Policies and institutions for a smooth transition

Climate macro and finance course 2022 - Lecture 5

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Course student evaluation

- Very interested in your opinion
    - Honest feedbacks help me improve the course
    - FYI: next year GREENFIN 30h master course open to PhD students
    - So, for instance, what parts do you think I should expand?
- Please click on this link
    - Comments by the end of the week, please

Last lectures

- What needs to be done?
    - Phase-in: Financial investments $\rightarrow$ low-carbon physical investments
    - Phase-out: Minimise economics/financial volatility
- How do we study this?
    - Conceptual frameworks and qualitative approaches
    - Prospective macro-financial modelling
- Today: What do we do?
    - Which policies should we implement?
    - Which institutions should implement what?

Outline of today's lecture

- Some basic concepts
- What's being done?
    - Fiscal policies
    - Public spending/lending
        - → Nicolas' presentation on Geddes and Schmidt (2020)
    - Informational financial policies
    - Promotional financial policies (?)
- Institutional limitations to further policy action
    - What explains heterogeneity of sustainable finance policy-making?
    - The European green finance gridlock
    - Ways forward?
        - → Christian's presentation on Chenet et al. (2021)

Basic concepts

- Motives: why is a policy being implemented?
  - *Promotional*: Steer credit allocation
  - *Prudential*: Ensure financial stability
- Instruments: what type of policy is implemented?
  - *Informational*: Expand/improve information available
  - *Incentive-based*: Introduce (monetary) incentives
  - *Quantity-based*: Impose direct quantitative controls
- Authorities: who implements the policy?
  - *Political authorities*: Institutions defining and pursuing development strategies (e.g. government)
  - *Delegated authorities*: Institutions with specific delegated mandates (eg. central banks)

What's being done

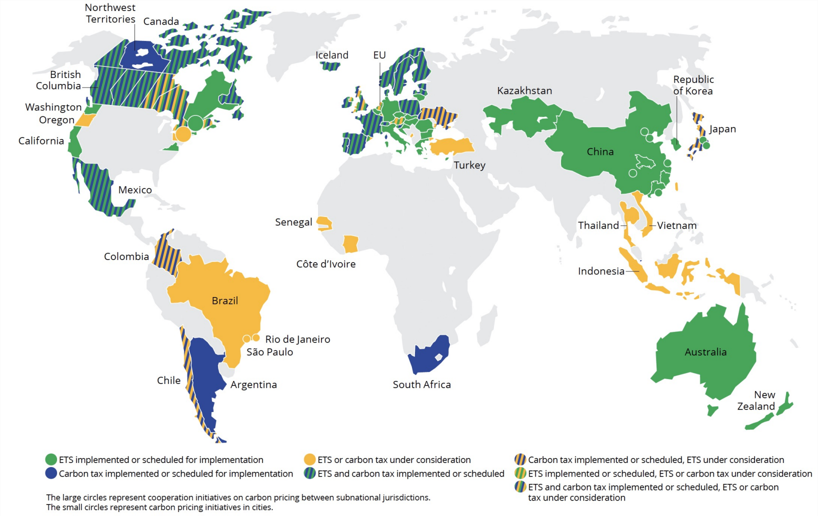
Ongoing policy initiatives

- Command and control regulation
- Market-based instruments
    - Carbon prices
    - Low-carbon subsidies
    - Phase-out of fossil fuel subsidies
- Public spending/lending
    - Government investment and consumption
    - Public development banks
    - Climate-related ODA
- Sustainable finance policies
    - Clarify rules and concepts
    - Risk assessment and disclosure
    - Steer financial flows to low-carbon firms (?)

Carbon pricing

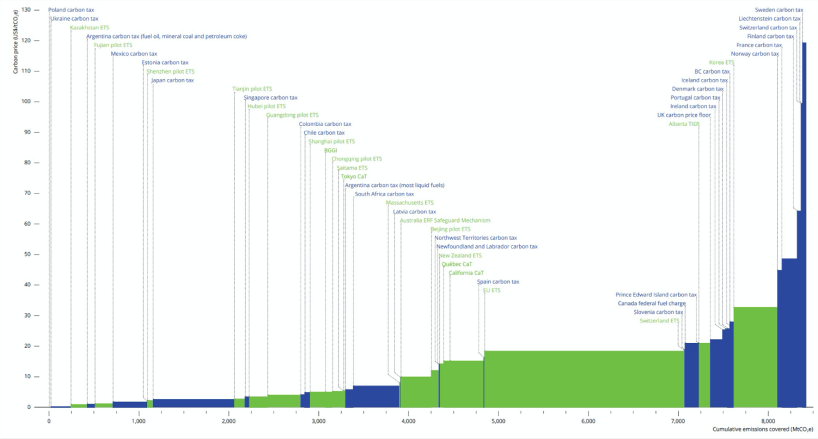
- Several benefits
  - Shift consumption/investment incentives
  - Incentivise R&D in low-carbon and carbon-saving technologies
  - Carbon revenues to be recycled ('double dividend')
- First option: introduce a tax
  - Fix a tax base and a tax rate
  - The price is set, but quantities of CO_2 may vary
  - Doesn't require new legal infrastructure
  - A clear price allows firms to plan ahead
- Second options: Create a cap-and-trade system
  - Fix an amount of emission allowances and distribute them (grandfathering and/or auction)
  - Quantities are set, but price is determined by market exchanges
  - More certain pollution reduction pathways
  - Individuals usually prefer it to a tax

Current carbon pricing initiatives



Source: World Bank (2020)

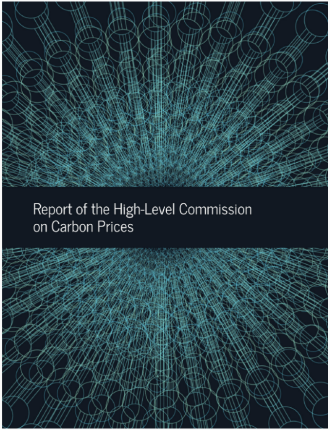
Emission coverage and prices



Source: World Bank (2020)

What is the 'right' carbon price?

- 2017 High-Level Commission on Carbon Prices
  - Led by Nick Stern and Joe Stiglitz
- A 2°C-compatible carbon price needs to be in the range of:
  - \$40-80/tCO_2 by 2020
  - \$50-100/tCO_2 by 2030
- Recent update:
  - Stern and Stiglitz 2021 on NBER



Source: High-Level Commission on Carbon Prices

EUA spot price

Source: CORE

Carbon pricing limitations

- It can be argued that carbon price will also bring along financial investments
  - However: several issues with carbon pricing
- It may never be introduced
  - Distributional issues, regressive (?)
  - Triggers popular reactions (see gilets jaunes)
- Even when introduced, it may not stay
  - See Tony Abbot and the Australian carbon tax
- Even when stable, the price may not be high enough
  - See European Union ETS
  - Lobbying interventions when setting a tax
- Additional financial market failures
  - Banks and financial investors may not want to lend even in presence of the ‘right’ prices
  - See European banking system after GFC

Green public spending

- Some investments are just too large and/or unprofitable
  - Direct intervention by public actors needed
- Green public investment
  - Public intervention needed to create infrastructure (e.g. high-speed railway, smart electricity grids)
  - Problem: public debt and austerity narrative
  - Change of pace with European Green Deal?
- Green public procurement
  - Public procurement represents around 15-30% of GDP
  - Secure source of demand (but is supply available?)
- Climate-related ODA
  - Commitment: 100 US$bn per year by 2020 from OECD to developing regions Multilateral climate funds
  - Pledges vs disbursements

Public development banks

- Financial institutions with a strong public component with the goal of supporting economic development
    - Multilateral development banks:World Bank group, EIB, EBRD, ADB, IaDB etc.
    - National development banks: KfW, BNDES, CDP, and others
- Development banks at the forefront of international climate financing
    - And instrumental in the diffusion of green bonds
- Development banks have two main sources of finance
    - Public budgets
    - Private finance raised on capital markets
- However, development banks' action is limited
    - Not real banks
    - Constrained by government capital commitment and leverage ratios

Sustainable finance: clarify concepts and rules

- Investors need a commonly agreed interpretation of categories and rule
  - What does it mean to be 'green'?
  - Avoid greenwashing
- Development of a 'taxonomy' of sustainable activities
  - See: EU taxonomy for sustainable activities
- Development of green bond standards
  - See: EU green bond standard
- Development of climate-related benchmarks
  - See: EU climate benchmarks

Sustainable finance: risk assessment and disclosure

- Unclear how to calculate exposure to climate/transition risks
  - Exposure of business operations (firms)
  - Exposure of financial assets (financial institutions)
  - Exposure of financial systems (financial supervisors)
- Once assessed, risk exposure needs to be disclosed for market discipline (and regulation) to work
- Examples
  - See: Task Force for Climate-Related Financial Disclosures (TCFD)
  - See: EU Disclosure Regulation
  - See French Energy Transition Law (Art. 173)

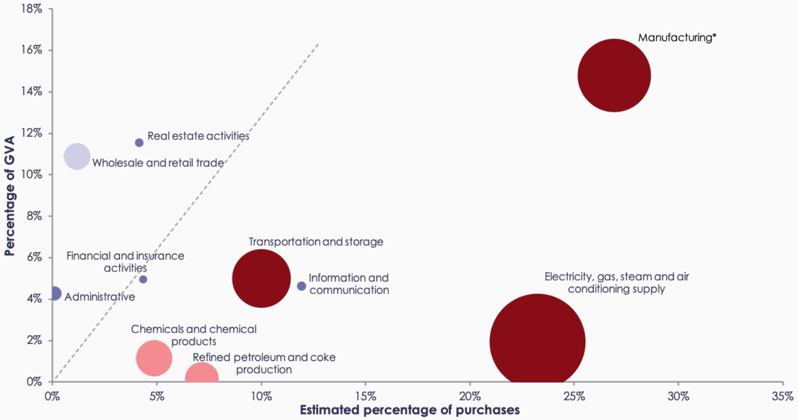
Sustainable finance: promotional policies

- Recalibrate prudential regulations so to give incentives to low-carbon investments:
  - Similar in spirit to a carbon price
  - Capital, liquidity and reserve requirements
  - E.g. Banque de Liban differentiated reserve ratios
- Use monetary policy tools to offer incentives:
  - Bank of Japan refinancing conditions depending on greenness
  - Chinese MPA framework by PBoC: greener banks pay lower interest rates on reserves
- Force banks to give credit:
  - Credit quotas set by Reserve Bank of India and Bank of Bangladesh

Green quantitative easing

- Quantitative easing (QE):
  - Programmes of purchase of financial assets by central banks (ECB, Fed, BoE, BoJ..)
  - Necessary when policy interest rates reach zero
  - Mainly sovereign bonds, but also corporate bonds, ABS, ..
  - Driving criteria: market neutrality
- Green quantitative easing idea:
  - Purchase green assets (e.g. ‘green bonds’) to ensure liquidity to green activities and lower their financing costs
  - Might help ease current high-carbon bias of QE programmes

A high-carbon bias in the ECB QE programme?



Size of bubble indicates relative contribution to emissions in the Eurozone. Source: Matikainen et al. (2017)

Institutional limitations to further policy action

What do we observe?

- Higher-income western regions (EU, UK, US):
  - Disclosure, taxonomy, stress testing
    - Rationale: give info to markets; markets will price
    - Supported by PAs for promotional reasons
    - Supported by DAs for prudential reasons
- Lower-income emerging regions (China, India, + Japan):
  - Similar focus on informational policies
  - Plus incentive and coercive policies, mainly targeting banks
    - i.e. ‘Prudential’ policies used for non-prudential purposes

What explains difference in behaviours?

- Degree of public control on private financial markets
  - Europe et al.: market discipline
  - China et al.: market statism
- Strength of delegation
  - Europe et al.: more independent agencies
    - Clear delegations with limited mandates (CBI)
    - Concurrent relative weakness of PAs
  - China et al.: more dependent agencies
    - DA policies support PA development objectives

Central bank interventions on climate: why?

- Main justification: climate-related risks could affect ability to achieve mandated objectives
  - Financial stability (see lecture 2)
  - Price stability (inflation and loss in monetary policy effectiveness)
- Can we prove materiality of climate-related risks?
  - Data availability and granularity (see Global Monitor or GeoAsset projects
  - Empirical analysis still in development (especially on sentiments)
  - Modelling frameworks needed

Example: the green supporting factor

- EU Action plan (link)
  - Action 8: Incorporating sustainability in prudential requirements
  - '.. explore the feasibility of ... potential calibration of capital requirements of banks'
  - '.. where this is justified from a risk perspective..'
- EU Parliament proposal (link)
  - Adjust risk weights by a factor of 0.7612 (or 0.85 for exposures larger than €1.5mn) for green assets

Who controls the purpose of banking and financial regulation?

Valdis Dombrovskis (EC) 2017

‘To incentivise lending, we are looking positively at the European Parliament’s proposal to amend capital charges for banks to boost green investments and loans by introducing a so-called green supporting factor’

‘Any capital relief for green assets must be based on clear evidence that they are less risky than non-green assets.’

Andrea Enria (EBA) 2019

The European green finance gridlock

		Delegated authorities	
		Fits with objectives	**Does not fit with objectives**
Political authorities	**Fits with objectives**	Disclosure standards; taxonomies; benchmarks; stress-testing; green bond standards	Green-supporting factor; other green prudential policies; green monetary policies
	Does not fit with objectives	Dirty-penalizing factor; sectoral leverage ceilings; credit controls	

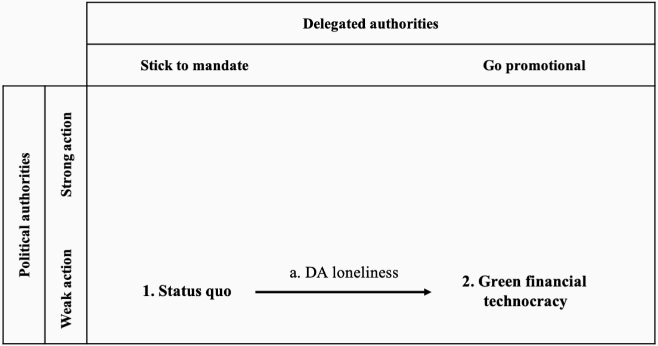
- Only policies that fall into the the NW quadrant are admissible
- A European ‘promotional gap’
    - Finance is not pushed in direction of green investments strongly enough by anyone

The status quo

		Delegated authorities	
		Stick to mandate	**Go promotional**
Political authorities	**Strong action**		
	Weak action	**1. Status quo**	

- Status quo:
    - PAs taking weak actions
    - DAs sticking to prudential reasons and market neutrality
- Ultimately unstable due to environmental constraints and limited effectiveness of informational policies:
    - Someone needs to go promotional

Lonely DAs



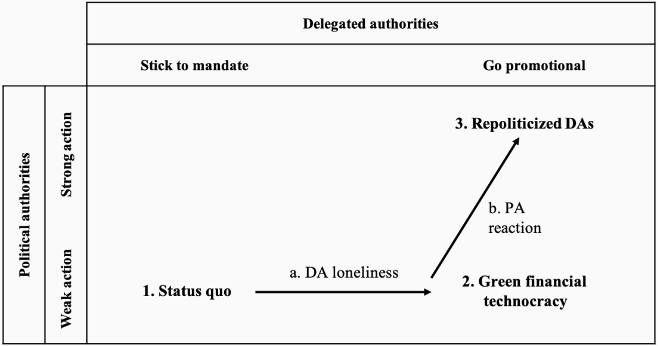
- Government takes no action:
  - DAs forced to go promotional (output legitimacy concerns)
  - ECB/BoE moving there? (see recent Lagarde/Bailey speeches)
- Outcomes:
  - Technocracy (a green financial Leviathan)
  - Triggers PA reaction

A promotional future?

- ECB seems to be moving towards promotional motives
- Isabel Schnabel (ECB Executive Board)
    - 'We could also consider reassessing the benchmark allocation of our private asset purchase programmes. In the presence of market failures, market neutrality may not be the appropriate benchmark for a central bank when the market by itself is not achieving efficient outcomes.'
- Unclear where this will lead

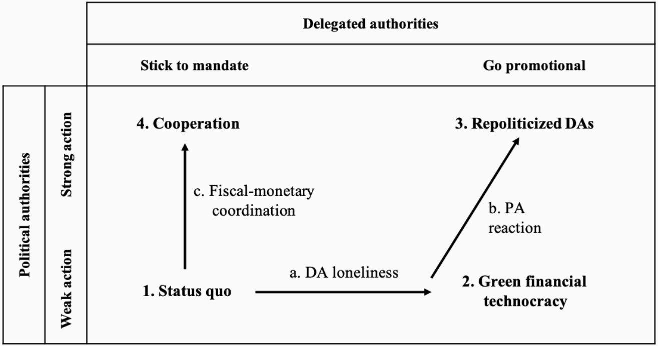
Figure: Financial Times (3 Jan 2021)

Loss of delegation - A green central bank



- Promotional DAs clash with PA sphere of influence
  - In the clash, PAs will always end up winning
- Reappropriation of policy function by PAs
  - A green central banking with less independence
  - Similar to current frameworks in China et al.

Cooperation: two flavours



- Governments can take action, leaving DAs to remain within their mandate boundaries
  - Implement strong fiscal policy leaving DAs to their mandates
  - Delegate climate-related objectives (a ‘carbon central bank’)

Conclusions

Conclusions

- One policy won't suffice: harmonised approach needed
- Promotional government policies
  - Carbon pricing + direct spending
  - Implementation issues
- Financial policies
  - Two possible motives: prudential vs promotional
  - Europe et al: only prudential motives allowed by institutional settings
  - China et al: both prudential and promotional motives are allowed
- Where could this lead us?
  - Need to find a way to combine effective climate action with institutional legitimacy
  - Idea of a carbon central bank potentially promising