

Sustainable Finance and Capital Instruments

Jan De Spiegeleer





FINANCIAL CRISIS

REGULATORS

**CAPITAL
INSTRUMENTS**
(loss absorbing
capital)

CLIMATE CRISIS

**REVERSE
GREEN BONDS**

FINANCIAL CRISIS

REGULATORS

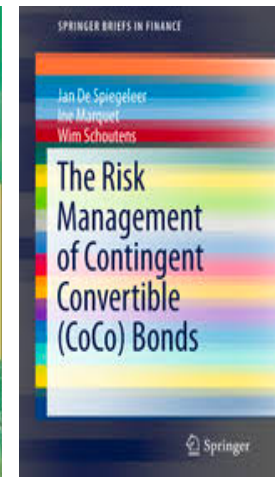
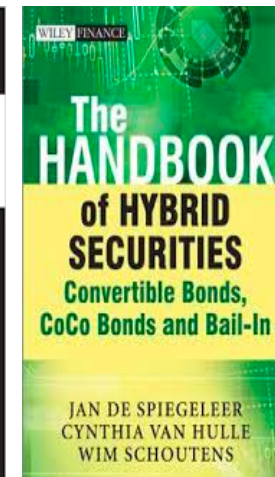
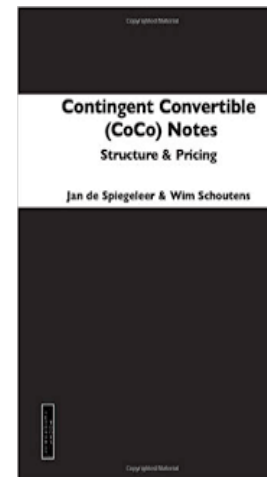
- Regulations (2010)
 - Basel III
 - Dodd-Frank
 - CRD IV
- Taxonomy
 - Common Equity Tier 1 Ratio
 - CQS (2016)
 - ...

FINANCIAL CRISIS

REGULATORS

**CAPITAL
INSTRUMENTS**
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- Contingent Convertible Bonds (2009)
- Trigger on CET1
 - High Trigger
 - Low Trigger
- High Coupon
- Write Down / Forced Conversion
- Coupons can be canceled
- EUR 150 bn



Santander shocks market with bond decision

Move against early repayment of €1.5bn bond sends tremors through Europe's bank debt market



© Bloomberg

Banco Popular CoCo bonds wiped out after Santander takeover



FINANCIAL CRISIS

- Ignoring Early Warning Signals
- Deregulation
- Lack of Risk Management
- Conflicts of Interest

BP OIL SPILL (Deepwater Horizon)

REGULATORS

- A clear ESG – taxonomy is on its way
- Investors needs “skin in the game”
- Mandatory issuance of **Reverse** Green Bonds

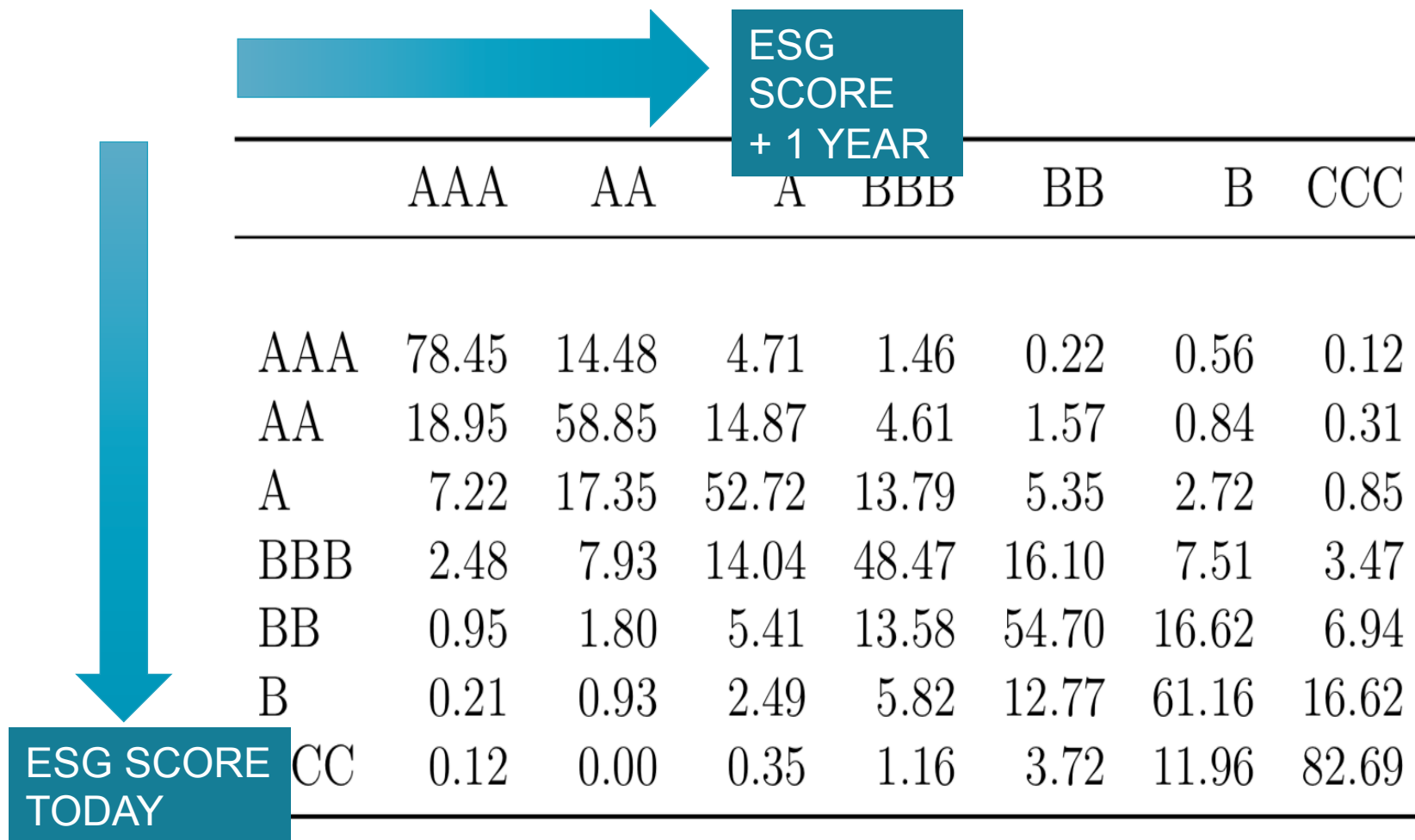
REGULATORS

Contingent Convertibles

- Investors participate in “health” of a financial institution
- Rewarded via high coupon
- Obligatory Issuance

Reverse Green Bonds

- Investors participate in “ESG” profile
- An ESG Trigger
 - Investor loses coupons
 - Company pays coupons into climate (ESG) fund.



	ESG SCORE + 1 YEAR						
	AAA	AA	A	BBB	BB	B	CCC
AAA	78.45	14.48	4.71	1.46	0.22	0.56	0.12
AA	18.95	58.85	14.87	4.61	1.57	0.84	0.31
A	7.22	17.35	52.72	13.79	5.35	2.72	0.85
BBB	2.48	7.93	14.04	48.47	16.10	7.51	3.47
BB	0.95	1.80	5.41	13.58	54.70	16.62	6.94
B	0.21	0.93	2.49	5.82	12.77	61.16	16.62
CC	0.12	0.00	0.35	1.16	3.72	11.96	82.69

Table 1: Transition matrix of ESG Scores.

	AAA	AA	A	BBB	BB	B	CCC
AAA	78.45	14.48	4.71	1.46	0.22	0.56	0.12
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→ Pricing Corp. Bonds

Credit Rating Transition Matrix

	AAA	AA	A	BBB	BB	B	CCC
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→ Pricing **Reverse** Green Bonds

ESG Rating Transition Matrix

Reverse Green Bond

- Fixed Maturity Bond
- ESG Trigger
- Coupon payment is linked to ESG status of the company
- 3 Versions
 - Permanent Coupon Loss
 - Coupon Loss with Recovery
 - Temporary Coupon Loss

Reverse Green Bond

- Market Data
 - Interest rate (r): 1%
 - Credit spread (c_s): 2.5%
 - ESG-rating: A
- Instrument
 - Tenor: 5 year
 - Coupon: 3.5%
 - Coupon Frequency: Annual
- ESG Trigger : BB
- Coupon Cancellation : Non-Cumulative

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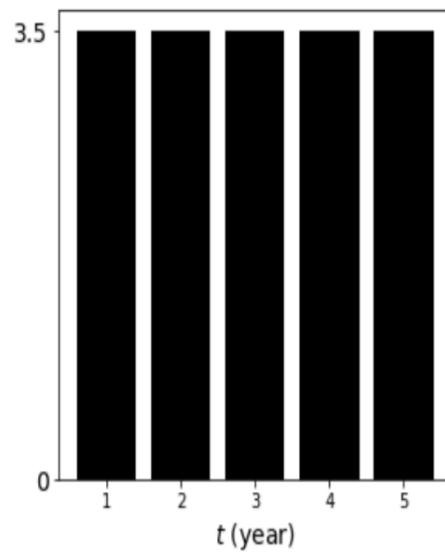
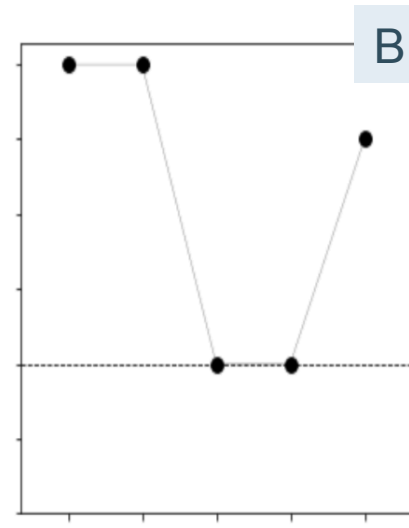
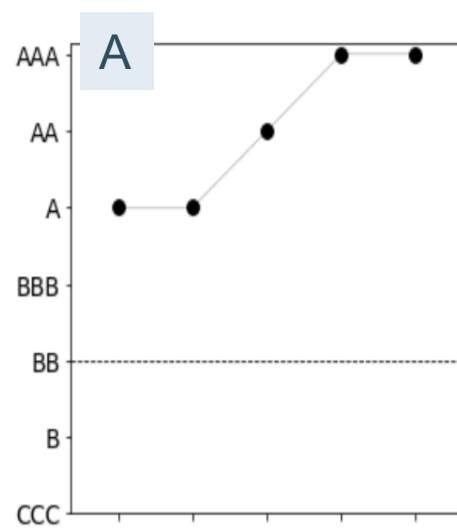
**REVERSE GREEN
BONDS**


Reverse Green Bond

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**REVERSE GREEN
BONDS**





ESG
SCORE
+ 1 YEAR



ESG SCORE
TODAY

	AAA	AA	A	BBB	BB	B	CCC
AAA		176	86	41	22	14	5
AA			158	77	41	23	9
A				152	86	47	17
BBB					173	97	42
BB						161	69
B							120

Investors should receive an extra **0.86%** in coupon to run the risk that the company sees its A ESG-rating reduced to a BB ESG-rating before the maturity date of the bond