

Asset Management

Investing in Contingent Convertibles



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Content

1 | Investment Concept

2 | Key Features of Contingent Convertible Bonds

3 | Contingent Convertible Bond Pricing

4 | Appendix

1 | Investment Concept

As a result of the financial crisis in 2008 and 2009, regulatory authorities have placed stricter capital requirements on banks (Basel III)

One way to acquire the extra capital is through contingent convertible capital bonds. Contingent convertibles (CoCos) are hybrid subordinated bonds that have the properties of both bonds and equity, and can be counted toward a bank's capital requirements mandated by regulators.¹

Instead of raising share capital, CoCos give banks an alternative means of raising necessary capital

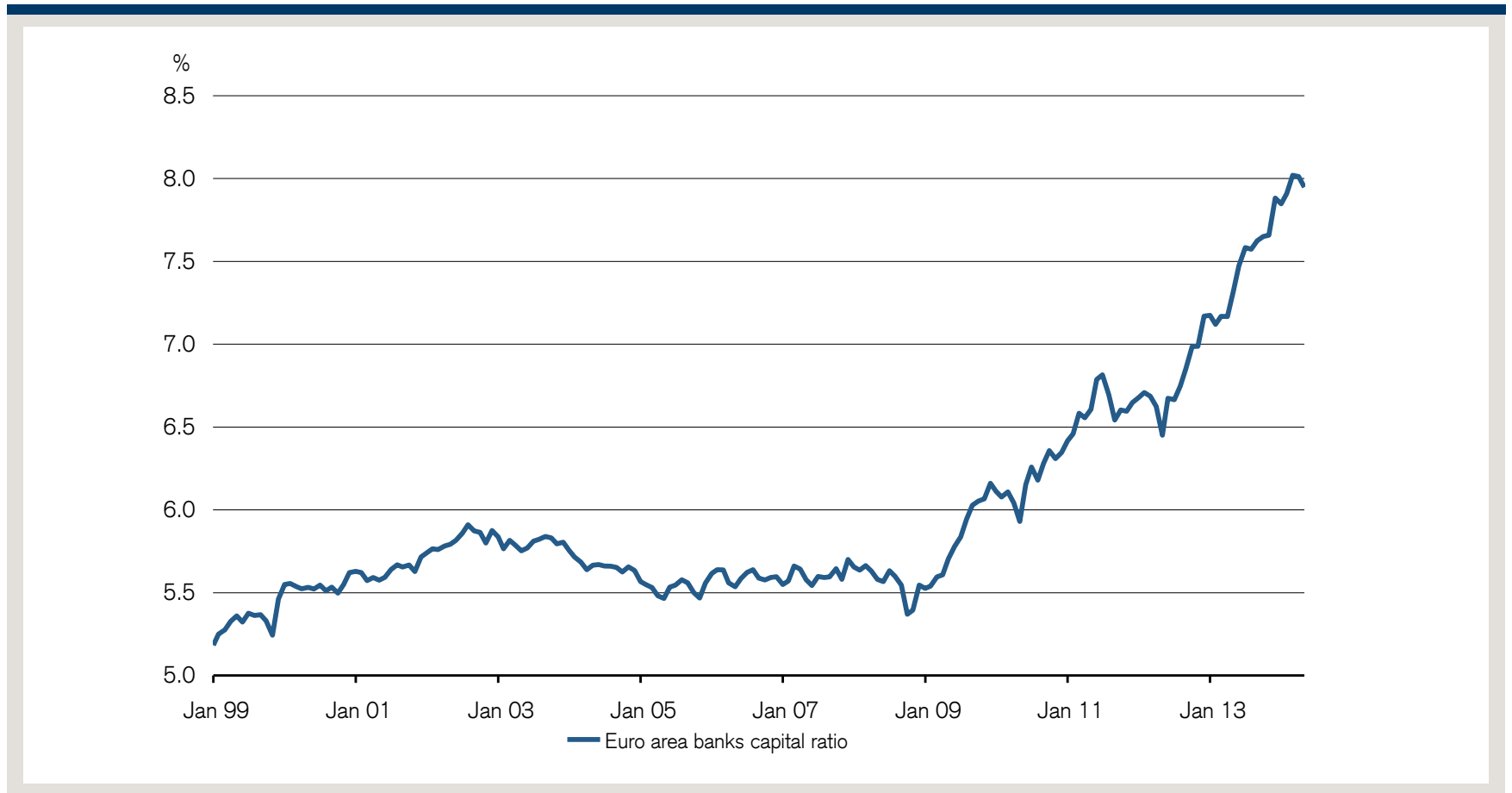
From a bank's standpoint, CoCos are attractive because the coupon payments are tax-deductible and the cost of capital is lower than it is for a share capital increase

For investors, the higher rate of interest compared to other types of bonds is a selling point

As a result of the changes in legal conditions, we are counting on the CoCo market to experience strong growth

¹ Contingent capital bonds are understood to mean all forms of subordinated debt with contractually regulated loss absorption. For reasons of simplicity, these instruments will be referred to as "CoCos."

1 | Capital Ratio of Eurozone Banks



Sources: Datastream, Credit Suisse/IDC

1 | Basel III Places Stricter Capital Requirements on Banks

Implementation No Later than by the End of 2018

Basel III stipulates that banks must have a total capital ratio of at least 10.5%. However, the minimum capital requirements for individual countries may be significantly higher.

Capital as a % of Risk-Weighted Assets

Key:

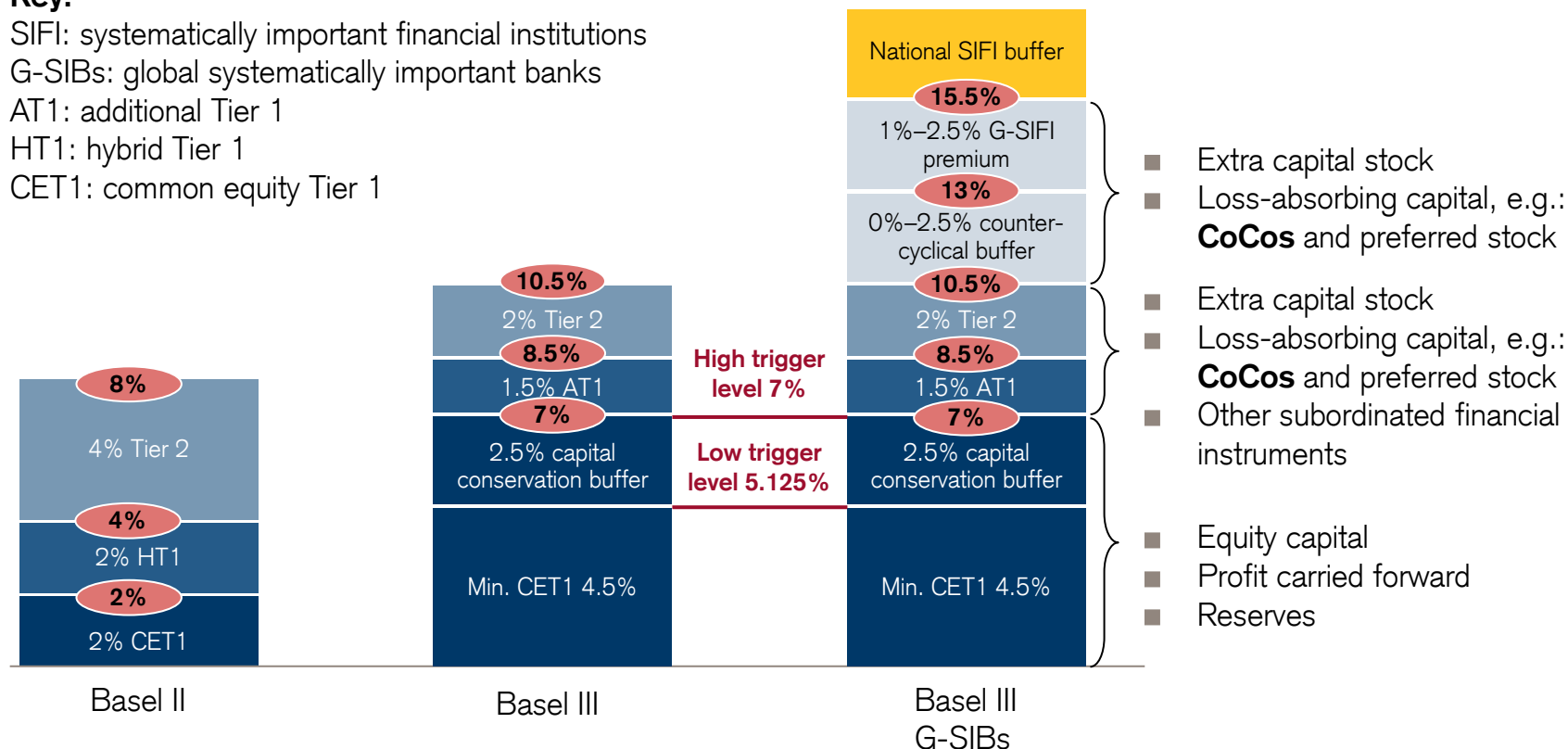
SIFI: systematically important financial institutions

G-SIBs: global systematically important banks

AT1: additional Tier 1

HT1: hybrid Tier 1

CET1: common equity Tier 1



Source: Credit Suisse

1 | Overview Contingent Capital

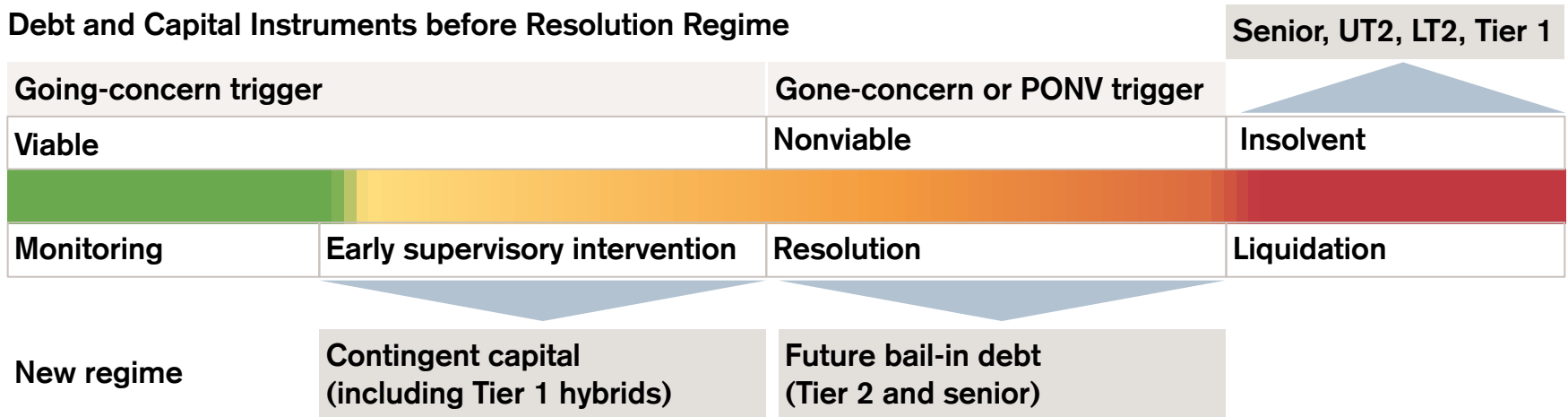
Main Contingent Capital Features

Host	Know your trigger	Loss absorption
<ul style="list-style-type: none"> ■ Senior ■ Tier 2 ■ Tier 1 	<ul style="list-style-type: none"> ■ Total capital ratio ■ Tier 1 ratio ■ Core Tier 1 ratio ■ Regulator's discretion ■ Issuer's discretion ■ Share price 	<ul style="list-style-type: none"> ■ Variable number of shares ■ Variable number of shares with a floor ■ Fixed number of shares <p>Conversion into shares</p>
		<ul style="list-style-type: none"> ■ Temporary write-down ■ Partial write-off ■ Permanent write-down <p>Principal writedown</p>

Source: Credit Suisse

1 | Principal Loss Profile of Bail-In Debt and Contingent Capital

Debt and Capital Instruments before Resolution Regime



Loss profile function

Non-bail-in bonds	Probability of default in liquidation (PDL) × loss given default in liquidation (LGDL)
Bail-in bonds	[Probability of default in liquidation (PDL) × loss given default in liquidation (LGDL)] + [probability of loss in resolution (PLR) × loss given resolution management (LGR)]
Contingent capital bonds	[Probability of contractually triggered loss (PCY) × loss given contractual trigger (LGT)] + [probability of loss in resolution (PLR) × loss given resolution management (LGR)] + [probability of default in liquidation (PDL) × loss given default in liquidation (LGDL)]
Coupon cancellation risk	AT1 hybrids have fully discretionary coupon language and, coupled with the regulatory framework that restricts distribution to hybrid holders (along with ordinary dividends and variable management compensation), the risk of coupon cancellation should be factored into the valuation framework.

Source: Credit Suisse

Content

1 | Investment Concept

2 | Key Features of Contingent Convertible Bonds

3 | Contingent Convertible Bond Pricing

4 | Appendix

2 | Key Features of CoCo Bonds

How CoCos Work

- CoCos are issued as bonds with a fixed interest coupon. Unlike other hybrid capital instruments, CoCo bonds have a trigger (threshold for the issuing bank's capital ratio). If the trigger is reached, the CoCo is automatically converted into equity or the nominal value is written off.
- The trigger can also be activated by the regulatory authority in charge if it considers the bank's existence threatened. This may be the case whenever the bank still has sufficient capital but is having difficulties with liquidity.

Distinction between Two Different Types of CoCo Bonds

AT1 CoCos:

- Rank directly ahead of equity capital in the capital structure
- Coupon payments can be suspended even if the capital ratio is above the trigger level
- No fixed maturity, but issuer has a call option

T2 CoCos:

- Rank directly ahead of AT1 CoCos in the capital structure
- Limited term with or without a call option
- Coupon payments cannot be suspended

Distinction between Two Forms of Loss Absorption When the Trigger Is Reached

Conversion to equity with the following options:

- Fixed number of shares
- Variable number of shares

Writeoff of face value with the following options:

- Complete writeoff
- Partial writeoff
- Permanent writeoff
- Temporary writeoff

Source: Credit Suisse

2 | Comparison Between Bank Hybrid Instruments and Corporate Hybrids

		Bank additional Tier 1	Typical corporate hybrid
1	Coupon deferral	<ul style="list-style-type: none"> Fully optional coupon cancellation In EU without any dividend stopper/pusher Mandatory coupon cancellation upon breach of buffer capital requirements Noncumulative 	<ul style="list-style-type: none"> Fully optional coupon deferral Cumulative Deferred interest is payable as soon as dividends are paid or shares repurchased
2	Principal loss absorption	<ul style="list-style-type: none"> Writedown or conversion into equity if bank's equity ratio falls below a predefined threshold Writedown or conversion into equity if bank is nonviable Deeply subordinated in liquidation 	<ul style="list-style-type: none"> Deeply subordinated in liquidation No principal loss absorption outside of liquidation/restructuring
3	Maturity	<ul style="list-style-type: none"> Perpetual, callable not earlier than in fifth year No incentives to redeem Coupon reset 	<ul style="list-style-type: none"> Perpetual, callable not earlier than in fifth year Small step-ups Coupon reset Incentive to redeem due to loss of S&P equity credit at the first call date
4	Early redemption	<ul style="list-style-type: none"> Early redemption at par for tax or regulatory reasons 	<ul style="list-style-type: none"> Early redemption at 101% for rating, tax and accounting reasons

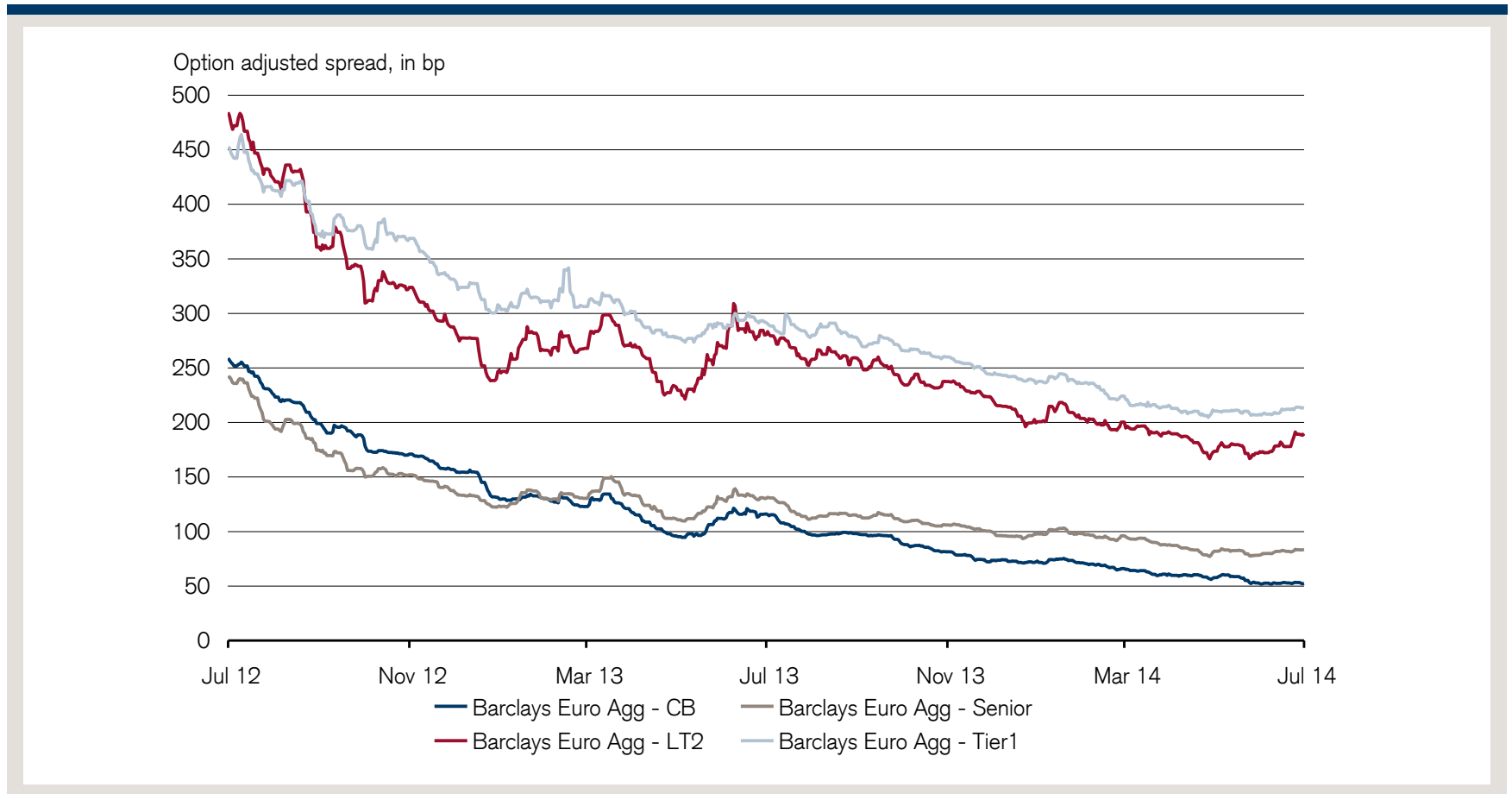
Source: Credit Suisse

2 | Different Examples of CoCo Structures

Issuing bank	Barclays	Credit Suisse	Société Générale
Bond	BACR 7.625 21.11.2022	CS 7.125 22.03.2022	SOCGEN 7.875% perp.
ISIN	US06740L8C27	CH0181115681	USF8586CRW49
Issuance date	14.11.2012	22.03.2012	11.12.2013
Issue volume	USD 3bn	CHF 750mn	USD 1.75bn
Regulatory treatment	Tier 2	Tier 2	AT1
Interest rate	7.625%	7.125%	7.875%
Yield (at next call)	5.65%	3.47%	7.06%
Maturity, next call	21.11.2022; no call	22.03.2022; 22.03.2017	Perpetual term; 18.12.2023
Type of interest offered	Mandatory	Mandatory	At the bank's discretion
Trigger amount	7%	7%	5.125%
Conversion/writeoff	Complete writeoff	Conversion to equity	Temporary writeoff
Rating (Moody's/S&P/Fitch)	-/BBB-/BBB-	-/-/BBB-	Ba3/BB+/BB

Source: Credit Suisse
As of 15.07.2014

2 | Risk Premium for Subordinated Bonds in the Financial Sector



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

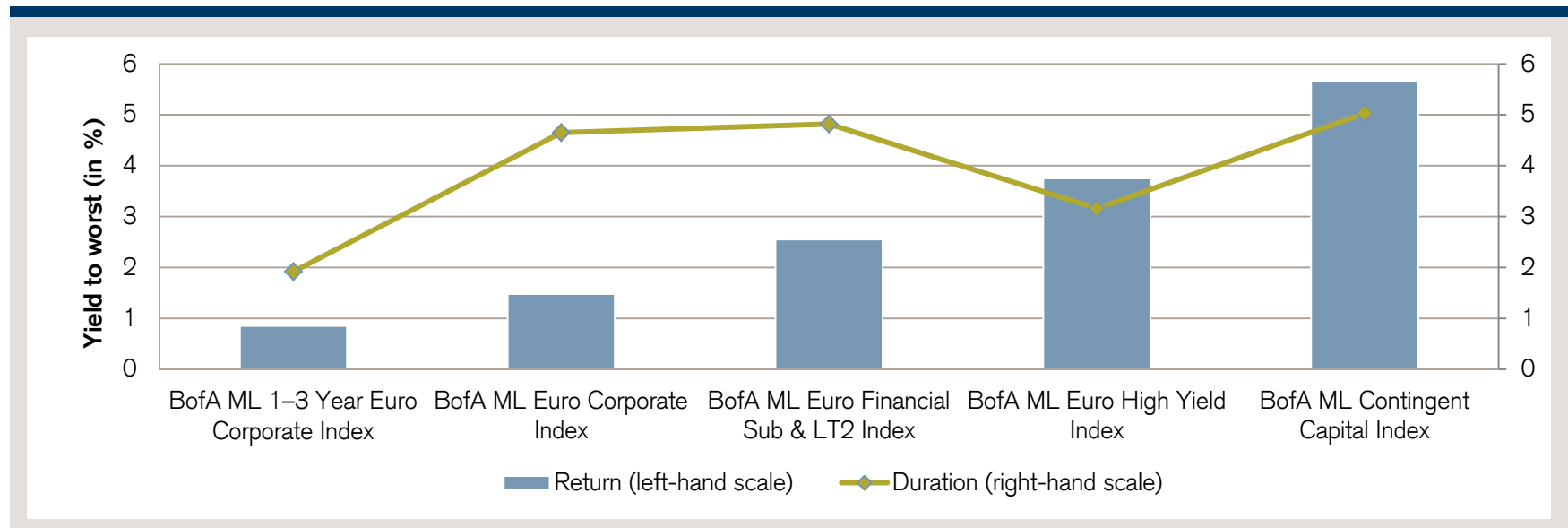
Sources: Bloomberg, Credit Suisse/IDC
As of 14.07.2014

2 | Return Advantage of CoCos

Higher Returns as Compensation for Risk

Depending on the form they take, the expected return on CoCos is currently 5% to 7%. By contrast, European high-yield bonds are offering approximately 4% at the moment. In the current low-interest-rate environment, CoCos thus provide a significant return advantage that ought to make up for the comparatively high risk. The interest rate risk for CoCos, measured by duration, is in roughly the same range as that for corporate bonds with no maturity restrictions.

Returns by Comparison

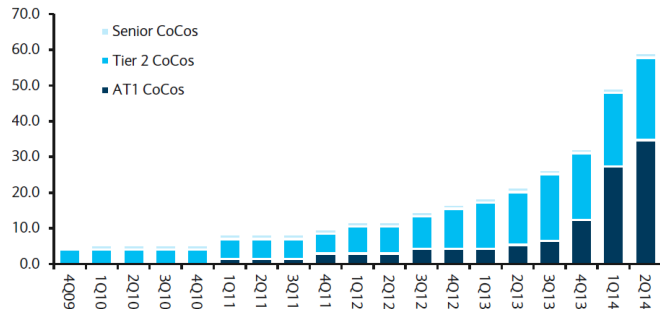


Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Sources: BofA Merrill Lynch, Credit Suisse
As of 14.07.2014

2 | Growing Market for Contingent Capital Bonds

European Banks as Issuers of CoCos, in EUR bn



Source: Barclays Capital
As of June 2014

Potential Issues of Subordinated Bonds

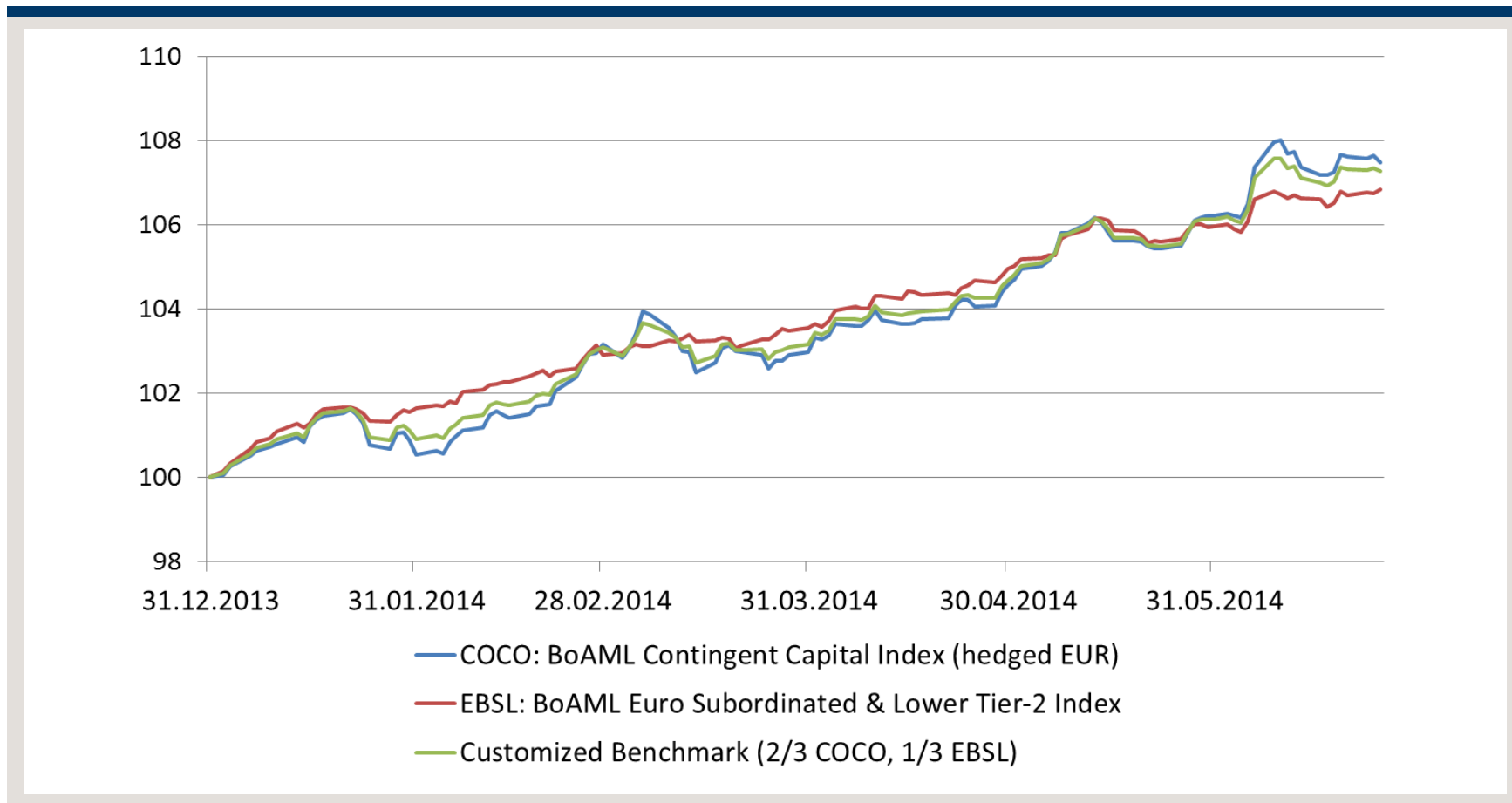
RWAs of European banks		EUR 20trn	
Capital tier	AT1	T2	
Banking capital requirements			
% RWAs	1.5%	2.0%	
Total in EUR bn	300	400	
Estimated market for subordinated bonds (in EUR bn)			
Estimated share of banks with market access	50%	75%	
Estimated market volume	150	300	
Estimated volume issued in 2014	50	40–50	

Outlook

- As a result of the **increased capital reserve requirements** placed on banks by supervisory authorities, there has been a significant increase in CoCo issues
- Of the roughly EUR 60bn of CoCos currently outstanding (as of end-Q2 2014), **nearly half were issued in 2014**
- By itself, the **refinancing of existing conventional subordinated bonds**, which can no longer be counted toward regulatory capital, **ought to lead to EUR 150bn worth of new AT1 CoCo issuance**. Some countries also require **Tier 2 bonds to also allow for contractual loss absorption**, which is why **a portion of the Tier 2 volume** amounting to EUR 300bn **will also be issued in the form of CoCos**.
- Since the **amount of conventional subordinated bonds counted** as part of regulatory capital will be **continuously reduced** over the next few years, we expect **most new issues of CoCos to take place in the next two to three years**
- Some countries first need to **amend their tax laws** so that banks in those countries can also issue CoCos. This will **increase the offering even further**.

Source: Credit Suisse
As of July 2014

2 | Performance of Subordinated Bonds in the Financial Sector



Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Source: BofA Merrill Lynch
As of 25.06.2014

Content

1 | Investment Concept

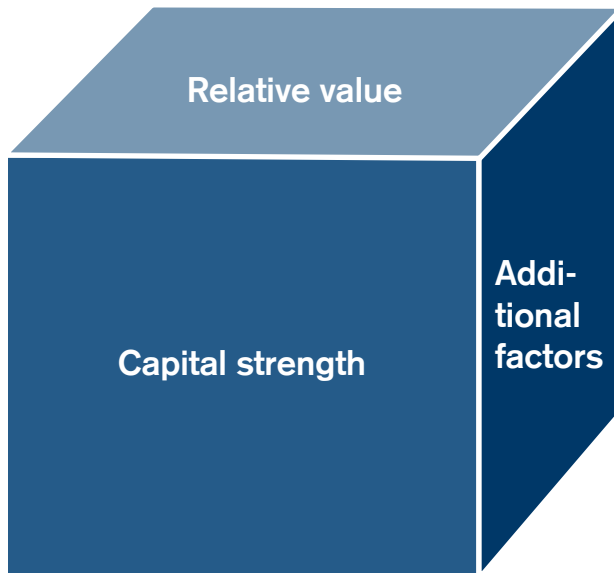
2 | Key Features of Contingent Convertible Bonds

3 | Contingent Convertible Bond Pricing

4 | Appendix

3 | Security Selection

Our investment process is based on a three-dimensional valuation model:



Capital Strength

- Capital amount and composition
- Proximity to trigger
- Asset quality
- Price-to-book ratio
- Financing structure
- ...

Relative Value

- Absolute return
- Difference in return compared to senior debt and other subordinated bonds
- Difference in return over similar CoCo bonds from other issuers
- Provisions regarding conversion or writeoff
- Time remaining until possible termination of the CoCo bond (call) and probability of early redemption
- ...

Additional Factors

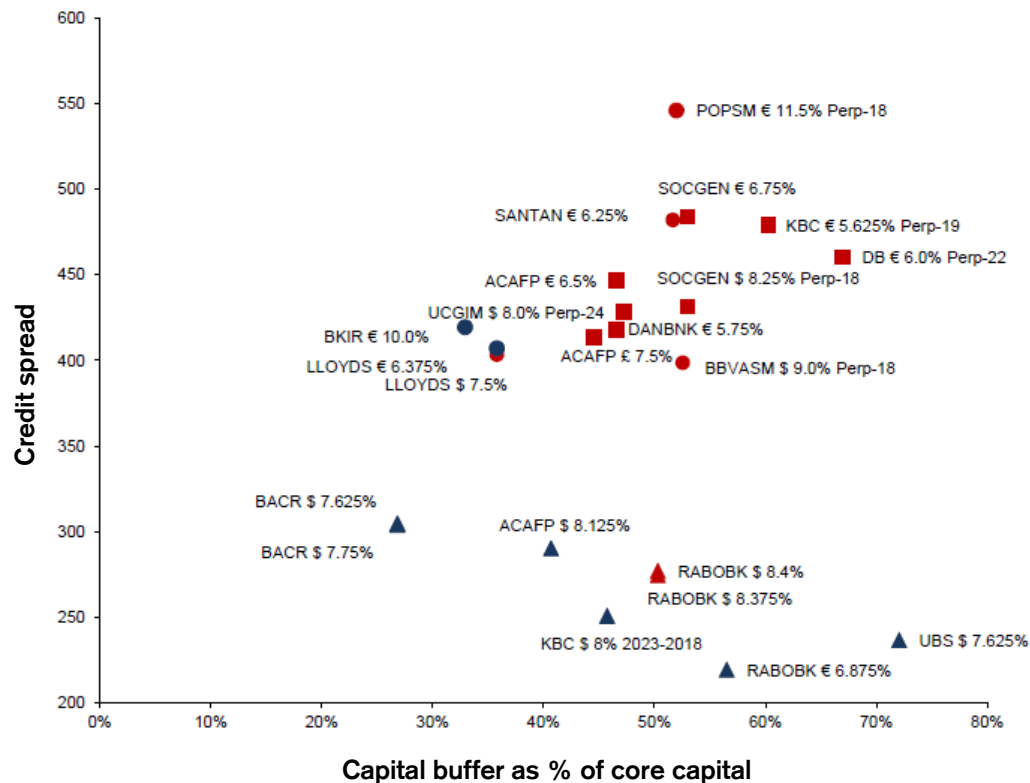
- Bank's business model
- Rating of the bank and its CoCo bond
- Regulatory authority's sphere of influence and evaluation
- SIFI status
- Bank's ownership structure
- Share-price volatility
- ...

Source: Credit Suisse

3 | Security Selection

Relative Value

An important criterion for valuing CoCos is the capital buffer, that is, the proximity of the bank's capital ratio to the established trigger amount. The chart below shows an overview of different CoCo bonds, arranging them by credit spread in proportion to capital buffer.



● Conversion to equity ▲ Complete writeoff ■ Temporary writeoff
 Red: coupon at the bank's discretion Blue: mandatory coupon

Source: Credit Suisse
 As of 07.07.2014

3 Factors with High Influence on CoCo Valuation

	CoCo	Bail-In Debt and CoCo	Traditional Bank Debt, Bail-In Debt & CoCo
Probability	<p>Probability of contractually triggered loss (PCTL)</p> <ul style="list-style-type: none"> ■ Risk profile of business model ■ Earnings volatility ■ Volatility in capitalization ■ CT1 trigger level relative to current CT1 level ■ Losses required to trigger as percentage of RWA ■ Extent of higher-trigger CoCos in capital structure ■ Alignment of interest with management ■ Shareholders' incentive and ability to avoid trigger 	<p>Probability of loss in resolution (PLR)</p> <ul style="list-style-type: none"> ■ Risk profile of business model ■ Earnings volatility ■ Volatility in capitalization ■ Resolution trigger points ■ Funding- and liquidity-based risks in addition to capitalization ■ Regulatory minimum CT1 level relative to current CT1 level ■ Losses required to reach minimum CT1 trigger as percentage of RWA ■ Extent of medium- and higher-trigger CoCos in capital structure ■ Shareholders' ability to avoid resolution process ■ State support: willingness to use resolution process 	<p>Probability of default in liquidation (PDL)</p> <ul style="list-style-type: none"> ■ Resolution process likely to be applicable to systematically important banks and non-systematically important banks; hence liquidation becomes very unlikely, other than as a post-transfer tool for the remaining "bad" bank
Severity	<p>Loss given contractual trigger (LCT)</p> <ul style="list-style-type: none"> ■ Conversion terms: strike price of common share conversion/ cap on number of shares to receive in conversion ■ Likely share price post-conversion ■ Principal writedown terms 	<p>Loss given resolution (LGR)</p> <ul style="list-style-type: none"> ■ Resolution framework: sequence of preference of resolution tools (transfer tool in, transfer tool, etc.) ■ Principle of no creditor worse off than in liquidation ■ Business model lends itself best to transfer tool or bail-in? ■ Extent of subordination below relevant security (including converted CoCos) ■ Extent of unencumbered assets 	<p>Loss given default in liquidation (LGDL)</p> <ul style="list-style-type: none"> ■ Traditional liquidation recovery analysis

For illustrative purposes only.

Source: Credit Suisse

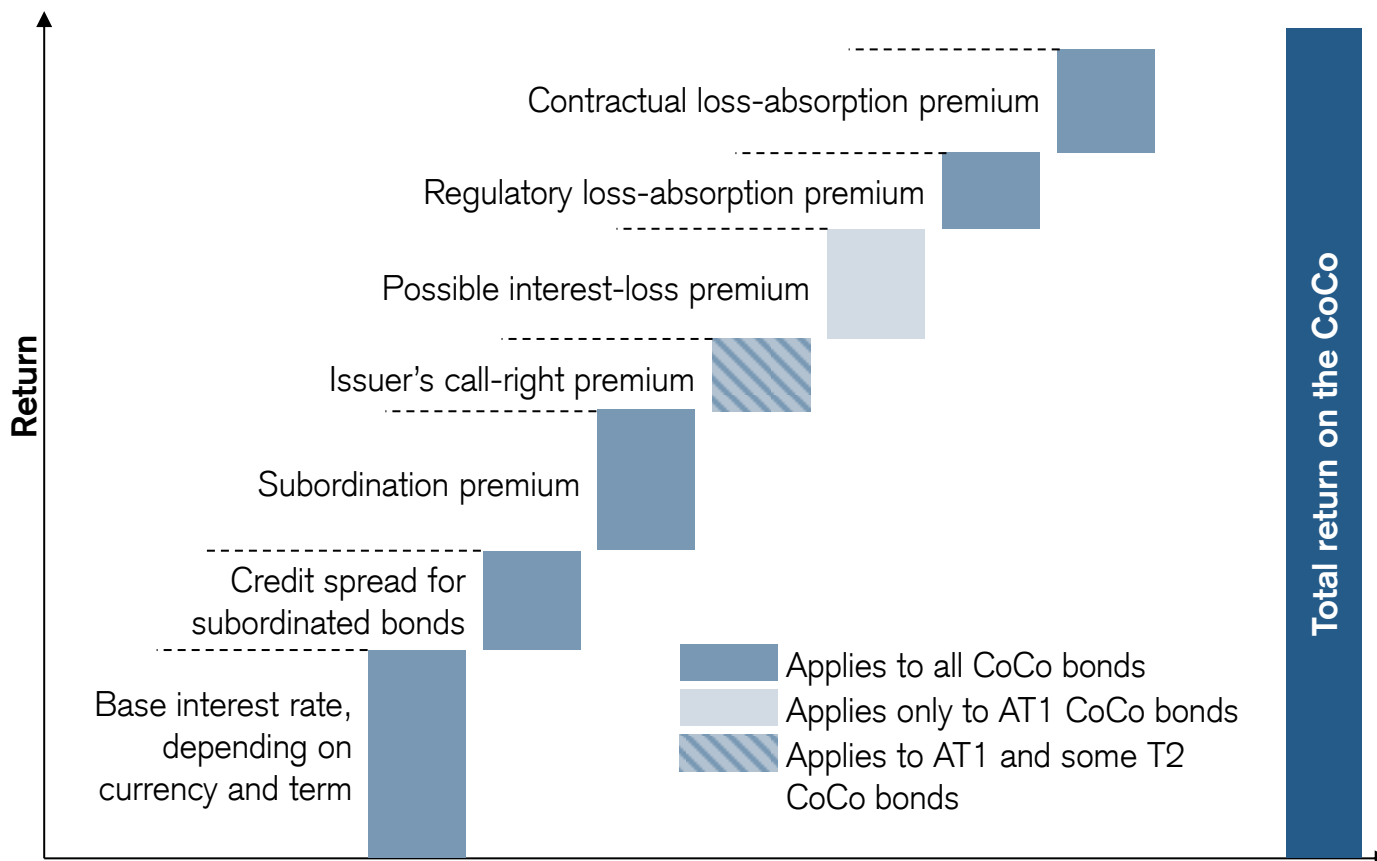
3 | Rating Agency Treatment of CoCos

CoCos that...	Moody's	Standard & Poor's	Fitch
...will be rated	<ul style="list-style-type: none"> All types of contractual nonviable securities, including Basel III-compliant Tier 2 subordinated debt and additional Tier 1 preferred securities Where the security may incur losses upon a regulatory determination of nonviability and/or Moody's determines that the trigger, on a jurisdiction-by-jurisdiction basis, is set at a level at or close to the point of nonviability "Our view is that Basel III's suggested 5.125% common equity Tier 1 trigger meets the threshold for a trigger that is close enough to the point of nonviability for us (Moody's) to rate a security with this trigger" 	<ul style="list-style-type: none"> All bank hybrid capital 	<ul style="list-style-type: none"> Instruments with visible triggers, e.g. regulatory capital ratios Fitch has confirmed that it expects to be able to rate bank-issued hybrid capital instruments that conform to the proposal put forward in the Basel Committee's consultative document, both with regard to conversion into common equity (CoCos) or principal writedown and the inclusion of triggers based on regulatory discretion
...will not be rated	<ul style="list-style-type: none"> High-trigger securities 	<ul style="list-style-type: none"> Not specified 	<ul style="list-style-type: none"> Not specified
...may not be rated	<ul style="list-style-type: none"> Not specified 	<ul style="list-style-type: none"> Not specified 	<ul style="list-style-type: none"> Not specified

Sources: Moody's, Standard & Poor's, Fitch, Credit Suisse

3 | CoCo Return Factors

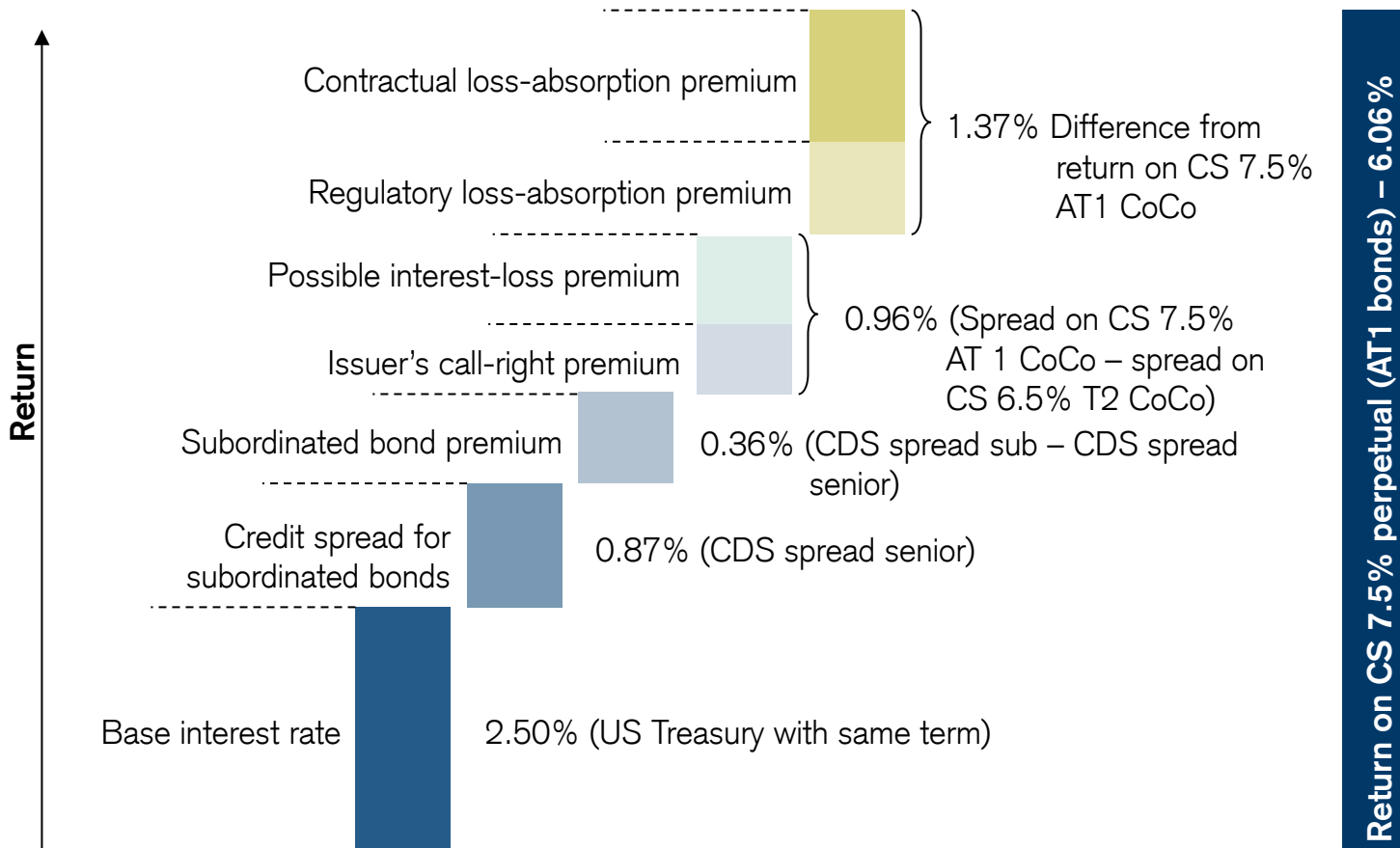
The total return on a CoCo can be divided into various individual components. The fact that there can be considerable differences in how individual factors are valued, both over time and from issuer to issuer, must be taken into account. This breakdown shows the compensation for each risk.



Source: Credit Suisse

3 | Sample Return Factors

The Credit Suisse AT1 bond (CS 7.5% perpetual, ISIN XS0989394589) illustrates how we compensate for the various risks:



Sources: Bloomberg, Credit Suisse
As of 16.07.2014

Content

1 | Investment Concept

2 | Key Features of Contingent Convertible Bonds

3 | Contingent Convertible Bond Pricing

4 | **Appendix**

4 | Benefits and Risks

Benefits

- **Attractive risk-reward ratio:** Due to the subordination and risk of mandatory conversion or writeoff of the nominal value, CoCos entail higher risks than investments in a bank's senior bonds. As compensation for that, they offer higher yields.
- **Improved balance sheets:** CoCo bonds are being boosted by improved bank fundamentals. This reduces the likelihood of a trigger being activated.
- **Lower interest sensitivity:** Thanks to high credit spreads and somewhat regular reprising of coupons, CoCos generally react less sensitively to changes in interest rates than traditional bonds, making them an attractive investment even if there is a slight increase in interest rates
- **Growing market for CoCo bonds:** Banks' issuance activity should remain lively for the next few years due to strict capital requirements. The growing CoCo universe offers interesting investment opportunities.

Risks

- **Possible loss of capital:** If the issuing bank's capital ratio falls below a predefined threshold, the bond is automatically converted into equity, or the nominal value is partially or completely written off. This means that investors risk losing part of or all of their money.
- **Partial or complete suspension of coupons:** Annual coupon payments for AT1 CoCos are at the discretion of the issuer. This can lead to coupons being partially or completely suspended.
- **High sector risk:** In the event of another banking crisis, it is safe to assume there will be a close correlation between individual CoCos. Hence, there is a risk that the valuations of many CoCos will come under heavy pressure, which would result in a significant loss of capital for investors.
- **High single security risk:** Securities of this sort have a higher default risk than senior bank bonds

4 | Investment Team



Roger Wyss

Roger Wyss, Director, is a Senior Portfolio Manager for corporate portfolios and global total return credit portfolios. He is a member of the Global Credit Committee and the Swiss Fixed-Income Investment Decision Committee. Before joining Credit Suisse in April 2006, Roger worked as a relationship manager for structured loans at Zürcher Kantonalbank. He studied Business Administration at the Zurich University of Applied Sciences in Winterthur, holds a degree in Corporate Finance from the Institut für Finanzdienstleistungen in Zug and is a CFA charterholder.



Michael Schmid

Michael Schmid, Director, is a Senior Portfolio Manager and heads the Corporates & Liquidity Solutions team. Prior to joining Credit Suisse in 1998, he worked in PricewaterhouseCoopers's assurance practice in Zurich for three years. As a Portfolio Manager, Michael first managed European high-yield bond portfolios, and in 2005 switched to managing crossover and investment-grade credit portfolios in various currencies. Michael graduated from the University of Zurich (specializing in Banking and Finance) and is a Certified EFFAS Financial Analyst.



Romeo Sakac

Romeo Sakac, Director, is a Senior Portfolio Manager and heads Liquidity Solutions within the Fixed Income team. Prior to joining Credit Suisse Asset Management in 2012, he was head of liquidity solutions at Clariden Leu. Romeo began his career at Clariden Leu (formerly Clariden Bank) in 1998 as a risk manager in the risk management department, where he was responsible for equity and hedge funds. He completed a commercial apprenticeship and holds a Certificate of Advanced Studies in Financial Mathematics and Statistics from the Lucerne University of Applied Sciences and Arts (IFZ/HSW).



Lukas Haas

Lukas Haas joined Credit Suisse in 2012 as a Fixed-Income Portfolio Manager. Prior to joining Credit Suisse Asset Management, Lukas worked at Clariden Leu Asset Management, where he managed the money-market and floating-rate strategy funds and was responsible for the credit analysis for financials. Previously he spent nine years at Credit Suisse in various roles and locations, ultimately as an Investment Consultant for high-net-worth individuals. Lukas holds a Master of Science (MSc) in Business and Economics from the University of Basel and is a CFA charterholder.

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