

Seminaire Chaire Energie et Prosperité

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Dealing With Climate Risk

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The FSB's TCFD Report

- 1) The FSB, upgraded in the wake of the systemic crisis of 2007/08 to a global financial-rule maker and regulator, has just published an important report on climate-related financial disclosure.
- 2) Its Task Force on Climate-related Financial Disclosures (TCFD) is headed by Michael Bloomberg who, as pioneer of bringing useful information to financial markets, has also been involved in ESG (Environmental, Social, Governance) data collection and the SASB (Sustainability Accounting Standards Board) -> crucial context for CFD.
- 3) His TCFD report is a necessary first step in the post-Paris efforts to set up the institutional infrastructure for a more ecologically oriented capitalism (*eco-capitalism*) capable of transitioning to a low-carbon economy.
- 4) The report lays out in detail standards for the corporate reporting of climate-related risks, climate-mitigation opportunities, and related governance issues to deal with these challenges. As such the report makes a very important contribution to building robust climate finance and sustainability accounting systems as future pillars of *eco-capitalism*.

The Trump Shock

- Long-standing insular US tendency against international standards and global governance -> e.g. refusal to adopt decimal system, use of GNP rather than GDP (up to 1991), GAAP vs IASB accounting rules, refusal to implement Basel I.
- But US also claims extra-territorial jurisdiction -> tax laws, financial regulations.
- Obama was a relative internationalist -> Paris Climate Agreement as crowning achievement. But US politics works in pendulum swings -> nationalist resurgence.
- Trump's unexpected election victory is an exogenous shock to the global fight against climate change -> climate denier, pro fossil fuel, against renewable energy.
- Even if Trump does not take US out of Paris Agreement, he will undo Obama's Clean Power Plan and so make sure US does not comply with its NDC under Paris.
- Trump hates Bloomberg -> enough for him to forbid TCFD adoption in US.
- Challenge of new type of globalization in *eco-capitalism* -> united front against Trump's US policy may actually hasten movement in that direction.

Climate Change as Systemic Risk

- 1) Even best risk models are only of limited value -> risk \neq uncertainty.
- 2) Only in 2010s did we start thinking about modeling (financial) systemic risk, and here we have considerable past experience about how systemic crises unfold (1873-79, 1929-39, 1973-82, 2007-12). Still, it is difficult to contextualize individual risk-modeling within broader systemic-risk context (see the Basel IV dilemma). Stress tests are crucial in bridging these levels.
- 3) When it comes to climate-related (individual, systemic) risks or stress tests, we are at the very beginning -> the dynamic of climate change makes related risks very different from the kinds of risks we know.
- 4) Part of systemic climate risk comes from inaction. On one hand, very long time horizon (“tragedy of horizon”), but on other hand we are in a desperate race with time -> the ethics of the discount rate.
- 5) Another unique systemic-risk aspect of climate change is its uneven geographic-impact distribution, with vulnerable regions and people likely hurt most -> mandatory global insurance fund, new event-based swaps, weather futures (as hedging devices).

The Ethics of the Discount Rate

- TCFD's reporting rules make no sense unless we apply discount rate to future costs and benefits. We may have to do this over long time horizons (e.g. up to 50 years for, say, power plants), keeping in mind that this dramatically enhances discounting factor.
- If we applied a standard discount rate, say 3 percent, then we'd be willing to spend only 41€ today to avoid 100€ in climate-change damage 30 years from now. But if we applied a discount rate of only 1 percent, we'd be willing to spend 74€.
- In other words, the kind of discount-rate calculations we typically make in investment decisions yields too low a social cost of carbon and so justifies us doing nothing now.
- We are therefore morally obliged, as the parents and grandparents of the future generations facing the full brunt of climate-change damage which our inaction would have imposed on them, to pick a low discount rate $\leq 1\%$. This is a political decision that cannot be left to the market-place alone.
- Need to have uniform and low discount rate (= high carbon price) applied to TCFD rules.

The Carbon Price as a Political Decision

- 1) Inverse relation between discount rate (= social cost of carbon) and carbon price -> see Martin Weitzman's work. If discount rate is set too high, then the derived carbon price will be too low.
- 2) Need appropriate carbon price to incentivize transition to low-carbon economy. Without explicit carbon price, any climate-related financial-disclosure regime will be incomplete and inadequate.
- 3) Right now we leave determination of carbon price up to market mechanism of emissions trading schemes known as "cap and trade" (e.g. EU's ETS). Such schemes are supposed to be set up everywhere under Paris Agreement.
- 4) Market-determined carbon prices (as "permit" prices in emission-trading schemes) have been both very volatile and on average too low (5€- 20€/ton).
- 5) We need exactly the opposite, namely steady (i.e. predictable), high, and gradually rising carbon prices (40€/ton in 2020 rising to 100€/ton by 2050) => need to be politically set on global level as carbon tax.

Carbon Budget

- 1) Massive data collection of CFD risks being too diffuse to serve the transition to low-carbon economy usefully with enough incentives and re-allocation signals.
- 2) This data needs to be filtered through centralized umbrella of carbon budget and for that purpose grouped around carbon-emission information.
- 3) The COP21 goal of keeping cumulative temperature rise $\leq 2^\circ\text{C}$ implies capping atmospheric CO_2 concentrations to 450 parts per million (from current 400ppm) => zero net CO_2 emissions by ca. 2060 => global carbon budget of 1000 Gt CO_2 .
- 4) This “strong sustainability” objective of Paris Agreement is, however, matched by “weak sustainability” means only: cumulative NDC targets = 3°C rise; reliance on domestic and int’l trading of emission reductions in voluntary carbon markets.
- 5) We will need much stronger means composed of strict capping, imposition of high carbon prices that polluters will need to pay for, and enforcement of emission reductions: e.g. R. Douthwaite’s “cap and share” plan; FEASTA’s CapGlobalCarbon.

Emission Reduction Certificates

- No matter what GHG-emission reduction strategy we develop in line with global carbon budget and the NDC goals set out by COP21 process, we shall need a globally recognized and tradeable instrument of GHG emission reductions, the so-called ERCs, whose value is tied to the global carbon price in place.
- We will need to find ways for ERCs being earned by businesses providing environmental services so that their contributions to GHG emission reductions yield them proportional revenues, as new business model in *eco-capitalism*.
- ERCs need to be the at center of sustainable accounting standards, climate-related financial disclosure rules, climate finance (with ERC-denominated financial instruments), carbon money (monetized by central bank, part of bank reserves, perhaps even included in SDRs).
- Mechanism for validation of emission reductions -> public body and/or global network of climate commons.
- Connect ERCs to pollution permits of "cap & trade" or "cap & share" schemes => figure out convertibility rules.