Climate change as an operational risk factor

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Agenda

Context: The climate crisis

The role of the banking sector

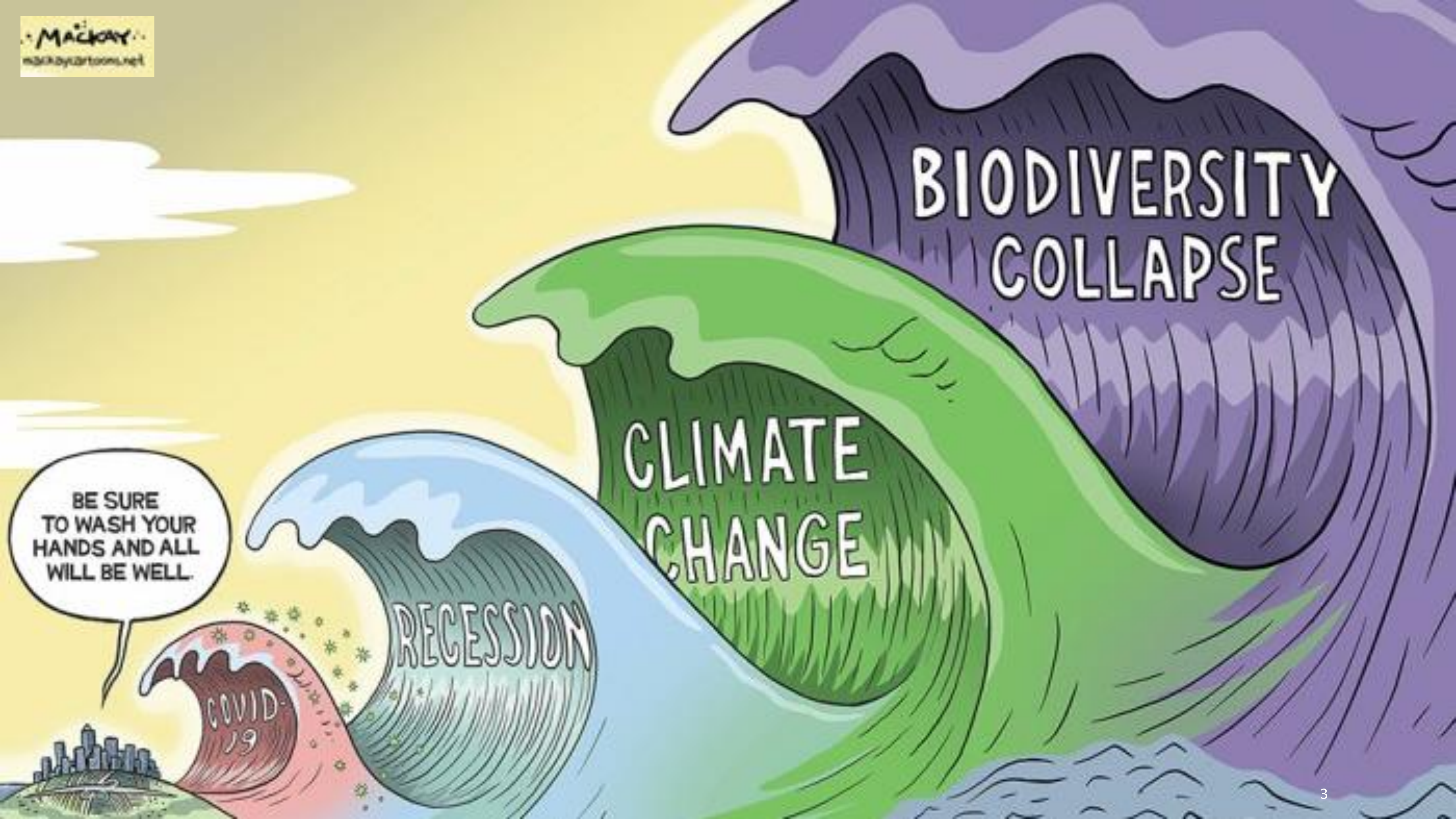
- Fossil fuel finance and fixed income
- Scope 3 emissions

The risks related to the climate crisis

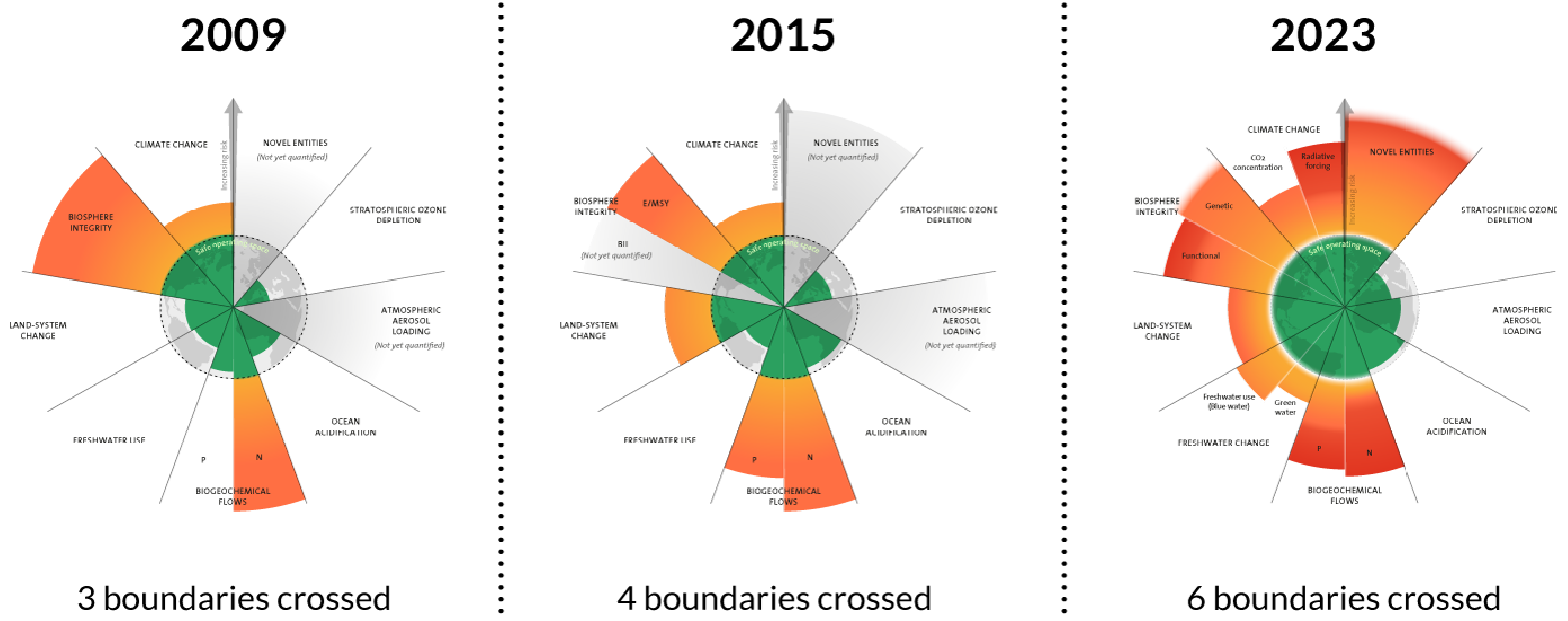
- Physical vs transition risk
- Stranded assets
- Reputational and litigation risk
- Green bubble

Remedies

- Incoming regulation
- SLBs as credible transition signal


MACKAY
mackaycartoons.net
BE SURE TO WASH YOUR HANDS AND ALL WILL BE WELL.
COVID-19
RECESSION
CLIMATE CHANGE
BIODIVERSITY COLLAPSE

6/9 Planetary boundaries already crossed



Stockholm Resilience Centre | Stockholm University

Follow up links:

https://www.stockholmresilience.org/research/planetary-boundaries.html

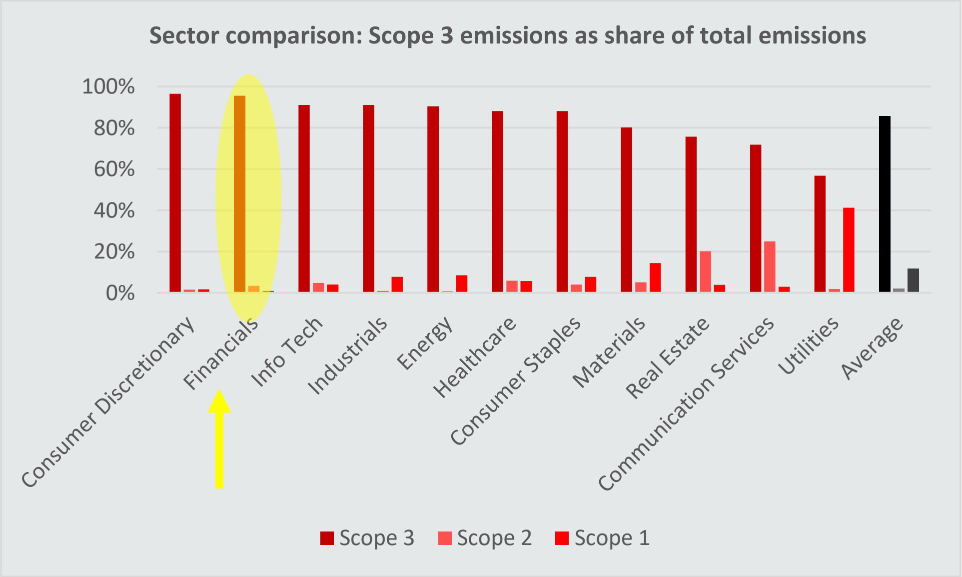
Ted Talk of lead author Johan Rokstrom (though that's 3 years old, so pre 2023 update: https://www.youtube.com/watch?v=8Sl28fkrozE&pp=ygUQam9oYW4gcm9ja3N0csO2bQ%3D%3D

Tipping points: https://www.carbonbrief.org/explainer-nine-tipping-points-that-could-be-triggered-by-climate-change/

Scope 3: Balance sheet emissions

> "Banks brace for California law mandating emissions disclosure"
>
> Financial Times 2023

- Californian regulation SB 253 : Public & private companies (revenues >$1bn) ca 5,300 corporations, including Chevron, Wells Fargo, Amazon & Apple. Annual disclosure of Scope 3 emissions: 2027
- ECB Climate Stress Test and Pillar III disclosures both require Scope 3 emissions and specifically financed emissions



Hoepner & Schneider (2023)

Net Zero targets: Banks

Kacperczyk & Peydro (2022)

- After a bank commits to carbon emissions reduction, firms with higher ex-ante scope 1 emissions and with prior credit with the committed bank experience a relative reduction in total debt from all financing sources, compared to firms with the same levels of emissions but without ex-ante lending connections to the committed bank
  - Committed firms obtain less financing and do not fully substitute their reduction in financing from committed banks with borrowing from other banks or nonbank
  - Effects for total debt are entirely driven by adjustments in bank debt
- Risk-management Hypothesis vs Preference Hypothesis
- Firms respond to bank pressure: lower capex, cash hoarding

134
banks

43
countries

US$ 74trn
total assets

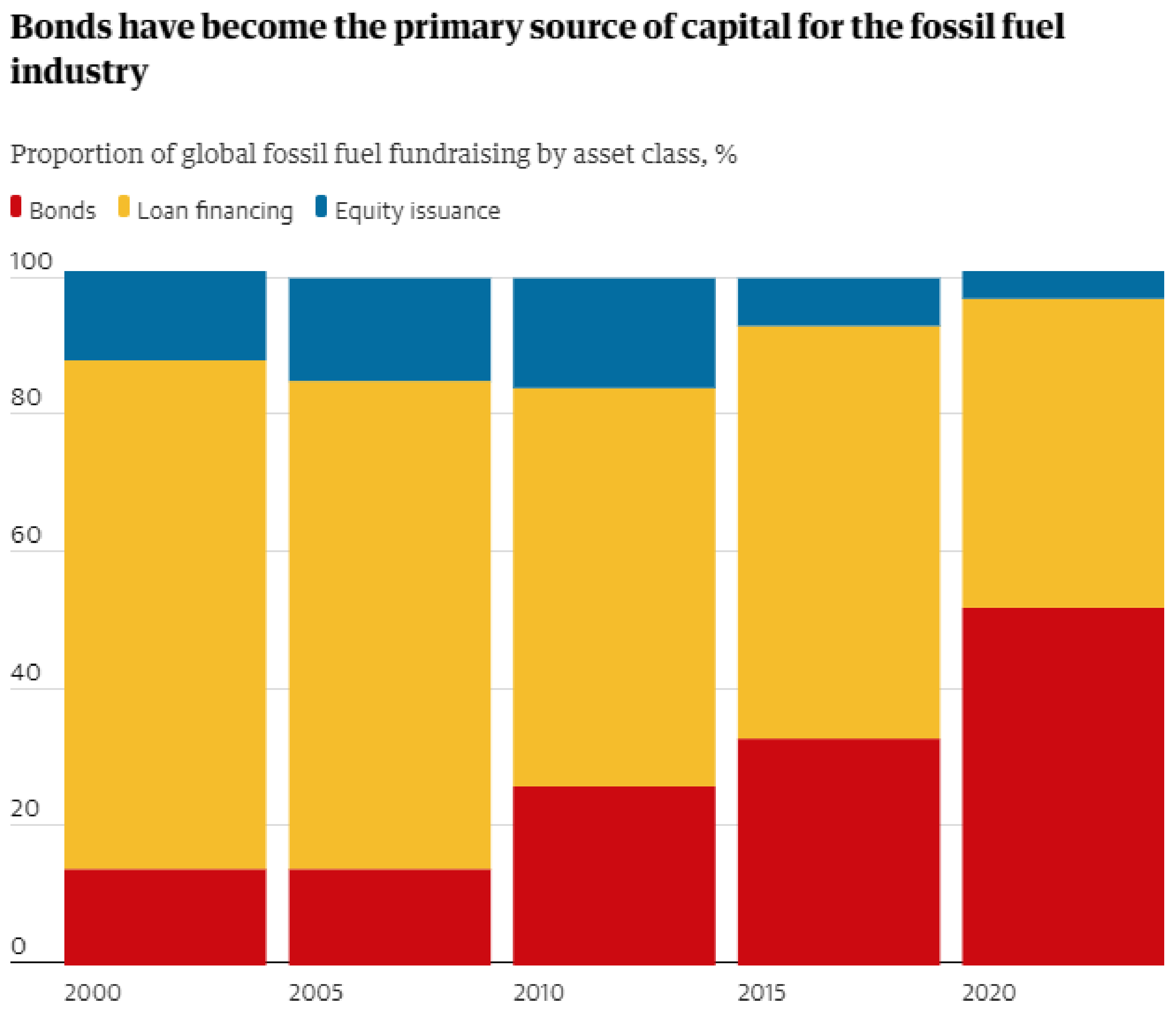
41%
of global banking assets

"I used to think that if there was reincarnation, I wanted to come back as the president or the pope or as a .400 baseball hitter. But now I would like to come back as the bond market.

You can intimidate everybody."

James Carville, political adviser of Bill Clinton

The role of Banking



Cojoianu, Hoepner, Schneider, Urban, Vu & Wojcik (2023, updated and covered by The Guardian 2023)

Banks as brokers:
A blind spot in Net Zero targets?

Deutsche Bank: Underwriter or bookrunner for fossil fuel bonds that raised a total of €432bn since the Paris climate agreement. At the same time, the bank promised to reduce its “financed emissions” for the oil and gas sector by 23% by 2030 and 90% by 2050.

Guardian, 2023

Oil&Gas Bonds active in 2021

Green Watch

Rank	Party Name	All Roles[6]	Bookrunner	Trustee	Non-Bookrunner	Other
1.	Citi	1812	1201	352	495	475
2.	JP Morgan	1765	1249	89	451	516
3.	Bank of America	1665	1063	21	476	536
4.	Deutsche Bank	1425	648	539	348	380
5.	HSBC	1388	843	59	449	400
6.	Goldman Sachs	1204	704	18	362	333
7.	Morgan Stanley	1194	756	21	321	294
8.	Barclays	1173	808	42	314	207
9.	Mizuho	1154	517	31	441	292
10.	Mitsubishi UFJ	1144	529	43	427	282
11.	BNP Paribas	1069	571	57	327	316
12.	Bank of New York Mellon	935	13	876	86	101
13.	Sumitomo Mitsui Banking Corporation	890	370	1	378	236
14.	Credit Agricole	889	441	3	339	198
15.	Credit Suisse	880	526	46	278	159
16.	Scotiabank	813	231	8	474	137
17.	Société Générale	794	431	51	322	86
18.	Royal Bank of Canada	755	369	5	362	85
19.	Wells Fargo	728	377	195	302	114
20.	Banco Bilbao Vizcaya Argentaria	590	193	2	328	114

All amounts in billions USD. The amounts here signify the total amount issued of the bonds associated with the respective party.

See Toxic Bonds for more. This is already targeted by campaigners [potential reputational and litigation risk, business model risk]. Varma [Finnish Pension Insurance] “prepares to exclude intermediaries that fund fossil-based energy” (2022, IPE coverage here)

ESG-related losses will become more correlated, changing the risk profile for the banking sector. The development has implications for “traditional categories of financial risk, such as credit, market and operational risks”

European Banking Authority 2023

Climate Risk

Climate Finance*

Stefano Giglio[1], Bryan Kelly[2], and Johannes Stroebel[3]

[1]Yale School of Management, NBER, and CEPR
[2]Yale School of Management, AQR Capital Management, and NBER
[3]New York University, Stern School of Business, NBER, and CEPR

October 26, 2020

Abstract

We review the literature studying interactions between climate change and financial markets. We first discuss various approaches to incorporating climate risk in macro-finance models. We then review the empirical literature that explores the pricing of climate risks across a large number of asset classes including real estate, equities, and fixed income securities. In this context, we also discuss how investors can use these assets to construct portfolios that hedge against climate risk. We conclude by proposing several promising directions for future research in climate finance.

Keywords: Climate Change, Climate Risk, Physical Risk, Transition Risk, ESG

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Physical Risk

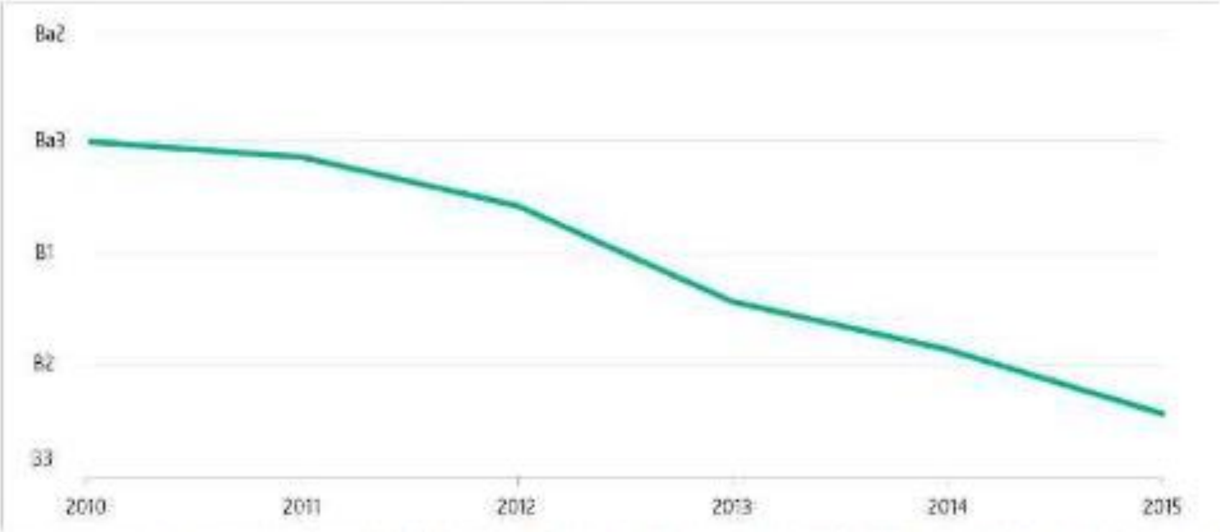
"Risks of the direct impairment of productive assets resulting from climate change"

Transition Risk

"Risks to cash flows arising from a possible transition to a low carbon economy"

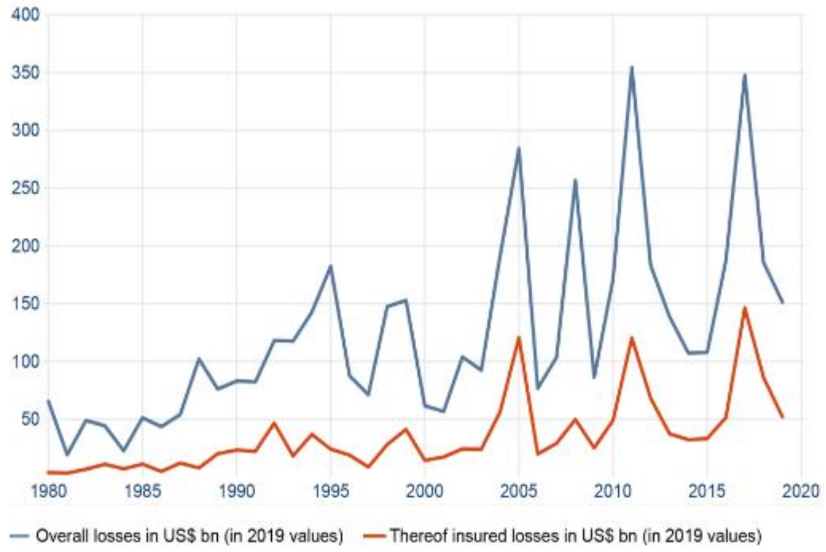
80% of the world's largest companies are **reporting exposure** to physical or market transition risks associated with climate change [S&P Global Market Intelligence 2019]

Credit Ratings for US Coal Producers have fallen on average since 2010



Note: Ratings of Alpha Natural Resources, Arch Coal, Cloud Peak Energy, CONSOL Energy, Foresight Energy, Peabody Energy and Walter Energy, where rating histories exist back to 2010.

Overall and insured losses from natural catastrophes 1980-2019



Materiality: The financial impact of climate risk

The trillion dollar carbon bubble

- Term coined by CarbonTracker in 2017
- Vast majority of the fossil fuel reserves reported by fossil fuel firms — as much as 90% — will likely have to remain in the ground
  - A Lot of Oil Capacity Will Have to Be Written Down
  - $1 Trillion of Oil and Gas Assets alone risk being stranded by climate change

Half world's fossil fuel assets could become worthless by 2036 in net zero transition

$11tn fossil fuel asset crash could cause 2008-style financial crisis, warns new study

The Guardian

The $900 billion write-off of 'stranded energy assets' needed to make climate targets will be one of the biggest capital shifts ever

84% of remaining fossil fuels would need to remain in the ground to meet the 1.5C global warming target

Failure to account for net zero transition costs results in overvaluation - or a carbon bubble

World Economic Forum

BP and Shell Write-Off Billions in Assets, Citing Covid-19 and Climate Change

Drivers of transition risk: Regulators

- Global regulators are already warning that climate risk can’t be treated separately from financial risk
  - Climate data indicators published by ECB, stress testing
  - Adjusting banks’ capital requirements for fossil fuel exposures
  - Basel Committee on Banking Supervision: “climate-related financial risks can impact banks’ credit-risk exposure through their counterparties. Banks should take a conservative approach to ensure capital reserves are sufficient to absorb potential losses”
  - European Banking Authority: Environmental & social risk integration within the prudential framework of credit institutions and investment firms, proposal for targeted enhancements to better include these risks in Pillar 1

Other risks:
Greenwashing & climate litigation risk

In addition to physical and transition risk, there are **reputational** and **legal** (**litigation**) risks!

Corporations:

- Globally: cumulative number of climate change-related cases has more than doubled since 2015 (total number of cases: 2,000+)
    - Last 12 months, further legal cases have been brought against fossil fuel companies, especially outside the US
    - Increasingly also targeting the food & agriculture, transport, plastics *and finance sectors*
- Even in cases where companies avoid legal fines, they may still face other consequences
    - Liability for future climate-related damages
    - Reputational harm
    - Public scrutiny for non-disclosure about climate change risks

Other risks: Greenwashing & climate litigation risk

RepRisk (2022):

- 25% of climate-related ESG risks were greenwashing-related, up from 20% in the previous report
- 70% increase in greenwashing incidents in the Banking & Financial Services sector

ESG: Addressing greenwashing in financial services

KPMG

What is it, why greenwashing matters, and how do you avoid it?

"Firms should be proactive in mitigating the risk of allegations of misleading statements or greenwashing to avoid enforcement action and complaints, particularly, regulatory investigation and censure, civil litigation and the negative financial impacts arising from reputational risk"

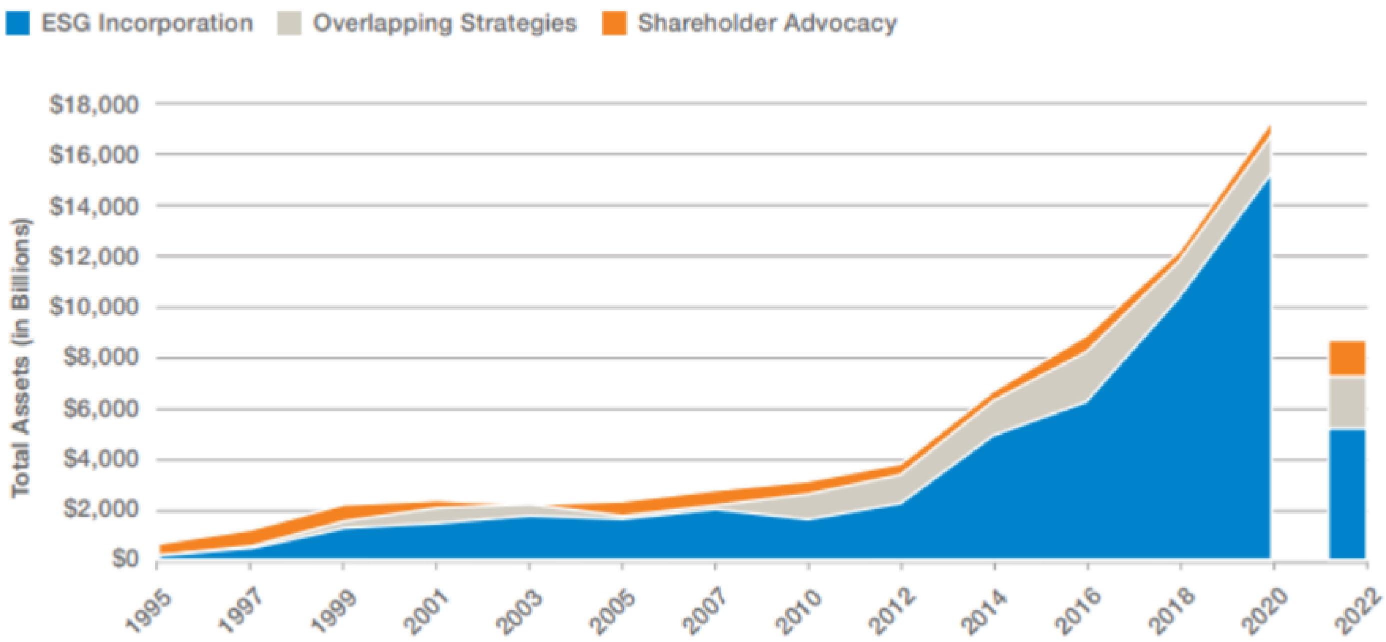
Watchdog bans HSBC climate ads in fresh blow to bank's green credentials

Lender told it must in future acknowledge its role in climate crisis after 'misleading' Cop26 campaign

DWS to pay $25 mln to end US probe into greenwashing, other issues

By Chris Prentice

September 25, 2023 8:43 PM GMT+1 · Updated 21 days ago



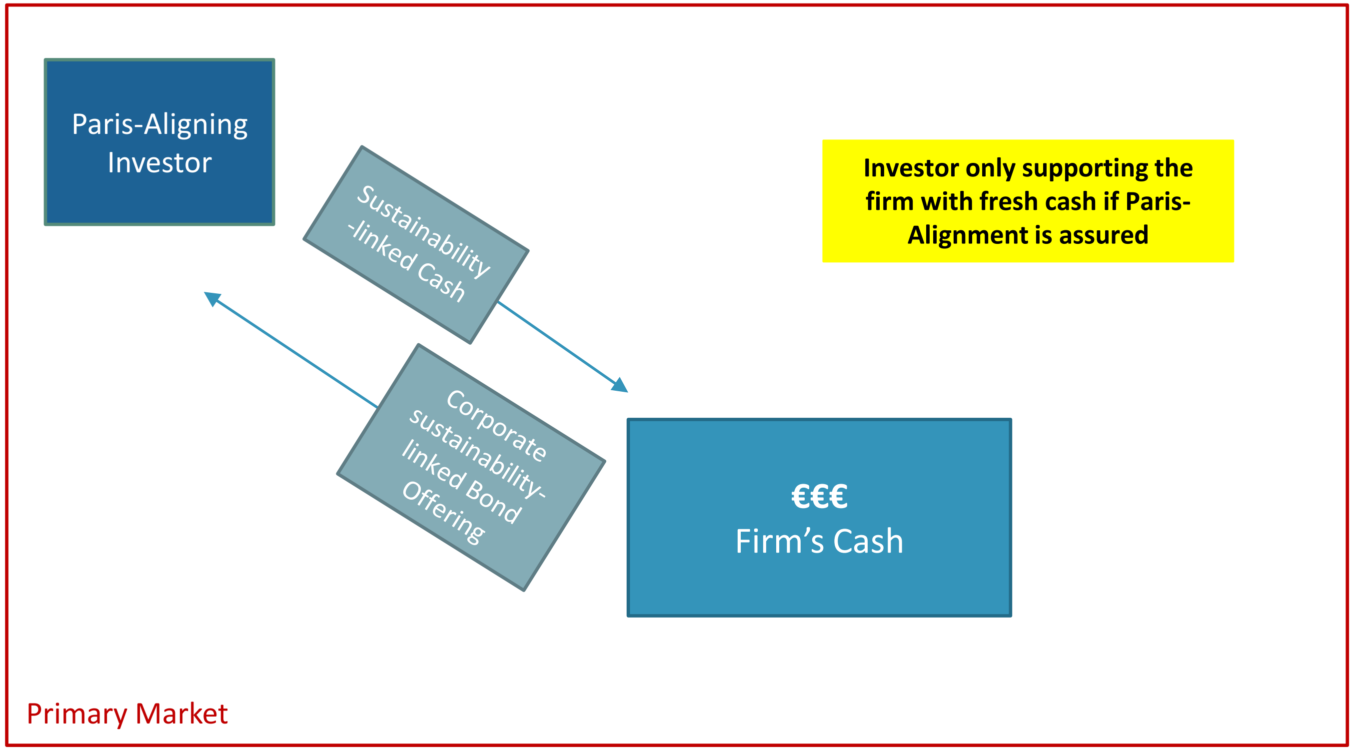
SOURCE: US SIF Foundation
NOTE: Assets under management in 2022 represent US SIF's new modified methodology.

Remedy: Transparency

Fighting Greenwashing and preventing a green bubble through transparency – globally increased scrutiny & regulation

- SFDR, Taxonomies, US Names Rule, …
- ESG ratings in credit scores

Remedies:
Corporate Sustainability-Linked Bonds (SLBs)



For financial institutions / with regards to sustainability-linked loans this may be of interest: Sustainability-linked loan bonds (SLLBs) see eg here

Conclusion

!

The climate crisis is already driving change and will be a future determinant of different regulations, preferences, and valuation. As an operational risk factor, it is already material today and must be treated as such by supervisors and practitioners alike!

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