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CONTINGENT CONVERTIBLE SECURITIES: FROM THEORY TO CRD IV



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INTRODUCTION

9.01 This chapter outlines the development of Contingent Convertible Securities (CoCos) for financial institutions from their theoretical origins to their current form under the European Union's Fourth Capital Requirements Directive framework and its Bank Recovery and Resolution Directive and examines the effect the framework and the directive have had on their design and ability to fulfill the ends for which they were initially conceived. It examines this from two viewpoints: the policy goals CoCos are meant to achieve and the corporate law issues raised by the requirements of CRD IV. On the policy side we conclude that CRD IV and the RRD have significantly limited the amount of CoCos a financial institution is likely to issue, but expanded their possible forms by including write-down as well as convertible structures and narrowed the differences between them and pure regulatory bail-in structures, thus calling into question whether they are truly 'going concern' rather than 'gone concern' capital. On the company law side we conclude that a number of issues, in particular the limits on an authorization of management to issue CoCos and shares, the scope of the shareholders' right of pre-emption, the concept of dilution and the distinction between contributions in cash and in kind merit closer attention than they appear to have received in the current discussion on CoCos.

I. WHY COCOS

A. The Failure Last Time

9.02 Two important conclusions drawn from the financial crisis of 2007/2009 were that financial institutions (for the sake of brevity we will refer to them as 'banks') had been allowed to operate with too little capital and that too much of what they had been allowed to count as regulatory capital in addition to common equity had proved to have little loss absorbing capacity outside of insolvency. Thus an important strand of financial reform has been to require banks to increase the minimum amount of equity capital they must carry and restrict the kinds of financial instruments other than common equity which can count towards bank regulatory capital to those which can absorb loss on a 'going concern' basis so as to reduce the chances a bank will fail. A complementary strand relates to equipping public authorities with the power to restructure and resolve banks should they be in danger of failing through the use of a number of tools, most importantly for our purposes what in the European Union (EU) has been called the 'bail-in' tool. In the EU, enhanced capital requirements have been implemented in the Fourth Capital Requirements Directive framework (made up of Directive 2013/36/EU (CRD IV) and Regulation 675/2013/(CRR)) based on the recommendations of the Basel Committee on Bank Supervision (BCBS) known as Basel III. The Bank Recovery and Resolution

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Directive (RRD), which deals with bank resolution, including bail-ins, implements the complementary strand.

B. 'Going Concern' Versus 'Gone Concern' Capital

9.03 The point of departure for the current approach to bank capital is perhaps best expressed in The Turner Review¹ in which Lord Turner distinguished two approaches to the definition of adequate capital, a 'gone concern' approach, prevalent before the crisis, in which what matters is the protection of senior creditors and depositors in the event of an individual bank failure, and a 'going concern' approach in which policy makers need to be concerned about the implications of bank capital structures for the behavior of banks and the implications of that behavior for the whole economy. In the 'going concern' approach, it is essential that capital is available to absorb losses while the bank is still operating without being under undue pressure to constrain lending or shed assets. Another useful way to think about this, which we have taken from a speech delivered by Andy Haldane of the Bank of England at the Institute for Law and Finance at the Johann-Wolfgang Goethe University in Frankfurt in January 2014, is to think of 'going concern' capital as belonging to those ex ante measures which are intended to reduce the chance of default of a bank, whereas 'gone concern' capital belongs to those ex post measures which are meant to reduce the loss upon default if a bank's ex ante measures do not prevent imminent failure.

C. The Effects of Basel III

9.04 In Basel III, the BCBS recommended substantial increases in core capital for banks, more than doubling common equity (common shares, retained earnings and certain reserves, referred to as 'CET 1') from 2% to 4.5% of risk weighted assets (RWAs), increasing Tier 1 equity, made up of CET 1 plus other particularly loss absorbent capital instruments by half, from 4% to 6%, and adding the new concept of a capital conservation buffer of 2.5%.² It also provided for the progressive deduction from regulatory capital over time of Lord Turner's 'gone concern' capital instruments, primarily variations of hybrid securities, situated somewhere between debt and equity, which had qualified under its predecessor regime, Basel II, but which would no longer

¹ A regulatory response to the global banking crisis, UK Financial Services Authority (March 2009), 53.

² Basel Committee on Banking Supervision, Basel III. A global regulatory framework for more resistant banks and banking systems, Annex I. (December 2010 (rev June 2011)), 2, 5-7, 12, 27-28, 54-60, Annexes 1 and 4.

count under the tougher standards of Basel III as additional Tier 1 (AT 1) or Tier 2 (T 2) capital. It also introduced another new notion, of counter-cyclical capital buffers, ranging between 0 and 2.5% depending on the degrees of systemic risk assessed by national supervisory authorities, to be set by those national authorities. Finally, banks that are considered to be systemically important, either globally (G-SIBs) or domestically, could be required to meet even higher CET 1 capital levels. In total, for a G-SIB, capital requirements, including the various buffers, could thus rise from 8% under Basel II to 18% under Basel III. These new requirements phase in over time through January 1, 2019, although supervisors are free to accelerative their applicability. (Basel III, Annex 4) In this chapter we use the term ‘fully loaded’ to designate the fully implemented requirements for both Basel III and the CRD IV framework discussed below.

9.05 The progressive deduction from capital of the old hybrid instruments, the increase in overall capital requirements, in particular the various additional buffers, even though Basel III provided for them to be implemented over time (with full implementation not occurring until 2019), put significant strain on banks’ capital ratios and led to a search for new instruments other than common equity to meet the new requirements. In the initial stages of the development of Basel III, it was not clear which part of the new requirements, in particular the various forms of buffers, could be met by other instruments than common equity.

D. The Search for an Alternative

9.06 A simple reaction to the crisis could have been to require that only common equity could count as regulatory capital, as suggested by Admati and Hellwig and their colleagues in a famous article.³ But it was generally recognized that, notwithstanding Admati and Hellwig’s arguments to the contrary, common equity was the most expensive form of capital and it was argued that since banks were being required to hold capital not just to meet normal operational requirements but also additional capital for times of crisis, this additional capital, in the form of the various buffers mentioned above, might be met by other kinds of financial instruments, which would be cheaper to issue than common equity. It was understood that, to be allowed to count towards regulatory capital, any financial instrument other than common equity should be able to absorb losses on a ‘going concern’ basis. This led both academics and policy makers to consider designing a financial instrument which would start out as preferred stock or subordinated debt, but would automatically convert to common equity upon the occurrence of a defined event

³ Admati Anat, Peter De Marzo, Martin Hellwig, and Peter Piederer, ‘Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive’, Stanford University (2010).

indicating that the financial health of the bank had deteriorated to a point where it needed more capital. The discussion quickly focused on CoCo bonds, which would be subordinated obligations that, in good times do not share in profits (instead they receive a fixed coupon) but automatically share in losses in bad times, by being converted into the quintessential first loss instrument, common shares. As debt they would be cheaper to issue and to service in normal times than common equity, but in bad times they would become common equity.

II. WHAT KIND OF COCOS

A. Elements of Design

9.07 How you would design them depends in part on what goal or goals you were trying to achieve, and how much faith you had in their ability to meet these goals. The basic requirement was to provide an additional source of capital or additional loss – absorbing capacity in a crisis at a time an issuer might not otherwise be able to raise capital in the market. A broader goal could be to design an instrument which would provide an incentive for shareholders and management to avoid risks and to raise capital before a crisis in order to avoid greater dilution through conversion during a crisis. Mitigating factors in their use could be skepticism about their ability to meet anything but the most basic goal, problems with stock corporation laws in the design of this new kind of convertible instruments and a preference for common equity over other forms of capital, based on the failure of prior complex supplementary capital instruments issued under Basel II which had failed to provide loss absorbency in the last crisis.

9.08 The challenge to design such instruments was eagerly taken up by a number of academics, prominent among which was Mark J. Flannery who, in a seminal article, in 2009⁴ argued that CoCos could in effect be used for the basic purpose of ‘bailing in the banks’ prior to failure and, if designed correctly, could have positive incentive effects on bank shareholder behavior, leading them to avoid risk taking, thus meeting Lord Turner’s broader goal for ‘going concern’ additional capital. Flannery identified three key elements in the design of the CoCos: the share conversion price at which CoCos would be converted into common shares, the trigger ratio which determined at what point conversion would take place and how the trigger is measured (accounting versus market-valued numbers or supervisory assessment). He argued for a high trigger, which would lead to conversion when the bank was still far from insolvent, conversion at the contemporaneous market price of the common shares at the time of conversion (as

⁴ Flannery, Marks. ‘Stabilizing Large Financial Institutions with Contingent Capital Certificates’, October 5, 2009, reprised in a shorter form in ‘CoCo design as a risk preventive tool’, with Enrico Perotti, Vox, 9 February 2011.

opposed to a fixed price set at the time the CoCos were issued) and a market (as opposed to an accounting or regulatory discretion) trigger. Each one of these points was subject to discussion and debate, but the key idea was to develop a subordinated debt instrument whose terms would be set contractually ex ante at the time of issuance of the instruments between issuer and investors to allow an issuer, in exchange for paying a higher coupon than on its other unsecured subordinated debt to put to the investors specified amounts of its equity in order to extinguish that debt, at a point in time when the issuer's financial position had deteriorated (as evidenced by its breaching a contractually set trigger measuring that position) and might not otherwise be able to raise equity.

B. CoCos Versus Bail-In Instruments

9.09 This concept of a contractually set bargain agreed in advance between issuers and investors is to be distinguished from a statutory power granted to a public authority to convert any debt of a bank into equity or to write down its value as part of a resolution of the bank by use of what has come to be known in the EU as a 'bail-in tool'. The differences are that the decision in bail-ins is in the hands of a public authority that determines the point at which it intervenes, which of the issuer's debt it will choose to bail-in and the rates at which that debt will be converted or written down, subject only to the limitations in the law setting out its bail-in powers. Debt holders in a bail-in are entitled to have certain protections: bail-in must apply in order of seniority, after a valuation of the issuer's assets has been carried out and subject to their not being worse off than they would be in a liquidation of the issuer.⁵ But they do not know in advance whether their particular debt will be selected for bail-in and have thus not been able to bargain in advance for an appropriately high coupon or for conversion at a particular note versus write down. A holder of a CoCo bond in comparison knows the formula for triggering the conversion or write down, whether loss absorption will be through conversion or write down and, if it is through conversion, the formula for determining the conversion ratio. From a systemic point of view, because it involves an interference with legally and constitutionally protected property rights, it is generally thought that a bail-in of debt should occur only at a point in time where the issuer is failing or likely to fail, often referred to as the point of non-viability (PONV) and other important societal interests, such as financial stability are at stake⁶, whereas a CoCo can convert either at

⁵ Cf. Article 34(b) and (g) and Articles 73-75 RRD. The respect for credit hierarchy and "no creditors worse off" principle are found in Principle 5 of the Financial Stability Board's Key Attributes of Effective Resolution on Regimes for Financial Institutions, October 2011, 11.

⁶ Kenadjian, Patrick S., CoCos and Bail-Ins, at 234, footnote 7, citing Article 4.3 of the Explanatory Memorandum to the RRD in Andreas Dombret and Patrick S. Kenadjian (eds), 'The Bank Recovery and Resolution Directive, Europe's Solution to "Too Big to Fail"?' De Gruyter (2013).

close to the same time, if a low conversion trigger is chosen, or considerably earlier if a higher trigger is chosen, since the trigger is contractually agreed with the investor. The earlier the conversion occurs or can occur, the more likely the recapitalization it effects will occur at a point when the issuer is still a 'going concern' and will not have to be subject to a resolution proceeding.

9.10 Thus, from an investor's point of view, a CoCo was thought to have the advantage of certainty as to the trigger and the nature of the loss absorption mechanism, as well as the ability to negotiate a premium coupon to reflect the risk of the trigger being breached. From the issuer's point of view, a CoCo was thought to have the advantage of being able to set a trigger at a point early enough that it can avoid failure, choosing the risk absorption mechanism (conversion or write down) and how it will be measured (through setting the conversion formula) and of limiting the risk of loss absorption to just a designated class of its debt securities (thus hopefully reducing the cost of its other debt). From a systemic point of view, a CoCo was thought to allow a recapitalization to occur automatically without the need for public authority intervention (thus avoiding the twin risks of regulatory forbearance and of arbitrariness) and at a point far enough upstream from a potential failure of the bank, that the risks of a resolution can be avoided.

9.11 Each of the three design elements identified by Flannery deserves a closer view to understand the impact it can have on the effectiveness of CoCo for various purposes. A useful primer on the subject published by the Bank for International Settlements (BIS) staff in 2013⁷ sets forth the basic elements as follows: in their most basic form, CoCos must provide a readily available source of capital in time of crisis. They need to absorb losses automatically prior to or at the point of insolvency. The activation of the loss absorption mechanism must be a function of the financial health of the issuer. This can be measured by reference to the market capitalization of the issuer (which measures its ability to raise capital in the market) or its book capitalization (which reflects the accounting effects of incurred losses). The design needs to be robust to price manipulation and speculative attacks and, to a certain extent to market volatility. The trigger can be either mechanical (for example defined numerically in terms of a specific capital ratio) or discretionary (i.e. subject to supervisory judgment).

⁷ Stefan Avdjiev, Anastasia Kartasheva, Bilyana Bogdanova, CoCos: a primer (BIS primer), BIS Quarterly Review, September 2013, 43-49.

C. Triggers Based on What?

1. Accounting Value Triggers

9.12 Triggers for conversion (or other loss absorption mechanisms, such as write down in principal amount) can be based either on market value or on book value of the issuer's capital. Book value or accounting-value triggers are typically based on the book value of the issuer's CET 1 capital as a ratio of its RWAs as measured under the Basel regulatory capital framework. These triggers have several things to recommend them: banks report CET 1 capital and RWA regularly, supervisors watch both metrics carefully and Basel II and III have made them the centerpiece of their bank capital adequacy structure.

9.13 These triggers also have a number of drawbacks: both measures are backward looking and issuers usually report them to the public only quarterly, although their monthly reporting to supervisors may give supervisors more timely insights into both metrics. There has been increasing skepticism as to the reliability of the denominator, RWA, as the BCBS has conducted comparative studies of the RWAs of similar portfolios among internationally active banks and found large discrepancies among them.⁸ Particularly for banks that are allowed to calculate their RWAs based on their own internal models, the opportunities for internal manipulation or, to put it more neutrally, the lack of transparency as to how these values are calculated, casts doubts on the reliability of this metric as the trigger. Additionally, as the BIS primer points out, book value triggers, being backward oriented, may not be activated in a timely fashion. The BIS primer cites the example of Citigroup and calculates that, had it issued CoCos even with a high book value trigger before November 2008, their loss absorption mechanism would not have been activated before the government capital injection. Citing work done by Duffie (2009) they state 'indeed the bank's accounting regulatory capital ratios remained comfortably above the regulatory requirements even when its stock market capital amounted to merely 1% of its reported RWAs.'⁹

9.14 Nonetheless, there is indication that investors may prefer objective, capital-based triggers, so long as they are enhanced by greater, standardized disclosures, at least over regulatory discretion triggers, because they are easier to model and over market-

⁸ See, e.g. Basel Committee on Banking Supervision: Regulatory Consistency Assessment Programme (RCAP) – Analysis of risk-weighted assets for credit risk in the banking book (July 2013).

⁹ BIS primer, 45, see footnote 7.

based triggers, which might be breached based on market sentiment, or even manipulation.¹⁰

2. *Market Value Triggers*

9.15 The alternative approach is to use market value triggers. This can be a trigger set at a minimum ratio of the bank's stock market capitalization to its assets, using quoted stock prices and balance sheet assets as reported in its financial statements as opposed to RWAs. The advantages of a market-based trigger are that it reduces the scope for balance sheet manipulation and regulatory forbearance (e.g. failing to press issuers for a more uniform calculation of RWAs) and, for stock exchange listed issuers, is the most transparent measure. Its numerator, the bank's stock price, is reported every day in places all investors can find it and is easy to understand. Its denominator is the balance sheet total found in the bank's audited balance sheets. There is also considerable research to the effect that stock price declines were a far better predictor of the need for a government bail-out in the last crisis than reported book value was.¹¹

9.16 The obvious drawback of such triggers is the incentive a market capitalization-based trigger opens to stock manipulation. Holders of CoCos, it is feared, could have incentives to short the common stock to cause a trigger event and then profit from their new holdings of common shares when the price of the stock subsequently returns to its normal level. This is theoretically possible, but does not take into consideration either the size of the capitalization of the banks involved, which would require very large sums of money to be put at risk to cause the fall of the common stock, or the danger that once the CoCos are triggered the stock never recovers to a normal level. This could be because the bank has been put into a 'death spiral' prior to conversion or because of continued selling pressure from former CoCo holders post conversion who do not want to hold the stock. It would also be possible to set the trigger based on an average price over a period of time long enough to discourage manipulation. But there is a significant practical limitation to the use of a market-based trigger that is peculiar to Europe, which is the relatively small percentage of European banks whose

¹⁰ Pitt, Louise, Amanda Hindlian, Sandra Lawson, Charles P. Himmelberg, 'Contingent Capital, Possibilities, Problems and Opportunities' Goldman Sachs Global Markets Institute (March 2011), 8.

¹¹ Strongin, Steve, Amanda Hindlian and Sandra Lawson, Ending "Too Big to Fail," Goldman Sachs Global Markets Institute (December 2009), Claessens, S., R.J. Herring and D. Schoenmaker, 'A Safer World Financial System: Improving the Resolution of Systemic Institutions', Geneva Reports on the World Economy No. 12 (2010) and Murphy, Gareth, Mark Walsh and Matthew Willison, 'Precautionary contingent capital', Financial Stability Paper No. 16, May 2012, Bank of England.

shares are listed on a stock exchange. While these listed banks may well be the bulk of the universe of potential CoCo users, this could be a serious limitation.¹²

3. *Discretionary Supervisory Triggers*

9.17 The third alternative kind of trigger is the discretionary or PONV trigger activated by supervisors' judgment. The main advantage claimed for these triggers is that they allow supervisors to trump the lack of timeliness or unreliability of the book-value triggers and not to be fooled by temporary volatility in stock prices. It is of course possible – even desirable – that supervisors will be better informed than the market as to the value of the issuer's assets and will also receive notice from their banks in the form of their monthly reports of deterioration in their financial position before the banks are required to report on this publicly. However, this line of reasoning ignores two important points. First, if the whole point of a CoCo is to have a contractual and objective trigger, then putting the decision in the hands of supervisors is antithetical to the whole idea of CoCos. Second, the history of the last crisis, as of many prior crises, is of regulatory forbearance. One of the reasons the prior generations of hybrid instruments did not absorb losses in the last crisis is that the regulators did not press the banks to use the levers they had (coupon deferral and maturity extension) to force loss absorption.¹³ Relying on supervisory judgment makes it harder for rating agencies to rate the bonds and for investors to calculate the chance of the trigger being breached and thus to price the instruments accurately or to hedge them.

D. High Triggers and Low Triggers

9.18 Once the nature of the trigger is determined, the next issue is where the trigger is placed: high, so that the chance of its being breached is greater, or low, so that there is a lesser chance of its being breached. With respect to accounting based triggers, the range has usually been 7% or 8% of RWA for high trigger CoCos and 5 to 5.125% of RWA for low triggers.¹⁴ The higher the trigger, the earlier in the deterioration of a bank's financial condition it is likely to be activated and the bank recapitalized outside of a resolution and the more clearly the instrument provides 'going concern' capital. The

¹² Maria Nieto estimates that of almost 7,800 credit institutions in the EU, only 312 have shares which are stock exchange listed. Nieto, Maria J., What role, if any, can market discipline play in supporting macro prudential policy? Documentos Occasionales No. 1202, Bank of Spain (2012) 16.

¹³ IMF Staff Discussion Note SDN/11/01, January 15, 2011, 30.

¹⁴ Bank of America Merrill Lynch Company Update, Deutsche Bank New AT 1 : crossing the Rubicon? 16 May 2014.

lower the trigger, the closer the CoCo comes to ‘gone concern’ capital, and to ordinary bail-in debt in a resolution. The main objection to high triggers is that they may result in false positives where basically healthy banks trigger conversion too early and this results in both stigma for them and a panic run on other banks. On the other hand, a low trigger tends to erase the difference between CoCos meant to recapitalize a going concern and bail-in debt used in a gone concern context. It is also likely that more of the enterprise value of the bank, which ‘going concern’ capital is meant to preserve, will have dissipated before the trigger is breached. In setting and evaluating triggers during the current period of phasing in Basel III requirements, there is the additional choice between basing the chosen ratio on current requirements or on fully phased in (‘fully loaded’) CET 1, as discussed below in Section V.D.

E. Loss Absorption Mechanisms and the Question of ‘Dilution’

9.19 The third design element is the nature of the loss absorption mechanism. Initially, this was just a question of the rate at which CoCos would convert into common shares: at a fixed price set at the time the CoCo is issued or at a market price at the time of conversion. Then the debate widened to whether the CoCos should convert at all. They could, instead, simply be written down, either in whole or in part and either permanently or subject to later write-up. The conversion price determines who bears the greater cost upon conversion, the CoCo holders or the pre-existing common shareholders. A price set in advance in the context of a deteriorating financial condition of the issuer will tend to result in the CoCo holders taking a loss as the conversion price will likely be above the market price at the time of conversion. A market price conversion provides greater protection to the CoCo holders at the expense of the shareholders. Much of the literature states that this will result in a greater dilution of the existing shareholders.¹⁵ Thus, if you hope that CoCos will not only provide additional capital but also discourage risky behavior by shareholders or even motivate them to raise more equity preemptively to avoid a later greater dilution, as Calomiris and Herring argue, you would choose conversion at a contemporaneous market price or, as Calomiris and Herring suggest, a small premium to that price, so that \$1.00 of principal amount of CoCos would convert into \$1.05 of common shares at current market value. Other writers analyse the effects of using higher premiums.¹⁶ We examine more closely the question of what people mean when they use the term dilution in Section IV.B.2.b below. As noted therein we find a

¹⁵ Charles W. Calomiris, and Richard J. Herring, ‘How to Design a Contingent Convertible Debt Requirement That Helps Solve Our Too-Big-to-Fail Problem’, *Journal of Applied Economics* Spring 2013, 22.

¹⁶ Charles P. Himmelberg and Sergey Tsyplakov, *Incentive Effects of Contingent Capital* (October 23, 2012), 18.

surprising lack of clarity in the use of the term. For purposes of our discussion, we distinguish between voting dilution, which occurs whenever a stock corporation issues new stock, and value dilution, which occurs when that new stock is issued at a price below a relevant benchmark of value, for example the stock market price of the shares. We find that much of the discussion of dilution refers to the former rather than the latter and question whether voting dilution alone is sufficient to motivate shareholders.

9.20 The debate on loss absorption has widened to include the proposition that a simple write down – which would avoid a number of corporate law complications inherent in the design of perpetual convertible instruments discussed in Section VI below – should be an acceptable alternative loss-absorbing mechanism. It was originally proposed to accommodate banks which are not stock corporations and thus have no common stock into which they can convert CoCos.¹⁷ It surely absorbs losses. It is simpler to draft than a convertible instrument. It also generates an accounting gain for the issuer in the form of forgiveness of indebtedness which can find its way into the issuer's Tier 1 capital as retained earnings, so it both reduces debt and produces capital available to absorb losses. But it does nothing to discourage risky behavior by shareholders since it provides them, on the contrary, with a further cushion for losses and can result in the creditors taking a complete loss before the shareholders are wiped out. Himmelberg and Tsyplakov view it as providing a windfall to shareholders.

F. How Many CoCos

9.21 The final question is how much of a bank's capital should be represented by CoCos. This depends on what you are trying to accomplish by issuing them. We have listed above, and will return below, to the question of how much and what kind of dilution is necessary to provide an incentive to shareholders and management to raise additional capital rather than let the CoCos convert according to their terms. Another approach is to try to determine how much additional capital is necessary to absorb potential losses and return the bank to the level of regulatory capital required by its licence. One way to do this is to determine how much additional capital would have been necessary to allow the banks to have covered their losses in historical banking crises, including the last crisis in 2007 to 2009. The Goldman Sachs December 2009 study cited in footnote 10 above calculates that a shield equal to 6% of RWA would have been sufficient to absorb the greatest losses involved by the major US banks in the 2007 to 2009 period and to meet a minimum tier one common capital ratio of 6%. They would divide the CoCos into two tranches of 3% each and assume a dilution factor of 60% upon

¹⁷ Swiss Financial Markets Authority, Addressing Too Big to Fail (2010), 12.

conversion of the first tranche and 90% upon conversion of both tranches¹⁸ and compare this to cumulative dilutions from issuing capital (assumed to take place at a 15% discount from the market price) ranging between 10% and 83%. The amount of CoCos needed was keyed to the actual losses incurred and a core equity requirement of 6%. To the extent the core equity requirements increase as they have under Basel III and CRD IV, then the amount of CoCos needed would decline.¹⁹ We are not entirely sure of the methodology used in the paper to achieve the assumed dilution upon conversion and the authors make no attempt to adjust their numbers to reflect higher capital requirements.

G. The Pre-Basel III Consensus

9.22 Academic opinion has tended broadly towards high market based triggers and conversion rather than write-offs for the loss absorption mechanism as this combination has been seen to provide the greater chance of deterring shareholder risk taking *ex ante*, although there remained concern that market based triggers could lead to unwanted ‘death spirals’.²⁰ Among issuers and regulators there was a more nuanced view. Low triggers, which had a lesser chance of being breached, could obviously be cheaper to issue, since the premium on the coupon above the normal cost to the issuer of its other subordinated debt or preferred shares would likely be lower. Triggers based on regulatory capital would be more consistent with the other measures used by supervisors and the market to evaluate the financial health of banks. The crisis had just demonstrated how volatile market prices could be and regulators, supervisors and banks around the world were heavily invested in the Basel system centered on regulatory capital and RWA. So, introducing a new measurement metric based on market prices did not seem as compelling either to policy makers or potential issuers.

¹⁸ In our terms, they are referring to voting dilution, i.e. the decline in the percentage of ownership caused by the conversion, rather than value dilution.

¹⁹ Goldman Sachs (2009), 6.

²⁰ It is hypothesized that a “death spiral” could be triggered in an institution’s stock price through a combination of pre-conversion selling by existing equity holders to avoid the coming dilution, short selling by either CoCo holders seeking to hedge potential losses on conversion or by speculators, compounded by the actual initial dilution to existing shareholders upon conversion and subsequent dumping of the shares by the CoCo holders. These holders are generally expected to be traditional debt investors, who may not be interested in holding equity or who may even not be allowed to do so. The concern about shorting at least can be dealt with by lengthening the time period over which the stock price for the trigger is calculated, as noted above, which would significantly increase the cost of carrying the short position and thus reduce the economic benefits of shorting.

9.23 Market response to the idea of CoCos was positive. Investors saw a potentially large market. Based on the amount of hybrid instruments which had counted towards regulatory capital under the old Basel II rules but which would no longer count under Basel III and would have to be replaced by something else, estimates ranged up to USD 1 trillion.²¹ Issuers, eager to find a replacement for their old hybrid instruments were willing to exchange existing instruments whose capital efficacy was being phased out, for new, improved additional capital instruments. Sponsors raised funds to invest in such instruments. And policy makers initially looked on with interest and encouraged the market to develop a solution. The Swiss Financial Markets Authority (FINMA) made place for both high trigger ‘recovery’ CoCos (3% of risk weighted assets) and low trigger ‘resolution’ CoCos (6% of risk weighted assets) as part of the ‘Swiss Finish’, the supplementary capital buffers required for its largest banks above and beyond the requirements of Basel III.²² Analysts calculated that at a European level, 6% of risk weighted assets would result in CoCo issuances of EUR 550 billion. There were thus ‘great expectations’ for the future of CoCos.

III. RELUCTANT REGULATORS: THE ROAD TO BASEL III

A. How Many CoCos Do We Want?

9.24 But then a funny thing happened on the way to the finalization of Basel III: The BCBS had second thoughts about the extent to which CoCos should be used in bank capital structures and did two things. It limited their use to only AT 1 capital up to 1.5% of RWA and T 2 capital up to 2%, excluding their use to meet any of the various capital buffers referred to above. Thus, out of a total of potentially up to 13% of RWA for all banks after counting various buffers or of up to 18% for the largest banks after adding systemic surcharges, only 3.5% could be made up of CoCos.²³ This restriction was somewhat surprising in that the buffers were in part designed to protect bank capital in a

²¹ Brennan, M and de Longevialle, B. (2010) ‘Potential \$1 Trillion Bank Contingent Capital-Style Issuance Faces Uncertain Investor Interest’, Standard & Poor’s Ratings Direct, December 8, 2010.

²² See footnote 17 above.

²³ There is a technical difference between the minimum capital requirement for all banks at 8% of risk weighted assets and the various supplemental buffers. Banks are required to meet the minimum requirement at all times. Failure to meet the various buffers (the ‘combined buffer requirement’) results in a restriction on the bank’s ability to make ‘voluntary distributions’ (including dividends and share buy-backs, coupon payments on AT 1 securities and discretionary bonuses to staff) until they meet the buffer. Basel III § 132. This restriction is known as the ‘minimum capital conservation ratio’ and is expressed as a percentage of earnings, starting at 100% when CET 1 is below 5.125%, declining to 40% at 7% and to zero above 7%. Basel III § 131.

‘rainy day’ scenario and CoCos seemed apt to meet that rainy day need. But, in the end, the conviction that the gold standard for bank capital was common equity seems to have prevailed, perhaps due to the negative experience regulators had had with prior forms of hybrid Tier 1 and Tier 2 capital in the last crisis. Having been fooled once into believing hybrid securities could reliably provide loss absorbency in a crisis, the BCBS policy makers were apparently not confident in their ability to invent a better mouse trap this time. The irony of this decision is that, as explained in the IMF Staff Discussion Note on Contingent Capital referred to above,²⁴ the reason hybrid capital did not provide meaningful loss absorption during the crisis was that supervisors did not press banks to make use of the contractually agreed loss-absorbing clauses in them, including unilateral coupon deferral and extensions of maturity (by not exercising early call options), and then governments intervened to rescue the banks before liquidation became necessary. Supervisors did not press the banks for fear of negative signaling effects, so the first, and most famous, use of the right not to redeem hybrids at first call, was Deutsche Bank’s decision in December 2008, not to call an issue of hybrid bonds. It also designed AT 1 CoCos to be very equity-like. T 2 CoCos resembled more closely traditional subordinated debt, but they were considered ‘gone concern’ instruments. So that the real percentage for ‘going concern’ CoCos was in fact 1.5% until the bank had satisfied its minimum capital requirements plus its combined buffer requirement.²⁵

B. Key Design Features

9.25 As published in December 2010 (and revised in June 2011), Basel III required that to qualify as AT 1 capital, CoCos would have to be subordinated to all debt obligations, including other subordinated debt, of the issuer, be perpetual, with no incentives to redeem or step-up in coupon, first callable at the option of the issuer only after five years, subject to regulatory approval and if they were replaced by other capital of the same or better quality on conditions sustainable for the income capacity of the bank, or the call takes place when the capital of the bank is well above the minimum capital. Their coupons were to be payable only out of ‘distributable items’ (principally retained earnings) and were to be non-cumulative, with the issuer able to cancel them at any time for any reason, and non-payment would not be an event of default. If classified as liabilities for accounting purposes, the instruments were to have ‘principal loss absorption through either (i) conversion to common shares at an objective pre-specified

²⁴ See footnote 13 above.

²⁵ These percentages are presented as ‘Limits and Minima’ (Basel III § 50), after an introduction which emphasizes the need for a ‘greater focus on common equity, the highest quality component of a bank’s capital’. (Basel III § 48).

trigger point or (ii) a write-down mechanism which allocates losses to the instrument at a pre-specified trigger point.’²⁶

9.26 Then, quite in contradiction to the requirement for an ‘objective pre-specified trigger point’ in § 55 (ii), in a press release on January 13, 2011²⁷, the BCBS added a requirement that both AT 1 and T 2 CoCos would have to include in their terms and conditions a requirement that the ‘relevant authority’ would have the power to write them off or convert them into common equity upon the earlier of deciding that a write-off, without which the firm would become non-viable, was necessary or that a public sector injection of capital or equivalent support, without which the firm would have become non-viable, was necessary. Issuers could avoid inserting this PONV trigger clause into the terms and conditions of their CoCos if their national law required a write off upon such an event and this was disclosed in the CoCo prospectus. When Basel III was republished in June 2011, § 55 was not amended to add the PONV loss absorbency requirement from the annex to the January 2011 press release, but there is little doubt that this additional, discretionary regulatory trigger is expected to apply to all instruments which expect to qualify as AT 1 and T 2 regulatory capital under Basel III. See our discussion of CRD IV and RRD below.

9.27 Conditions for T 2 CoCos were less onerous. They would need to be subordinated only to depositors and general creditors, could be called after a minimum of five years, with regulatory approval and subject to the same replacement requirement as for AT 1 CoCos but could have a maturity date, provided that in each of the last five years to maturity the issuer would lose 20% of their credit towards its capital (amortizing capital treatment). They were not required to be loss absorbing under § 58, but the Annex to the January 13 press release applied to them as well, so they too would have to be loss absorbing at the PONV. Their coupon is not payable only out of distributable items and not subject to cancellation.²⁸

C. Consequences

1. Too Few CoCos to Cover Losses or Change Behavior?

²⁶ Basel III §55(ii).

²⁷ Basel Committee issues final-elements of the reforms to raise the quality of regulatory capital (January 13, 2011).

²⁸ Basel III § 58.

9.28 Three aspects of Basel III are particularly notable in the context of our discussion. The first is the decision to limit the proportion of capital they could represent to 3.5% or—with respect to ‘going concern’ CoCos—to 1.5% by not allowing CoCos to be used to meet any of the combined buffer requirement. So a normal bank would need to have 9.5% CET 1 equity before it could benefit from issuing more CoCos. For a G-SIB, it would have to have 14.5% CET 1 equity, so that at the minimum capital level (including buffers), a G-SIB would have proportionately fewer CoCos in its capital than a less systemically relevant bank would have. This is an odd result, given the idea that CoCos would be particularly useful for systemically important banks. In contrast, the models Calomiris and Herring and Himmelberg and Tsyplakov use would require much higher CoCo issuances to effect behavioral change.²⁹

9.29 The Goldman Sachs 2009 study calculated that CoCos would have to equal up to 6% of RWA to cover the highest losses incurred by US banks during the 2007/2009 crisis, but based on this on a CET 1 ratio of 6%. With CET 1 ratios well above this level, the amount of CoCos would presumably decrease. We have not tried to calculate by how much it might decrease, but we have tried below in Section IV.B.2.b to calculate the dilutive and thus dissuasive effect that the lower amounts of AT1 CoCos allowable under Basel III and CRD IV could have, based on back-testing the historical capital of two large German banks during the period 2006-2013 and conclude that the assumptions used by Calomiris and Herring and Himmelberg and Tsyplakov may have been too high, so that it may be premature to conclude that the amount of CoCos allowed under Basel III is too low for them to influence shareholder behavior.

2. *PONV Trigger Erases Distinction between CoCos and Bail-In*

9.30 The second aspect is the introduction of the PONV regulatory trigger into a contractual instrument. This has the effect of largely erasing the distinction between CoCos as contractual early intervention tools and bail-in as resolution related administrative action. We discuss this point more fully in section IV.C.3 below.

3. *Write-Down Bonds are Counter-Productive*

9.31 The third aspect is the extension of the concept of CoCos to write-down bonds. A write-down feature has certain advantages to issuers, who often encounter problems under applicable corporate law in issuing convertible CoCos that meet the requirements of Basel III, as discussed in Section VI below, and it certainly is

²⁹ Calomiris and Herring use 10% of the balance sheet value (which is normally a multiple of RWAs). Calomiris and Herring (footnote 15), 33. Himmelberg and Tsyplakov’s (see footnote 16) model works on a 5% of capital basis.

advantageous to existing shareholders who get the benefit of an additional cushion for losses before the value of their equity is affected, so they can be expected to welcome their use. But it turns the normal understanding of the relative ranking of debt – even subordinated – and equity on its head and seems to disregard the string of reasoning and academic work discussed in section II above which concerns itself with the effects CoCos can have on the incentives of bank shareholders to encourage the bank to refrain from engaging in risky behavior.

9.32 This line of analysis is that, besides serving as a source of additional capital at a time at which an issuer is otherwise shut out of the equity market, CoCos can also serve to discourage risky behavior by shareholders by acting as a threat of increased dilution of their ownership share in the bank, what our colleague Tom Huertas has referred to as ‘death by dilution’.³⁰ This threat can serve a double role, to discourage risky behavior as such and to encourage the shareholders and management to seek a capital increase before the CoCos are triggered.³¹ To put the latter incentive in the context of the 2007/2009 crisis, the idea would be to motivate shareholders to agree to a capital increase at the share prices available in the market in the summer of 2008, when relatively fewer shares would need to be sold to replenish the bank’s capital, rather than to wait until the CoCos’ conversion feature is triggered after Lehman’s collapse in September 2008, when many more shares would have to be issued (assuming the CoCos convert at Flannery’s contemporaneous market price) to raise the same amount of capital, thus reducing their ownership share much more sharply. Lehman itself turned down an offer from a Korean bank that summer to increase its capital because it found the price too low. A properly structured convertible CoCo could have provided an incentive to rethink that decision. But allowing CoCos to take the shape of write-down bonds does exactly the contrary. Careful modeling of incentives by Himmelberg and Tsyplakov shows that in contrast to the positive incentives created by dilutive conversion terms – conversion terms that write down principal for bondholder – create perverse incentives for banks to pursue higher leverage and “money burning”.³²

9.33 The Basel III decisions brought issuance of CoCos in Europe more or less to a standstill, outside of Switzerland, as the industry and investors waited to see what role CRD IV would allocate to CoCos. For anyone interested in issuing CoCos before CRD IV was published, there was guidance from the EBA in the form of a December

³⁰ Thomas F. Huertas, *Crisis: Cause, Containment and Cure*, 2d ed. (Palgrave MacMillan, London 2011), 136.

³¹ Calomiris and Herring, footnote 15, 26.

³² Himmelberg and Tsyplakov, footnote 16, 4.

2011 Common Term Sheet for Buffer Convertible Securities³³ which provided that, in order to qualify for Tier 1 treatment, these securities would have to be undated (i.e. perpetual), subordinated, with a coupon that could be suspended at any time and three triggers, a high one requiring Core Tier 1 capital to be 7% of RWA, a low one, applicable after January 1, 2013, requiring CET 1 capital to be at least 5.125% of RWA, and a ‘viability’ trigger, whenever the institution’s regulator determined the institution would no longer be viable without conversion of the instruments into common stock. This did not seem to make for a particularly attractive instrument from a market point of view. The regulatory trigger makes it particularly difficult for investors to calculate when it might be pulled and thus the instrument converted, and the rating agencies indicated it made it difficult, if not impossible to rate them. Absent a rating, many investors would not be able to buy them and pricing would be more difficult.

IV. CRD IV

9.34 So everyone waited for the publication of CRD IV. When it came, in July 2013, it was in two parts, a directive to be implemented by the Member States (CRD IV) and a regulation directly applicable in the EU without the need for further action by the Member States (CRR). Together they make up the CRD IV framework. The CRR was the means to prevent ‘gold plating’ by the UK and everyone else who might otherwise want to expand upon CRD IV’s requirements. CRD IV and CRR have to be read together with the Bank Recovery and Resolution Directive (RRD) because the EU decided to put the PONV writedown requirement of Basel III in the RRD rather than the CRR.

A. Key Features

9.35 Unsurprisingly, the CRD IV framework followed closely the model of Basel III, including the adoption of write-down as well as convertible CoCos, the distinction between more equity-like conditions for perpetual AT 1 ‘going concern’ CoCos and more debt-like conditions for dated ‘gone concern’ T 2 CoCos, the ability to stop coupons on AT 1 CoCos at any time and without penalty and the various conditions to calling CoCos (regulatory approval and replacement by equivalently ranked securities). Chapter 4 of CRD IV includes the provisions on capital buffers. The Member States are required to require their banks to maintain these buffers (Articles 129-133) if the banks do not meet the requirements, their distributions are limited to a ‘Maximum Distributable Amount,’ and they must submit a capital conservation plan to their competent authorities. If these authorities are not satisfied with the plan, they can require

³³ European Banking Authority, Buffer Convertible Securities Common Term Sheet, 8th December 2011.

the bank to increase its capital or restrict the bank's ability to make distributions even more severely. Articles 141 and 142 CRD IV.

9.36 Chapter 3, Section 1 of CRR contains the criteria for financial instruments to qualify as AT 1 capital. They must rank below T 2 instruments in insolvency; be perpetual; cannot include an incentive for the institution to redeem them; may be called, redeemed or repurchased only with supervisory permission (which is only to be granted if the capital is replaced with other instruments of equal or higher quality at terms which are sustainable for the income capacity of the institution or the institution has demonstrated that its own funds would exceed capital requirements, including the buffers applicable to it), and the institution cannot indicate it may call, redeem or repurchase them. Distributions on them are payable only out of distributable items and at its full discretion the institution may cancel them on a non-cumulative basis without this constituting an event of default. Upon occurrence of a trigger event their principal amount may be written down on a permanent or temporary basis or be converted to CET 1 instruments. They may contain no feature that could hinder a recapitalization of the institution (as defined by the EBA); cannot include a dividend stop (a requirement that restricts distributions on CET 1 or other instruments junior to the instruments). They must be subject to writedown or conversion when the CET 1 ratio falls below 5.125% of RWA or such higher percentage as the instrument specifies; the instrument must prescribe a conversion rate which shall be either a rate and a limit on the permitted amount of conversion or a range within which the instrument will convert. The amount of AT 1 instruments recognized as AT 1 capital is to be restricted to the minimum amount of CET 1 items that would be generated upon full conversion or write down. The institution must maintain at all times an amount of CET 1 instruments sufficient to allow full conversion. This authorization must be obtained at the date of issuance of the instrument and a failure to meet this or any other requirement of Section 1 of Chapter 3 CRR will result in the instrument immediately ceasing to qualify as AT 1 capital.

9.37 The criteria for financial instruments to qualify as T 2 capital are set out in Chapter 4, Section 1 of CRR. They must be subordinated to claims of all non-subordinated creditors; they cannot be secured or benefit from any other arrangement that otherwise enhances their seniority. They must have an original maturity of at least five years; cannot include any incentive to be redeemed or repaid prior to maturity; can be subject to a call option at the issuer's discretion, subject to the same preconditions applicable to AT 1 instruments; cannot include acceleration provisions in favor of the holders. The level of coupon payments cannot vary with the credit standing of the issuer or its parent; and during each of the final five years of its maturity the issuer will lose 20% of the credit for the instrument as T 2 capital.

9.38 As noted above, the EU opted to put the PONV regulatory discretion trigger in the RRD, making only an oblique reference to it in Recital 45 CRR, which recognizes that all AT 1 and T 2 instruments should be capable of being fully and permanently written down or converted into CET 1 capital at the PONV and saying this should be taken care of by EU legislation relating to recovery and resolution of banks. The Recital

further provides that if this does not happen by December 31, 2015, the Commission should review and report on whether to include a provision in the CRR. We will return below to how the RRD deals with the PONV powers and CoCos below.

B. 'Maximum Harmonization'

9.39 The EU also opted to do two more things in the CRD IV framework which ended up further narrowing the scope for use of CoCos. The first was to restrict the ability of Member States to require higher levels of capital in the name of 'maximum harmonization' and the 'single rule book'.³⁴ This restriction was not aimed directly at CoCos, but meant to prevent 'gold plating' of Basel III requirements by imposing additional buffers. However, since the flexibility the GHOS thought national authorities would have to use CoCos to meet national loss-absorbency requirements would have come in the form of additional buffers, as the Swiss FINMA had done, capping those buffers had the indirect effect of restricting the use of CoCos to fill them. The only exception to this rule comes from the so-called 'Pillar 2 add-on' powers that national supervisors have to add up to 2% of RWA to a particular bank's capital requirements. While this power has usually been exercised to meet the specific situations of individual banks rather than as an instrument to apply a uniform supplementary requirement to all banks in a Member State, there are some indications that certain EU supervisors take a broader view of their Pillar 2 powers.³⁵ Some flexibility is provided with respect to the levels of the counter-cyclical, systemic risk, global and other systemic institution buffers, but Basel III had already excluded that these buffers could be met with CoCos.

C. A Low Trigger for a 'Going Concern' Instrument

9.40 The second thing the CRD IV framework did was introduce a minimum low 5.125% of RWA trigger for AT 1 CoCos, already previewed in the EBA Term Sheet discussed above, in place of the dual high/low triggers the EBA Term Sheet had provided. The framework does not prohibit issuers from issuing CoCos with a higher trigger. In fact Article 54 (1) (a) (ii) CRR specifically states that an issuer may specify a level higher than 5.125% and Article 54 (1) (b) CRR allows an issuer to include one or more trigger events in addition to these triggers, but does not give the issuer any additional credit in terms of regulatory capital for those higher triggers for any instruments issued after publication of CRD IV. As a consequence, many issuers have decided against 7% triggers in favor of 5.125% triggers. It is possible that regulators and

³⁴ Recital 9 CRR.

³⁵ Consultation Paper CP5/13, Strengthening capital standards: implementing CRD IV, Bank of England Prudential Regulation Authority, August 2013, 14-16.

supervisors are now rethinking this position. The European Central Bank (ECB) and the EBA recently announced that they will not allow CoCos with a trigger below 7% to count towards regulatory capital for purposes of passing the ECB's asset quality review (AQR) or the EBA's baseline stress test currently being conducted as part of their comprehensive assessment of large EU banks.³⁶ To the extent that the ECB and the EBA rely more on stress testing rather than solely on the minimum requirements of Basel III and the CRD IV framework, as the U.S. Federal Reserve seems to be doing, more banks may opt for higher triggers, but that has yet to occur. To the extent this does not occur, allowing AT1 CoCos to be issued with a 5.125% trigger seems largely to erase the distinction between 'going concern' instruments, which AT1 CoCos are meant to be and 'gone concern' instruments. Based on the experience of the last crisis, where banks had to be rescued long before their capital breached 5.125%, one can question how much enterprise value will remain in a bank whose capital is only equal to 5.125% of its RWA, no matter how much we have tweaked the definition of RWA in the meantime.

1. RWA Measurement was a Predictable Choice

9.41 The choice of RWAs as the measure of the trigger is not in itself surprising, since that is what the entire Basel III edifice is built on. Nonetheless, the use of an RWA based measure has all the disadvantages the literature points out: it is backward looking, is susceptible to manipulation by the issuer, is quite untransparent to both supervisors and investors and, worst of all, has not had a significant predictive value, since almost all the banks which needed to be rescued with public funds were comfortably above the then relevant Basel II RWA ratios at the time of the rescue. The drawbacks of using regulatory ratios to determine bank financial health are eloquently set forth in the recent European Commission Staff Working Document cited above:

'The crisis demonstrated not only the insufficient capital to absorb losses, but also the inability of the regulatory ratios to provide timely recognition of emerging bank weakness so as to open the way to early corrective action by supervisors just before the crisis (Carmasi and Micossi, 2012). Chart 4.2.2 shows that shortly before the crisis the regulatory capital ratios (measured by Tier 1 capital in relation to risk-weighted assets) were at 8% for most banks and did not signal any vulnerability; there was no difference in the evolution of the average capital ratios of "crisis" banks (that ultimately needed government bailout) and "non-crisis"

³⁶ European Central Bank press release "ECB to give banks six to nine months to cover shortfalls following comprehensive assessment. April 29, 2014.

banks. One reason for this are the shortcomings with risk weights and internal models, as discussed below.³⁷

9.42 While those minimum ratios have since been significantly raised by Basel III and both the requirements to qualify as AT 1 and T 2 capital as well as the measurement of the riskiness of certain kinds of assets have been tightened, there is no assurance that in a future crisis a backward looking RWA measure will have any more predictive value than it did in the last crisis.

2. *But it may have been a sub-optimal one*

9.43 In contrast, it appears from literature cited by and back-testing on the historical record done in the May 2012 Bank of England paper on CoCos³⁸ that a trigger based on a 40% decline in the market value of a bank's common equity over a three month period would have triggered CoCos with such triggers in six major financial institutions which failed or experienced severe problems in 2007/2008 well in advance of their failure or crisis. Three would have been triggered in December 2007, two more in March 2008 and the last in June 2008. In particular Lehman Brothers and AIG would have hit the trigger a full six months before Lehman filed for bankruptcy and AIG had to be bailed out. Similar results are found in European banks: RBS and UBS would have hit the trigger in January 2008, Lloyds and Dexia by June 2008 and ING by September.

9.44 This research does not prove that CoCos with the favored market related trigger would have saved these institutions. For that you would also need to issue CoCos in an amount sufficient to stabilize them or believe that fear of later greater 'dilution' through triggering the CoCos would have motivated management and shareholders to seek to recapitalize even earlier when the stock price had not slipped so far. It does, however, show that a properly designed capital market trigger could be effective in allowing a timely infusion of capital.

3. *The 5.125% Trigger may Never be Breached, with Surprising Consequences*

9.45 The final point to consider is that the decision in the CRD IV framework to set a minimum trigger at 5.125% seems to be putting CoCos closer to the bail-in mechanism in the RRD, rather than taking full advantage of the possibility of using CoCos as a true going concern value for the issuer. This is of course a minimum and a

³⁷ European Commission Staff Working Document (2014), 58.

³⁸ Murphy et al. citing Claessens, Herring and Schoenmaker (2010). See footnote 11 above.

bank would be free to set the trigger higher if it chose. The question is, why would it choose to do so if it gets full regulatory credit for a 5.125% trigger when a higher trigger could also be more expensive, since the higher the trigger, the more likely it is to be breached and thus the greater the risk of conversion. Recent analyst research by Bank of America Merrill Lynch cited above in footnote[14] lists 26 European AT 1 issuances, of which 12 used a 7% trigger and 14 a 5.125% trigger, with a recent trend towards more 5.125% triggers. Three things might influence banks' decisions. First, as noted above in Section IV. C, if the ECB and the EBA continue to deny even partial stress test credit for triggers below 7%, this could have an effect on issuer preferences. Second, CoCos count as part of Tier 1 capital for purposes of banks' meeting the leverage ratio being introduced as part of Basel III. To the extent that this becomes a binding constraint on European banks some commentators have suggested³⁹, banks may have an additional incentive to raise CoCos so long as they remain a greater source of capital than CET1. Third, it is likely that substantial discussions must take place between banks and their supervisors before a CoCo is issued and that during these discussions the supervisor can make its views on the appropriate trigger known. In its Financial Stability Report Issue No. 35, June 2014, at 34-35, the Bank of England notes repeatedly that public issuances by UK banks all use a 7% trigger, well above the CRD IV minimum. In its Supervisory Statement SS19/13 entitled 'Resolution Planning of December 2013', the Bank of England's Prudential Regulation Authorities (PRA) is even clearer when it states:

Depending on the circumstances, an instrument with a trigger of 5.125% CET1 may not convert in time to prevent the failure of a firm. A temporary write-down may make it more difficult for the firm to re-establish its capital position following a stress. Also, conversion or write-down that only restores the firm's CET1 ratio to 5.125% may leave the firm close to a second trigger event. Firms will wish to consider these factors when deciding how to exercise the choices available to them under CRR. The PRA expects to discuss with firms their analysis on features of draft capital instruments that they submit for our review.'⁴⁰

9.46 In addition to the dangers pointed out by the PRA, if book capital to RWA measurements of financial health have as low a predictive value in the future as in the last crisis, setting the trigger at 5.125% runs the additional risk for both the bank and the

³⁹ Ben Wright, 'What if European Banks Have to Play Leverage Ratio Catch-Up', *Wall Street Journal* (22 April 2014).

⁴⁰ Bank of England, Prudential Regulation Authority, Supervisory Statement SS19/13, Resolute on Planning (December 2013), 3.

CoCo holders that the CoCos will not be triggered before the PONV is reached. In that case, not only will they have failed to provide additional capital to the bank on a ‘going concern’ basis to avoid a resolution, but under the RRD the resolution authority will be free to disregard the terms of the instruments in deciding how to convert or write down the bonds, so that the CoCo holders may well lose the value of their bargain.

9.47 While it is possible the authority will seek to honor the terms of the CoCos, it is bound under the RRD to respect the order of seniority in converting and writing down debt. T 2 CoCos may rank equally with other subordinated debt of the issuer for corporate law and maybe even insolvency purposes, but under Article 48 RRD, because they qualify as capital instruments, the authority must bail them in (convert or write them down) before bailing in other subordinated debt. Beyond that, under Article 60 RRD, AT 1 CoCos get bailed in before T 2 CoCos. Should there be a need to bail-in senior debt, then this would dilute the CoCos’ share of equity and could also affect the rate of conversion of CoCos into common equity since under Article 50 RRD conversion rates should reflect relative seniority under applicable insolvency law. Recent studies cited in the EU Commission Staff Working Document quoted above, conclude that, based on the current capitalization of EU banks, bail-in of senior debt may be necessary in order to reach the total of 8% of own funds and liabilities which the current EU state aid rules require to be bailed in before a member state may contribute to the rescue of one of its banks.⁴¹

V. WHAT KIND OF MARKET?

A. Supply Side versus Demand Side Factors

9.48 Several factors affect the size of the market for CoCos. We have dealt principally with the supply side so far: the need for banks to increase their capital to meet Basel III requirements and the restrictions in terms of volume by reference to the banks’ RWA base. Calculations by bank analysts center around EUR 320 billion based on the permissible cap of 3.5% of RWA.⁴² Additional supply side factors include the need to insure that coupon payments on CoCos will be eligible to be treated as debt and that coupon payments will be deductible as interest by the bank. In some jurisdictions, including Germany, this has required special decisions from the national tax authorities.⁴³

⁴¹ European Commission Staff Working Document (2014), 80.

⁴² Deutsche Bank Research, Contingent Convertibles, Bank bonds take on a new look. 23 May, 2011.

⁴³ CORRECTED-UPDATE 1 – Germany gives banks legal certainty on CoCos, Reuters Apr. 10 2014.

Finally, there has been an effect of the asset quality review and related stress test exercise being conducted by the ECB and the EBA as part of their ‘comprehensive assessment’ of large EU banks which appear to have motivated some EU banks to write off or write down assets before the ECB does it and to boost their capital accordingly.⁴⁴ On the demand side, important factors in general are ratings, coupon and analysis of the risk involved. There are also investors who cannot hold equity securities, so they are only open to investing in write-down bonds. Finally, any investor which must maintain regulatory capital will be sensitive to the risk weight of the investment, and a perpetual or long term deeply subordinated instrument rated below investment grade is likely to carry a heavy capital charge for financial institutions, not only banks, but also insurance companies soon to be subject to new capital requirements under Solvency II. Available data on investors shows a shift over time from private banks representing primarily Asian private investors to asset managers. They show very little in the way of ‘patient money’.⁴⁵ This points to another omission in the CRD Framework, which is a lack of attention to who should be allowed to hold this kind of instrument. The Liikanen Group’s report had noted that “[i]n order to limit interconnectedness within the banking system and to increase the likelihood that the authorities are eventually able to apply the bail-in requirements in the event of a systemic crisis” it would be best to restrict holdings of bail-in instruments to non-bank institutional investors.⁴⁶ There are two points here: holders should be outside the banking sector and be institutional, not individual investors. The CRD Framework addresses neither. Some European regulators have become alarmed at the prospect that these instruments could be sold to retail investors.⁴⁷

B. The Rating Agency Approach

9.49 Rating agencies initially indicated they would not/could not rate instruments with a regulatory trigger, since that made the calculation of the risk of conversion or write down too difficult to calculate. But all three big rating agencies, Moody’s, Standard & Poor’s and Fitch now rate them, predominantly, it would appear, at least one notch below the issuer’s other subordinated debt and up to five notches below the issuer’s senior debt

⁴⁴ Martin Arnold and Sam Fleming, European banks raise capital ahead of stress tests, Financial Times, July 3, 2014.

⁴⁵ Everybody loves CoCos, or do they...? Beate Muenstermann, JPMorgan Asset Management, posted on February 27, 2014.

⁴⁶ High-level Expert Group on reforming the structure of the EU banking sector, Final Report, 2 October 2012, 104.

⁴⁷ Sam Fleming and Martin Arnold, Europe banks face clampdown on debt sales, Financial Times, May 19, 2014.

and no higher than BBB+. Most T 2 CoCos are rated in the BBB range while AT 1 CoCos tend to be rated in the BB range.

9.50 Exactly how the rating agencies arrive at their ratings is a bit complex. Fitch has issued a paper on how it rates bank subordinated and hybrid securities.⁴⁸ The basic idea is to start with the issuer's 'viability rating', and then to apply a two notch reduction for conversion risk, which would apply to both T 2 and AT 1 securities with a conversion feature and another three notches for the coupon suspension risk for AT 1 securities. This latter risk is determined based on the risk of the issuer not meeting its buffer requirements and thus having to suspend the coupon on its AT 1 CoCos. For T 2 CoCos without a conversion feature, only one notch may be applicable, to account for the fact that T 2 instruments may be written down first in a resolution proceeding, as discussed below in Section VI.

9.51 As applied to a recent AT 1 issue by Lloyds Banking Group, Fitch started with Lloyds' 'bbb+' viability rating and applied five notches, two for 'loss severity' related to the conversion risk (Lloyds chose a 7% trigger) and three for the 'incremental non-performance risk related to the coupon, which Fitch described as 'the most easily activated form of loss absorption'. The risks Fitch saw were suspension due to distributions exceeding the maximum distributable amount, insolvency and restrictions arising from the failure to meet the combined capital buffer capital requirements that will be phased in from 2016.⁴⁹

C. Interest Rates

9.52 The initial expectation for coupons was on the order of 8 to 9%⁵⁰ which in an environment of extremely low interest rates in effect made CoCos yield more than corporate high yield bonds. This level of coupons has decreased dramatically as high demand and the absence of alternative investment products have resulted in coupons as

⁴⁸ Fitch Ratings, Assessing and Rating Bank Subordinated and Hybrid Securities Criteria, 31 January 2014.

⁴⁹ RPT – Fitch Rates Lloyds Banking Group's Perpetual Contingent Convertible Securities, 6 March 2014.

⁵⁰ Deutsche Bank Research, Contingent Convertibles, May 23, 2011, 15.

low as 5.6%, as issuers report CoCo issues oversubscribed by a factor of 16.⁵¹ There is concern that especially AT 1 CoCos are being priced too cheaply.⁵²

D. What are the Perceived Risks?

9.53 The risk involved in AT 1 CoCos is seen to be two-fold: the likelihood of conversion or write down and the chance that the coupon will be suspended voluntarily or by instruction of the issuer's supervisor. How investors assess the risk appears to turn on several factors: the distance between the trigger rate and the issuer's current and projected capital ratio, the volatility of its earnings (especially important for AT 1 CoCos since the coupon can only be paid out of 'distributable items'), its business model (and the attendant risk of a severe or catastrophic loss, often as evidenced by stress testing results), the quality of its assets and the attitude of the issuer's supervisor (towards things like suspensions of coupons when capital buffers are breached and towards second guessing internal models for calculating RWA) and its resolution authority (towards PONV). While investors have a number of data points to which they can refer, all of these calculations are fraught with uncertainty.

9.54 Let us examine just three of these sources: What is being measured in the trigger, what available distributable items are and what may affect the value of the banks' RWA. All issuers and potential issuers of CoCos report Tier 1 capital, which is useful in calculating the distance of the issuer's current ratio to the chosen trigger. But these ratios are often 'as reported' ratios, meaning they reflect only currently applicable Basel III requirements, but not all of the new definitions of capital in the numerator (e.g. the progressive phase out of old Basel II Tier 1 and Tier 2 instruments or the fully phased-in requirements of Basel III capital buffers) and increases in risk weighting in the denominator. In the EBA's March 2014 Basel III monitoring exercise, it estimated that for a selected group of large EU banks (known to the *cognoscenti* as Group 1 banks) the average Tier 1 as reported ratio of 13.4% under current rules would decline to 9.2% under Basel III 'fully loaded'.⁵³ Thus, it is crucial to understand whether the contractual trigger is the ratio as measured on the applicable date (of breach) or under Basel III as fully phased-in. Most of the UK banks and many of the French banks appear to use fully loaded Basel III ratios, with other banks it is not so clear. See Bank of America Merrill Lynch research note cited above, for a useful analysis of CoCo issuances. As the research note points out, in the case of Deutsche Bank, the difference between current and fully

⁵¹ High demand sends coco bond yields to record low. *Financial Times*, May 29, 2014.

⁵² European Banks. Singing from a different hymn sheet, *Autonomous*, 17 March 2014.

⁵³ Cited in European Commission Staff Working Document (2014), 66.

loaded CET 1 reduces the distance of its current capital to the trigger from EUR 30.5 billion to EUR 16.2 billion, so almost by 50%.

9.55 Another source of uncertainty for AT 1 CoCos is the amount of ‘available distributable items’ out of which coupons may be paid. This is calculated on an issuer only – not consolidated – basis, whereas most banks report only consolidated numbers. The uncertainty is even greater for German banks, which report consolidated results under IAS, whereas their issuer only results are calculated under German GAAP (HGB) and are numbers most of them, including Deutsche Bank, have not regularly had to report before. In addition, as noted above, even if a bank has otherwise ‘available distributable items,’ it may be prevented from distributing them if it does not meet its combined buffer requirement under CRD IV Article 141. Some observers view this as the main risk for AT 1 CoCos, and one often overlooked by investors.⁵⁴

9.56 Banks have recently taken to reporting, and regulators to publishing, the results of their stress tests. This is important information for calculating the chance of a severe or catastrophic shock affecting both earnings and capital, and thus eating into the buffer to the trigger to conversion or write-down, assuming of course the supervisors who set the stress tests are stressing for the right things. There has been criticism of the choices made in this respect by the EBA in the past. There is also widespread suspicion that local supervisors have not pressed EU banks hard enough to write down their assets. Thus, until the results of the European Central Bank’s Asset Quality Review are made known in the fall of 2014, there remains considerable uncertainty as to the proper valuation of many EU banks’ assets. An improper valuation could significantly reduce a bank’s capital, so any CoCos issued before the results of the AQR are known will be subject to the potential negative effects of AQR.

9.57 On 31 July 2014, the European Securities and Markets Authority (ESMA) felt called upon to issue a statement entitled ‘Potential Risks Associated with Investing in Contingent Convertible Securities.’⁵⁵ In this statement ESMA calls attention to the heterogeneity of terms among CoCos, including trigger levels and loss absorption features which make comparability across instruments more difficult. To correctly value the instruments ESMA notes it is necessary to evaluate the probability of activating the

⁵⁴ AT 1 Main Risk is NOT the Trigger, Mark Holman, TwentyFour Asset Management, Posted 21/05/2014. The author notes that the buffer requirements phase in starting in 2016, so some investors may be inclined to disregard them initially. However, Member State authorities are free to accelerate their applicability.

⁵⁵ European Securities and Markets Authority Statement, Potential Risks Associated with Investing in Contingent Convertible Instruments, ESMA.2014/944, 31 July 2014.

trigger, the extent and probability of losses upon trigger conversion (from write-downs and from ‘unfavourably timed conversion to equity’) and, for AT1 CoCos the likelihood of cancellations of coupons, ‘which may be highly challenging to model,’ since while certain risk factors such as trigger level, coupon frequency, leverage, credit spread and rating may be transparent, ‘individual regulatory requirements relating to the capital buffer’ (meaning the supervisor’s attitude towards it), the issuer’s behaviour in relation to the coupon payments on AT1 CoCos and any risks of contagion may be more difficult to estimate. It suggests including risk factors covering trigger level risk in relation to the amount of CET1 relative to the trigger level and the factors (material loss in capital in the numerator and increase in RWA in the denominator), coupon cancellation, including in a going concern situation where the issuer continues to pay dividends on its common equity and bonuses to its workforce, ‘capital structure inversion risk’ where CoCo investors take a loss of capital when equity holders do not (as where a high trigger principal write-down is activated), call extension risk, where the bonds are not called on the first call date, yield/valuation risk (where the yield may be a complexity premium) and something ESMA refers to as ‘unknown risk’ to cover the vagaries of what may happen to these untested instruments in a stressed environment. The risk they seem to have in mind is that an isolated trigger or suspension by one issuer could be viewed by the market as a systemic rather than an idiosyncratic event, causing potential price contagion and volatility to the entire class.

9.58 While the ESMA statement addresses the difficulties an institutional investor may face in valuing such instruments, a joint release by ESMA, the EBA and the European Insurance and Pensions Authority (EIOPA) of the same date takes a more severe tone in warning financial institutions against the challenges they face if they try to sell these securities to retail customers.⁵⁶ The circular does not prohibit the sale of these products to retail customers but notes that their complexity and the potential for conflicts of interest in banks selling them to depositors and other retail investors may lead the issuers to breach a number of rules of conduct and enumerates in paragraph 17 instances of such misconduct. The message is a clear caution against sales to retail customers.

VI. COMPANY LAW ASPECTS OF COCOS

9.59 In this part of the chapter will examine the company law aspects of CoCos. In section A we will provide a brief comparison of CoCos with traditional convertible bonds. In section B we will outline the European Company Law framework for CoCos

⁵⁶ ESMA, EBA, EIOPA, Placement of financial instruments with depositors, retail investors and policy holders (‘self placement’), Reminder to credit institutions and insurance undertakings about applicable regulatory requirements, JC 2014 62, 31 July 2014.

and its transposition into the company laws of the U.K. and Germany before focusing on questions of company law to which CoCos give rise in these jurisdictions.

A. CoCos and Traditional Convertible Bonds

9.60 Traditional convertible bonds allow the investor to choose between repayment and conversion. Thus, they are a combination of a loan by the investor to the company and the sale of a call option for the company's shares by the company to the investor. The interest due on the convertible bond is typically lower than the interest rate that the company would have to offer on a straight bond because the purchase price of the option will be annualized and deducted from the interest of the loan. The investor will accept this arrangement if he expects the share price to rise beyond the conversion price, i.e. the price for which the investor can acquire the shares in exchange for the release of the company of its debt to repay the loan. This conversion price is usually set at a premium above the market price of the company's shares at the time the bond is issued. The value of the option correlates with changes in the share price. As the share price increases the likelihood that the investor will be able to acquire shares below their market price will also increase. Conversely, the probability that the option will be "in the money" when the investor's conversion right matures decreases as the share price falls.

9.61 CoCos are different from traditional convertibles in that the right to convert lies either with the company or takes place automatically upon the occurrence of a pre-defined trigger event such as a decline of regulatory capital below a certain threshold or supervisory intervention at the PONV. Rather than buying a call option from the company, the investor sells a put option which gives the company the right to sell shares to the investor. The company will be interested in the purchase of the put option in order to ensure that it will be able to issue new shares even at a time when they would be hard to place on the market. The option enables it to increase its equity at a time when shares would be difficult to place on the market. Since this is usually the case when the company is in or close to a crisis situation, one would expect that the investor will ask to be compensated for the risk of writing the option. The company will, therefore, have to offer a higher coupon on a CoCo than it would have to offer on a bond of equal rank. In the case of CoCos issued by banks as part of their Tier 1 capital as defined in Article 25 RRD, this already unfavourable risk profile is further exacerbated by the requirements of Articles 52 et seq. CRR which, in substance, provide that in order to qualify as AT 1 instruments, the investor may not have an enforceable claim for either interest or repayment of the principle.

B. The European Company Law Framework and the Requirements for Issuing and Converting CoCos under National Company Laws

1. Shareholder Decision or Authorization of Management to Issue Convertible Securities

9.62 The European company law rules applicable to the issue of convertible securities and their conversion into shares of the issuer are set out in the Directive

2012/30/EU, the successor of the former 2nd Company Law Directive. Pursuant to Article 29 (1) and (2), any increase in capital of a public company must be decided upon either by the general meeting or by management on the basis of an authorization by the general meeting. Such authorization must fix a maximum amount for the increase and a period of up to five years, after which it expires unless it is renewed. Article 29 (4) provides that this Article shall apply, inter alia, to the issue of all securities which are convertible into shares, but not to the conversion of such securities. Thus, any issue of convertible securities must be decided upon by the general meeting pursuant to Article 29 (1), unless management has been authorized in compliance with the requirements of Article 29 (2) to issue such securities.

9.63 Both, U.K. and German law require that the general meeting either resolves on a specific issue of convertible securities or authorizes the board of directors for a period of up to five years after which the authorization expires unless it is renewed.⁵⁷ Under the AktG, the shareholder resolution requires a majority of 75% of the shares represented at the meeting⁵⁸ while under the Companies Act a simple majority suffices.⁵⁹

2. *The Shareholders' Right of Pre-Emption for Convertible Securities*

a. The Statutory Framework

- (1) Article 33 (1) and (2) (a) of the Directive 2012/30/EU

9.64 Article 33 (1) requires that newly issued shares must be offered on a pre-emptive basis to the shareholders whenever the capital of a public company is increased by consideration in cash. According to Article 33 (2) (a), Member States need not give shareholders a right of pre-emption to shares that carry only a limited right to participate in dividends and/or liquidation proceeds (hereinafter denoted as preference shares).⁶⁰ Pursuant to Article 33 (6), paras. (1) to (5) of this Article on the shareholders' right of pre-emption and its disapplication apply, inter alia, to the issue of securities which are convertible into shares but not the conversion of such securities. Since this reference

⁵⁷ See s. 551 (1)(b), (2), (3)(b), (4) and (5) CA 2006; § 221 (1) sentence 1 and (2) AktG.

⁵⁸ § 221 (1) sentence 2 AktG; pursuant to sentence 3 the articles may vary this majority requirement.

⁵⁹ S. 551 (8) CA 2006.

⁶⁰ Because limitation of the right to participate in dividends and/or liquidation proceeds is usually compensated by a preference for such limited distributions over ordinary shares.

includes para. (2) (a), Member States need not apply para. (1) to securities which can be converted into preference shares only.

9.65 At first glance Article 33 (2) (a) appears to establish a straightforward rule. A closer reading reveals, however, that the provision is ambiguous because Article 33 (1) employs the term “shares” to refer to the shares which are created in the capital increase and must be offered on a pre-emptive basis as well as to the shares already owned by the current shareholders. It is, therefore, not readily apparent whether Article 33 (2) (a) uses the term “shares” to refer to the newly issued shares, to the shares already owned by the current shareholders, or to both. Thus, Article 33 (2) (a) is open to at least three different interpretations.

- a) If the term “shares” referred only to the shares to be issued in the capital increase, the provision would state that no shareholder must be given a right of pre-emption when preference shares are issued⁶¹ while all shareholders, regardless of which class of shares they hold, have a right of pre-emption for ordinary shares. Applied to Article 33 (6), this reading would mean that shareholders don’t have a right of pre-emption for securities that are to be converted into preference shares.
- b) This would also be the case if Article 33 (2) (a) employed the term “shares” in the same sense as para. (1), i.e. so as to refer to the new as well as to the old shares. On the basis of this reading of the provision the holders of preference shares would not have a right of pre-emption in any capital increase while ordinary shareholders would have to be given a right of pre-emption only for ordinary shares but not for preference shares. This interpretation of Article 33 (2) appears to have been adopted by the Companies Act 2006. Pursuant to s. 561 (1) (a) CA 2006 only ordinary shareholders have a right of pre-emption which applies only to the issue of equity securities as defined in s. 560 (1) CA 2006, i.e. ordinary shares.
- c) Finally, the term “shares” Article 33 (2) (a) could be read as a reference only to the shares already owned by the current shareholders. Based on this understanding of the provision holders of preference shares would not have to be given a right of pre-emption in a capital increase, irrespective of which type of share is issued, while ordinary shareholders would have a right of pre-emption for ordinary as well as for preference

⁶¹ This appears to be the view of Stefan Grundmann, *Europäisches Gesellschaftsrecht*, (2nd edn, C.F. Müller 2011), p. 185.

shares. Applied to the issue of convertible securities, ordinary shareholders would have a right of pre-emption regardless of which class of shares was to be issued upon conversion while preference shares would not give their owners a right of pre-emption for convertible securities.

9.66 If Article 33 (2) (a) were meant to refer only to the shares to be issued in the capital increase, this could easily have been clarified by providing that “Member States need not apply paragraph 1 to *the issuance of shares* which carry a limited right to participate in dividends and/or liquidation proceeds”. Thus, the question remains whether Article 33 (2) (a) uses the term “shares” as a reference only to the shares already owned by the current shareholders (alternative (3)) or also to the shares that are to be issued in the capital increase (alternative (2)). At first glance, Article 33 (2) (b) appears support the former alternative. Pursuant to this provision Member States may permit, where the capital of a company having several classes of shares carrying different rights with regard to voting, or participation in dividends or liquidation proceeds, is increased by issuing new shares in only one of these classes, the right of pre-emption of shareholders of the other classes to be exercised only after the exercise of the class in which the new shares are being issued. Obviously, the provision presumes that preferential share-holders have a right of pre-emption in any capital increase. However, Article 33 (2) (b) sets out only one of two entirely separate alternatives for the variation of the right of pre-emption and does, therefore, not determine the interpretation of Article 33 (2) (a). While the wording of Article 33 (2) (a) does not offer guidance as to whether the term “shares” refers to the new as well as to the old shares (alternative (2)) or only to the old shares (alternative (3)), a strong argument supporting the former interpretation is its conformity with Article 33 (1). It appears reasonable to assume that Article 33 (2) (a) would have been drafted differently if the term “shares” had been intended to have a narrower meaning than in the provision immediately preceding it, for example by providing that Member States need no attach a right of pre-emption to certain types of preference shares. Thus, ss. 561 (1) (a), 560 (1) CA 2006 are in compliance with Article 33 (2) (a) of the Directive.

(2) Requirements for Additional Tier 1 Instruments Under the CRR

9.67 While Member States may, therefore, allow public companies to issue securities that are convertible into shares which carry a limited right to participate in dividends and liquidation proceeds without giving their shareholders a right of pre-emption, such instruments would not qualify as AT 1 instruments of financial institutions. Articles 54 (1) (c) and 52 (1) (n) CRR require that upon the occurrence of a trigger event such instruments are to be written down or converted into CET 1 Instruments. Pursuant to Article 28 (1) (h) (i) CRR, CET 1 Instruments may not carry the right for preferential distribution payments, including the relation to other CET 1 Instruments, and pursuant to Article 28 (1) (h) (iii) CRR there must not be a cap or other restriction on the maximum level of distributions. Thus, the exemption from the scope of the right of pre-emption provided for by Article 33 (2) (a) of the Directive 2012/30/EU and ss. 560, 561 CA 2006

will not be useful in the context of CoCos issued by credit institutions for the purpose of creating AT 1 capital. It is open to debate whether this restriction of the scope of AT 1-CoCos to instruments that can be converted into common shares is appropriate if the purpose of CoCos is to discourage risky behaviour of shareholders and to provide incentives for a timely increase of capital encouraged by the threat of being diluted in the case of conversion.⁶² From the perspective of a bank's creditors and other stakeholders it should be irrelevant how dividends and liquidation proceeds are divided among different classes of shareholders. Presumably, the reservation against preference shares is due to the fact that preference shares frequently do not have voting rights unless the preferred dividend is not paid or not paid in full in any given year or the amounts in arrears are not paid in the next following year, together with the full preferred dividend for such year, in which case the holders of preferred shares shall have voting rights until the amounts in arrears have been paid.⁶³ When the company has issued such preference shares, the holders of the common shares may have an incentive to ensure that dividends are paid to the holders of the preference shares so as to avoid a dilution of their voting rights on account of arrears in dividends due to the holders of the preference shares. This concern could, however, have easily been dealt with by providing that AT 1-CoCos could only be converted into either common shares or voting preference shares. In fact, the threat of a conversion of CoCos into such preference shares would provide an additional incentive for common shareholders to avoid conversion, since their claims for dividends and liquidation proceeds would rank behind those of the preferred shareholders.

(3) Statutory Limitations of the Scope of Pre-emptive Rights

9.68 Article 123 RRD proposes to amend the Directive 2012/30/EU by requiring that Member States disapply a number of provisions of this Directive, among them Article 33 on the right of pre-emption, in the case of the use of resolution tools, powers and mechanisms provided for in Title IV of the RRD. Article 63 (1) (i) RRD gives resolution authorities the power to require an institution under resolution to issue, inter alia, contingent convertible instruments. The scope of the exemption from the shareholders' right of pre-emption is, however, limited since Article 123 RRD disapplies the right of pre-emption only with respect to CoCos that are issued upon such a request of a resolution authority but not for CoCos that a bank issues under its own discretion.

b. The Relevance of the Right of Pre-Emption for Contingent Convertibles

⁶² For a discussion see *supra*, section II.

⁶³ See e.g. § 140 (2) AktG.

(1) The Twofold Risk of Dilution

9.69 Pre-emptive rights seek to protect shareholder from a twofold risk of dilution inherent in an issue of shares: Dilution of control and dilution of value. Academic proponents of CoCos who propose to use them as a means to influence shareholder conduct argue that the conversion rate of these instruments should be set so that shareholders will be severely diluted upon a conversion, in order to give shareholders a strong incentive to avoid risky conduct or to agree to a capital increase when the financial situation of the credit institution deteriorates so as to avoid the occurrence of a trigger event which could lead to even greater dilution.⁶⁴ This view is adopted by the April 2014 Draft of the RRD. Article 47 on the treatment of shareholders in bail-in or write down or conversion of capital instruments provides that a conversion of capital instruments shall be conducted at a rate of conversion that severely dilutes existing share-holders. The provision does not specify however, whether it refers to dilution of control, dilution of value, or both.

9.70 While Article 47 RRD and some academic proponents of CoCos advocate that shareholders be severely diluted upon conversion, German company law aspires to perfect the protection of shareholders against dilution of value by providing for the right of every shareholder, irrespective of the size of his holding, to challenge a shareholder resolution that disapplies the right of pre-emption on the ground that the (minimum) price for which shares may be issued is unreasonably low.⁶⁵ This provision applies by way of analogy to the issuance of convertible securities such as CoCos.⁶⁶ The immediate consequence of a challenge of a shareholder resolution pursuant to § 255 AktG is a delay of its registration in the commercial register without which the resolution is not effective. Thus, German banks issuing such instruments are confronted with contradictory demands of regulatory policy and shareholder protection.

(2) Dilution of Governance Rights

9.71 Any issue of shares to third parties will dilute such governance rights of shareholders that are exercised in proportion to the investment in the company's capital, in particular voting rights. In the case of CoCos, the severity and the impact of this

⁶⁴ Calomiris and Herring (footnote 15), 27 et seq.

⁶⁵ See § 255 AktG

⁶⁶ See Eberhard Stilz in Gerald Spindler and Eberhard Stilz (eds), *Aktiengesetz* (2nd edn, C.H. Beck 2010), § 255 margin note 13; Jens Koch in Uwe Hüffer and Jens Koch (eds), *Aktiengesetz* (11th edn, C.H. Beck 2014), § 255 margin note 16, both with further citations.

dilution depend on the percentage of shares issued upon conversion, the size of the current shareholders' stakes and their investment strategies. While retail investors are usually not interested in voting rights and control and will, therefore, be indifferent to a decrease of their relative voting power, large investors may well seek to maintain their relative share in the company so as to be able to influence shareholder decisions and management.

9.72 The academic papers on the potential effects of CoCos on shareholder behaviour discussed above in Section II. E. suggest that a significantly higher amount of such instruments than the 1.5% of RWA for AT 1 CoCos and even the total 3.5% of RWA for AT 1 and T 2 CoCos combined would be required in order to incentivize shareholders not to oppose or even demand an increase of capital even in times of declining share prices so as to avoid even greater dilution as a consequence of conversion.⁶⁷ We have sought to test these premises by using historical data for two large German banks, Commerzbank and Deutsche Bank in Tables 1 and 2. The tables seek to calculate the percentage of new shares that Deutsche Bank and Commerzbank would have had to issue upon the conversion of CoCos during the period between 2006 and 2014 assuming that CRD IV and CRR were applicable to each institution during this entire period and that each was a G-SII. The calculations are based on the regulatory capital that both banks reported for the end of each year of the reference period. They proceed on the assumption that all buffers required for these institutions by CRD IV were fully loaded and that all of the 1.5% AT 1 capital allowable under Article 92 CRR consisted of convertible (not write-down) CoCos so that these instruments made up 9.4% of the banks' Tier 1 capital ratio.⁶⁸ For each year of the reference period the effect of a conversion is calculated based on the highest and the lowest share price as well as the share price at the end of the year. Although these are, obviously, simplifying assumptions, we think that this allows us to highlight some interesting patterns potentially relevant to the debate on the design of CoCos.

9.73 The tables show that dilution of control rights can be very significant even if only AT 1 CoCos accounting for 9.4% of a bank's Tier 1 capital ratio are converted. They also highlight that the effect of conversion on share capital depends to a far greater extent on the development of the share price than on the percentage of Tier 1 capital. Dilution of control of pre-existing Commerzbank share capital would have been greatest if the (hypothetical) CoCos had been converted at the lowest share price during the year 2009. This would have caused an increase of share capital by 50.61%, while a conversion

⁶⁷ See supra at C. I.

⁶⁸ $1.5 \times 100 / 16$.

at the peak price of that year would have required the issuance of new shares equal to ‘only’ 20.6% of outstanding shares. In contrast, conversion at the peak price of 2007 would have required the issuance of merely 5.93% of new shares, at the peak price of 2006 only 6.2% and at the peak price 2011 only 8.63%. Both the Tier 1 capital ratio of 7% in 2007 and 6.6% in 2006 and Tier 1 capital of approximately EUR 25.57 billion in 2007 and EUR 25.74 billion in 2006 were lower than in 2009 with a 10.5 Tier 1 capital ratio and Tier 1 capital of EUR 29.52 billion. Since the calculations are based on the assumption that 9.4% of Tier 1 capital consisted of CoCos, the absolute volume of such instruments increases with the absolute amount of Tier 1 capital. The amount of CoCos that could be converted into shares is, therefore, greater in 2009 than in 2007 and 2006. However, the difference of approximately EUR 4 billion or 15.5% of Tier 1 capital cannot alone explain that a conversion at the lowest share price of 2009 would have diluted the governance rights of pre-existing shares 8.5 times as much as conversion at the highest share price of 2007. Similarly, a conversion of CoCos of a total of 9.4% of Deutsche Bank’s 2006 Tier 1 capital ratio at the lowest share price during that year would have increased the pre-existing share capital by only 3.94%, whereas a conversion at the lowest share price of 2009 would have required issuance of an additional 25.24% of share capital. Again, the difference of Tier 1 capital (EUR 23.54 billion in 2006 v. EUR 34.41 billion in 2009) does not account for the more than sixfold difference in the percentage of new capital. The impact of share price movements on the percentage of new shares to be issued upon conversion can also be illustrated by looking at the effect of share price changes on percentage of capital issued upon conversion in selected years. Thus, the percentage of new shares in relation to pre-existing shares varies for Commerzbank for the years 2008 and 2011 by more than a factor of three, depending on whether conversion occurred at the low or peak price of these years;⁶⁹ for Deutsche Bank, the factor for 2008 would be approximately three as well.⁷⁰

9.74 The potentially significant effect of conversion of AT 1 CoCos on the governance rights of pre-existing shares would more than double if not only the maximum amount of AT 1 but also the maximum amount of T 2 CoCos were issued as convertible (not write-down) instruments and were converted since Article 92 (1) (c) CRR allows 2% of T 2 instruments in addition to 1.5% of AT 1 instruments. While it is difficult to predict what effect exactly a depletion of regulatory capital will have on the price of a bank’s shares, it appears fair to presume that the share price will significantly decline as the bank’s regulatory capital buffers are reduced to an extent that conversion of CoCos by virtue of breach of a mechanical capital or PONV trigger becomes likely. It is,

⁶⁹ 2008: 13.37% v. 42.31%; 2011: 8.63% v. 27.5%.

⁷⁰ 6.04% v. 22.97%.

therefore, also fair to assume that the governance rights of pre-existing shares will be severely diluted upon conversion. Since most shareholders of large, publicly owned banks are not concerned with exercising and maintaining control over management, one can question whether the threat of dilution of their governance rights, however severe, will in itself be a sufficient incentive for the requisite majority of shareholders to participate in an increase of the distressed bank's capital rather than to accept a dilution of influence by virtue of conversion of CoCos, as long as the value of their investment is not negatively affected by such dilution. Thus, the essential question is whether dilution of control is connected with dilution of value.

(3) Dilution of Value

9.75 Unlike dilution of control, dilution of value is relevant for all shareholders. Whether and to what extent the conversion of CoCos will dilute the value of the pre-existing shares depends on the conversion price. Obviously, the likelihood and severity of dilution of value increase as the conversion price decreases. Likewise, it is obvious that the severity of dilution of value will increase in proportion to the number of shares that are issued at a discount from a relevant benchmark. Thus, the question of how many shares will be issued upon conversion, examined immediately above in the context of dilution of control, is also relevant for assessing the danger of dilution of value.

9.76 While the impact of the conversion price on the position of CoCo-investors and bondholders is evident, the question of what the relevant benchmark for the assessment of dilution of value should be. i.e. how exactly the value of the pre-existing equity should be measured in this context, is usually not addressed in the discussion of CoCos. The case of a conversion price that is set at the market price of the share at the time of conversion (or a higher minimum price)⁷¹ is a good example to illustrate this point. If the assessment of dilution is based on EBIT, EBITDA or similar financial ratios, conversion will inevitably lead to dilution of the value of the pre-existing equity because these financial ratios disregard the effect that a reduction of interest payments has on the amount of distributable profit. With a view to dividends shareholders will, however, care about the funds that are available for distribution. The relevant question from their perspective would, therefore, be to what extent the increase in the number of shares entitled to dividends is offset by the reduction of interest payments due to the elimination of the bonds⁷² and whether the new share capital generated by the conversion will be (at

⁷¹ This was the price set in the terms of the EUR 2 bn. CoCo issued by Banco Santander on ___ 2014, *see* the Report dated 27 January 14, p. 9.

⁷² In the case of AT 1-CoCos the answer to this question is somewhat complicated by the fact that under the terms of such CoCos the bank must have full discretion to cancel interest payments for an unlimited period and on a non-cumulative basis while it could not exclude the new shares issued upon

(...continued)

least) as profitable as the pre-existing equity.⁷³ If dilution in value is assessed with a view to share price, one can argue that shareholders are not exposed to a risk of dilution of value because the company will be able to place the shares without the discount it would usually have to offer in an increase of capital.⁷⁴ Assume that the company has issued 10 shares outstanding that are traded at 2 per share, CoCos with a nominal value of 20 as well as senior debt of 60. The value of the enterprise is 100. If the CoCos are converted into shares at the share price as of the time of conversion, the debt remains unaffected, while equity increases from 20 to 40. The old shareholders and the CoCo-investors hold 10 shares each so that the value per share remains at 2. While the level of control of the old shareholders has been reduced from 100% down to 50%, the value of their equity has not been diluted.

9.77 The picture becomes somewhat more complex, however, if the uncertainty of the future performance is taken into account. Assume a 50% chance that the value of the company will be 150 (scenario 1), and a 50% chance that the value of the company will only be 50 (scenario 2). In scenario 1 the value of the equity is 70 (150 firm value – 80 debt), in scenario 2 the value of the equity is 0 (50 firm value – 80 debt). The expected value of the equity is 35 ($0.5 \cdot 70 + 0.5 \cdot 0$). The share price equals the value of the equity (i.e. 3.5 per share). If the CoCos are, again, converted at the share price as of the time of conversion the CoCo-investors will receive a total of 6 shares⁷⁵. The company's debt is reduced from 80 to 60. Thus, the value of the equity in scenario 1 increases to 90 (150

(continued....)

conversion from the payment of dividends. It is unclear whether dilution should be assessed based solely on the legal position of CoCo-investors before and after a conversion or whether the likelihood that banks will pay the promised coupon even absent a legal obligation in order to avoid damage to their reputation, as happened during the last crisis, must be taken into account.

⁷³ With respect to AT 1-CoCos the immediate impact on the bank's business operations is likely to be insignificant since conversion does not lead to an increase of the Tier 1 capital ratio and will, therefore, not enable the bank to expand its business operations on account of an increase of its core regulatory capital.

⁷⁴ This appears to be the view adopted by the board of Banco Santander in order to justify the disapplication of the shareholders' right of pre-emption, see the Report dated 27 January 14, p. 9. See also Himmelberg and Tsyplakov (footnote 16), 19 et seq. and figure 4. The authors proceed from the assumption that no dilution of value occurs if shares are issued to CoCo-investors at the share price as of the time of conversion. They conclude that the company would have to increase the conversion ratio in favor of the bondholders in order to give shareholders an incentive to avoid conversion by agreeing to an increase of the institution's capital, *see supra*, section II.

⁷⁵ 5.7., rounded up to 6.

firm value – 60 debt), while it remains at 0 in scenario 2 (50 firm value – 60 debt). Since the probability of both scenarios is still 50%, the expected post-conversion value of the equity is 45 ($0.5 \cdot 90 + 0.5 \cdot 0$). This value is divided among a total of 16 shares. The post conversion value of each share is, therefore, approximately 2.8. Thus, the original shareholders have lost approximately 0.7 on each of their shares. i. e. a total of 7. This amount has accrued to the bondholders. Assuming that the remaining debt of 60 is senior in relation to the CoCos, the expected pre-conversion value of the CoCos is 10 ($0.5 \cdot 20 + 0.5 \cdot 0$). After the conversion the value of the bondholders' investment is approximately 17. Value of approximately 7 has been transferred to the bondholders from the shareholders whose holdings are, thus, diluted by this amount. This dilution is due to the fact that the conversion does not increase the value of the pre-existing equity in scenario 2 while the shareholders have to share potential gains in scenario 1 with the CoCo-investors.

9.78 As mentioned above (VI. B. 2. b. aa.), the question of how dilution of value must be assessed is of particular relevance for German companies because any shareholder can apply to the competent court to avoid a resolution that disappplies the right of pre-emption and, thus, delay or even prevent the registration on which the effectiveness of the resolution depends on the ground that the (minimum) price for which the shares or convertible bonds may be issued is unreasonably low. While some authors submit that shareholder suit based on § 255 AktG is without merit if the shareholder resolution provides that the minimum issue or conversion price is the market price at the time of issuance or conversion, as the case may be,⁷⁶ others argue that issuance or conversion at market price will result in dilution if the intrinsic value per share as determined on the basis of a valuation of the company is higher.⁷⁷ If this latter concept were adopted by courts – and this possibility cannot be ruled out – the consequences for the ability of German banks to issue convertible CoCos would be severe: Since it is uncertain if and when CoCos will be converted and what the intrinsic share value as derived from a valuation of the company will be at such future date, it would not be feasible to avoid the risk of dilution of intrinsic value by pricing this risk of dilution into the coupon of the CoCo. Arguably, the danger of a challenge of the shareholder resolution authorizing the issuance of CoCos pursuant to § 255 AktG could, therefore, only be averted if the minimum conversion price were set at the higher of either the market price or the intrinsic value of the shares as of the time of conversion. This would preclude the ability to set a conversion price which would be at a discount to the market as a number of academic authors have recommended and as Article 47 RRD arguably requires.

⁷⁶ See Eberhard Stilz (footnote 66), § 255 margin note 23.

⁷⁷ See Jens Koch (footnote 66), § 255 margin note 8.

9.79 Irrespective of how the risk of dilution is assessed, the demand that shareholders be severely diluted in case of conversion is not easy to reconcile with the design of a CoCo as a combination of a loan and the sale of a put option by the investor. If the conversion price is set so that the value of the pre-existing share is severely diluted, the value that shareholders lose will accrue to the investors. Thus, one would expect that rather than being compensated for the risk of the short position the bondholders would, in fact, have to pay for their obligation under the put option to purchase shares of the company. The interest payable on such a CoCo should, therefore, be lower than the interest the company would have to offer on a bond of equal rank.⁷⁸ On the other hand, careful investors will consider that, depending on the trigger for conversion, they may have to subscribe to a substantial number of shares at a time when the issuer might otherwise be unable to raise new equity, that under such circumstances the market price may not accurately reflect the value of the shares, and that it is uncertain whether the share price will remain stable or even increase because the market will take the issuance of additional common shares as a positive signal or whether the breach of the trigger for conversion will cause a further decline of an already depressed share price.

9.80 While it is unlikely that many shareholders would be interested in purchasing AT 1-CoCos, such securities clearly entail the risk of dilution of control and, depending on the terms of the CoCo and the benchmark for assessment, also the risk of dilution of value against which the right of pre-emptions seeks to protect them.

3. *The Disapplication of the Right of Pre-emption for Convertible Securities*

a. The European Framework

9.81 Articles 33 (4), 44 of the Directive 2012/30/EU allow a partial or complete disapplication of the right of pre-emption by a resolution of the general meeting taken with a majority of at least two-thirds of the shares represented at the meeting, on the basis of a written report submitted by the board of directors, indicating the reasons for the disapplication and justifying the pro-posed issue price. Pursuant to Article 33 (5), Member states may allow that the general meeting authorizes the board of directors for a period of up to five years to disapply the right of pre-emption. Unlike the majority requirement of para. (4), the requirement of a report justifying the reasons for the

⁷⁸ See Himmelberg and Tsyplakov (footnote 16), 19 et seq. and figure 4, who do, in fact, argue that the spread of CoCo bonds will decline as potential dilution of shareholders increases until the percentage of dilution becomes so great that the CoCo investors cannot expect that conversion will occur because shareholders will avoid the breach of a trigger by agreeing to or even demanding an increase of the bank's capital.

disapplication of the right of pre-emption and the proposed issue price does not apply to such general authorization of management.⁷⁹ Finally, Article 33 (6) makes the disapplication of the right of pre-emption for convertible securities subject to the provisions of paras. (4) and (5).⁸⁰

b. Transposition into the Laws of the U.K. and Germany

9.82 Pursuant to ss. 570, 571 CA 2006 the disapplication of the right of pre-emption requires an authorization of the directors by special resolution of the general meeting which can be granted for a period of up to five years, based on a written statement, explaining the reasons for the proposed disapplication and the amount to be paid for the securities.⁸¹

9.83 German law is somewhat more demanding. In addition to the formal requirements of a 75% majority and a directors' report explaining the reasons for the disapplication of the right of pre-emption and for the proposed issue price⁸², German courts apply a substantive test so as to determine whether the company's interest in a disapplication of the right of pre-emption outweighs the shareholders' interest in the right of pre-emption.⁸³ This additional requirement originally developed by the courts is now reflected in the AktG. § 186 (3) sentence (4) provides that a disapplication of the right of pre-emption is permitted in particular if a capital increase against cash contributions does not exceed 10% of the share capital and the issue price is not set significantly below the stock exchange price. The rationale underlying this exemption from the preponderance of company interest-test is a presumption that dilution of control can be avoided by a purchase of shares on the stock exchange if the capital increase does not exceed 10% of

⁷⁹ See Article 33 (5) of the Directive 2012/30/EU.

⁸⁰ Pursuant to Articles 123 and 54 RRD, the requirements for the disapplication of pre-emptive rights described in the text do not apply to the issuance of shares or convertible issued upon an instruction of a resolution authority using the resolution tools, powers and mechanisms under Title IV of the RRD.

⁸¹ See ss. 570, 571, 283 CA 2006

⁸² See §§ 186 (3) and (4), 203(2) sentence 2, 221 (2) sentence (2) AktG. Despite the ambiguous wording of the statute, an explanation for the proposed issue price is only required if the general meeting resolves on a specific issuance of shares or convertible securities, cf. Jens Koch (footnote 77), § 186 margin note 30 with further citations.

⁸³ See BGHZ 71, 40, 44 et seq. (1978).

the issued capital, while the requirement to place the new shares at a price near their current market value prevents a dilution of value.⁸⁴

9.84 The application of this provision to the issuance of convertible securities gives rise to a number of problems. The first of these problems concerns the application of the requirement that the issue price of the securities must not be set significantly below the market price. While some authors argue that § 186 (3) sentence (4) AktG cannot be applied to convertible securities because they are not traded on a securities exchange,⁸⁵ others submit that shareholders are sufficiently protected against dilution of value if the conversion price is set close to the share price at the time when the convertible securities are issued.⁸⁶ According to the dominant view among German courts and scholars the issue price of the convertible securities must be equal to their hypothetical market value so that a right of pre-emption would have no value.⁸⁷ Arguably, that is the case if securities are converted at the market price of the shares at the time of conversion. A put option with such features embedded in a CoCo may be of value for the company that might otherwise not be able to issue a large number of shares at this price; whether the corresponding duty to purchase shares at current market price represents a value for the shareholders depends on the concept of dilution on which the assessment is based.⁸⁸

9.85 A more serious impediment than pricing is the limit of 10% of the issued capital. Applied to convertible securities this requirement of § 186 (3) sentence (4) AktG means that the largest number of shares that may be issued in case of a conversion must not exceed 10% of the stated capital at the time when the bonds are issued or the conversion is triggered.⁸⁹ If the terms of a CoCo provide that the bond will be converted

⁸⁴ See BegrRegE, BT-Drucks. 12/6721, p. 10.

⁸⁵ See e.g. Marcus Lutter in Wolfgang Zöllner (ed), *Kölner Kommentar zum Aktiengesetz* (2nd edn, vol.5/1, §§ 179-240 AktG, Carl Heymanns Verlag 1995), supplement to § 186, margin note 39; Tim Klawitter, 'Zum vereinfachten Bezugsrechtsausschluss gem. § 186 Abs. 3 Satz 4 AktG bei Ausgabe von Wandel- und Optionsschuldverschreibungen', *Die Aktiengesellschaft* 50 (2005) 792, 796 et seq.; Uwe Hüffer *Aktiengesetz* (10th edn, C.H. Beck 2012), § 221 margin note 43 a.

⁸⁶ See e.g. OLG Braunschweig ZIP 1998, 1585, 1586 et seq.

⁸⁷ See OLG München ZIP 2006, 1440, 1441 et seq.; Bernd Singhof, 'Der erleichterte Bezugsrechtsausschluss im Rahmen von § 221 AktG', *ZHR* 170 (2006), 673, 684 et seq.; Michael Schlitt and Peter Hemeling, 'Wandel –und Optionsanleihen', in Mathias Habersack, Peter O. Mülbelt and Michael Schlitt (eds), *Unternehmensfinanzierung am Kapitalmarkt* (3rd edn, Verlag Dr. Otto Schmidt 2013), 484.

⁸⁸ For a discussion see supra at 2. b)

⁸⁹ For details see Bernd Singhof (footnote 87), 673, 686 et seq.

at its face value and set a floating rate of conversion⁹⁰ (as they must if the CoCo is to be recorded as a liability pursuant to IAS 32)⁹¹ such as the share price at the time of conversion, the number of shares that must be issued upon conversion increases with a decline of the share price.⁹² In order to be able to rely on § 186 (3) sentence (4) AktG, the company must set a minimum conversion price so as to prevent a capital increase of more than 10%. Such a minimum price would, however, entail a very substantial risk for investors that could well deter them from purchasing CoCos. If, therefore, the conversion price is set so that the maximum number of shares the company could be required to exceeds the 10%-limit of § 186 (3) sentence (4) AktG, the company must justify a disapplication of the shareholders' right of pre-emption by a company interest that outweighs the shareholders' interest in being able to exercise their right of pre-emption.⁹³ Such justification will, however, not immunize the shareholder resolution from challenges in court which, in turn, can delay the registration and, thus, the effectiveness of the resolution.

9.86 Thus, the formalities for a disapplication of the shareholders' right of pre-emption for CoCos under U.K. law can be easily complied with while their counterparts under the German AktG may well turn out to be a considerable obstacle to the issuance of such securities to selected (groups of) investors.⁹⁴

⁹⁰ Rather than a fixed rate based on the share price at the time when the bonds are issued.

⁹¹ See IAS 32 para. 16 (b), Application Guidance paras. AG 21-24, and Basis for Conclusion paras. BC 13-15.

⁹² Assume that the issuer's capital comprises 500 million shares with a nominal value of EUR 1 and a share price of EUR 40. It now issues CoCos for a total of EUR 1 bn. If the bonds were converted at the current share price the bondholders would receive 25 million shares, i.e. 5% of the capital issued prior to the conversion. If, however, the share price has dropped to less than EUR 20 per share at the time of conversion, the 10% - threshold would be crossed. Thus the minimum conversion price would have to be set at EUR 20 in order for § 186 (3) sentence (4) AktG to apply to the issue of the CoCos. Depending on the design of the trigger for conversion this would expose investors to a significant share price risk that could make the purchase of CoCos unattractive. The fact that bondholders would be subject to the same risk of further share price declines as shareholders once the share price fell below the minimum conversion price would, arguably, also affect their character as a liability under IAS 32.

⁹³ This test applies despite the fact that, in view of their risk profile and their denomination, CoCos appeal to an entirely different class of investors than shareholders. Some national laws actually require that such instruments are placed with institutional rather than retail investors, see e.g. the report of Banco Santander dated 27 January 2014, p. 7, referring to section 2 (1) (k) of Law 13/1985.

⁹⁴ Cf. the calculations in tables 1 and 2 regarding Commerzbank and Deutsche Bank.

4. *Maximum Period for the Authorization of Management to Issue Shares?*

9.87 Article 29 (1) sentence 1 of the Directive 2012/30/EU provides that any increase of a public company's capital must be decided upon by the general meeting. This rule is relaxed by Article 29 (2) of the Directive which allows the general meeting to delegate the decision to issue new shares to another company body, usually the directors. Pursuant to Article 33 (5) of the Directive such delegation can be combined with a delegation of the authority to restrict or withdraw the shareholders' pre-emptive right. While member states or the shareholders can fix a maximum amount for which the general meeting can grant authority to increase the company's capital, the Directive itself does not provide for such a limit. The only restriction set by Articles 29 (2) sentence 3, 33 (5) sentence 2 of the Directive is a (renewable) maximum period of five years beyond which the general meeting cannot delegate its power to decide upon an increase in capital and a disapplication of the pre-emptive right. Presumably, these provisions seek to give public companies sufficient flexibility to issue shares without the cost and delay of an ad-hoc general meeting. On the other hand, the five year maximum period prevents a general shift of decision-making power from shareholders to management by blank check authorizations for capital increases. While such authorizations could be withdrawn or modified by subsequent general meetings, in view of the difficulties of even getting such item on the agenda, not to speak of obtaining the requisite majority, it would be highly unlikely that, once granted, an authorization of management would, in fact, be altered by the share-holders. Thus, the five year maximum period puts the burden of convincing the general meeting at least from time to time of the merits of future capital increases on management.

9.88 The maximum period prescribed by Article 29 (2) sentence 3 of the Directive 2012/30/EU for authorizations to issue shares is transposed by § 202 (1) AktG and s. 551 (2) (b) CA 2006. However, U.K. and German law do not apply the maximum period to the issuance of shares that are allotted upon the conversion of convertible securities. S. 551 (7) CA 2006 provides for an explicit exemption from the 5-year time limit of s. 551 (2) (b) CA 2006. § 192 AktG on contingent capital is silent on the issue of a time limit. This is, however, generally understood as an implicit permission to issue shares to the holders of convertible bonds even more than five years after the resolution on the contingent capital.

9.89 The question of whether these provisions are compatible with Article 29 (2) sentence 3 of the Directive 2012/30/EU is rarely discussed. The few sources touching upon the issue rely on Article 29 (4). Pursuant to this provision, Article 29 applies, *inter alia*, to the issue of all securities which are convertible into shares but not to the conversion of such securities. The meaning of this provision is, however, ambiguous. Taken literally, it refers only to the conversion of securities into shares but not the issuance of shares. Thus, the exemption from the time limit imposed by Article 29 (2) sentence 3 could be read to apply only to the exercise of the rights under the securities: While the authorization to issue convertible bonds or subscription rights cannot extend

beyond five years after the general meeting's resolution, the right to convert or to subscribe is not subject to such a time limit. In contrast, the issuance of shares required to satisfy the claims of the holders of the securities upon conversion would be governed by Article 29 (1) to (3). If the conversion or subscription occurred later than five year after the original authorization to issue new shares, the directors would either have to obtain a renewal of this authorization as envisioned by Article 29 (2) sentence 3 of the Directive or repurchase a sufficient number of the company's own shares.

9.90 In contrast, Article 29 (4) of the Directive 2012/30/EU could be read, and is in fact read, as an exemption from the maximum authorization period for the increase in capital in connection with convertible bonds. The main argument in favor of such a broad reading of the provision is that the issue of the shares constitutes "*the simple execution of the decision which has already been authorized in principle by the general meeting*"⁹⁵. This interpretation of Article 29 (4) appears to be based on the notion that the relevant decisions with respect to the future increase in capital are already made by shareholders' meeting. However, even if the general meeting imposes tight restrictions for the issue of shares in other cases of authorizations pursuant to Article 29 (2) so that the directors are in substance merely executing the shareholders' decision, the maximum period for such authorization will be five years. On the other hand, management may have substantial discretion regarding the terms of conversion. If the right to convert lies with the company, the directors also decide whether the conversion takes place and shares will be issued. The board of directors does, therefore, not necessarily act as a mere executor of a shareholder decision to issue shares to the holders of convertibles. Rather than on the notion that an authorization to issue convertible securities entails all relevant decisions with regard to the issuance of shares upon conversion, the wide reading of Article 29 (4) appears to be based on the consideration that the Directive does not intend to complicate the use of long running convertible securities by subjecting companies to the uncertainties that would be caused if management needed to obtain periodical renewals of the authorization to ensure that the company were be able to fulfill its obligations to the bondholders. A doctrinal argument supporting this interpretation of Article 29 (4) can be derived from Article 33 (6) of the Directive pursuant to which paragraphs 1 to 5 of Article 33 apply to the issue of convertible securities but not to their conversion. Article 33 (5) sentence 1 allows the general meeting to delegate the decision to disapply the right of pre-emption to the board of directors; sentence 2 limits the duration of such delegation to the period for which the power to issue shares is delegated pursuant to Article 29 (2), i.e. to a maximum of five years. Clearly, Article 33 (5) seeks to ensure that the periods for which the general meeting can authorize the board to disapply the right of pre-emption is identical with the period for which it can authorize management to issue

⁹⁵ Vanessa Edwards, *EC Company Law* (OUP 1999), p. 79.

shares. Read in conjunction with Article 33 (5), Article 33 (6) provides that in the case of convertible securities the authorization to disapply the right of pre-emption is not limited to five years but may be granted for as long as the authorization to issue shares upon conversion. Thus, Article 33 (6) presumes that this latter authorization can be granted for more than five years as well.

5. *Maximum Amount of Authorized Capital*

9.91 Pursuant to Article 29 (2) sentence (1) of the Directive 2012/30/EU, an authorization of management to increase the company's capital must provide for a maximum amount which must be set with due regard to the limits prescribed by national law. Since the Companies Act 2006 does not restrict the shareholders' discretion, the maximum amount of an authorization given pursuant to s. 551 CA 2006 is within the discretion of the general meeting. In contrast, §§ 192 (3), 202 (3) AktG set the limit for an authorization of directors to 50% of the capital as at the date of the shareholder resolution. While this limit will not be an obstacle for the issuance of convertible bonds if the conversion price is set at the share price as of the time when the bonds are issued, it may well turn out to be an impediment for the issuance of CoCos if they will be converted at the share price at the time of conversion. Depending on the trigger for conversion, the share price may have dropped severely as compared to the time when the CoCos were issued. Even if the nominal value of the CoCos was small in comparison to the market value of the outstanding shares, this relation may have changed dramatically by the time conversion is triggered. The company would, therefore, have to set a minimum conversion price in order to ensure that it will be able to satisfy the bondholders' claims in case of a conversion without violating the 50% limit of §§ 192 (3), 202 (3) AktG.⁹⁶

9.92 The draft of a German Stock Corporation Reform Act 2012 proposed to eliminate the 50% limit, inter alia, for authorizations given so as to enable a credit institution to issue shares in order to convert bonds at the instruction of the BaFin or to restore a sufficient level of capital in a crisis. The bill was not passed during the last parliamentary term but the current government has indicated that it will be on the agenda again during the current term. If adopted, the new rule would eliminate the need for setting a minimum conversion price in order to avoid a violation of the statutory limit on authorizations of management.

⁹⁶ In hypothetical set out in note 16 the 50% threshold would be crossed if the share price had dropped to less than EUR 4. The minimum conversion price would, therefore, have to set at EUR 4.

9.93 Just as with respect to the disapplication of the shareholders' right of pre-emption,⁹⁷ the requirements under the AktG for the issuance of a sufficient number of shares in case of a conversion other than in the case of the use of resolution tools, powers and mechanisms provided for in Title IV of the RRD are more demanding than the equivalent requirements pursuant to the Companies Act 2006. If a German bank is, therefore, unable to fulfill its obligation to issue the requisite number of shares to the bondholders, it will lose credit for the CoCos as part of its AT 1 capital.

6. *Minimum Nominal Share Value*

9.94 Article 8 (1) of the Directive 2012/30/EU prohibits the issuance of shares for less than their nominal value or their accountable par. The Directive leaves it to the Member States to prescribe further details regarding the (accountable) par value of shares. While s. 541 CA 2006 merely requires that shares in a limited company must have a fixed nominal value, § 8(2) sentence 1, (3) sentence 3 AktG prescribes that the nominal value or accountable part of a share may not be less than EUR1. A conversion of the bonds at the current share price will, therefore, conflict with the no discount rule if the share price at the time of conversion is less than EUR1.⁹⁸ § 199 (2) sentence 1 AktG permits the use of retained earnings reserves to offset the difference between the nominal value of the bonds and the higher minimum issue price of the shares (i.e. EUR1 per share). It is, however, not very realistic to assume that such reserves are still available when the conversion of CoCos is triggered since earnings reserves are the first layer of equity that will be depleted by losses. Even if such reserves still existed, it would clearly contravene the purpose of bolstering the issuer's capital by converting debt into equity if pre-existing equity were used for purposes of the conversion.⁹⁹ The company would, therefore, have to set a minimum conversion price of EUR1 so as to ensure that it will be able to honor its obligations in case of a conversion.

9.95 One could argue that the risk of a conversion at a time when the share price has dropped to below 1 Euro can be disregarded since conversion will be triggered much

⁹⁷ See supra, 2.

⁹⁸ The history of the Commerzbank share price demonstrates that this is not an unrealistic scenario. The price of the Commerzbank share fell from a high of EUR 37.53 on 9 May 2007 to a low of EUR 1.078 on 23 April 2013. On the Commerzbank shares were consolidated at a rate of consolidation of 10:1. The share price, thus, increased to EUR 10.40 on 24 April 2013, only to decline to a low of EUR 5.79 (the pre-consolidation equivalent of 58 cents) on 8 July 2013.

⁹⁹ Article 52 CRR would, arguably, not prohibit such use of earnings reserves for conversions unless the lack of an explicit prohibition to use pre-existing equity in a conversion were qualified as a feature that could hinder the recapitalization of the institution within the meaning of Article 52 lit. o) CRR.

earlier either because of a shortfall of regulatory capital or because of a decision of the regulator pursuant to its powers under Article 63 (1) (f) RRD or applying its PONV-conversion authority pursuant to Article 59 RRD. However, the recent history of distressed banks has shown that share price and the level of regulatory capital don't necessarily correlate.¹⁰⁰ Neither is reliance on the regulator a substitute for contractual safeguards.

9.96 Again, the German AktG is more restrictive than the Companies Act 2006 with respect to the design of CoCos, and as a consequence German banks are subject to the risk of losing credit for their AT 1 capital when the threshold is crossed.

7. *Contribution of the Bondholders to the Corporation's Capital in Case of Conversion*

a. Liability of the Company to the Bondholders?

9.97 Pursuant to the Directive 2012/30/EU shares may only be issued in return for a contribution to the company's capital. When a bond is converted into shares the contribution consists of the release of the company of its liability to repay the investor. In the case of CoCos issued by a financial institution, this liability of the company merits a closer examination.

9.98 In order to qualify as AT 1 instruments under the CRR, CoCos must meet, inter alia, the following conditions:

- they are not subject to any arrangement, contractual or otherwise, that enhances the seniority of the claim under the instruments in insolvency or liquidation;¹⁰¹
- they must be perpetual and the provisions governing them may include an incentive for the issuer to redeem them;¹⁰²
- an option to call the instrument may be exercised at the sole discretion of the issuer;¹⁰³

¹⁰⁰ Cf. the sources cited supra in [footnote 11](#).

¹⁰¹ Article 52 (1) (f) CRR.

¹⁰² Article 52 (1) (g) CRR.

- the provisions governing the instruments do not indicate explicitly or implicitly that the instruments would or might be called, redeemed or repurchased and the institution does not otherwise provide such an indication, except in the liquidation of the issuer or in case of discretionary repurchases of the instruments or other discretionary means of reducing the amount of Additional Tier 1 capital, where the issuer has received the prior permission of the competent authority in accordance with Article 77;¹⁰⁴
- the provisions governing the instruments give the issuer full discretion at all times to cancel the distributions on the instruments for an unlimited period and on a non-cumulative basis, and the issuer may use such cancelled payments without restriction to meet its obligations as they fall due;¹⁰⁵
- a cancellation of distributions does not constitute an event of default of the issuer;¹⁰⁶
- a cancellation of distributions imposes no restrictions on the issuer.¹⁰⁷
- The provisions governing the bonds may not include a requirement for distributions on the instruments to be made in the event of a distribution being made on an instrument issued by the institution that ranks to the same degree as, or more junior than, an Additional Tier 1 instrument, including a Common Equity Tier 1 instrument,¹⁰⁸ a requirement for the payment of distributions on Common Equity Tier 1, Additional Tier 1 or Tier 2 instruments to be cancelled in the event that distributions are not

(continued....)

¹⁰³ Article 52 (1) (h) CRR.

¹⁰⁴ Article 52 (1) (j) CRR.

¹⁰⁵ Article 52 (1) (l) (iii) CRR.

¹⁰⁶ Article 52 (1) (l) (iv) CRR.

¹⁰⁷ Article 52 (1) (l) (v) CRR.

¹⁰⁸ Article 53 (a) CRR.

made on those Additional Tier 1 instruments,¹⁰⁹ or an obligation to substitute the payment of interest or dividend by a payment in any other form.¹¹⁰

9.99 The gist of these conditions is that the issuer must have complete discretion to cancel interest payments and to withhold repayment of the principal unless the company is liquidated. Since the investor does not have an enforceable claim for either interest or principal it is not readily apparent of what liability the company is released in the conversion of an AT 1-CoCo.¹¹¹ Obviously, the relevant liability is not the obligation of the company to issue shares to the bondholder upon conversion. Just as in the case of a cash contribution the subscriber's contribution to the company's capital consist of the cash payment rather than in the surrender of his claim to receive shares as consideration for such payment, the bondholder's right to receive shares depends on the release of the company of a liability that is distinct from the obligation to issue shares. Thus, only the bondholders' claim for his share of the proceeds in a liquidation of the company could qualify as a contribution to the company's capital in a conversion. Since the conversion of the claims of the bondholders for a share in the proceeds of insolvency or liquidation into the residual claims of shareholders will benefit those creditors ranking equally with the bondholders, one may well argue that even the release of such subordinated debt suffices as a contribution. Another argument in support of treating the release of the issuer of its obligations under the CoCos as a contribution to capital can be derived from the accounting treatment of CoCos as debt of the issuer. Under German HGB-GAAP¹¹², even unenforceable liabilities must be recorded as (so called factual) debt if a reasonable businessman will honour the obligation despite its unenforceability, namely in order to avoid damage to his reputation.¹¹³ Since a bank would very likely be unable to place

¹⁰⁹ Article 53 (b) CRR.

¹¹⁰ Article 53 (c) CRR.

¹¹¹ Since T 2 instruments give their owners an enforceable claim for repayment of the principal upon maturity as well as for interest payments, the questions discussed in the text do not apply to T 2-CoCos.

¹¹² German GAAP under the Commercial Code (Handelsgesetzbuch – HGB) apply to the individual accounts of German companies while IFRS apply to the consolidated group accounts as specified in § 315 a HGB.

¹¹³ Detlef Kleindiek in Claus-Wilhelm Canaris, Mathias Habersack and Carsten Schäfers (eds), Staub, HGB (5th edn C.H. Beck 2014), § 246 margin note 34; § 249 margin notes 33 and 82 et seq.; Wolfgang J. Schubert in Gerhart Förtschle, Bernd Grottel, Stefan Schmidt, Wolfgang J. Schubert and Norbert Winkeljohann (eds) Beck'scher Bilanzkommentar (9th edn, C.H. Beck 2014) § 247 margin note 204.

further CoCos or other subordinated debt after failing to make scheduled payments to CoCo-holders, even unenforceable obligations established under an AT 1 CoCo would qualify as debt, the release of which would suffice as a contribution – provided that the arguments that determine the accounting treatment of CoCos under the applicable accounting rules are also material for the assessment of whether the claims established under the terms and conditions of CoCos qualify as consideration for shares as required by the Directive 2012/30/EU, a question that would merit more attention than it appears to have received so far .

b. Contribution in Cash or in Kind?

(1) Treatment of the Conversion Under the Companies Act 2006 and the Aktiengesetz

9.100 Assuming that the bondholders' claims qualify as a contribution to the issuer's capital, the question remains whether the rules on contributions in cash or in kind apply to their conversion. According to the (still) dominant view in Germany, the release of the company of a liability is a contribution in kind. Thus, in principle a debt-to-equity swap is subject to the disclosure and audit requirements for in-kind contributions. A claim against the company can only be contributed at its nominal value if an expert report confirms that the company was able to discharge all of its debts in full as they fall due. The main arguments submitted in support of this narrow understanding of the term "cash" are that claims against the company must be subject to the same rules as claims against third parties, that the release of a liability which the company could not discharge in full would not increase the net value of its assets by the nominal value of the claim, that the creditor would receive more than the fair value of his claim at the expense of the shareholders who must be protected against the dilution that would result as a consequence of such inadequate contributions, and that the protection of present and future creditors requires disclosure of the fact that the subscriber has not contributed fresh money but rather a claim of impaired value.

9.101 If this doctrine were applied to convertible bonds, the right of the investor to receive shares in proportion to the nominal value of his claim under the bond would be subject to a valuation of his claim at the time of conversion. Investors could, thus, not rely on a conversion ratio based on the nominal value of their claims. This would deter investors from purchasing convertible securities and, in fact, deprive public companies from this source of finance. In order to facilitate the use of convertible securities § 194 (1) sentence 2 AktG provides that the transfer of convertible securities as consideration for shares of the issuer is not deemed to be a contribution in kind.

9.102 U.K. law takes a more straightforward approach to debt to equity swaps. Pursuant to s. 583 (1), (3) (c) CA 2006, the release of a liability of the company for a liquidated sum is a "cash consideration" for purposes of the Companies Act.

9.103 Thus, U.K. and German company law permit a conversion of convertible bondholders' claims against the company into shares without the disclosure and audit procedure required for contributions in kind.

(2) Conformity of National Company Law Rules on Conversion with the Directive 2012/30/EU?

9.104 A question that does not appear to be discussed is whether s. 583 (3) (c) CA 2006 and § 194 (1) sentence 2 AktG are compatible with the distinction between contributions "in cash" and "other than in cash" within the meaning of the Directive 2012/30/EU. Member States are not free to substitute definitions and concepts of the Directive by alternative definitions and concepts of national company law. A definition of national company law providing that a cash consideration included real estate would clearly be in violation of the Directive. Thus, national company laws could not treat the release of the company from a liability as a contribution in cash if such release did not qualify as cash under the Directive. One could, therefore, argue that s. 583 (3) (c) CA 2006 is deficient because it appears to qualify the release of the company of a liability for a liquidated, i.e. fixed, sum as a contribution in cash irrespective of the type of transaction from which the claim arises. The rule could be taken as an invitation to circumvent the Directive's disclosure and audit rules governing the contribution of non-cash assets by selling such assets to the company and then releasing it from its liability to pay the purchase price.¹¹⁴

9.105 Since convertible securities are issued in return for money their conversion does not give rise to the concern that the provisions for in kind-contributions might be evaded by schemes designed as a camouflage for an exchange of shares in return for non-cash assets. The relevant question is rather more limited, namely whether the release of the company of a liability arising from the receipt of a sum of money is a contribution in cash or a contribution other than in cash within the meaning of the Directive 2012/30/EU.

9.106 While Articles 29 (4), 33 (6) explicitly exempt the conversion of convertible securities from the requirement of a shareholder resolution and the right of pre-emption, the Directive is silent on the question of whether the surrendered claims are contributions in cash or in kind. The arguments in support of the traditional German view that the release of the company of a debt is not a contribution in cash are, clearly, not submitted as evidence that the AktG has adopted a stricter definition of cash than the Directive but rather as general guideline for distinguishing between contributions in cash and in kind that would also apply to the Directive. It is not apparent that the Directive

¹¹⁴ Rather than selling the asset and using the purchase price to pay for shares, an arrangement that would be caught as a disguised contribution in kind under § 27 (3) AktG.

2012/30/EU would allow Member States to apply more relaxed rules to liabilities established under a convertible bond scheme than to other types of financial debt such as loans. § 194 (1) sentence 2 AktG and s. 583 (3) (c) CA 2006 are, therefore, either merely expressions of a general principle of the Directive 2012/30/EU that liabilities of a company to repay a sum of money incompatible qualify as cash or incompatible with a general principle that claims for payment of a sum of money can only be contributed as non-cash assets, irrespective of whether payment is owed by a third party or by the company. If the latter reading were correct, CoCos could be converted at their nominal value either in compliance with the requirements of Articles 10 et seq. of the Directive 2012/30/EU or under an exemption from these provisions pursuant to Article 123 RRD.

(3) The Scope of Section 583 (3) (c) CA 2006

9.107 Even though the Companies Act appears to adopt a wider definition of cash than the traditional German doctrine, it is, in fact, not entirely clear whether the conversion of CoCos would be within the scope of s. 583 (3) (c) CA 2006. The reason for this uncertainty is the requirement that the company be released of a liability for a liquidated sum. As discussed supra, CoCo-investors merely have a claim for a share in the proceeds of a liquidation of the issuer. Whether this share is equivalent to the nominal value of the bond depends on the proceeds realized in the liquidation of the company and the amount of debt with priority over the CoCos. Thus, the company is, arguably, not released of a liability for a liquidated sum, i.e. the obligation to pay a fixed amount of money, but rather from a debt of floating value with the nominal value of the bond as a cap.

9.108 [The issuance and conversion of CoCos relies on instruments of company law, namely convertible securities and shares. Therefore, the extent to which CoCos will be useful as a loss absorption device for bank debt and as means to incentivize shareholders to avoid risky behavior and to agree to timely increases of capital depends on the applicable company law regime. Critical issues are the limits of management authorizations to issue CoCos and shares upon their conversion, the shareholders' right of pre-emption and the conditions for its disapplication, and the requirement of a contribution to the company's capital. The European Framework of the Directive 2012/30/EU gives rise to a number of questions which merit closer attention than they appear to have received so far, in particular the distinction between contributions in cash and in kind and the scope of the right of pre-emption when preference shares are issued. The transposition of the Directive into the laws of the Member States has produced significant differences between national company laws which, in turn, create obstacles to the use of CoCos, namely the limits on authorized capital, of a minimum nominal share value, and the additional requirement of a justification for a disapplication of the right of pre-emption by a predominant business purpose under the German AktG. While Articles 123 and 54 RRD eliminates such company law impediments to the use of CoCos, the scope of these provisions is limited to CoCos that are issued upon such a request of a resolution authority but not for CoCos that a bank issues under its own discretion. Finally, the idea that CoCos should incentivize shareholders to agree to a timely increase

of the bank's capital so as to avoid greater dilution in the case of conversion – a concept embraced by Article 47 RRD – should be a reason to review the concept of dilution underlying the right of pre-emption.

VII. COCOS AND THE RRD

9.109 We mentioned earlier that the EU had opted to put the PONV trigger for CoCos not in CRR, but in the RRD. It is thus important to understand what the RRD has to say about write-downs and conversion of such instruments, and what else it contains which may be relevant to CoCos and similar instruments.

A. Application of Resolution Tools

9.110 Key among the RRD provisions which directly affect CoCos are those which relate to the point at which a resolution authority may use the bail-in tool to convert or write down outstanding securities. The bail-in tool is part of the resolution framework under which a “competent authority”, expected to be resolution authorities designated under Member State national law, may intervene. Recital 41 defines this moment as the point at which the authority determines ‘the institutions is failing or likely to fail’ and specifies that ‘an institution should be considered to be failing or likely to fail when it infringes or is likely in the near future to infringe the requirement for continuing authorization, when the assets of the institution are or are likely in the near future to be less than its liabilities, when the institution is or is likely in the near future to be unable to pay its debts as they fall due, or when the institutions requires extraordinary public support’.

9.111 However Recital 49 restricts the use of the resolution tools, which include the bail-in tool to circumstances ‘when it is necessary to pursue the objective of financial stability in the general interest’ and ‘when there is no reasonable prospect for any alternative private solution, including any increase of capital by the existing shareholders or by any third party sufficient to restore the full viability of the institution.’ Recital 81 deals with AT 1 and T 2 instruments directly, directing Member States to insure that they fully absorb losses at the PONV and providing that resolution authorities should be required to write them down in full, or convert them to CET 1 instruments at the PONV ‘and before any resolution action is taken.’ For these purposes PONV is to be understood as ‘the point at which the relevant authority determines that the institution meets the conditions for resolution or the point at which the authority decides that the institution would cease to be viable if those capital instruments were not written down or converted.’

B. Application of PONV Powers

1. Separate from Resolution Powers?

9.112 It is not entirely clear whether the resolution authority's duty to intervene under Recital 81 might precede its general authority to apply the bail-in tool under

Recitals 41 and 49, and the use of the phrases ‘or is likely to’ and ‘the objective of financial stability in the public interest’ in Recitals 41 and 49 have generated a good deal of uncertainty as to when the resolution authority might intervene. It is likely that the power under Recital 81 should be read as independent from the general power to use resolution tools since it comes from a different source, Basel III, than the rest of the provisions of the RRD. This reading is reinforced by Article 59 (1) RRD which provides that the power to write down or convert capital instruments may be exercised independently of resolution action and that the authority must exercise this power ‘without delay’ when it determines the conditions for resolution have been met or that unless the power is exercised in relation to those capital instruments the institution will no longer be viable, or that extraordinary public financial support is required by the institution.¹¹⁵ Article 59 goes on to repeat the safeguards of Recital 81 that an institution shall be deemed no longer viable only if the institution is both likely to fail and there is ‘no reasonable prospect of any action, including alternative private sector measures or supervisory action (including early intervention measures), other than the write down or conversion of capital instruments... would prevent the failure of the institutions... in a reasonable time-frame.’¹¹⁶ Finally with respect to the likelihood of failure of a group, Article 59 refers to the need for ‘objective elements to support a determination that the group, in the near future, will infringe its consolidated prudential requirements in a way that would justify action by the competent authority including but not limited to because the group has incurred or is likely to incur losses that will deplete all or a significant amount of its own funds.’

2. *Which Comes First?*

9.113 How exactly these criteria compare to the 5.125% minimum trigger under the CRR for AT 1 CoCos is not entirely clear, but for a G-SIB (or G-SII as they are called under CRD IV) which has a total ‘fully loaded’ capital requirement, including buffers, of up to 18%, it is conceivable that the depletion of ‘a significant amount of its own funds’ would occur well before the 5.125% trigger is breached and thus that a resolution authority will be required to invoke the PONV trigger before the mechanical trigger is breached. What happens then is an interesting question, and may turn on whether the authority has also concluded that it must commence a resolution process at the same time.

¹¹⁵ Although the power may be exercised independently, Article 59 (10) requires a resolution authority, before it exercises the power to write down or convert capital instruments to ensure that a valuation of the bank’s assets is carried out in accordance with Article 36 RRD. Article 36 (1) is to the same effect. So it appears that at least some resolution related steps may have to take place before the authority can actually exercise its powers under Article 59.

¹¹⁶ Article 59(4) RRD.

In the latter case, CoCo holders, both of AT 1 and T 2 capital will be in the worst position since, as noted above, the instruments have to be written down in full or converted first, before any other resolution action is taken. So they would be wiped out or converted first and the resolution authority would not necessarily be bound to observe the terms of the CoCo instrument, so that the CoCo holders could lose the value of their bargain.

3. *With what Consequences?*

9.114 Under Article 48 (1) RRD the order of write down or conversion applies in sequence to CET 1 items, then to AT 1 instruments, then to T 2 instruments, then to other subordinated debt in accordance with the hierarchy of claims in normal insolvency proceedings, then to the balance of eligible liabilities (to which we shall return below). Article 48 (3) RRD makes clear this is meant to result in conversion or writedown for instruments like CoCos with triggers related to the issuer's financial situation. Article 50 (3) RRD allows the authority to apply different conversion ratios based on the seniority of the instruments involved. None of these provisions state or even imply that in exercising its powers the authority is bound by the terms of the instruments and, given that AT 1 and T 2 instruments are junior, they could end up with less upon conversion or write down than they had bargained for in the terms and conditions under which they were issued, especially where the resolution involves writing down or converting more senior classes of debt instruments.

9.115 If the resolution authority decides that it is exercising its independent power under Article 59 RRD only with respect to these capital instruments, there is a chance it might decide it is bound by the terms of the instrument to affect a conversion in accordance with the terms of the instrument, which would result in a greater initial recovery by the CoCo holder in accordance with the CoCo's terms and conditions. But, of course, if the authority later commences a resolution procedure, then the holders of the CoCos, having become common shareholders, will be subject to the same subsequent dilution in the resolution as all other shareholders, and thus end up in a place similar to where they would have been had the authority initially decided it was intervening as part of a resolution proceeding, except that they might have been able to dispose of their stock in the meantime.

4. *What about the “No Creditors Worse off” Principle?*

9.116 As noted above in Section II. B, creditors in a bail-in are entitled to the safeguards provided in Article 73(b) RRD that they not incur greater losses than they would have incurred had their bank been wound up under normal insolvency proceedings. Article 74 RRD also provides for an independent valuation to be carried out – distinct from the valuation for the purposes of resolution required by Article 36 – to determine the treatment they would have received in normal insolvency proceedings as compared to their treatment in the resolution. Article 75 RRD even provides for payment of any shortfall to be made out of the resolution financial arrangements under Title VII RRD. Unfortunately, the RRD specifies neither a timeframe for this valuation to be made

– in contrast to Article 36 – nor a methodology for carrying out the valuation, although Article 74(4) provides that the EBA may – not must – specify the methodology to be used. In the absence of EBA guidelines, would the default position be whatever local law provides as the standard for valuing assets in an insolvency? What if there is no such prescribed standard?

9.117 It is also not entirely clear that Articles 73-75 apply to CoCos converted or written down under the PONV powers. It is clear that CoCos are covered under the general valuation of Article 36 which states in paragraph (4)(a) that one of the purposes of that valuation is to determine whether the condition for write down or conversion of capital instruments are met. Articles 73-75 refer only to shareholders and creditors, not specifically to holders of capital instruments, and to the application of the bail-in tool, but it would be very odd that other creditors and shareholders would be covered by this key safeguard and not holders of capital instruments which stand between them in the capital structure. If this common sense reading is correct, though, it raises an interesting set of questions in a resolution where senior debt, subordinated debt and capital instruments are all converted or written down. To the extent the resolution takes place close to the point of insolvency there may be little difference in the two recoveries, but in the absence of a designed methodology this may be difficult to determine.

C. Contractual Bail-In Instruments

1. What are they?

9.118 Beyond these articles which directly deal with CoCos, other parts of the RRD may be of relevance to CoCos. The RRD includes a requirement that every EU financial institution subject to it will have to maintain a minimum amount of ‘own funds and eligible liabilities’. Recital 79 RRD explains the reason for this requirement:

‘To avoid institutions structuring their liabilities in a manner that impedes the effectiveness of the bail-in tool it is appropriate to establish that the institutions meet at all times a minimum requirement for own funds and eligible liabilities expressed as a percentage of the total liabilities and own funds of the institution. Resolution authorities should be able to require, on a case-by-case basis, that that percentage is wholly or partially composed of own funds or of a specific type of liabilities.’

9.119 Under Article 45 (13) RRD an institution has the possibility to designate certain ‘contractual bail-in instruments’ as part of the ‘eligible liabilities’. This is a clear response to the call by the Final Report of the High Level Expert Group on reforming the

structure of the EU banking sector chaired by Erkki Liikanen (October 2, 2012) for ‘designated bail-in instruments’ and belongs to another strand of the debate on bail-inable debt, which goes by the name of ‘gone-concern loss-absorbing capacity’ for financial institutions (GLAC) and is a hotly debated issue at the FSB in the run-up to the G-20 summit scheduled for November in Brisbane.¹¹⁷ The issue is the extent to which financial institutions should be required to hold a specific amount of GLAC or an amount which falls within a defined range and how much discretion should be allowed to supervisors under “Pillar 2” to set these amounts on an institution by institution basis.

2. *Could CoCos Qualify?*

9.120 This raises the question of whether something like CoCos might be used as ‘contractual bail-in instruments’, thus expanding their role in bank capital beyond that contemplated by the CRD IV framework. How much contingent capital-like debt will be involved and whether to qualify for inclusion in ‘eligible liabilities’ issuers will need to use instruments as radical as CoCos (perpetual, ability to omit coupon payments, etc.) are among the open questions. As to amounts, the minimum requirements are to be set initially by national resolution authorities at their own discretion on an individual institution by institution basis as a percentage of total liabilities (not RWAs) and own funds based on standards to be submitted by the EBA to the European Commission within twelve months of the entry into force of the RRD in an amount sufficient to allow the restoration of the institution’s CET 1 ratio to the level required by its license and ‘to sustain sufficient market confidence in the institution’¹¹⁸ by use of the bail-in tool.

3. *Who Decides?*

9.121 Part of this requirement, whatever it turns out to be, may be met through ‘contractual bail-in instruments’ under Article 45 (13) RRD. The requirements for such instruments are sketchy: under Article 45 (14) RRD they must contain a contractual term providing that, where a resolution authority applies a bail-in tool, the instrument will be written down or converted to the extent required before eligible liabilities are and are subject to a ‘binding subordination agreement, undertaking or provision under which in the event of normal insolvency proceedings, it ranks below other eligible liabilities and cannot be repaid until other eligible liabilities outstanding at the time have been settled’. The EBA is to submit a report to the Commission by October 31, 2016 which could be the basis for uniform rules on a harmonized application of the minimum requirements

¹¹⁷ FSB, Letter to G20 Finance Ministers and Central Bank Governors, Financial Reforms—Update on Progress, 4 April 2014, 2.

¹¹⁸ Article 45(6) RRD.

including, ‘where appropriate, proposals for the introduction of an appropriate number of minimum levels of the minimum requirement, taking into account the different business models of institutions and groups’ to be made by the Commission to the European Parliament and the Council by December 31, 2016. This process could be preempted by the FSB and the G20 if the FSB can achieve a consensus on a specific amount or range as noted in their 4 April 2014 letter to the G20, and the deadlines in the RRD were perhaps set up with this in mind. In the absence of a consensus on the FSB/G20 level, it may be another two years before we get anything resembling uniformity within the EU in this area. Still it represents a possible additional market for an instrument which might end up looking like a T 2 ‘CoCo Lite’. And until the EBA acts, it will be up to the national resolution authorities to set levels of eligible liabilities and the conditions for contractual bail-in instruments, as soon as they have the authority under their national legislation implementing the RRD to do so. For countries where that authority does not yet exist, there may be a window for issuers to design their own template, in the hope that these instruments will be grandfathered once regulations are adopted.

9.122 Banking institutions will not initially be required to designate any liabilities as ‘contractual bail-in instruments’, but the EBA October 2016 report is to cover ‘whether it is appropriate that resolution authorities may require that the minimum requirement be met through contractual bail-in instruments, and whether further harmonization of the approach to contractual bail-in instruments is appropriate’;¹¹⁹ so such a designation could become mandatory under the RRD. National legislation implementing the RRD may well do the same, either directly or by delegating to the national resolution authority the power to set both amounts and conditions. But even in the absence of such a duty, designating certain subordinated liabilities as ‘contractual bail-in instruments’ could have some of the advantages that issuing CoCos in general have, i.e. allowing an issuer to designate certain liabilities as eligible to take the first hit, lessening the chance that its other liabilities will be bailed-in and thus lowering its overall cost of issuing debt in general. It could also give the issuer more control over the terms under which the bail-in takes place, at least for issuances before any mandatory rules are set down by the EBA or the national resolution authority. Of course, in exercising the bail-in tool the resolution authority will be bound by Article 47 RRD which requires that, in case of a conversion, ‘the conversion shall be conducted at a rate of conversion that severely dilutes existing holdings of shares.’

¹¹⁹ Article 45(19)(e) RRD.

D. Back to ‘Dilution’

9.123 We have had a lively debate about what this standard means and concluded that it most likely requires conversion to be at no more than the current market price of the shares at the time of conversion and, conceivably even at a discount therefrom. However, this is not the end of the analysis. In setting relative conversion rates, a resolution authority will have to take into account the relative ranking of the instruments involved and the safeguard provisions of Article 3 RRD which, as noted in Section VII.B.4 above provides that shareholders and creditors whose claims are written down or converted to equity do not incur greater losses than if the bank had been wound up in insolvency. It is interesting that the concept of “no creditor worse off” has been extended in Article 73 RRD to cover shareholders as well.

9.124 Whatever instruments are used as ‘contractual bail-in instruments’ would presumably be written down or converted after CoCos which count towards AT 1 and T 2 capital pursuant to Article 48 (1) RRD are converted or written down. The EBA is required to issue guidelines no later than 18 months after the entry into force of the RRD on the setting of conversion rates of debt to equity under Article 50 (3) RRD. The only indication as to the content of these guidelines is the requirement in Article 50 RRD that they indicate ‘how affected creditors may be appropriately compensated by means of the conversion rate, and the relative conversion rates that might be appropriate to reflect the priority of senior liabilities under applicable law.’ The last clause should be read in conjunction with Article 50 (8) RRD which prescribes that ‘the conversion rate applicable to liabilities that are considered to be senior under applicable insolvency law shall be higher than the conversion rate applicable to subordinated liabilities.’ The issue of relative conversion rates does not come up if no senior debt is converted or if subordinated debt is written down rather than converted, but if both senior and subordinated debt are converted, it could be that subordinated debt, including ‘contractual bail-in instruments’, would have to be converted at a lower rate both to honor its place in the debt hierarchy and to ensure that shareholders also do not receive less than they would have in an insolvency.

VIII. CONCLUSION: THE SOUND OF ONE HAND CLAPPING

9.125 By the time the European Union was handed the Basel III rules in June 2011, much of the narrowing of the scope of CoCos in bank capital had already been done. CoCos could not be used for any of the normal capital buffers above AT 1 and T 2 capital. The amount of CoCos in the capitalization of any bank would be restricted to 3.5% of RWA, until that bank’s own funds exceeded 13% or, for G-SIBS, 18%. This amount is well below that which most of the academic literature has assumed to be required if convertible CoCos were to have an *in terrorem* effect on existing shareholders to make them avoid risky behavior and seek to raise new capital before they risked ‘death by dilution’ through the conversion of a large number of CoCos. We have suggested above that, based on back-testing data for two large German banks, the prior work may have under-estimated the dilutive effect which stock price declines could have upon

conversion of CoCos and thus over-estimated the amount of CoCos needed to achieve their ends. We have not sought to do similar testing of the amount of CoCos needed to cover historical cases, given the number of variables involved.

9.126 Under Basel III, CoCos must also have a PONV trigger, which largely erased the difference between CoCos as a contractual instrument with a high trigger meant to give a chance of early recapitalization to a bank on a ‘going concern’ basis, and bail-in bonds whose use is determined by regulatory discretion at the point of non-viability. CoCos could have a write down alternative to convertibility, thus allowing debt holders to bear the first loss in full before any shareholders were wiped out and thus reducing the possibility of using CoCos as a deterrent to risky conduct.

9.127 The EU added two twists of its own, the idea that the Basel III rules were to be interpreted as a maximum rather than a minimum standard, and the 5.125% minimum trigger for conversion or write down, which further reduced the scope for CoCos. The idea that Basel rules are to be viewed as maximum requirements is inconsistent with the entire Basel enterprise, which has been to agree minimum standards that could always be supplemented by higher local requirements. It flatly contradicts the November 2011 statement by the GHOS that they expected national authorities to be able to add supplementary requirements. But by making CRD IV a maximum and enforcing this maximum by putting the capital rules in the CRR, applicable directly, rather than in the Directive, the EU cut off any possibility for a wider use of CoCos, such as had been made by the Swiss FINMA. Whether this limitation means there would never be enough CoCos in a bank’s capital to play the role of discouraging risky conduct contemplated by Lord Turner and the many academics who built models for CoCo design is open to question. Our work suggests this conclusion might be premature and requires further study.

9.128 A writedown trigger set at 5.125% of RWA, on the other hand, can only be viewed as a low trigger, meant not to be breached at a time when the bank might more easily be put on the road to recovery. It makes CoCos work much more like bail-in bonds intended to be used at the PONV. In fact, given that under the RRD resolution authorities must intervene by converting or writing down CoCos at the PONV, one can question whether CoCos with a 5.125% trigger will ever be triggered by their terms, given the historical record of the last crisis where all rescued banks had capital ratios above 8%, so apparently reached the PONV well above that. Thus, from a policy point of view, the EU has opted for the lowest common denominator and the narrowest of CoCos. Thus, unless the threat that such CoCos will not count toward capital for purposes of European stress tests or vigorous guidance by supervisors, such as the Bank of England’s Prudential Regulation Authority leads issuers to opt for higher mechanical triggers, the CRD IV framework and the RRD largely erase the distinction between ‘going concern’ and ‘gone concern’ instruments and may well result in CoCos which do not allow for the kind of contractual ‘prompt corrective action’ well before the PONV which CoCos were initially expected to provide.

9.129 It is, however, incontestable that AT 1 and T 2 CoCos have been a market success, enabling banks to issue additional capital securities at a cost well below the cost of common shares, and that upon conversion or write-down they will provide loss absorption and additional capital. Whether this will occur before or only at the PONV is the main open question, but is of critical importance. If it occurs only at the PONV, then CoCos will not contribute to preserving enterprise value, but will only absorb losses in insolvency. They will thus contribute to reducing loss upon default, but not the chance of default and will thus have failed their mission to provide ‘going concern’ and not merely ‘gone concern’ capital next time. So, from a theoretical point of view, the verdict on CoCos under the CRD IV framework is the sound of one hand clapping.

9.130 From a corporate law point of view the issuance and conversion of CoCos relies on instruments of company law, namely convertible securities and shares. Therefore, the extent to which CoCos will be useful as a loss absorption device for bank debt and as means to incentivize shareholders to avoid risky behavior and to agree to timely increases of capital depends on the applicable company law regime. Critical issues are the limits of management authorizations to issue CoCos and shares upon their conversion, the shareholders’ right of pre-emption and the conditions for its disapplication, and the requirement of a contribution to the company’s capital. The European framework of the Directive 2012/30/EU gives rise to a number of questions which merit closer attention than they appear to have received so far, in particular the distinction between contributions in cash and in kind and the scope of the right of pre-emption when preference shares are issued. The transposition of the Directive into the laws of the Member States has produced significant differences between national company laws which, in turn, create obstacles to the use of CoCos, namely the limits on authorized capital, of a minimum nominal share value, and the additional requirement of a justification for a disapplication of the right of pre-emption by a predominant business purpose under the German AktG. While Articles 123 and 54 RRD eliminate such company law impediments to the use of CoCos, the scope of these provisions is limited to CoCos that are issued upon such a request of a resolution authority but not for CoCos that a bank issues under its own discretion. Finally, the idea that CoCos should incentivize shareholders to agree to a timely increase of the bank’s capital so as to avoid greater dilution in the case of conversion – a concept embraced by Article 47 RRD – should be a reason to review the concept of dilution underlying the right of pre-emption.

Deutsche Bank

	2006	2007	2008	2009	2010	2011	2012	2013	03/2014 (CRD IV fully loaded)
Tier 1 capital (in mn. EUR)	23,539	28,320	31,094	34,406	42,565	49,047	50,483	50,717	35,331
RWA (in mn. EUR)	264,483	329,302	307,861	273,063	346,057	380,209	334,325	300,369	373,313
Tier 1 capital ratio	8.9%	8.6%	10.1%	12.6%	12.3%	12.9%	15.1%	16.9%	0
Share price (Dec 31)	53,200	47,400	15,900	30,700	36,300	27,400	30,600	35,400	33,154
Market cap (Dec 31) (in mn. EUR)	92.24	81.37	27.83	49.42	39.1	29.435	32.95	34.68	32.48
Assumption: CoCos represent 8,3% of overall capital (in mn. EUR)	2,207	2,655	2,915	3,226	3,990	4,598	4,733	4,755	3,312
Percentage of equity upon full conversion of CoCos	3.98%	5.30%	15.49%	9.51%	9.90%	14.37%	13.39%	11.84%	9.08%
Assumption: CoCos represent 19.4% of overall capital (in mn. EUR)	5,149	6,195	6,802	7,526	9,311	10,729	11,043	11,094	7,729
Percentage of equity upon full conversion of CoCos	8.82%	11.56%	29.96%	19.69%	20.41%	28.14%	26.52%	23.86%	18.90%
Share price (highest)	53,852	62,540	45,358	31,880	52,881	45,184	35,912	39,330	
Market cap (highest share price)	93.37	107.36	79.39	51.32	56.96	48.54	38.67	38.53	
Assumption: CoCos represent 8,3% of overall capital (in mn. EUR)	2,207	2,655	2,915	3,226	3,990	4,598	4,733	4,755	
Percentage of equity upon full conversion of CoCos	3.94%	4.07%	6.04%	9.19%	7.02%	9.24%	11.64%	10.79%	
Assumption: CoCos represent 19.4% of overall capital (in mn. EUR)	5,149	6,195	6,802	7,526	9,311	10,729	11,043	11,094	
Percentage of equity upon full conversion of CoCos	8.73%	9.01%	13.04%	19.10%	14.97%	19.19%	23.52%	22.00%	
Share price (lowest)	41,757	43,561	9,775	9,554	33,979	19,921	22,623	30,296	
Market cap (lowest share price)	72.4	74.78	17.11	15.38	36.6	21.4	24.36	29.68	
Assumption: CoCos represent 8,3% of overall capital (in mn. EUR)	2,207	2,655	2,915	3,226	3,990	4,598	4,733	4,755	
Percentage of equity upon full conversion of CoCos	5.02%	5.74%	22.97%	25.24%	10.51%	18.75%	17.30%	13.57%	
Assumption: CoCos represent 19.4% of overall capital (in mn. EUR)	5,149	6,195	6,802	7,526	9,311	10,729	11,043	11,094	
Percentage of equity upon full conversion of CoCos	10.98%	12.45%	41.03%	44.06%	21.51%	35.01%	32.80%	26.80%	

Commerzbank

	2006	2007	2008	2009	2010	2011	2012	2013	03/2014 (CRD IV fully loaded)
Tier 1 capital (in mn. EUR)	15,427	16,333	22,438	29,520	31,727	26,189	27,245	25,700	19,643
RWA (in mn. EUR)	228,855	234,576	222,158	281,143	266,613	236,594	208,135	190,370	218,250
Tier 1 capital ratio	6.8%	7.0%	10.1%	10.5%	11.9%	11.1%	13.1%	13.5%	0
Share price (Dec 31)	172.18	156.72	39.63	35.12	33.15	9.72	10.70	11.71	13.34
Market cap (Dec 31) (in mn. EUR)	19,000	17,300	4,800	7,000	6,600	6,700	8,400	13,300	15,200
Assumption: CoCos represent 8,3% of overall capital (in mn. EUR)	1,446	1,531	2,104	2,768	2,974	2,455	2,554	2,409	1,841
Percentage of equity upon full conversion of CoCos	7.07%	8.13%	30.47%	28.33%	31.07%	26.82%	23.32%	15.34%	10.81%
Assumption: CoCos represent 19.4% of overall capital (in mn. EUR)	3,375	3,573	4,908	6,458	6,940	5,729	5,960	5,622	4,297
Percentage of equity upon full conversion of CoCos	15.08%	17.12%	50.56%	47.98%	51.26%	46.09%	41.50%	29.71%	22.04%
Share price (highest)	198.14	220.16	154.51	53.53	42.47	37.69	15.50	12.60	
Market cap (highest share price)	21,865	24,303	18,714	10,669	8,456	25,980	12,168	14,311	
Assumption: CoCos represent 8,3% of overall capital (in mn. EUR)	1,446	1,531	2,104	2,768	2,974	2,455	2,554	2,409	
Percentage of equity upon full conversion of CoCos	6.20%	5.93%	10.10%	20.60%	26.02%	8.63%	17.35%	14.41%	
Assumption: CoCos represent 19.4% of overall capital (in mn. EUR)	3,375	3,573	4,908	6,458	6,940	5,729	5,960	5,622	
Percentage of equity upon full conversion of CoCos	13.37%	12.82%	20.78%	37.70%	45.08%	18.07%	32.88%	28.20%	
Share price (lowest)	152.78	142.46	32.50	13.55	32.69	9.39	8.88	5.91	
Market cap (lowest share price)	16,859	15,726	3,936	2,701	6,508	6,473	6,971	6,712	
Assumption: CoCos represent 8,3% of overall capital (in mn. EUR)	1,446	1,531	2,104	2,768	2,974	2,455	2,554	2,409	
Percentage of equity upon full conversion of CoCos	7.90%	8.87%	34.83%	50.61%	31.37%	27.50%	26.81%	26.41%	
Assumption: CoCos represent 19.4% of overall capital (in mn. EUR)	3,375	3,573	4,908	6,458	6,940	5,729	5,960	5,622	
Percentage of equity upon full conversion of CoCos	16.68%	18.51%	55.49%	70.51%	51.61%	46.95%	46.09%	45.58%	

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