Quels liens entre critères ESG[1], changement climatique et gestion des risques?

Deauville, 20.09.19

1) Environment, Social et Governance

Un sujet non seulement présent dans les média mais également dans le domaine réglementaire….

EU

- EU Action Plan (taxonomy, ‘green’ benchmarks)
- CSR Directive
- IDD / MiFID II (Suitability)
- Solvency II : sustainability, ORSA
- Shareholder Rights Directive

France

- DPEF : déclaration de performance extra-financière (concerne en partie le sujet de l’investissement ESG)
- PACTE – plan d'action pour la croissance et la transformation des entreprises (Art. 21)
- Loi de transition énergétique pour la croissance verte (Art. 173)
- Engagement des organisations professionnelle

…Des standards émergent…:

PRI Principles for Responsible Investment

UN GLOBAL COMPACT

GRI Materiality Disclosures Swiss Life Holding AG Mar 2019 Service

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

GRESB REAL ESTATE Member

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Quel rôle pour les actuaires ?

- Les actuaires exerçant dans les domaines de la finance, de l'actuariat et de la gestion des risques peuvent jouer un rôle important au sein des organismes car ils sont (au moins en théorie!):
  - De formation scientifique
  - Des spécialistes de la modélisation de l'incertitude
  - Formés à la problématique de la robustesse, de la pertinence et des limites des modèles
  - Formés aux principes de prise de décision dans un environnement incertain
  - Habitués à contribuer au pilotage des équilibres financiers et assurantiels : optimisation sous contrainte

  Et aussi

  - Capables de présenter des résultats complexes sous forme synthétique à des non spécialistes

Assurer le lien entre objectifs d'investissement responsable, contribution à la lutte contre le réchauffement climatique, business model, pilotage des indicateurs- clés et gestion des risques.

Introduction

- Objectif de la présentation: aborder quelques questions sous l'angle de la gestion des risques de l'assureur et susciter des réflexions.

- Sujets abordés:
  - Rapport entre investissement ESG et lutte contre le changement climatique
  - Gestion des risques de l'entreprise et enjeux sociétaux
  - ESG et performance financière
  - Changement climatique et ORSA

- Sujets non abordés:
  - Efficacité des mesures en terme d'investissement responsable prises par les entreprises individuelles au sein d'une économie régie par l'offre et la demande
  - Réchauffement climatique et passifs d'assurance

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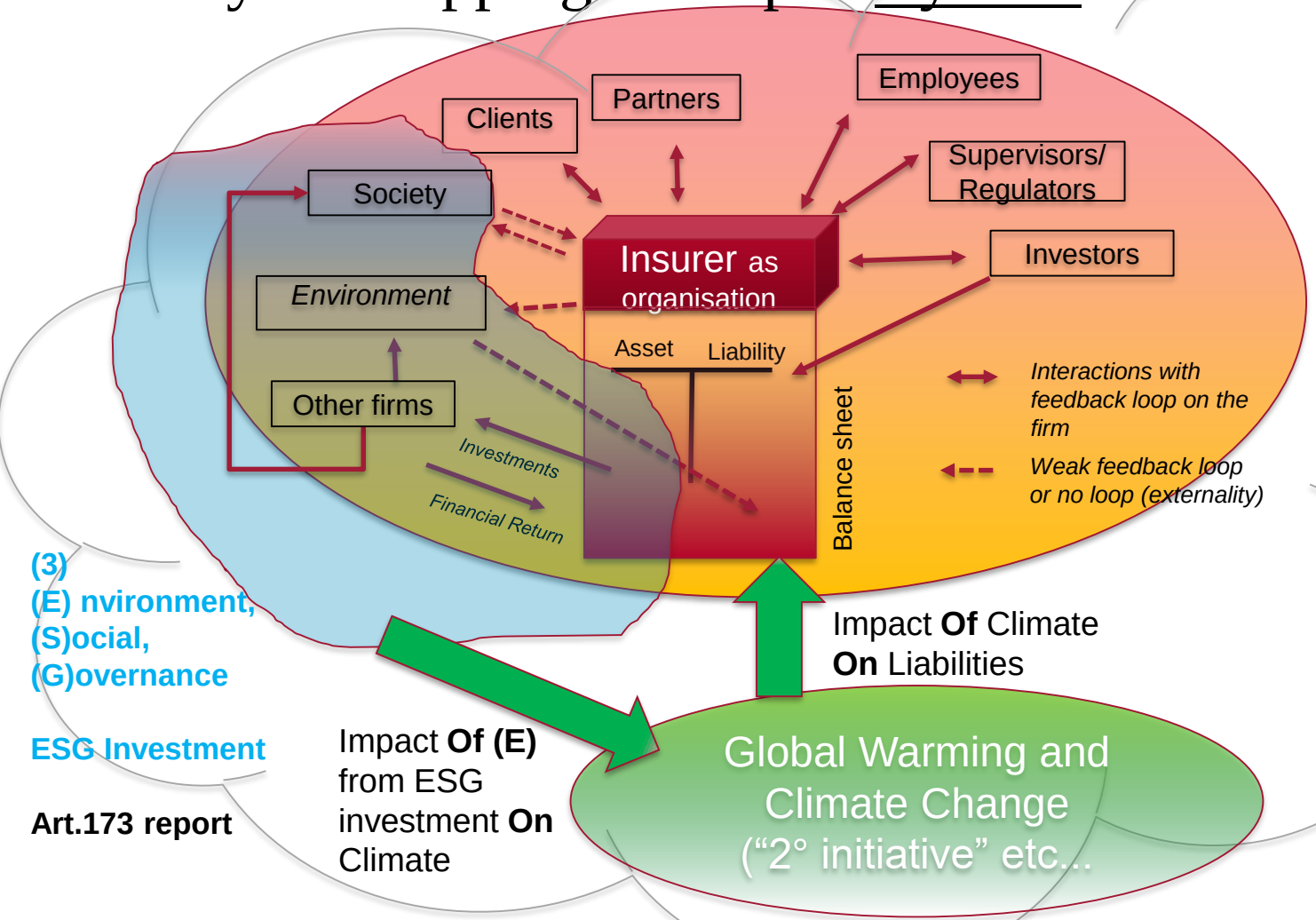
Partially overlapping concepts: stylized view



(2) Corporate Social Responsibility as defined by **"DPEF"**

(3)
(E) nvironment,
(S)ocial,
(G)overnance

ESG Investment

Art.173 report

Impact **Of (E)** from ESG investment **On** Climate

(1) General concept of « Sustainability in the sense of « considering long term risks »:
Not new for Insurance

Investing: ESG and climate change (1)

Environment, Social, Governance (ESG)

- **More mature**
  - Often based on analysis of public disclosures of each issuer
  - Can be integrated in the investment decision process on granular level
  - Exclusion policy

- But still many metrics on the market
- Data quality ?

Fundamentally not different from the management of other KPI's (such as credit risk).

Climate change initiatives

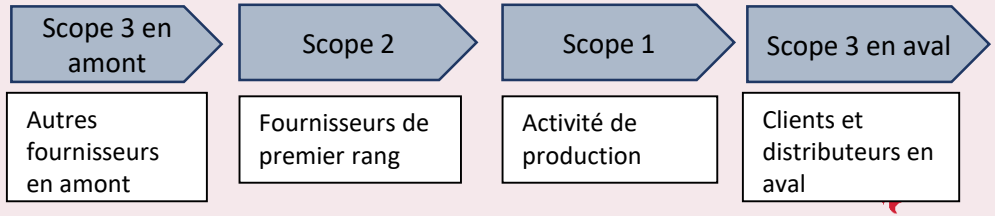
- **Less mature**

- Different methodologies with different objectives
  - **Temperature trajectory**: 2°Investing/PACTA, I Care&Consult/SB2A, Carbone4 /Finance/CIA

  - **Carbon intensity:** tonnes CO2 per million of revenus for each issuer

- Model risk ?
- Data quality?

Example: Carbon intensity



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Investing: ESG and climate change (2)

Environment, Social, Governance (ESG)

- Fundamentally not different from the management of other KPI's (such as credit risk).
- **Correlation between ESG and performance:** some studies identify low or no correlation, other identify some correlation:
  - In theory, if ESG factors explain performance, investors should take these factors into account and these will be included in the price : no arbitrage
  - Other possible explanation: survivorship bias (eg. infrastructure equity)
- **Correlation between ESG and risk: no evidence**

Example: a firm with high "E" assessment (renewable energies) can be exposed to a large risk (new unproven technologies, business model, etc..)

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The taxonomy challenge

- Example:

European Commission's technical expert group assists the Commission in developing an EU classification system (taxonomy) – to determine

  - *whether an economic activity is environmentally sustainable;*
  - *an EU Green Bond Standard;*
  - *benchmarks for low-carbon investment strategies;-*
  - *guidance to improve corporate disclosure of climate-related information.*

- But risks of standardization; some criticism

- Nevertheless, some common language is necessary in other areas of ESG/ climate change

Stress test and climate change for ORSA: state of art

- **No established practices in this area.** Example of general tentative approaches (not specific to ORSA):

  [1] "Storm ahead: a proposal for a climate stress-test scenario", 2° investing, discussion paper, April 2019

  [2] "An energy transition risk stress test for the financial system of the Netherlands", DNB 2018

  [3] "Unhedgeable risk" , CISL (2015)

EIOPA is analyzing the topic too (consultation papers)…

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Impact of climate risk on asset value: state of art

- Current view (experts, NGO's;..): constantly evolving.

Transition Risks

- *The firm's profits are negatively effected by changing in economy related to climate change (policy, technology, legal)*
- **The sudden change (stress) stems from a situation when the adjustment to "low carbon" economy happen late and suddenly (the so- called "too late to sudden")**
- *Other assumptions are not stress situations (eg progressive transition" or no transition to low carbon economy at all)*

Physical Risks

- *The firm's profits are negatively effected by changing climate and its physical consequences:*

  -Extreme climate events (storms, droughts, heat & cold waves, floods, wildfires…)

  -Continuous changes: temperature, sea levels, rainfalls, air, water, coasts…

-The sudden change (stress) stems should be a sudden event. But this is already a "classic" test in non life for example (eg storm).

-Alternative: slow unfavorable changes on long term (>2025) , but this is not a « stress test »

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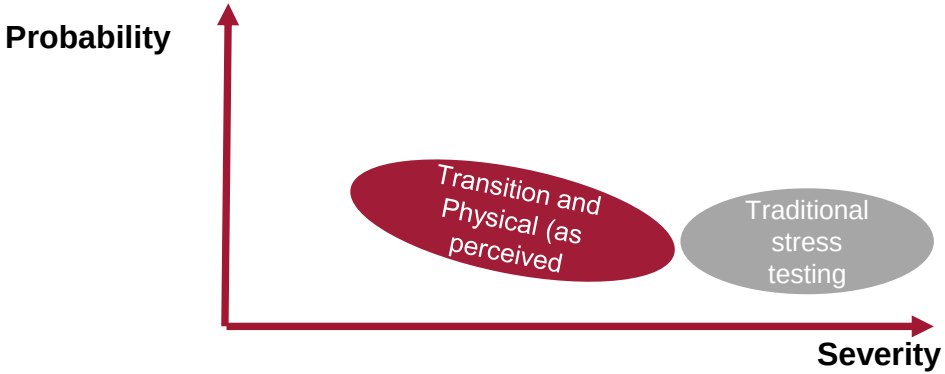
Stress test and climate change for ORSA: challenges

- **Definition:**

- Stress testing is about large events with relatively low probability…But effects of climate change (physical world, economy) will be gradual. Unless we focus to extreme events but this is similar to “traditional” stress tests). And there is a lot of radical uncertainty….



- ORSA horizon is 3-5 years while climate change scenarios are long term (2025, 2050, etc…)
- Climate change may affect both assets (investment risk) and liabilities (underwriting, reserving,..)
- **It is not clear whether and to what extent climate change in already in the market prices.**
- **A stress scenario should reflect an unexpected change (example: late and sudden adjustment)**

Quantification: only few studies on the market

Transition Risks

Stress Tests (examples):

- Shock on asset prices in the long run (>2025)
- Focus on specific sectors (chemistry, oil&gas, utilities…): equity and bonds
- Focus on GOV bonds issued by countries with specific economies (eg. oil producers)

Ex. from "Storm ahead: a proposal for a climate stress-test scenario", 2° investing, discussion paper, April 2019

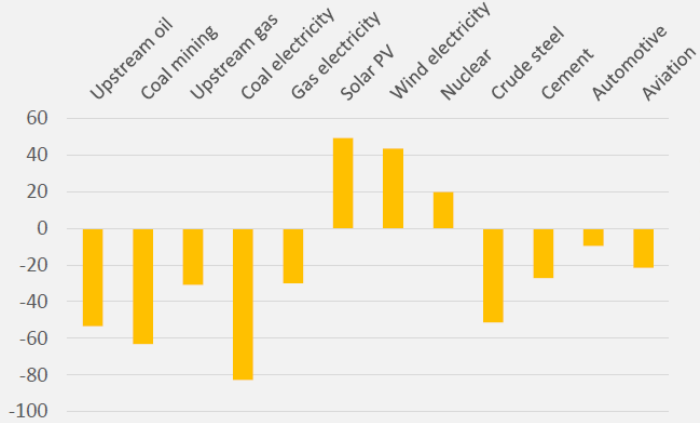


Figure 1.5 *Expected impact on share prices compared to baseline for a "too late, too sudden" transition scenario for key sectors, assuming a sudden repricing in 2025 (%) – World average*

Figure 1.6 *Mean change in bond values in 2025 under a "too late, too sudden" transition scenario depending on their remaining time to maturity (%) – World average*

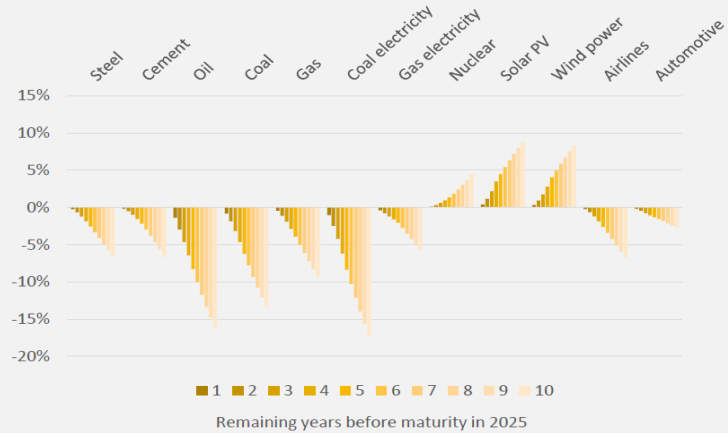
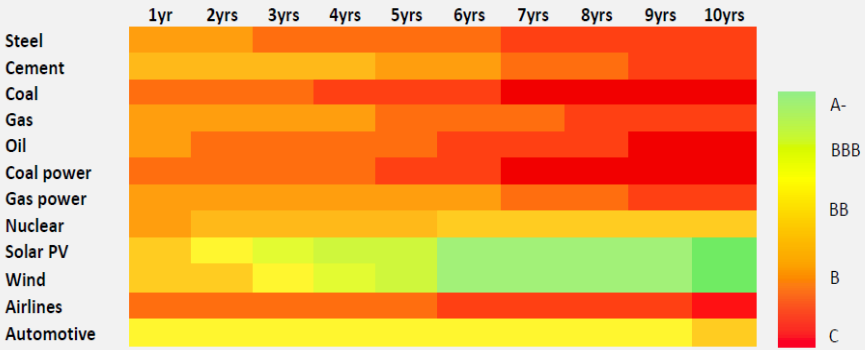


Figure 1.8 *Mean credit ratings of the bonds tied to key sectors depending on their remaining time to maturity in 2025 – World average*



Quantification: only few studies on the market

Physical Risks

Stress Tests:

- Shock on asset prices in the long run (>2025) depending on firms' geographic exposure
- GOV bonds from countries exposed to physical changes resulting from climate change

Ex. from "Storm ahead: a proposal for a climate stress-test scenario", 2° investing, discussion paper, April 2019

Table 2.6 *Change in credit ratings due to climate change's incremental effects in 2060, by sector and country*

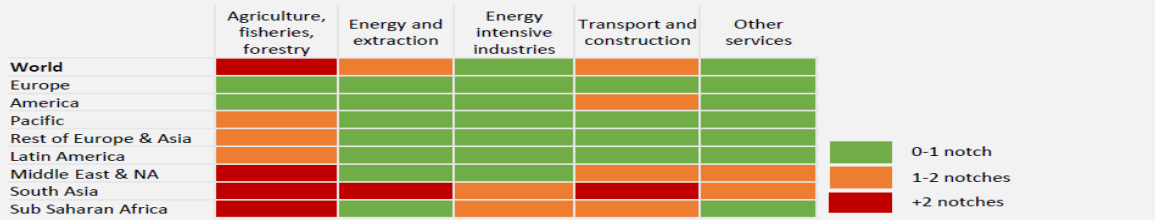
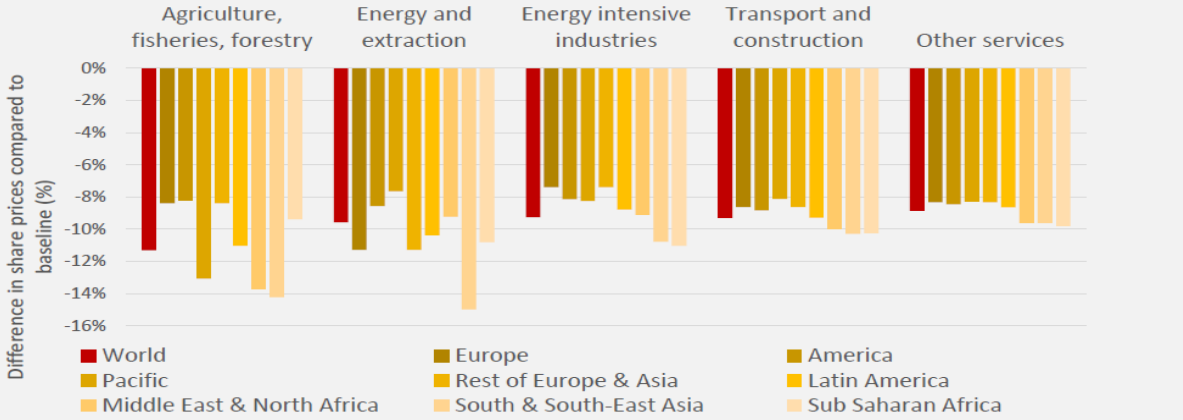
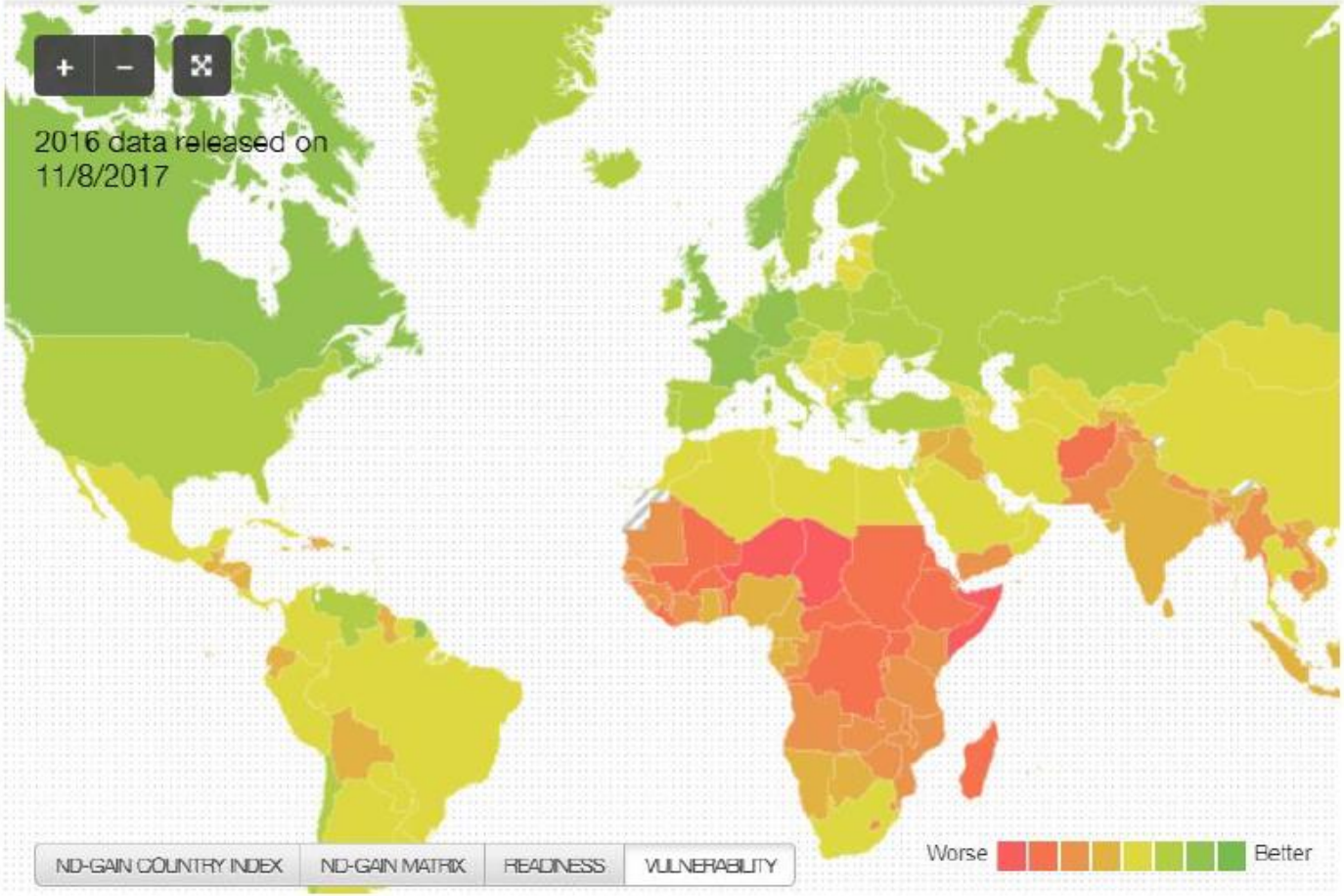


Table 2.7 *Change in 5y credit spread due to climate change's incremental effects in 2060, by sector and country*

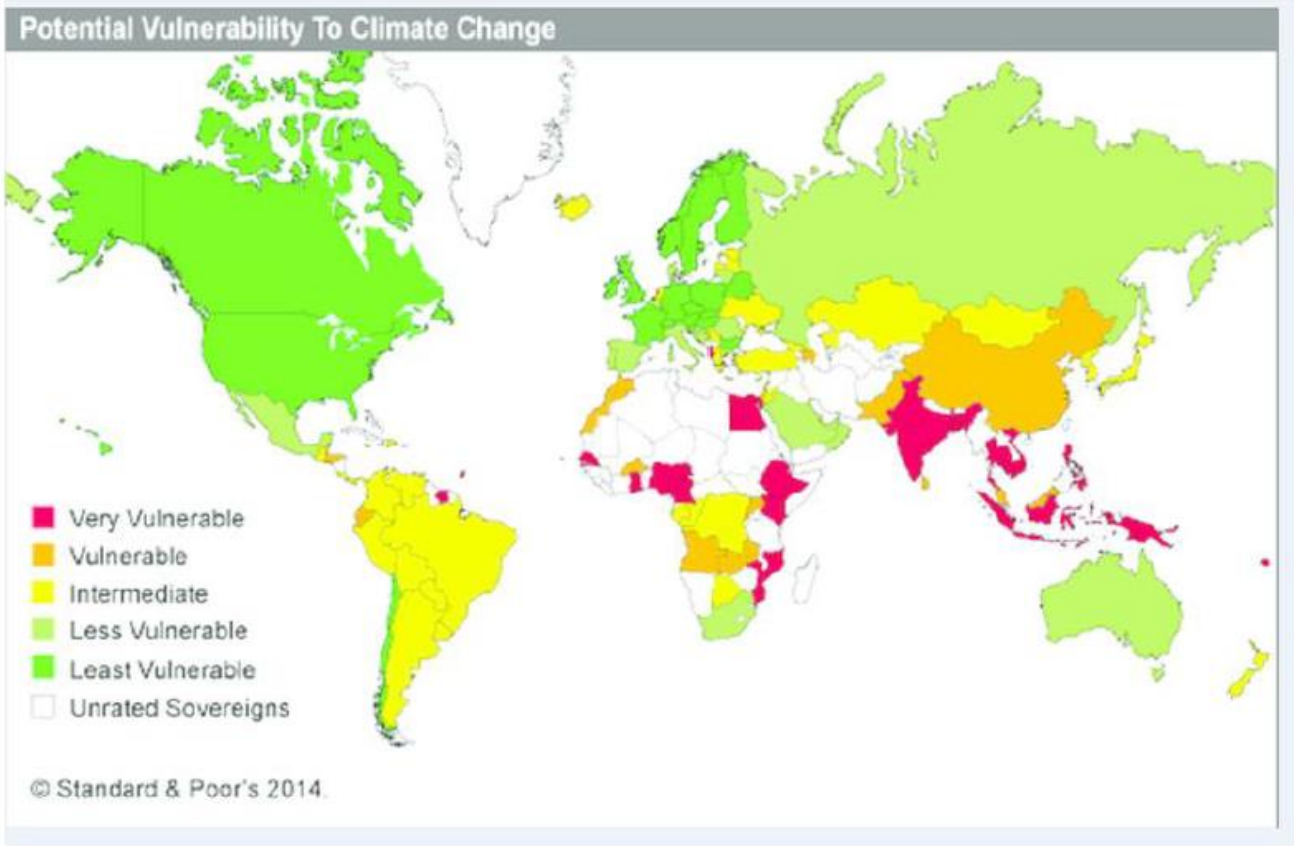
Figure 2.5 *Difference in share prices between a "4.5° warming by 2100" & "no damage" scenarios for key sectors and world regions (%)*



- Cartographie de vulnérabilité de la Notre Dame Global Adaptation Initiative (ND-GAIN) réalisée par l'Université de Notre Dame



- Cartographies établies par Standard and Poor's[23]



Challenges for ORSA (assets side)

- **Climate change: is it difficult to model a stress because climate change is a continuous process**
- **Sudden deviations (policies) from a baseline scenario can be modelled**
- **For an European insurer with diversified assets, the impact identified are moderate and lower than some “traditional” tests**
- **What is next ?**
- **Is there cognitive dissonance? How to reconcile this with the climate concerns?**