, taking the private subscription ratio to ca. 15%. Finally, Societe Generale capitalized Emporiki Bank fully, with EUR 2.9 billion, before selling it to Alpha Bank in the first quarter of 2013 and in addition subscribed to EUR 150 million of Alpha Bank's convertible debt.

This government approach has been very costly. The sequence of an (de-facto) asset swap followed by share capital injection is tantamount to creating a virtual Bad Bank. Its economic impact is protection of higher ranking liabilities against capital losses, from deposits via senior bonds, subordinated bonds and going down as far as hybrid capital issued. Capital reductions in Greece were also typically at a 1:10 ratio only, compared e.g. to the 1:200 ratio at Bankia in Spain (see case). Alpha Bank even did not reduce book capital; rather shareholders only faced dilution from the HFSF capital injection while retaining voting rights.

Any outside capital injection into a bank facing large book losses is a large subsidy, and the private 10% ratio means that government demanded a co-share. In the case of Alpha Bank, excluding Emporiki, 2014 share capital worth EUR 2 billion in the book was bought against a capital increase of EUR 4.6 billion, which makes a 55% loss ratio. This calculation assumes a 100% price-book ratio justified by severe historic stress-testing; yet, a risk factor is that continuing low profitability or additional losses might reduce the value of the book further. With private shareholders expecting 45% losses upfront, participation could only be attracted by promising a more significant participation in the share upside. This happened through the combined leverage of subscription rights and long-dated warrants provided by the Greek government for its 85% of capital. In the case of Alpha Bank government provided the warrants with a strike price at below the book value. To what extent this is a subsidy depends on the medium-term (basis for recapitali-

zation) and long-term profit expectations of the bank. Investors have put pressure on the Greek government to reduce strike prices in order to accelerate the re-privatization of the banks.

Hybrid capital and subordinated debt

The Greek Memorandum of Understanding (MoU) of February 2012 in line with the broader Euro area policy approach pursued at that time foresaw no mandatory liability management measures for the cases of the four large banks National Bank of Greece, Alphabank, EFG Eurobank and Piraeus Bank.

Table 2 Greek Banks - Cash Exchange Ratios Offered to Subordinated Debt and Hybrid Capital Holders in 2012 and 2013

Bank Nr	2012				2013				2012 2013	
	1	2	3	4	1	2	3	4	Average	
Subordinated debt Lower Tier 2		60%	50%	50%		55%	DES	55%	53%	55%
Hybrid securities Tier 1	45%	40%	40%	37%	40%	35%	DES	35%	41%	37%

Source: Bank reporting, Finpolconsult computations. Table adapted from Dübel (2013c).

Notes: 1: National Bank of Greece, 2: Alpha Bank, 3: EFG Eurobank, 4: Piraeus Bank. EFG Eurobank in May 2013 offered debt equity swaps to both subordinated and hybrid bond investors.

When a temporary public recapitalization decision was made these 'core' banks were called on to submit voluntary capital plans as a condition for public recapitalization through the HFSF. Apart from sales of subsidiaries and tax-related accounting, the plans relied heavily on liability management exercises.⁵³

Indicative of approach that the government of Greece has taken to banks is the 44 page central bank report of November 2012 on bank restructuring. The report devotes only a fifth of one page to bank capital management plans without providing any detail on the planned measures and also otherwise seems to show a lack of familiarity with the approaches.⁵⁴

This approach permitted a series of strictly voluntary LME in April and May 2013, a full 9 months after the Spanish SLE decision of August 2012, with the explicit approval of the EU DG COMP. A full acceptance of the tender of the remaining Tier 2 and Tier 1 securities as shown in the Figure would mean repurchasing another EUR 316 million for EUR 144 million in cash.

Compared to a certain liquidation or comprehensive mandatory liability management scenario (see below) without Greek rescue fund-backing, the deals were highly favorable to investors. Alpha Bank paid out 55% for Tier 2 plus accrued interest and 35% for Tier 1 hybrids. This led to a cash loss for Alpha Bank of EUR 80 million, which cumulates with the EUR 310 million disbursed to investors already in 2012 to nearly EUR 400 million. In other words, close to 10% of the capital need established by Central Bank capital exercise will have been or has been paid to old investors first in line to take losses after shareholders.

⁵³ The reference points for this approach are quoted in every Greek bank LME, e.g. Alpha Bank's tender offer of May 2013 refers to: 'the announcement made on 27 November 2012 by the Eurogroup concerning reforms required by the European Commission, IMF and European Central Bank of the Greek economy' and in this context states that 'liability management exercises should be conducted in respect of remaining subordinated debt holders so as to ensure a fair burden sharing'. A few lines later in the tender offer the bank offers another motivation, namely that "The Offers are made in order to provide investors with an opportunity to monetise their investments at the relevant Purchase Price on a voluntary basis."

⁵⁴ In these lines and elsewhere in the report the Bank of Greece describes liability management exercises (LME) erroneously as 'liquidity management exercises'. E.g. on p. 38: "(ii) Capital plans Among other inputs, banks also submitted to the Bank of Greece their plans for strengthening their capital base. Divestments, deleveraging, share capital increase and effective management of balance sheet items (e.g. liquidity management exercises) were alternative capital sources identified by each bank, in different compositions. In calculating capital needs, the Bank of Greece took into consideration only these capital actions which had effectively materialised at the time of the capital needs assessment."

The voluntary LME of Greek core banks had been motivated with the need to stimulate creditor participation. Clearly, however, there is a time inconsistency with the public recapitalization of Greek banks in May 2013 already in place and pre-announced since June 2012. The incentives both for banks to offer harsh terms and for investors to accept even generous offers has declined, since no credible threat of future haircuts has been spelled out. This makes the Greek approach fundamentally different from the Irish (see Anglo Irish case).

In order to haircut subordinated debt maturing in the coming few years, following the waterfall the fresh public capital supplied to the banks would have first to be depleted through additional loss recognition. The likelihood of government being in the first loss position permitting this must be seen as rather slim. As a result, the investor acceptance ratio for the 2013 LME has been low in particular in Lower Tier 2, where only 46% of the eligible outstanding accepted. In Tier 1, acceptance ratio was 92% in one security, and 29% in a second. As a result, Alpha Bank still has ca. EUR 140 million outstanding, of which at least the Tier 2 amount expects full payment by early 2017.

Senior bonds and deposits

After having declined by over one third between 2009 and the first quarter of 2012, deposits have slightly recovered until year end. The acquisition of Emporiki Bank in Q I 2013 added one third to Alpha Bank's deposit base in a one-off effect.

The structure of debt to the ECB had dramatically deteriorated throughout 2012 as a result from increasing ineligibility of Alpha Bank's collateral for standard repo operations. This sent the cost of the ECB position to an unsustainable 2.7% by the fourth quarter. The situation reversed only during 2013 as a result of the renewed access to the repo window, in QI 2013 60% of ECB funding. ECB funding costs have halved as a result.

The degree of reliance of a Greek retail lender on such cheap ECB funding cannot be overstated. Factors are both credit risk, even as new defaults are declining, and ongoing profitability or market risk. The mortgage lender's portfolio consists largely of tracker mortgages with very low refinancing incentive to borrowers. In fact most of the mortgages are even indexed to ECB refinancing rates and only ECB access can eliminate basis risk. As in the Spanish case, where loans are indexed to the interbank index Euribor, this portfolio cannot be refinanced profitably in the market. Covered bond reporting of June 2013 suggests that loan rates are under 3% while cost covering mortgage rates funded through deposits currently will start at 6-7%.

Public vs. Private Loss Participation Outcome, Counterfactuals

The Greek banking program is without doubt extremely costly for the government. So it is even in the case of Alpha Bank, which faces the lowest capital gap of the four large banks because of its earlier capital increase. This holds true both in terms of the scope of government investment (85% of capital needs, in other bank cases in Greece 90% and 100%) and the depth of losses (55c/EUR in the case of Alpha Bank, on average 60c/EUR; all based on expected 2014 book value).

In the regulatory perspective private investors contributed to replenishing the EUR 4.6 billion capital gap from two sources: the proceeds from the 2012 and 2013 LME and the participation in the share capital increase.

- As Figure 20 shows, the total 2012 and 2013 LME contribution can be calibrated at EUR 440 million (disregarding unpaid hybrid capital coupons). If we take a EUR 310 million higher capital gap as reference point, since the EUR 4.6 billion was established only in June 2012 after the LME, we arrive at a PSI contribution of 9%.
- The private share capital contribution added another ca. EUR 680 million (15% of EUR 4,570 million), which would take the total PSI contribution to 23%.

Obviously, from an economic perspective corrections need to be made. In particular there is the question of the value of warrants provided by the government to private shareholders, which will be available at the fixed strike price adjusted only with interest upwards for the next years. These warrants de-facto lock in government losses. Many parts of the associated calculation are moving, or subject to information withheld from the public, so we abstain from making a judgment.

Counterfactual scenarios start with a full bail-in of hybrid capital and subordinated debt investors and proceed to assume that senior bondholders could be bailed in.

To begin with, by pre-empting the spring 2012 LME and demanding full junior bond bail-in, the Greek government could have raised EUR 1.1 billion from investors rather than only EUR 390 million. This would have taken the PSI ratio from 23% to 36%.

Secondly, by December 2011, when GGB losses were recognized, Alpha Bank had still sufficient senior unsecured bonds left to absorb the entire GGB loss plus additional provisions for loan portfolio losses.

By fully restructuring Alpha Bank in this way the need to inject public capital would have been eliminated, assuming that the 15% of private share capital would have been still available.

Even if that would not have been the case, the loss expectation for the (far smaller) government share subscription would have fundamentally improved through a preceding debt equity swap. The loss expectation would have further improved through haircuts at least at share capital (no capital decrease) and the junior bond level.

To put the suggestion to swap senior bonds into bank equity into perspective, it is worthwhile to compare the GGB PSI results at Greek banks with those at Greek pension funds. At Greek pension funds the creditors – pensioners – did not have the luxury of government absorption against PSI losses and were fully exposed pro-rata to the GGB losses.

Policy Lessons

- **Prioritize (at least junior bond) creditor participation over early government share capital investment:**

Depending on the price-book assumption some 55% of the 2012 government share capital investment is lost. The loss waterfall was not observed and creditor (as well as new shareholder) participation in recapitalization realized was only ca. 20% (disregarding the value of warrants provided to shareholders).

- **More tightly control the cash outflow to junior bond investors in the neighborhood of public recapitalizations:**

At the latest after the public recapitalization decision was made in substance (February 2012 Memorandum of Understanding), LMEs should have been stopped or turned mandatory. Both in the spring of 2012 and 2013, voluntary liability management was permitted that paid out large cash amounts to investors. Through injecting government share capital first, holdout subordinated bond investors can expect full payment going forward.

- **As a last resort consider bailing in senior investors:**

The government should have considered, as Ireland did, to bail-in historic senior unsecured bond investors.

This suggestion becomes a horizontal equity imperative – i.e. first resort - if one compares the burden placed on Greek pension fund investors with the one of Greek bank senior debt investors, with both being exposed to the same GGB losses.

Synopsis of Empirical Findings

Our synopsis of the bank case studies uses a highly stylized expected loss approach:

- We first compare the extent to which the existing capital structure has been used for financing the capital gap on an expenditure basis. The term expenditure here disregards whether value has been acquired (debt equity swap) or not (haircuts) – both situations are equivalent for the regulatory capital discussion. The ‘internal financing’ stands in juxtaposition to the use of external financing sources, which during crisis in cases of loss severities as the ones discussed are almost exclusively limited to government. Other sources of internal financing, such as deleveraging, are ignored, i.e. assumed to be capital gap neutral. From the government perspective the extent of use of its resources can be interpreted as ‘probability of default’.
- We secondly determine the expected ‘loss given default’ from such recapitalizations by comparing expenditure with the value of shares acquired in the bank in question. Since shares are frequently not traded, or trading data during crisis is influenced by numerous distorting factors, we use book values determined during the restructurings combined with price-book assumptions. For simplicity focus is on the government expenditure only, which in the case banks has always led to share acquisition. Private investor ‘LGD’ in contrast differs regarding whether shares have been obtained or the position has been haircut.
- Both items are multiplicative and lead us to an assessment of the expected loss of the public sector and by reference to the restructuring approach also of the private sector.

The data continues to be right-censored, i.e. future losses to be absorbed or profits to be made from owning the bank or their unwinding vehicles may still arise. The implicit assumption made is that there will be no such surprises, i.e. future events are correctly anticipated in today’s book values.

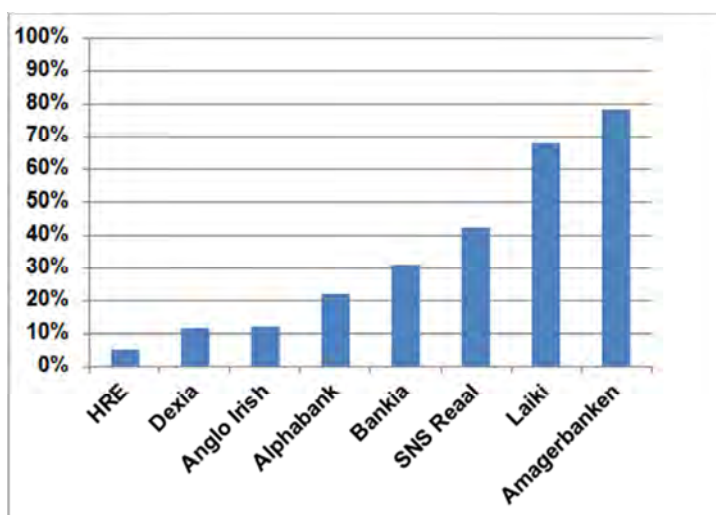
Participation of the Capital Structure in Financing the Capital Gap

We obtain the following ranking, denoting the employment of the existing capital structure for recapitalizations as ‘PSI’ – private sector involvement ratio – see Figure 21:

1. Amagerbanken/Denmark excels with the highest PSI ratio in the sample due to the Good Bank approach applied that bailed in both junior and senior debt. PSI is weakened by some government exposure from early hybrid capital injections.
2. Laiki Bank/Cyprus comes out second in the ranking, resulting from application of the Good Bank approach bailing in also both junior and senior debt. Again, government exposure from an earlier share capital injection is limiting the PSI, and here to a larger extent than in the previous case.
3. SNS Reaal Group/Netherlands features a moderately high PSI ratio achieved through radical haircuts of junior debt but counterbalanced by moderate government (banking system) exposure from earlier (hybrid capital) and current (shares) public capital injections.
4. Bankia/Spain displays the next lower PSI ratio after a comprehensive debt equity swap of junior debt. Yet, a very high government exposure has emerged due to the scale of the capital gap relative to the availability of junior debt as well as political limitations to bail in junior debt.
5. Alpha Bank/Greece shows a low PSI ratio due to comprehensive public share capital injection at limited private share capital co-subscription and largely absence of junior debt participation. Greece is the only case in the sample where external financing through private sources of some significance was obtained in the form of share subscriptions, albeit at significant cost for the government in terms of opportunity costs (long-term fixed warrant pricing policy).
6. Anglo Irish Bank/Ireland comes out with a very low PSI ratio due to very high government exposure as a result of extreme capital gap and inability to bail-in senior debt investors. The result is only modestly improved by junior debt participation.
7. Dexia S.A./Belgium-France reaches similarly only a very low PSI ratio as a consequence of two comprehensive public capital injections and largely absence of junior debt participation.

8. Hypo Real Estate Group/Germany is the case with the lowest PSI ratio in the sample. Several comprehensive public capital injections, cash payments to historic shareholders and an almost complete absence of junior debt participation added up to this result.

Figure 21 Estimated Participation of Bank Creditors in Financing the Capital Gaps of the Case Banks (PD Perspective)



Source: Bank reporting, Finpolconsult assumptions and computations.

Notes: See individual bank chapters for sources of calibrations and caveats. Subject to assumption of zero additional capital exposures arising after 2012. PSI everywhere denotes creditor participation share, except for Alpha Bank (additional private share capital increase).

Clearly, the timing of the restructuring event has centrally influenced these outcomes: the cases of Bankia and Laiki are representative of a change of approach towards greater fiscal conservativeness during 2012 and 2013 while HRE and Dexia belong largely to the post-Lehman phase where systemic risk considerations dominated the discussion.

However, there are important shades of grey: both the first (U.S.) and second (European) crisis phases feature outliers of fiscal conservativeness (Amagerbanken) and laxness (Alpha Bank). This points to the relevance of idiosyncratic national approaches, or the locally diverging powers of banks and their investors that has been a central driver behind calls for a European Banking Union.

Also the cases HRE and Dexia cases span both economic phases, and between both there is no fundamental difference in approach discernible. According to interviews held by the author, this can partly be explained by a reluctance to sacrifice the initial government capital injection(s) for the greater benefit of claiming private creditor resources before making the necessary additional government injection(s). Yet, the cases of Laiki and SNS Reaal show that the alternative of doing so in the presence of large capital gaps can very well be the least cost approach.

Finally, differences in the positions in which government has invested existed from the start of the crisis. While the differences ultimately leveled out due to the ultimate scale of losses, the Dutch and Danish taxpayers in their early investments were better protected than German and French by being invested only into hybrid capital positions rather than share capital. Danish and Irish taxpayers were also negatively affected by inefficient guarantees of historic bank debt issued.

For all cases of the first phase of the crisis, the reversal of sequencing laid down in the waterfall - with government investing before private creditors being bailed in - remained a common feature. Moreover inefficient calls and buybacks of hybrid capital and subordinated bonds are commonplace. These issues will have to be addressed both through regulation and the proposed single resolution mechanism.

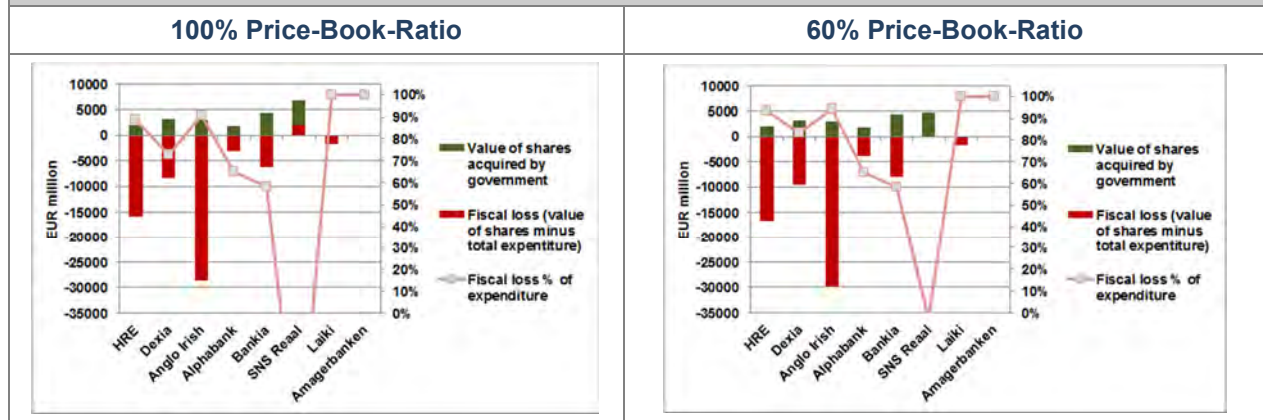
Expected Loss From Participation

Figure 22 compares the case banks with our metric for the 'LGD' ratio, the value of shares (green bar) acquired through a given expenditure (sum of green and red bar). We focus here on government only and comment verbatim on the private LGD. The 'price'-book ratio is varied to reflect different likelihoods of historic losses having been fully absorbed by the determined capital gaps. A 60% price-book ratio introduces a degree of conservativeness in that regard compared to a 100% price-book ratio, i.e. skepticism whether additional losses may arise or more generally profitability may recover. Our 'LGD' ranking turns out as follows:

1. SNS Reaal/Netherlands leads the table - in the 100% price-book variant even with an exceptional government (banking system) *profit*. This result is driven by a combination of the full expropriation of shareholders and junior bond holders and a rather low expected loss to be covered by the financing (loss-to-exposure ratio). This is a case, however, where potential *future* losses arising through the unwinding vehicle that have not been booked upfront is most likely. Private LGD is 100%, subject to the success chances of lawsuits demanding compensation.
2. For Bankia/Spain we arrive at a 'moderate' (but still in absolute terms quite high) government loss ratio. The high loss-to-exposure ratio is moderated by the haircuts imposed on junior bond holders prior to swapping their holdings into equity. Haircuts are in rank junior, debt equity swaps *pari passu* to the government injection. LGD for junior bond investors is somewhat higher than government LGDs (see also analysis in Table 1).
3. Alpha Bank/Greece sees a somewhat higher government loss ratio due to moderate loss-to-exposure ratio, potentially exacerbated through exercises of stock warrants by private investors (eliminating upside). LGD for private shareholders is somewhat lower than for government (depending on the degree of underpricing of warrants), LGD for junior bond holders is significantly lower reflecting the high cash payouts during the LME, for holdout investors it can be expected to be zero.
4. Dexia S.A./Belgium-France follows with a higher loss-to-exposure ratio unmitigated by junior bond investor haircuts. LGD for junior bond investors is moderate only, holdout investors can expect full recovery.
5. Hypo Real Estate Group/Germany comes out with very high government loss ratio due to a high loss-to-exposure ratio and additional cost imposed on government through cash payments to shareholders. LGD for junior bond investors is significant only for the Upper Tier 2 class, where litigation is pending.
6. Anglo Irish Bank/Ireland follow with very high government loss ratio due to very high loss-to-exposure ratio only insignificantly moderated by junior bond buyback gains. LGDs for junior bond investors are in the 60-80% range, still significantly lower than governments (compare hierarchy e.g. to Bankia).
7. Laiki Bank/Cyprus features an almost total loss for government resulting from the sequencing of intervention: earlier government shares had to be placed in the unwinding vehicle. Only the shares in Bank of Cyprus that the Cypriot government gains through Laiki's unwinding vehicle promise the government compensatory recovery value. LGD for private investors, esp. senior bonds and large deposits will be significantly lower than government's.
8. Amagerbanken/Denmark finally also sees total loss for government resulting from the sequencing taken since the government hybrids had to be placed in the unwinding vehicle. LGD for private investors is significantly lower.

The LGD charts in Figure 22 are sorted by the PD hierarchy. A cursory inspection shows very limited correlation. Obviously, governments across the board have still invested too early and too low in the creditor hierarchy and thus wasted important buffer against losses. This finding speaks in favor of making more robust decisions from the outset, i.e. tie a government intervention to a prior PSI – at least at the junior debt level.

Figure 22 Estimated Losses Through Direct Recapitalizations, Government only (LGD Perspective)



Source: Bank reporting, Finpolconsult assumptions and computations.

Notes: Sorted by PSI financing ratio of capital gap. SNS Reaal - in the 100% price-book simulation the Dutch government/banking system makes a profit (i.e. negative loss ratio). All simulations subject to assumption of zero additional losses arising from exposure added after 2012.

Also capturing the uncertainty of prolonged crisis – Europe has seen two loss peaks in a time distance of 4 years – from the outset should be essential. To paraphrase military language, there are ‘unknown unknowns’ hidden in portfolios generated by long phases of credit inflation, such as the Greek sovereign restructuring, that demand inclusion in a creditor participation policy approach. It is hard to see why at least junior investors should not participate in the entire future loss performance of a bank portfolio they helped financing, beyond immediate writeoffs or stress tests (‘known unknowns’). Options include writing a credit default swap on the portfolio as it existed at the time of first government intervention or an early swap into shares bearing the potential for recovery should future losses not materialize.

The LGD hierarchy highlights that the mismatch between creditor participation and long-term loss expectation is a particular issue in the Dutch case, where government expropriated investors without a risk-sharing mechanism while potentially not having booked the full loss potential of the intervention. Successful legal action on the basis of current writeoff policies may lead to economically unjustified investor recovery in this case.

Expected Loss Distribution - Government vs. the Capital Structure/Private Sector

The task left is to multiply the government exposure to capital gap (‘OSI’) ratio (PD), the inverse of the PSI ratio, with the expected government loss-to-exposure ratio (LGD) to obtain total government contribution to capital losses. The qualitative ranking then becomes:

- The first rank in terms of the lowest government loss will likely go to SNS Reaal/Netherlands with a moderate PD and likely low LGD.
- Second in class would be Cyprus and Denmark, which both feature very low PD multiplied by high LGD of early interventions.
- Spain would assume the third rank combining both moderate PD and LGD.
- Greece closes fourth with a high PD and higher LGD.
- Ireland, France and Germany rank last with both very high PD and high LGD.

Remarkable in this list are the Dutch, Danish, Cypriot and Spanish cases, where government essentially turned around its initial subsidy strategy for investors resulting in a high or at least moderate PSI in the final restructuring. Ireland was only kept from acting in the same vein by European investor politics. The

cases reviewed in Germany and France, to a slightly lesser extent in Greece, show a consistent lack of enthusiasm on the side of government in changing the fundamental approach to creditor participation.

Synopsis of Policy Lessons

Macro level (regulatory forbearance and creditor participation policy)

On the macro level, the key drivers of participation of the creditor structure identified in this study are

- the **delay between first risk realization and comprehensive restructuring** (“time to restructuring”),
- the **depth of participation imposed on the capital structure both before and during the restructuring**, e.g. through a conducive bank restructuring and resolution law permitting bail-in.

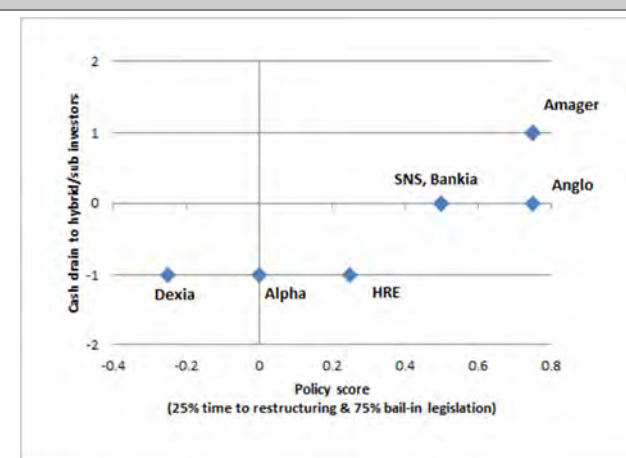
Table 5 in the Annex summarizes the bank case results in these dimensions. We assign simple indicator values to the two dimensions delay and depth (approximated by the presence of bail-in law) and compute a policy score for each case. As dependent variable we choose an indicator for the cash drain to junior debt investors in the individual case. Policy score and the cash drain score are plotted against each other in Figure 23. The Danish, Dutch and Spanish policy turnaround cases and the consequent early Irish policies against junior debt holders come out positively. The senior unsecured debt dimension is ignored in this analysis.

While the depth of creditor participation dominates the impact of delay on the policy score, the price for this is junior creditor rotation permitted by long delay phases. This in particular has caused injustices in the Bankia and SNS Reaal cases, where today junior debt generations partly pay for the mistakes of past junior debt generations.

Clearly, caveats must be applied to this analysis. The motivations for restructuring delay that government chooses through the forbearance mechanisms at her disposal may be economically valid: in the sample these reached from going concern hopes, or even imperatives, in the individual case (HRE, Dexia, SNS Reaal) to systemic risk considerations for the entire banking sector (Bankia). There was even concern at some point that faster Spanish loss recognition could destabilize the financial system to the point of breakup of the Eurozone.

Yet, as much as macro tactics may have their merits, this study also underscores their risks: going concern hopes do also result from cognitive dissonances about the true scale of losses that impair economic judgment. That issue can be addressed by critical outside asset quality review, a lesson that in particular the largest financier of the banks in the sample, the ECB, has learned. Faster recognition and restructuring action will also be the best recipe against the continued presence of mistrust in the banking sector, which have undermined trust in the European interbank and capital markets as well as slowed down the economy. As important is it to mitigate the risk of creditor rotation arising from long delays in order to not forfeit both political and investor good will for deeper creditor participation, which require parliamentary consensus at least in cases without the intervention of external sponsors. Finally, delay is clearly a factor

Figure 23 Policy Score and Cash Drain to Junior Debt Investors of Insolvent Banks



Source: Bank reporting, Finpolconsult assumptions and computations.

Notes: Scores + 1, 0, -1 given to last three columns in Table 5 in the annex. A positive policy score indicates short time to restructuring and/or deep creditor participation through bail-in. A negative cash drain score indicates large cash payments to investors. The analysis is limited to junior bonds (hybrid capital and subordinated debt).

driving up the rescue cost for government at the individual bank level, even though rigid action taken at the end to get hold of remaining investors may mitigate them.

If loss recognition delay cannot be avoided since macro tactical benefits dominate the calculus then we should still seek for options on the micro level to keep tying the fate of historic bank share, junior debt and in the isolated case senior debt investments to historic asset performance, i.e. remedy losses incurred by government of a recapitalization from future asset risks. We discuss a few ideas in the following.

Micro level (bank restructuring policy and investor relations)

On the micro level, we have formulated above some lessons for the individual bank cases. They form a refrain of what could be dubbed the 'Do's and Don'ts' of bank resolution and restructuring for the case of banks with deep solvency issues:

- **Do not pay cash to historic shareholders**
Germany, despite loss estimate running at several times the capital levels at HRE still inefficiently used squeeze-out legislation referring to 'market prices' rather than haircutting book value, as e.g. Spain did in the case of Bankia.
In the Greek case, offering warrants to existing shareholders on new share subscriptions was a quid pro quo for investors accepting additional book loss in advance, which despite shortcomings can be seen as the more balanced approach.
- **Do not government-insure historic bonds issued before crisis**
Denmark in the case of Amagerbanken nearly avoided, while Ireland with Anglo Irish Bank was hit with, catastrophic consequences by guarantees for historic senior unsecured bonds (issued before Lehman) that did little to support new bank bond issuance while weakening sovereign credit and blurring responsibility for historic losses.
Protection promises should remain limited to those liabilities enrolled in explicit insurance schemes, e.g. insured deposits. Partial insurance schemes for senior unsecured bonds or (certain) large deposits could be considered going forward.
- **Do prioritize (at least junior bond) creditor participation over early government share capital investment**
In *all* cases under review governments made the mistake to (decide to) invest early in rank below most existing junior debt holders. Not only will junior investors become protected in this way by government from immediate burden sharing with little economic justification.
Once government is invested in a low rank, as losses deepen a second government injection becomes more likely. This happens e.g. for face saving reasons since governments do not want to write down the earlier investment and admit a loss. HRE and Dexia seem to be the classic examples here. In the case of SNS Reaal, Amagerbanken and Laiki, in contrast, government finally accepted the loss of the first investment in order to be able to bail-in junior bond investors.
The maximization of expected losses for government resulting from over 5 years of application of the 'government-first' approach has already severely compromised the concept of direct recapitalization and led to great hesitance to deploy Eurozone resources without a national government guarantee.
After the regime changes in Spain and Cyprus, and the change of course of EU competition policies taken since August 2013 which demand junior debt bail-in, the 'government-first' policy should be running out of excuses.⁵⁵ Part and parcel of a strategy to avoid an early government recapitalization should be an extended capital definition that includes a significant portion of bail-inable junior debt go-

⁵⁵ "Before granting any kind of restructuring aid, be it a recapitalisation or impaired asset measure, to a bank all capital generating measures including the conversion of junior debt should be exhausted, provided that fundamental rights are respected and financial stability is not put at risk."

Source: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:216:0001:0015:EN:PDF>.

There has been recently commenting originating in fiscal policy circles suggesting that there could be wider exemptions from the 'junior creditors first' rule (Handelsblatt of October 2, 2013). Judgment under the least cost resolution principle for government could be permitted for the numerous cases where government already is invested in equity or hybrids, below the bulk of junior investors, and would have to take losses before being able to bail in the latter. Some of these cases have been discussed in this study.

ing forward.⁵⁶

A relaxation of the new regime, the 'junior bonds first' principle, should at most be possible under a least cost resolution calculus, which will usually be limited to certain scenarios in a second or third recapitalization step. In first recapitalizations, junior bonds should always be bailed in first, or subjected to other forms of liability for portfolio performance as proposed below.

- **Minimize loss recognition and comprehensive restructuring delay to avoid creditor rotation**

Swifter loss recognition than what Europe has shown is not only important for macro reasons, but also because of the high risk of bank-creditor deals such as early calls and liability management exercises reducing the junior debt position and draining the bank of bail-inable capital.

In the discussed cases liability management exercises and calls were often undertaken intensively to the point that subsequent creditor classes in senior unsecured, or new junior bond investor classes, or government, were pushed into the highest risk positions.

Creditor rotation, in particular in an industry with such deep information constraints as banking that tend to benefit insiders, threatens to compromise the concept of creditor participation and thus maximize fiscal risk.

- **Tie historic liability performance to future historic asset risks through credit linkage**

If reasons to delay loss recognition and/or prioritize a government recapitalization prevail, the government can still protect herself against losses in a legally sound fashion:

PROPOSAL: The performance at least of junior bonds can easily be tied to the performance of the asset portfolio of the bank as it existed at the time of first government intervention. All that is needed is to tie repayment and coupon claims of investors to portfolio performance. Technically this would be a credit default swap (CDS) written by the investors to the bank. An analogy combining both a bond and a CDS is the credit linked note bond product sold in the 2000s by Kreditanstalt für Wiederaufbau based on SME and mortgage finance credit reference portfolios.

This approach would require an extension of intervention options into coupon payments from Tier 1 (status quo) to Tier 2 instruments, into maturity extensions for Tier 2 instruments, and into gradually reducing the principal of both types of instrument classes. A product already in use along these lines is the UT2 Genussschein discussed in the HRE case, only that it is tied to the overall result and capital level of the bank and not a specific portfolio. Other bail-in options can be easily combined with the credit-linked approach. Reducing coupon and repayment claims through gradual burden sharing based on the concept in particular does not prejudice a future debt equity swap or haircut.

With a credit-linked bond approach, the vast losses of Dexia and HRE in Greek government bonds would have been borne first by junior bond investors, the same investors that in the status quo were able to obtain substantial recovery. The approach most importantly addresses the anxiety of governments to execute a bail-in on bond investors in the presence of hopes for a continuation of the going concern of the bank or fear for 'serious disturbances' of financial markets.⁵⁷

- **Minimize the risk of distorted restructuring action and prioritize the Good Bank approach**

We have documented a range of strategic mistakes in the cases, of which the worst probably is the unreflected application of the bad bank concept.

A bad bank provides the insolvent bank with the benefit of an asset swap whose parameters are determined today while future losses in the transferred asset portfolio may still arise. The concept tends to untie the fate of junior debt and bank asset performance, thus delink economic responsibility and – in times of slow asset price appreciation following major asset price bubbles - maximize fiscal cost.

The practical cases reviewed in the sample - HRE, Anglo Irish, Bankia and SNS Reaal - have all untied asset and liability performance, in the last three cases at least sizeable initial write-offs have reduced the likelihood of large fiscal losses. Yet large risks remain.

The Good Bank approach, i.e. the horizontal balance sheet split by quality of asset and hierarchy of li-

⁵⁶ Because of the lack of remaining junior debt in problem banks after 5 years of crisis, the extended capital definition if applied to equity and junior debt will only be economically relevant in the long-term. In the meantime, Europe as a result of the extreme delays is likely to suffer from significant conflict over bailing in senior unsecured debt vs. permitting additional state aid.

⁵⁷ A number of derogation options from mandatory creditor participation in the EU RRD Directive compromise text of June 19, 2013, reflect this anxiety (e.g. Article 27, Paragraph 2 speaking extraordinary public financial support).

abilities accompanied with the auto-capitalization of the bad bank with the historic equity and junior debt, has proven its value in this crisis from Denmark to Cyprus. It keeps the original incentive structure intact. The approach obviously is as good as is a clear delimitation of good and bad assets initially, but it is still safer for government than to determine specific transfer prices in the presence of great uncertainty. Taking October 2010 as a cutting point, the good bank approach would have matched Greek government bonds and junior bonds in the case of HRE as Germany decided already at that time to classify these as dubious, while it remains dubious whether France would have dared to take this step in the case of Dexia.

Both the bad bank and the good bank concept have thus room for improvement by re-tying the historic junior debt universe to its assets under the credit-linked approach.

Important in particular in the case of large banks is also to keep sufficient flexibility in the main vehicle carrying the historic balance sheet to permit a future insolvency or bail-in if additional risks arise. Ireland and France-Belgium have been pursuing this concept and de-facto segregated progressively Good Banks away from what then quasi automatically became the bad bank. This approach leaves future fiscal options intact, even if initial government investment may have to be written down, especially if bailing in senior bonds becomes an option. It is obviously inferior to a credit-linked approach based on initial assets and liabilities.

- **Observe minimum standards in investor relations**

The efficiency of the restructuring processes in Europe has suffered from deteriorating government-investor relations caused by factors such as long public discussion prior to taking action (Cyprus, Spain), the lack of formal moratoria benefiting insider over non-insider investors (Cyprus, Spain) and ad-hoc changes in the ranks esp. of public investors, first and foremost the ECB (Cyprus).

These issues are a reflection of the incompleteness of the legal as well as institutional environment, i.e. lack of a single resolution mechanism, as well as problems of synchronization of strategy, esp. between fiscal policy makers and the ECB.

Similarly, after observing the loss waterfall government should not deprive investors of upside where it appears possible. In junior debt liability management debt equity swaps are preferable over haircut policies to the extent that capital gaps determined are the results of stress tests and other future uncertainty, rather than already incurred losses.⁵⁸ There is horizontal equity argument regarding government sponsorship in banking here: government sponsorship extends not only to banks where government is directly invested, but also to those where it is not. Outside debt equity swaps, the credit-linked approach could be the method of choice for creditor participation.⁵⁹

Finally, it is a sine-qua-non condition for Europe to not jeopardize popular support for creditor participation by avoiding maneuvering households into high-risk positions, such as through sales of hybrid capital securities to households as happened in the case of Spain. Many European regional banks are tempted to use this channel for lack of wholesale distribution options for junior debt: this obstacle can be surmounted through an adequate pooling mechanism.

- **As a last resort consider bailing in senior investors and – to the extent there is overcollateralization – also covered bond investors**

A central lesson of the crisis – 5 years after Lehman - is that sovereign insolvency has more serious implications for financial stability than individual bank insolvency. Moderate participations of senior unsecured and large deposit investors are justifiable, preferably in a better managed investor relations environment than in the case of Cyprus. Our Danish case shows an acceptable way of dealing with the issue.

Covered bond legislation in Europe should be streamlined to permit investors to keep the overcollat-

⁵⁸ The EU Commission policy to clear cash payments to junior bond investors under the formula 'market price +x%' for state aid purposes should be discontinued. While all bank bonds do enjoy implicit government guarantees to a certain degree and thus prices are always distorted, in the particular case of junior bonds and the situation of a bank with deep solvency issue there is no justification speak of a 'market' price. Prices paid by investors reflect in options terminology time value rather than inner value, i.e. are not a reflection of the liquidation value of the instrument, but of speculation on future protections to be supplied through a government recapitalization.

⁵⁹ We note here that debt equity swap approach in contrast to the credit-linked approach permits investors not only to participate in a credit recovery of the bank's asset portfolio, but also in profits made by the bank through engaging in market risk intermediation. Typically, when credit performance of a bank is weak, profits from market risk intermediation run high (e.g. when the central bank lowers short-term interest rates in the middle of a credit crisis).

eralization necessary to satisfy their claims, but not more. Currently, in many jurisdictions the levels of overcollateralization are excessive, which reduces the recovery expectations for both government and the remainder of the capital structure. The banking industry is controversially discussing the subject under the keyword 'asset encumbrance'.

Finally, even though this is the first continent-wide banking crisis in Europe since the 1930s, there is no need for the continent to reinvent good practice in bank resolution and restructurings.

Similar policy lessons as the ones determined in this study can be learned from studying contemporary banking crises globally. Of particular help for Europe are both empirical findings and rulebooks developed on their basis that have been produced by the United States as in the aftermath of recent banking crisis.⁶⁰

⁶⁰ E.g. see FDIC (1998).

Annex

Abbreviations

Abbreviation	Full Text (Context)
BoC	Bank of Cyprus (Commercial bank)
BFA	Banco Financiera de Ahorros (holding company of Bankia)
BRRL	Bank Restructuring and Resolution Law
BRP	Bank Restructuring Program
CPB	Cyprus Popular Bank (Commercial bank, also: Laiki Bank)
CBC	Central Bank of Cyprus (Member of the Euro system)
CNMV	Comisión Nacional del Mercado de Valores (Spain)
CRD	Capital Requirement Directive
CT 1	Core Tier 1 Capital
ELA	Extended Liquidity Assistance (extended by national member central banks of the Euro system)
EU	European Union
ECB	European Central Bank
FDIC	Federal Insurance Deposit Corporation (U.S. deposit insurer)
FROB	Fondo de Reestructuración Ordenada Bancaria (Spanish bank restructuring fund)
GAAP	Generally Accepted Accounting Principles (local accounting standards)
GGB	Greek government bonds
HFSF	Hellenic Financial Stability Fund (Greek bank restructuring fund)
IFRS	International Financial Reporting Standards
LME	Liability Management Exercise
MoU	Memorandum of Understanding
OSI	Official Sector Involvement

PSI	Private Sector Involvement
RRD	Resolution and Restructuring Directive
SLE	Subordinated Liability (Management) Exercises

Glossary

Term	Meaning / Definition
Common Core Tier 1	Share (book) capital plus share premium plus special reserves plus retained earnings.
Core Tier 1	Common Core Tier 1 plus preference shares, plus hybrid securities up to 15% of the total and subject to other conditions defined under Basel III, CRD IV.
Liability Management Exercise (LME)	Offer to investors to exchange parts or all of the outstanding of a security against new securities, stock or cash. There are voluntary and mandatory LME.
Least Cost Resolution Method	Requirement to minimize the fiscal cost of bank restructuring and resolution given the agency's guarantee commitments. U.S. FDIC terminology.
Open Bank Assistance (OBA)	Mostly direct capital injection without prior restructuring of liabilities. Economic impact is dilution of shareholders and protection of creditors. U.S. FDIC terminology.
Purchase and Assumption (P&A)	Sale or transfer of good assets and high-ranking liabilities in a bank to a purchaser (bank or bank holding company). US FDIC terminology.
Prompt Corrective Action (PCA)	Recapitalization or reorganization measures imposed prior to resolution and restructuring. US FDIC terminology.
Share premium	Excess of share issuance proceeds over book value of shares, part of Core Tier 1 capital.
Subordinated Liability Management Exercise (SLE)	New terminology for Liability Management Exercises limited to subordinated debt and hybrid capital (created by Troika in the context of the Spanish bank restructuring program during the fall of 2012).
Troika	Jargon for the group of official creditors International Monetary Fund, European Central Bank and European Commission (as proxy for national creditors).

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Additional Data and Material

Figure 24 Spanish Treasury Share Purchases At the Time of the Equity LME in March 2012

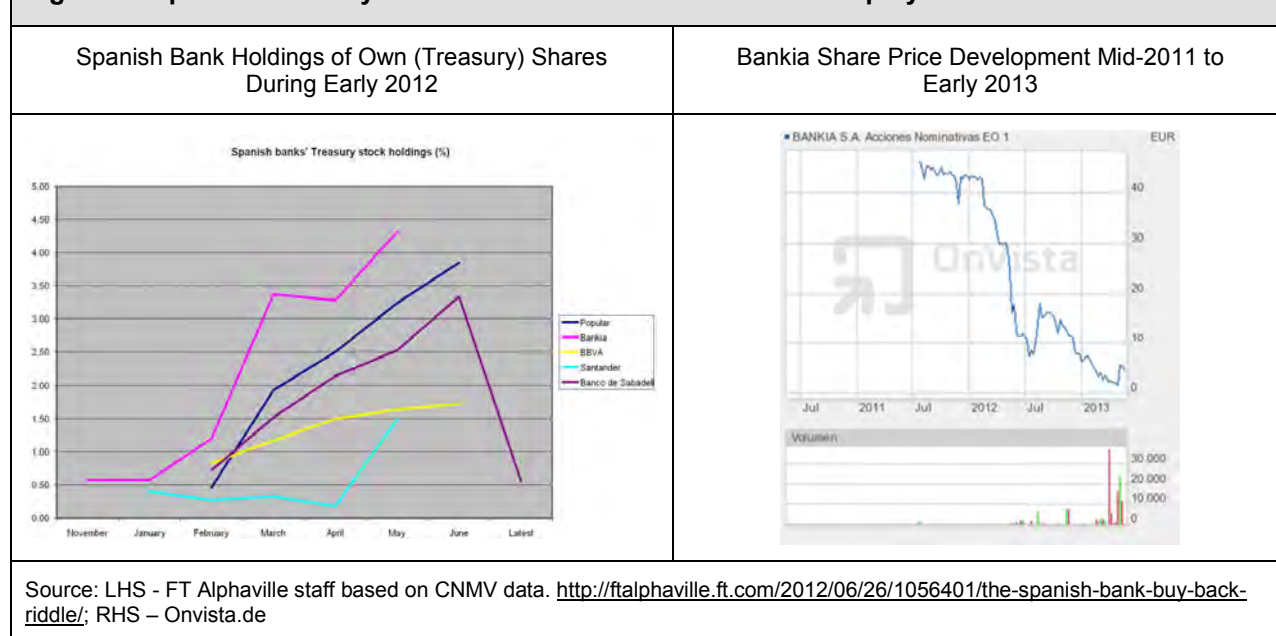


Table 3 Capital and Cash Drain Mechanics of Liability Management Exercises: Laiki Bank Subordinated Eurobond Voluntary LME in June 2012 Followed by Restructuring in March 2013

LME CONTEXT	TYPE	OFFER	ACCEPTED Million EUR	DATE	EXCHANGE RATIO	NOMINAL Million EUR	INTEREST Percent	MATURITY Years	DATE	EVALUATION						
										CASH FLOW IMPACT Million EUR	CUMULAT Million EUR	TIER 2 IMPACT Million EUR	TIER 2 CUMULAT Million EUR	TIER 1 IMPACT Million EUR	TIER 1 CUMULAT Million EUR	TIER 1 + TIER 2 CUMULAT Million EUR
Early buybacks	Buyback	Par cash exchange	23.00	Jun-10	100.0%	23.00			2010	23.00	23.00	-23.00	-23.00	0.00	0.00	-23.00
	Buyback	Par cash exchange	13.70	Jan-12	100.0%	13.70			2012	13.70	36.70	-13.70	-36.70	0.00	0.00	-36.70
Laiki recapitalization	Voluntary LME	Subpar senior bond exchange	132.46	Jun-12	72.5%	96.03			2016	96.03	132.73	-132.46	-169.16	36.43	36.43	-132.73
	Voluntary LME	Subpar cash exchange	181.82	Jun-12	55.0%	100.00			2012	100.00	232.73	-181.82	-350.98	81.82	118.25	-232.73
	Interest	Future interest on senior bond	96.03	Jun-12			8	4	2012-2016	30.73	263.47	0.00	-350.98	-30.73	87.51	-263.47
Laiki restructuring	Mandatory LME	Senior bond debt-equity swap	96.03	Mar-13	10.0%	9.60			2013	0.00	263.47	0.00	-350.98	96.03	183.55	-167.43
	Interest	Future interest on senior bond	96.03	Mar-13			8	-3	2013	-23.05	240.42	0.00	-350.98	23.05	206.60	-144.38
	Mandatory LME	Subordinated bond holdout del	98.72	Mar-13	0.0%	0.00			2013	0.00	240.42	-98.72	-449.70	98.72	305.32	-144.38

Source: Bank reporting, investor relation documentations, Finpolconsult computations.

Note: excludes scheduled interest payments on the bond prior to first restructuring in June 2012. 2013 exchange values for senior and subordinated bond holdouts authors estimate, without cash or capital impact.

Table 4 Compilation of Hybrid Capital and Subordinated Debt Call Policies by Large European Banks

		Amt Called*	LT2 - Call rationale	Amt Called*	UT2/T1 - Call rationale
UK	Lloyds		Lloyds is only calling economically post Dec-2011 LME		Lloyds is only calling economically post previous LMEs
	RBS		RBS is calling economically post Mar-2012 LME		RBS is only calling economically post previous LMEs
	Barclays	5,152	Barclays has called all issues to date	3,375	Barclays has called all issues to date
	HSBC	5,165	HSBC has called all issues to date	1,674	HSBC has called all issues to date
	Standard Chartered	1,940	Standard Chartered has called all issues to date	500	Standard Chartered has called all issues to date
Germany	Nationwide	1,257	Nationwide has called all issues to date		Nationwide has not had any issues come to call
	Co-operative Bank		Co-op exchanged issues in the past instead of calling		Co-op has not had any issues come to call. We assume it will not call consistent with the approach to LT2
	DB		DB has not called since 2008		DB has not called since 2008
Austria	Commerzbank		Commerzbank has not called post LT2 LME		Commerzbank is only calling economically post T1 LME
	RZB		RZB has always called. However, call decisions going forward will be made dependent on prevailing regulatory, economic and market conditions at that time.		RZB did not call its most recent issue
France	Erste		Erste's most recent issue was exchanged. Previously they have always called; however, call policy going forward is on an economic basis.		Erste called most recent Institutional issue however call policy going forward is on an economic basis
	SocGen	3,053	SocGen has called all issues to date	1,255	SocGen has called all issues to date
	CredAg		CredAg has called all issues to date		CredAg has called all issues to date
	BPCE		BPCE has not had any LT2 come to call		BPCE has not had any T1 come to call nor has it communicated that call decisions will be economic going forward
Belgium	Natixis	3,200	Natixis has called all issues to date	32	Natixis last called in Jun 2011 but made no comment on their call policy
	BNP Paribas	6193	BNP has called all issues to date	1,541	BNP has always called T1s
	BFCM	1000	BFCM has called all issues to date		BFCM has never had a Tier 1 come to call. At the Dec-2011, BFCM said it did not comment on its call policy
Italy	KBC		KBC has not called		KBC has not called since Mar-2009
	Fortis Bank Belgium	1684	Fortis Bank Belgium has called all issues to date		Fortis 6.5% was not initially called. It was equity settled and subsequently called
Switzerland	Intesa		Intesa has offered to exchange LT2s into senior debt	1,500	Intesa has called all issues to date
	Unicredit	5,365	Unicredit has called all issues to date	883	Unicredit has called all issues to date
	Banco Popolare		Banco Popolare has had no issues which have been called but had one LT2 LME. Calls going forward will be made on an economic basis		Banco Popolare has never had a T1 come to call they did two LMEs. Calls going forward will be made on an economic basis
Netherlands	Monte dei Paschi		Monte dei Paschi has had no issues which have been called but one LT2 issue which was tendered. Calls going forward will be made on an economic basis		Monte dei Paschi has had no issues which have been called but one T1 issue was tendered. Calls going forward will be made on an economic basis
	UBS	4,025	UBS has called all issues to date	1,192	UBS has called all issues to date
Scandinavia	Credit Suisse		Credit Suisse tendered for €5.4bn of LT2, T1 and UT2 tendering in summer 2012. CS has made no comment about economic calls going forward	1,149	Credit Suisse has called all issues to date
	ING		ING has not called since Oct-2009 due to EC restrictions		ING has not called since Oct-2009 due to EC restrictions
	Rabobank	1,000	Rabobank has called all issues to date	572	Rabobank has called all issues to date
Spain	ABN Amro		ABN Amro has not called. Since April 5 2011, EC imposed ban on calling until Mar-2013		ABN Amro has not called. From April 5 2011, EC imposed ban on calling until Mar-2013
	SNS		SNS didn't call the recent Feb-2012 issue		SNS hasn't had any T1s come to call. SNS has stated that call decisions going forward will be economic
	Danske Bank	263	Danske has called all issues to date	2,166	Danske has called all issues to date
	SEB	1,750	SEB has called all issues to date	1,293	SEB has called all issues to date
	Swedbank	660	Swedbank has called all issues to date	267	Swedbank has called all issues to date
Spain	Svenska	1,710	Svenska has called all issues to date	1,018	Svenska has called all issues to date
	Nordea	2,479	Nordea has called all issues to date	764	Nordea has called all issues to date
	DnB Nor	1,647	DnB has called all issues to date	963	DnB has called all issues to date
	Bankinter		Bankinter has not-called or exchanged its LT2		Bankinter has not had any T1 or UT2 come to call
Spain	Sabadell		Significant tender activity in past 3 years. Call decisions going forward to be made on an economic basis		Significant tender activity in past 3 years. Call decisions going forward to be made on an economic basis
	Santander		Call decisions going forward will be made on an economic basis post previous LMEs		Santander has not called UT2 or T1 and will make call decisions on an economic basis going forward
	BBVA		Call decisions going forward will be made on an economic basis post Oct 2012 LME		BBVA exchanged in July 2012
	Popular		Banco Popular has not called issues to date. Significant tender activity in past 3 years		Banco Popular has not called UT2 or T1. Significant tender activity in past 3 years

Source: Bloomberg, Dealogic, Morgan Stanley Research. *Amount called in € million equivalent for issuers without economic call policies (both retail and institutional deals). Other banks might have called in the past, the case is left blank if they missed institutional calls/announced economic call policies.

Source: Morgan Stanley (2012).

Table 5 Policy Actions Taken During Restructuring, Restructuring Delay and Investor Loss Participation

	Date of (first) restructuring	Shares	Hybrid capital		Subordinated debt		Senior unsecured debt		Delay to final restructuring	Modernized Bank Restructuring and Resolution Law applied?	Loss absorption of hybrid capital and subordinated debt
			Coupons	Principal	Coupons	Principal	Debt	Large deposits			
Anglo Irish IRELAND	2009	Full	Full	Quasi mandatory LME	Full	Quasi mandatory LME			Moderate	Yes	Moderate
Hypo Real Estate GERMANY	2009	Almost full	Full						Short	No	Low
Amagerbanken DENMARK	2010	Full	Full	Full	Full	Full	Full	Full	Moderate	Yes	High
Bankia SPAIN	2012	Full	Full	Mandatory LME	Full	Mandatory LME			Long	Yes	Moderate
Dexia FRANCE	2012	Full	Almost full	Voluntary LME		Voluntary LME			Long	No	Low
Alphabank GREECE	2012	Full	Almost full	Voluntary LME		Voluntary LME			Moderate	No	Low
SNS Reaal NETHERLANDS	2013	Full	Full	Full	Full	Full			Long	Yes	Moderate
Cyprus Popular Bank CYPRUS	2013	Full	Full	Full	Full	Full	Full	Full	Moderate	Yes	High

Source: Authors assessment based on case studies.

Note: Alpha Bank – in addition private sector subscriptions of new shares issued.

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