PRINCIPLES OF SUSTAINABLE FINANCE

Chapter 9: Bonds

- investing without voting power

Overview of the book

Part I: What is sustainability and why does it matter?

1. Sustainability and the transition challenge

Part II: Sustainability's challenges to corporates

2. Externalities - internalisation
3. Governance and behaviour
4. Coalitions for sustainable finance
5. Strategy and intangibles – changing business models
6. Integrated reporting - metrics and data

Part III: Financing sustainability

7. Investing for long-term value creation
8. Equity – investing with an ownership stake
9. **Bonds – investing without voting power**
10. Banks – new forms of lending
11. Insurance – managing long-term risk

Part IV: Epilogue

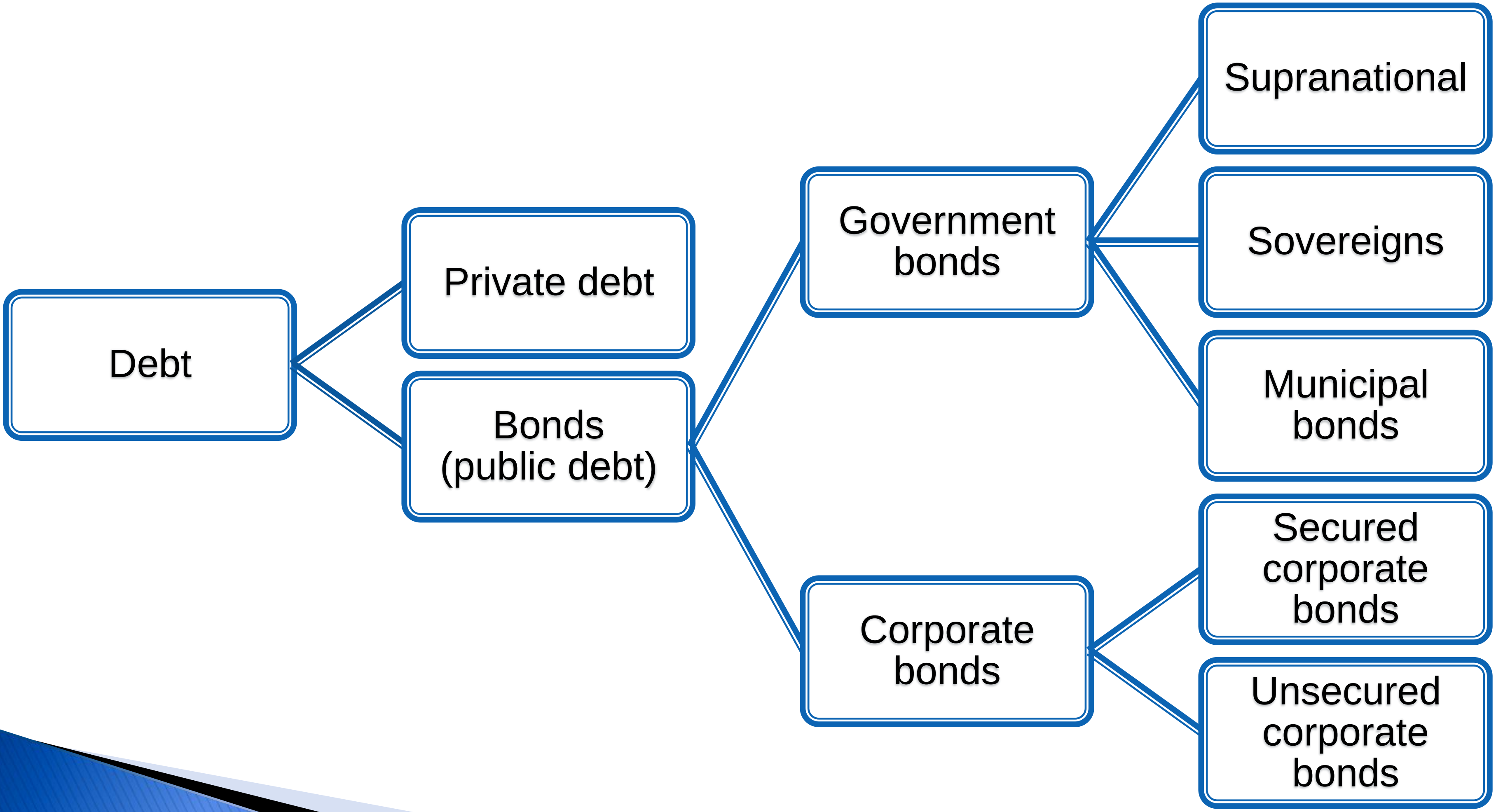
12. Transition management and integrated thinking

Learning objectives – chapter 9

- explain the state of play on ESG integration, potentially improving both financial and societal returns
- understand how ESG integration into bonds can bring a deeper understanding of issuers
- explain that bond investors are more focused on downside protection and lack voting power
- explain that bond investors have more capital to move and can choose from a wider range of issuers and projects

Basics of bonds

Bonds: >$90 trillion



Bond valuation

$$P = \frac{CPN}{(1 + YTM_1)} + \frac{CPN}{(1 + YTM_2)^2} + \cdots + \frac{CPN + FV}{(1 + YTM_n)^n}$$

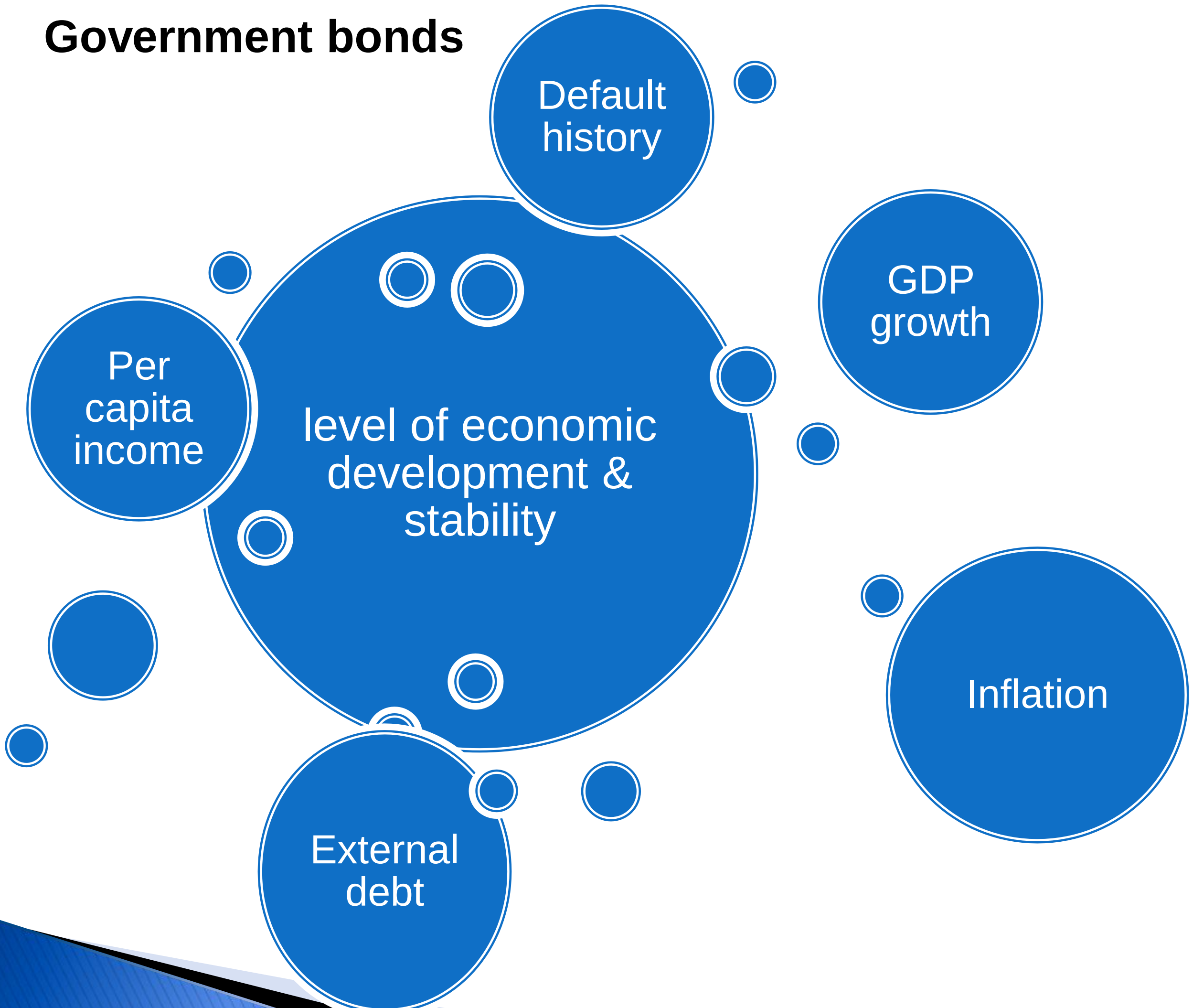
Coupon

Yield to maturity

Risk — Ratings

Bond valuation: drivers

Government bonds



Corporate bonds

- Default risk
- Liquidity risk

Why does sustainability matter to bond investing?

Relevance of sustainability to bonds

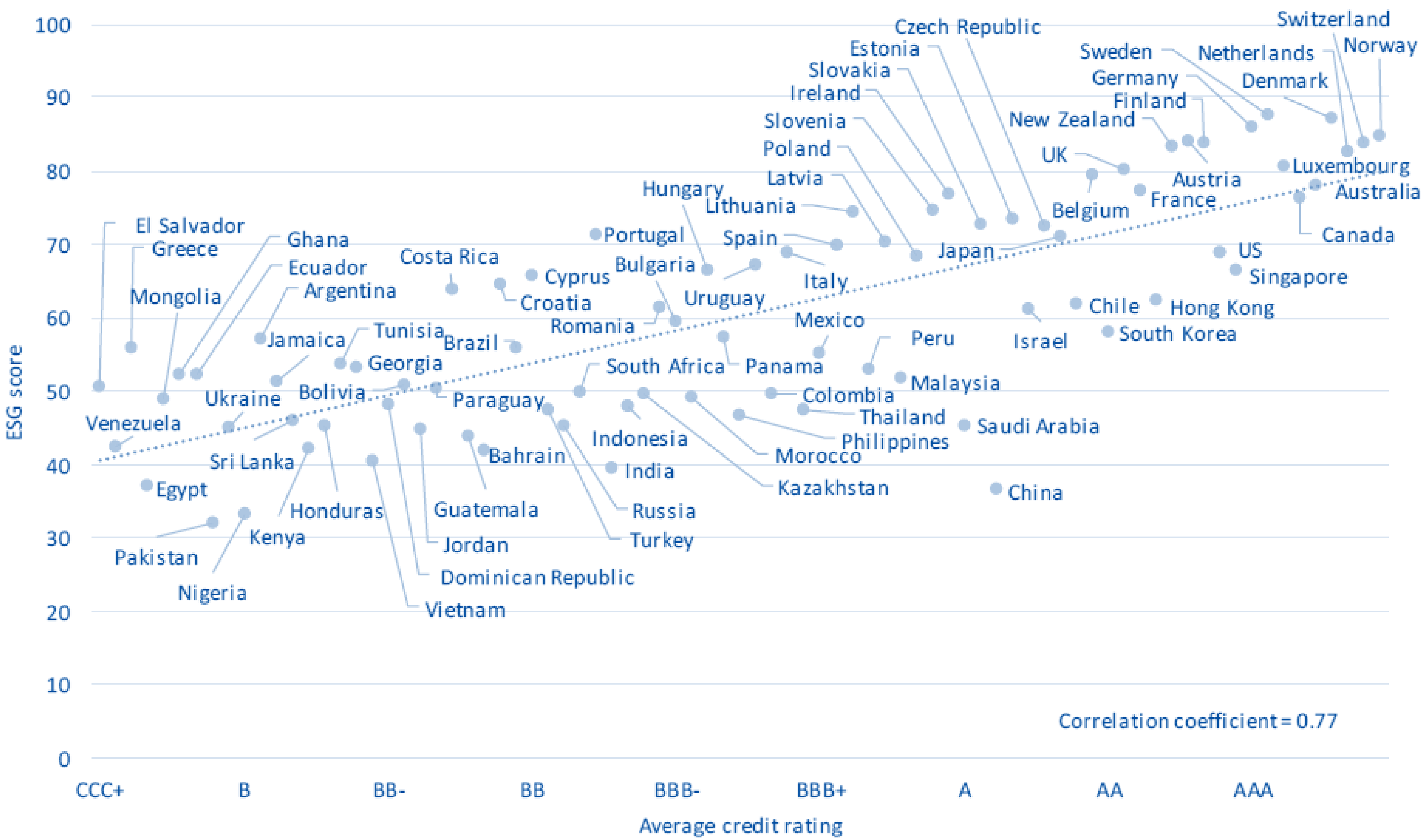
Traditional factors of bonds

	Corporate & sovereign	Mostly sovereign	Mostly corporate
Factors influencing creditworthiness	Cash reserves	Economic strength Economic growth prospects Balance of trade Fiscal performance External debt Foreign liquidity Monetary flexibility Implicit liabilities from social security*	Profitability Employee productivity Competitive advantage Cost of capital Leverage Intangibles*
Credit risk indicators	Credit ratings CDS spreads Bond yields Bond prices Volatility		Default probability Breach of covenants

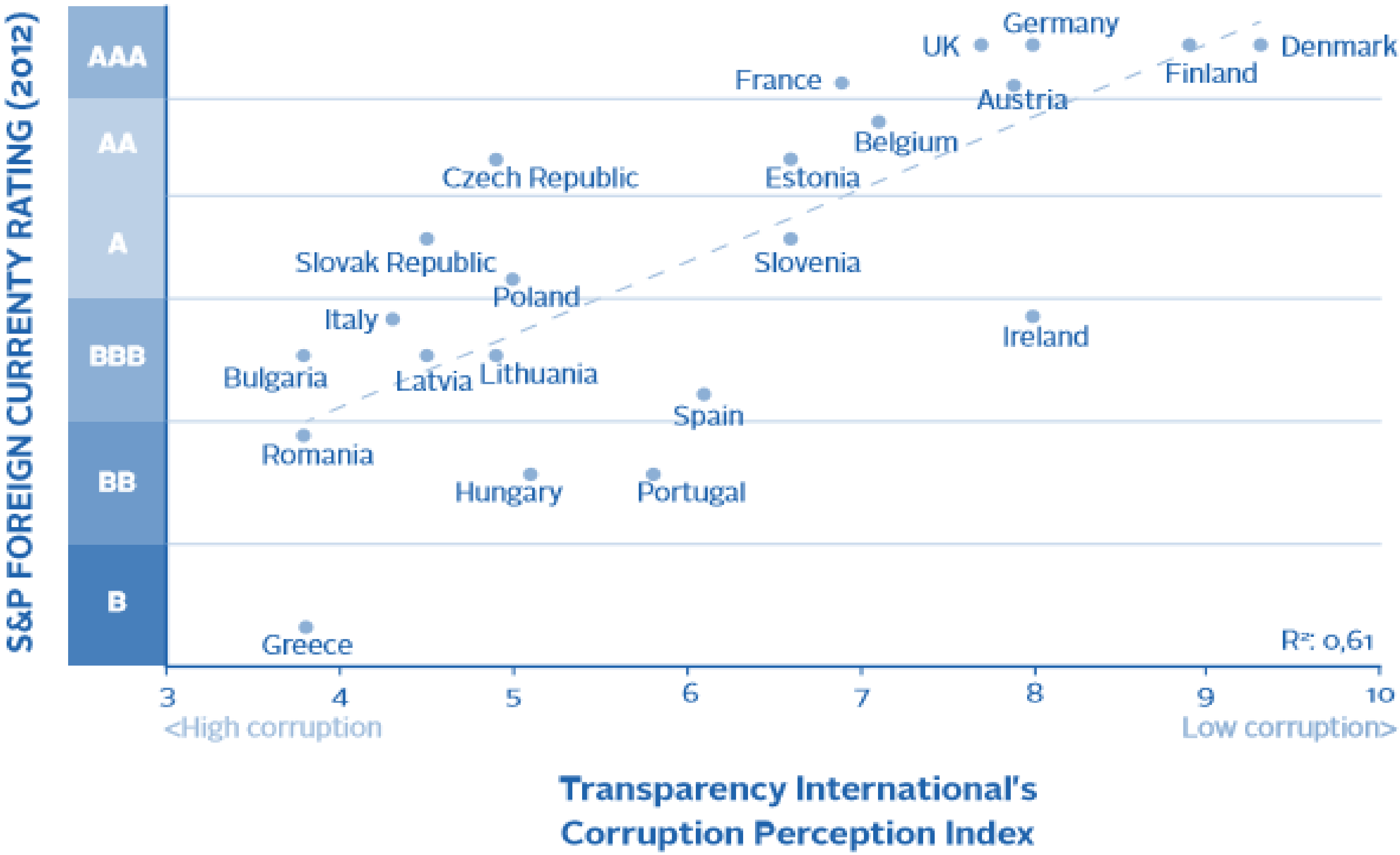
Relevance of sustainability to bonds

	Corporate & sovereign	Mostly sovereign	Mostly corporate
Environmental	Climate change Biodiversity Energy resources & management Biocapacity & ecosystem quality Air / water / physical pollution Renewable & non-renewable natural resources	Natural disasters Land system change*	Product stewardship* Redemption of used products*
Social	Human rights Education & human capital Health & safety Innovation management*	Political freedoms Demographic change Employment levels Social exclusion & poverty Trust in society / institutions Crime Food security Implicit or explicit promises made by the political establishment*	Product responsibility Diversity Employee relations & access to skilled labour Community/stakeholder relations Consumer relations
Governance	Financial policy Accounting standards	Institutional strength Corruption Regime stability Political rights & civil liberties Rule of law Regulatory effectiveness & quality	Shareholder rights Incentives structure Audit practices Board expertise Independent directors Transparency /disclosure & accountability Business integrity

ESG scores and credit ratings

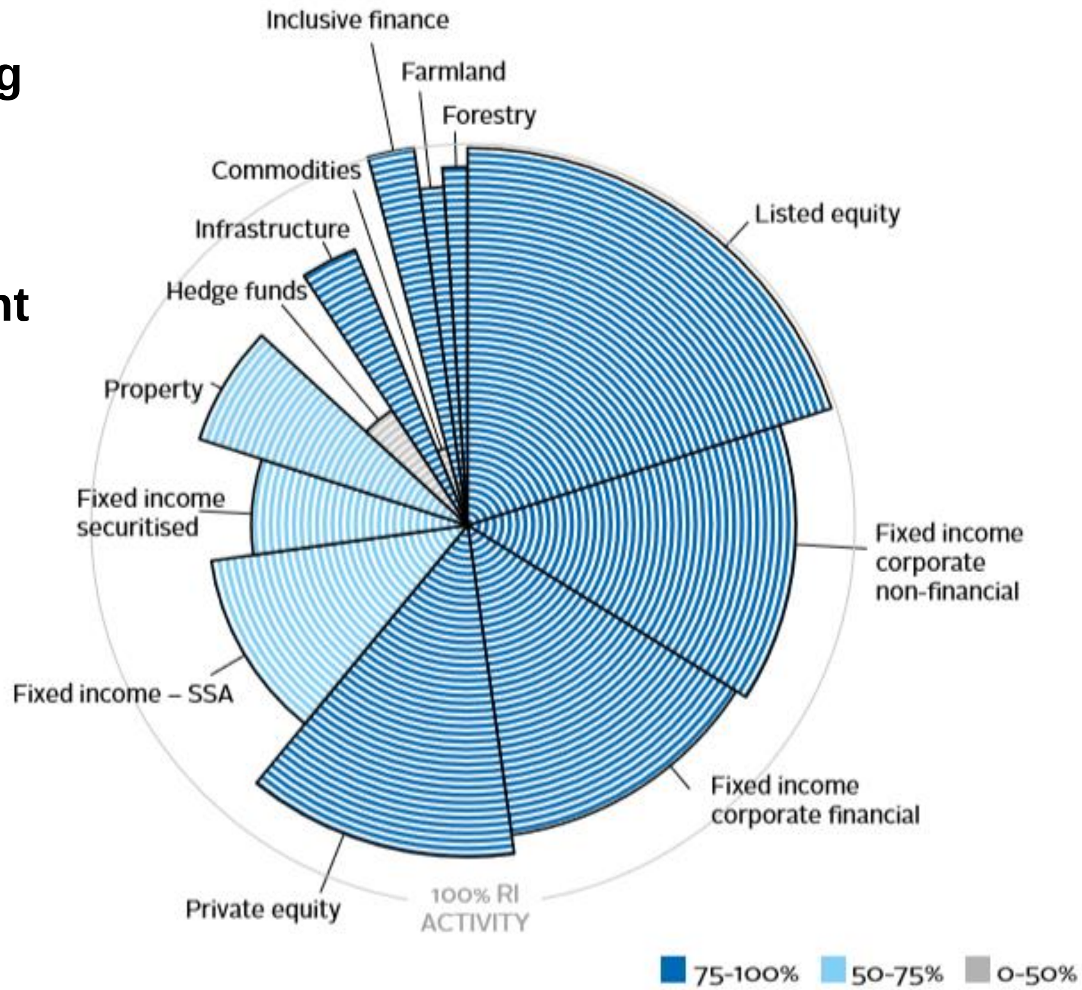


Corruption indices and credit ratings



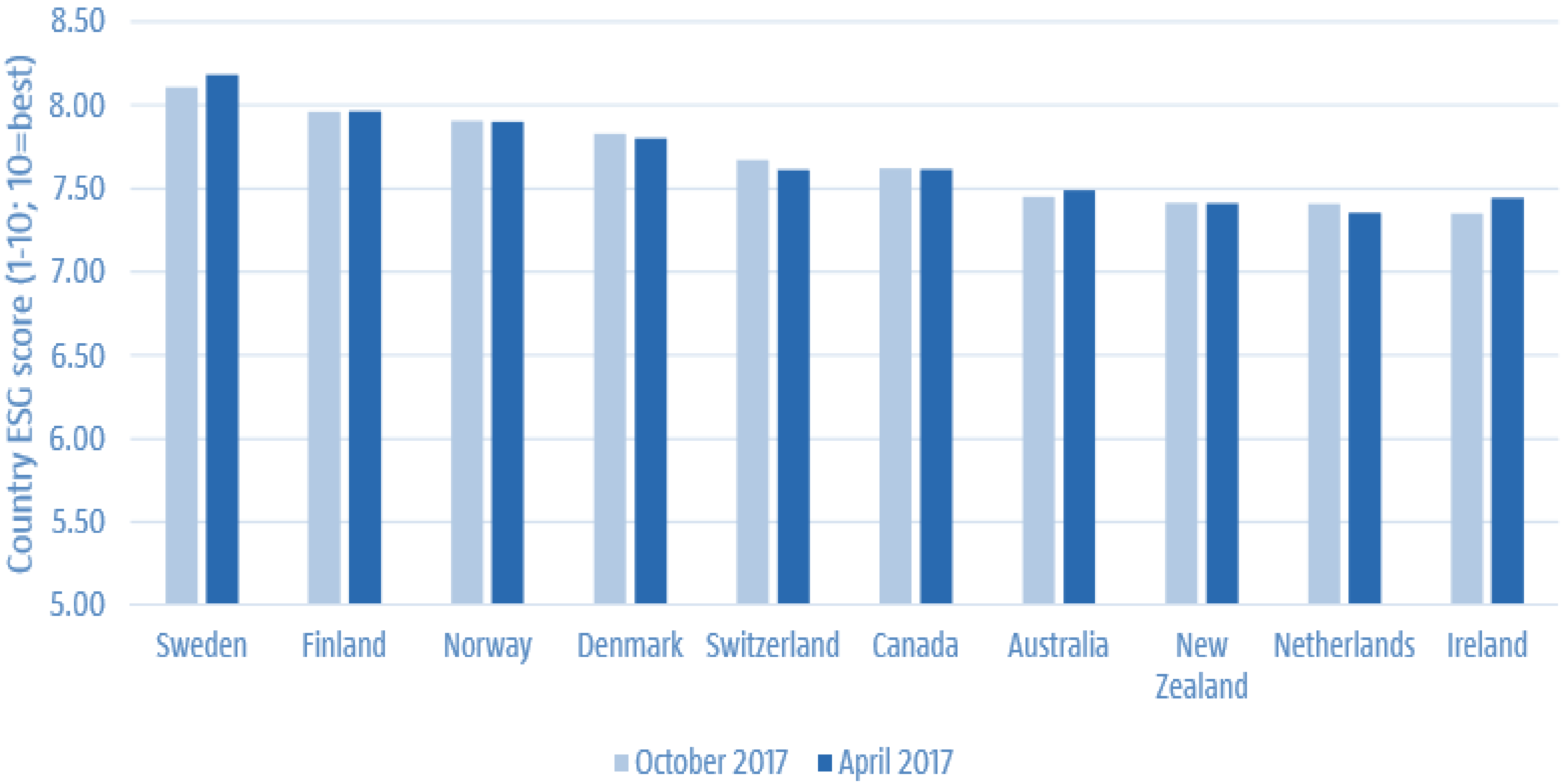
ESG integration into bond investing

Proportion of reporting PRI investment managers conducting some level of responsible investment by asset class in 2016



ESG integration into government bond investing

RobecoSAM country sustainability ranking



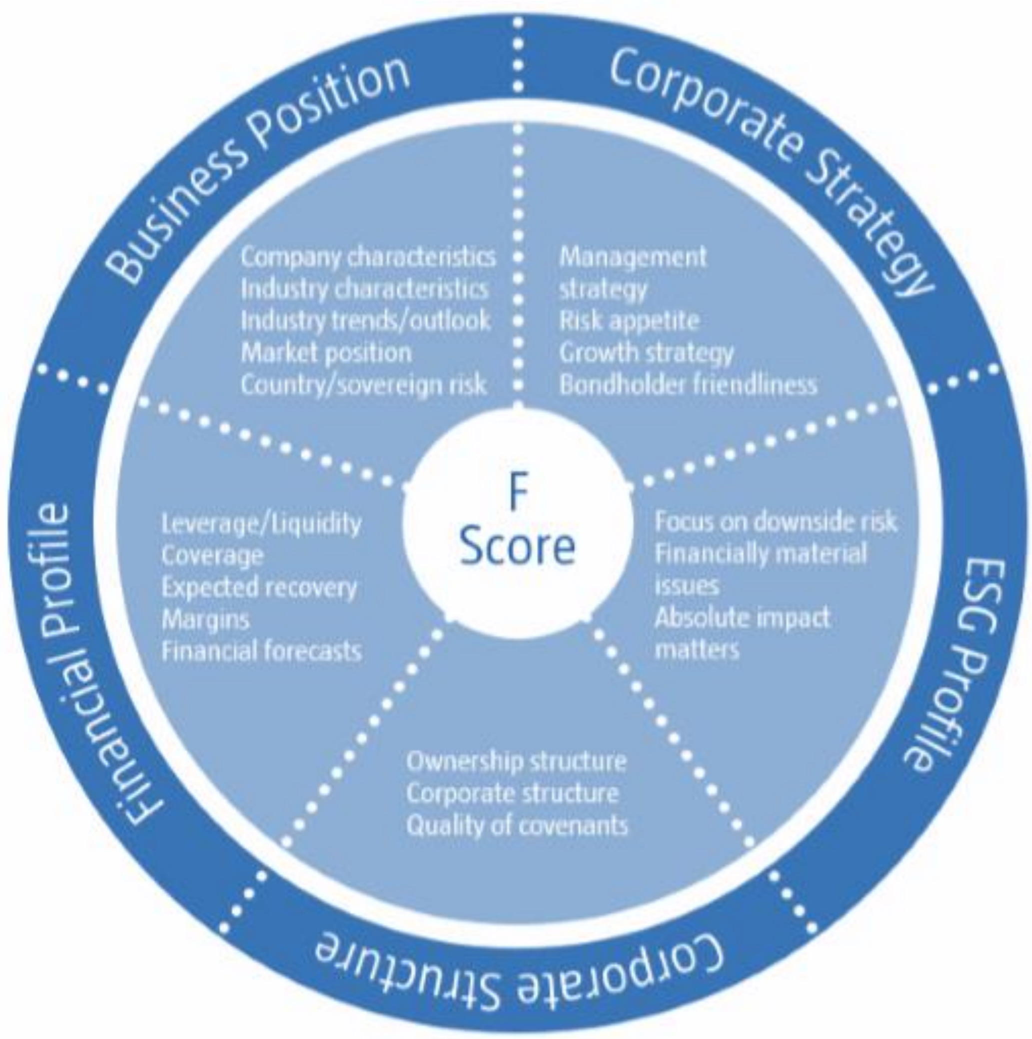
ESG integration into government bond investing

RobecoSAM country sustainability framework

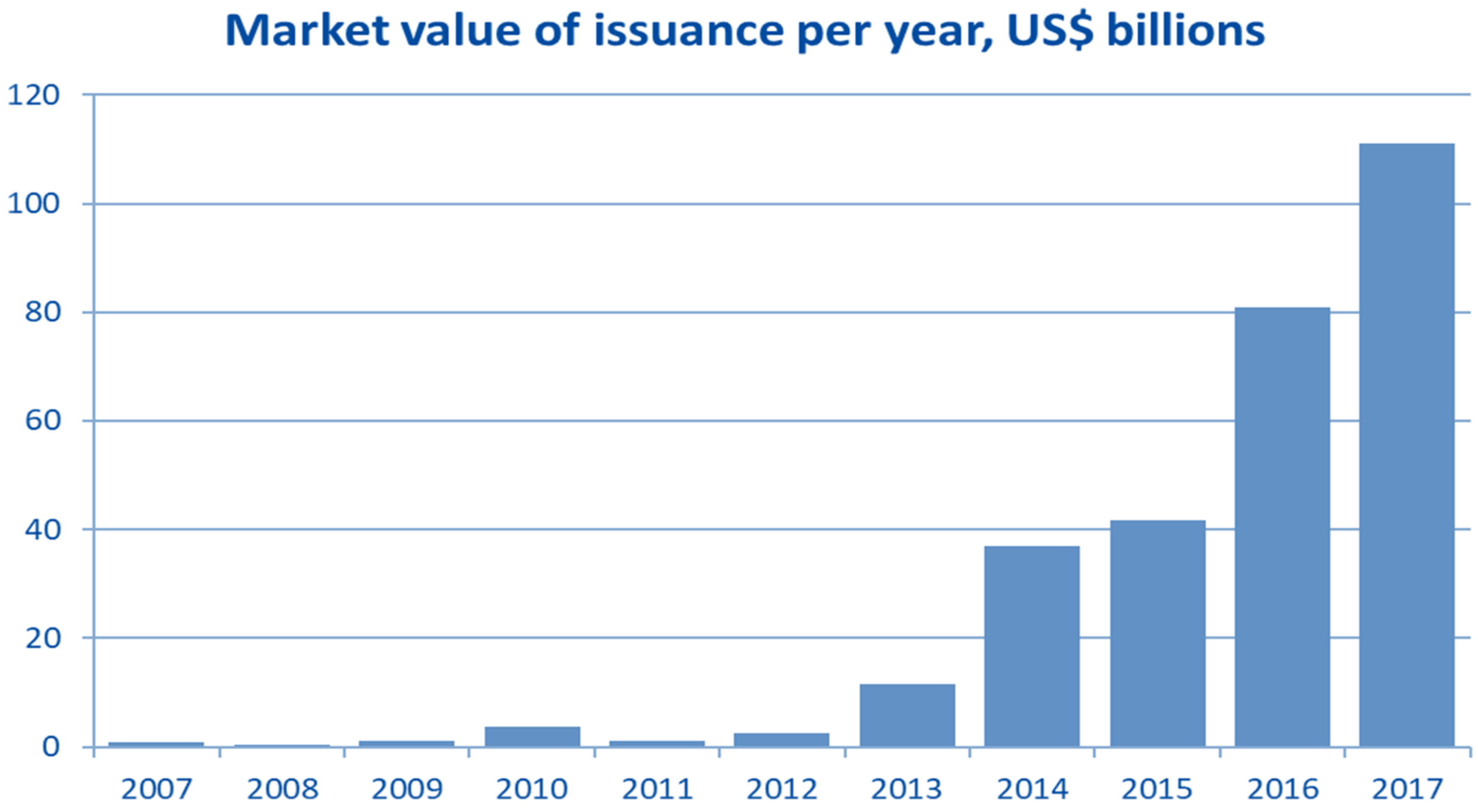
Sub-indicator level		Indicator level	Dimension level	Country Sustainability Score
Emissions	Biodiversity	Environmental status (10%)	Environmental (15%)	Country Sustainability Score (100%)
Energy use	Energy sources	Energy (2.5%)		
Exposure to environ-mental risks	Risk mitigation	Environmental risk (2.5%)		
Human welfare	Work and equality	Social indicators (10%)	Social (25%)	
Education	Life expectancy	Human development (10%)		
Confidence in government	Local job market	Social unrest (5%)		
Rights and liberties	Inequality	Liberty and inequality (10%)	Governance (60%)	
Human capital and innovation	Physical capital	Competitiveness (10%)		
Internal risks and inefficiencies	External conflicts	Political risks (10%)		
Management of public goods	Policy responses	Effectiveness (2.5%)		
Protection of property rights	Judicial system	Rule of law (2.5%)		
Democratic participation	Civil society	Accountability (2.5%)		
Corruption level	Transparency / policies	Corruption (2.5%)		
Terrorism and political crimes	Government stability	Stability (2.5%)		
Competition / liberalisation	Business regulations	Regulatory quality (2.5%)		
Demographic profile	Age-related policies	Aging (10%)		
Monetary policy independence	Other institutions	Institutions (5%)		

ESG integration into corporate bond investing

Robeco F-score



Green bonds


Market value of issuance per year, US$ billions
120
100
80
60
40
20
0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017

Green bonds

The Green Bond Principles (GBP, 2017) give four criteria:

Use of proceeds

- are exclusively for green projects, which should be appropriately described in the legal documentation for the security

Process for project evaluation and selection

- the issuer should clearly communicate to investors:
- 1) what the environmental objectives are;
- 2) the process to determine how the project fits the eligible green projects categories;
- 3) the eligibility criteria

Management of proceeds

- the net proceeds of the green bond should be credited to a sub-account, and subsequently be tracked and verified

Reporting

- mandatory on the use of the proceeds

Conclusions

- At first sight, sustainability seem less relevant for bonds than for equity, but, sustainability does matter in bonds

- As bond markets are even bigger than equity markets, the impact in bonds is potentially bigger than in equity

- Some things make ESG integration harder in bonds than in equities, such as the lack of voting power, and illiquid markets

- There is exciting innovation in the form of green bonds and social bonds