Upgrading Climate Finance in adverse economic conditions?

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Lessons from Kyoto's unfinished business

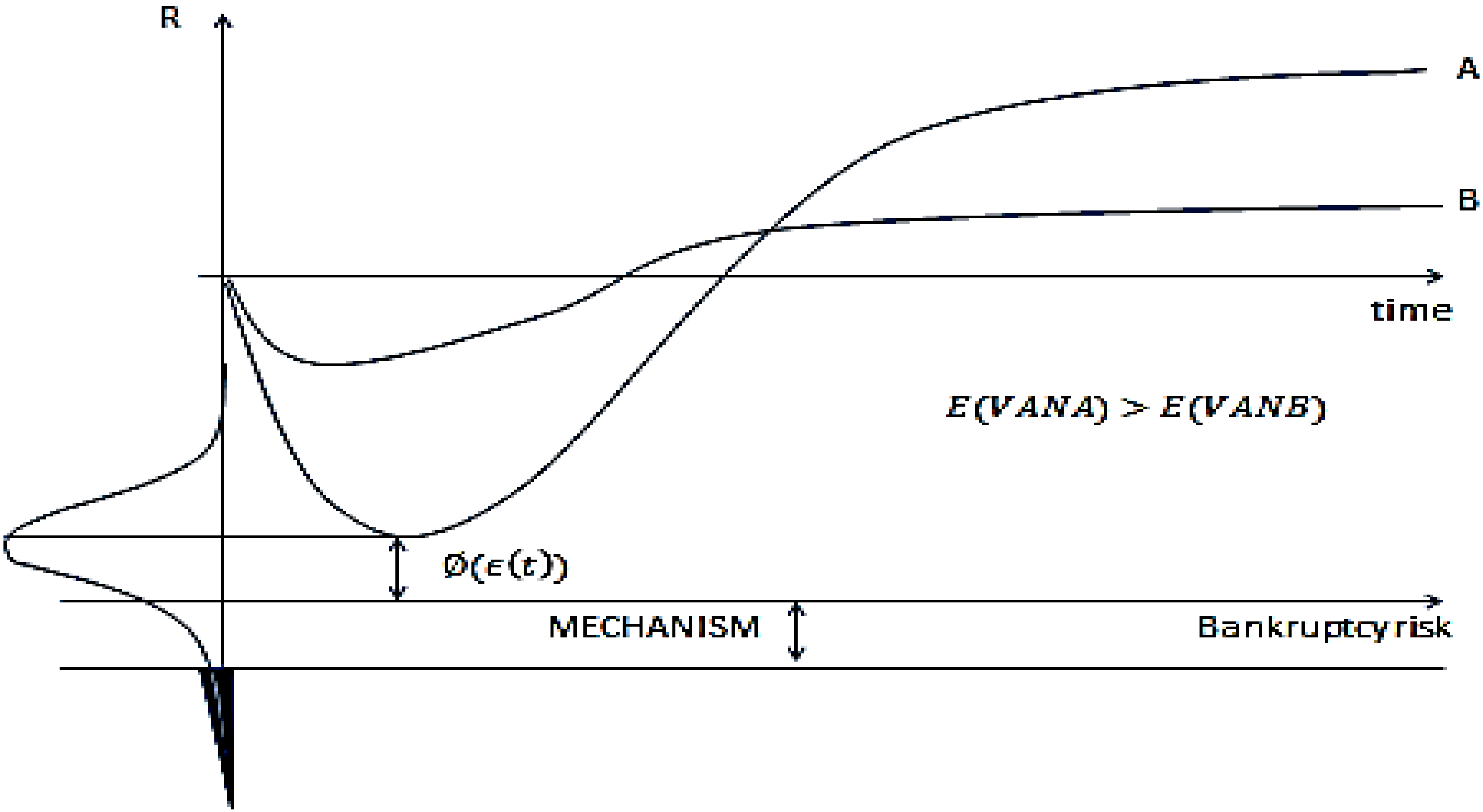
A 'mental map' (world cap and trade with ***unique carbon price*** an c***ompensating transfers)*** which

- does not indicate that significant carbon prices hurt, in the short term:
  - **the existing capital stock** in developed countries
  - **the industrialisation process** in emerging economies without preventing their **lock- in** carbon intensive growth pathways

- ignores that technologies are not selected in function of their levelized costs in **a 'shareholder' regime** of firm management

- leads to an **adversarial exercise about the sharing of a few remains** and **does not indicate the benefits of cooperation**

‘Finance’ and energy prices in an uncertain world



CBDR and GCF at risks of the distrust?

- How to pass from 3G$ per year to 100G$ and 500G$ in a context of ***'depression economics', 'public debts'*** and ***rebalancing of the world economic equilibrium***:
  - exarcerbates the **'donor fatigue'** in the Annex 1 countries
  - Reinforces the **resistance** to carbon pricing (explicit or implicit)

- A problem of **orders of magnitude**
  - **Incremental Investments < 0,5% of the GDP in non O&G countries**
  - **leveraged** inv costs**< upfront** inv costs **< induced** inv costs
  - **Redirected investment = 8 to 9% of the Gross Capital Formation**

Turning the question upside down to mobilize the 'climate agnostic' policy-makers

Post 2008: between instable growth and depression economics

- ***« Saving glut »*** and ***« Buridan's Donkey »*** dilemma for investors

- Risks of ***depression*** vs risks of **re-unleashing speculative bubbles**
- ***Banking systems*** still ***fragile*** and in process of ***deleveraging***
- Tensions due to a « ***currency cold war*** »

(see Fault Lines by Rajan Raghuran)

Turning the question upside down to mobilize the 'climate agnostic' policy-makers

- ***Because*** a massive redirection of investments ***concerns 40% of the economic sectors:***
  - ***Climate policies can stimulate an inclusive growth recovery***
  - ***Climate finance can't stay a marginal section of global finance***

Low carbon finance: a good candidate

- To **redirect savings towards infrastructure and industry**
- ***Revitalize the industrial fabric*** in OECD countries (and in the EU)
- ***More inward-oriented growth*** in emerging economies
- A **more resilient financial and monetary order**

A C.R.A. device

(Climate Remediation Assets)

The agenda

- ***Inject liquidity conditionnal upon its use for low-carbon investments***
- ***Awake the Buridan's Donkey:*** public guarantee to lower the risks
- ***Enhance the solvency of low-carbon entrepreneurs***'
- Make the ***Banking System interested*** in an easier conformity to their prudential constraints and a higher **RWA (risk-weighted asset)**
- **Make institutional investors** interested in carbon-based financial products to attract savings
- Trigger a ***wave of LCI in infrastructure***
  - ***Revitalizing the industrial fabric*** in OECD countries
  - ***More inward-oriented growth*** in emerging economies

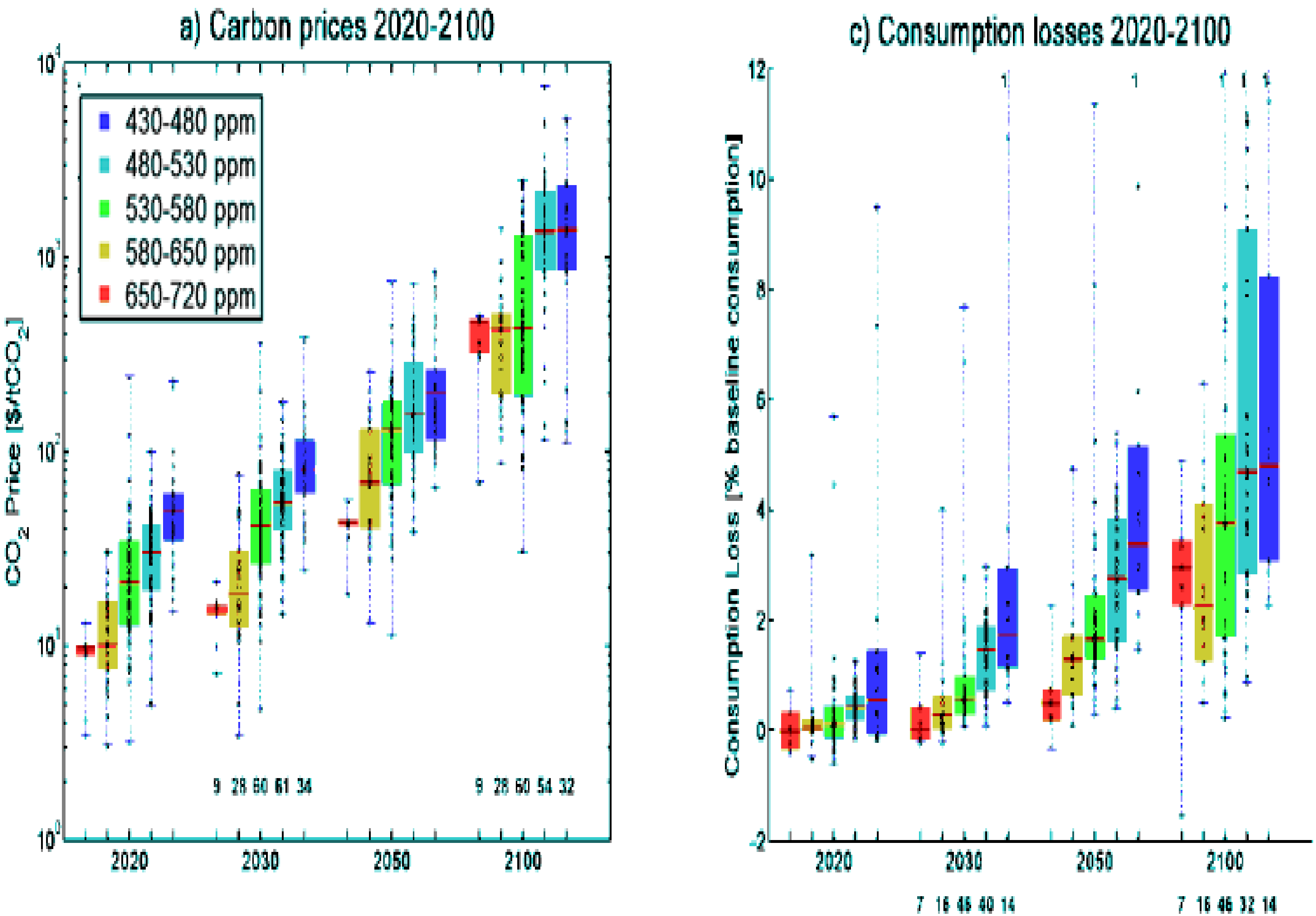
Sketching a possible mechanism

1. ***Its anchor*** **:** an agreement, under UNFCCC on ***a Value of Climate Remediation*** (per ton of avoided carbon emissions*)*
2. ***Voluntary commitments, by 'clubs' of governements,*** to back a quantity of ***C.R.As*** over every five years
3. Central banks open ***credit lines*** and accept as repayment ***carbon certificates (CC)*** to fund LCIs
4. ***An Independent Supervisory Body*** to certify the eligibility of the projects in function of the **NAMA's** list and secure the ***statistical additionality*** of the system through the allocation rules of the CC
5. ***Asset swap after certification*** of project completion**: CC <-> C.R.A**
   C.R.As appear on the balance sheet of central banks (like gold)

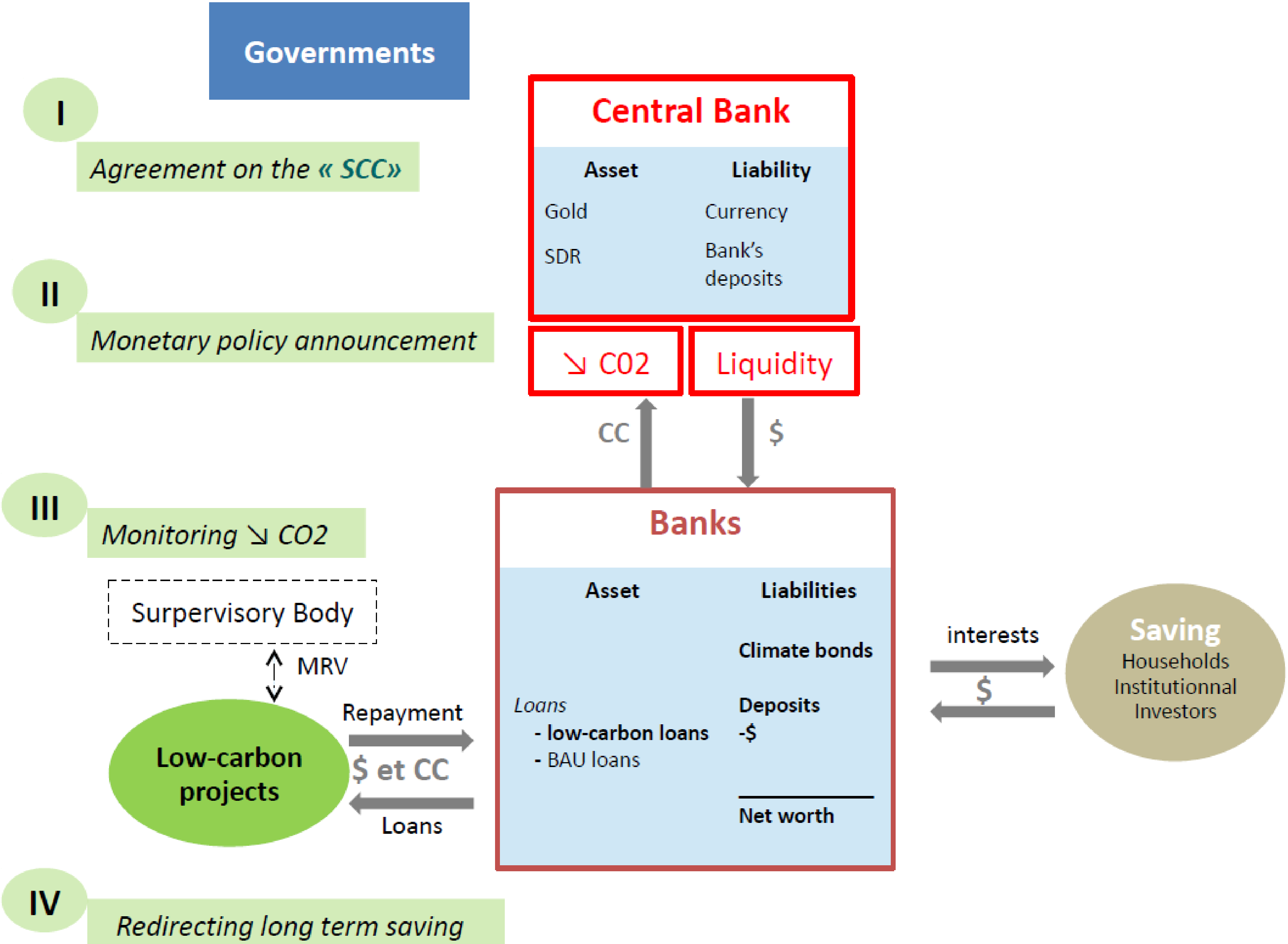
The VCRA: a notional value, not a carbon price

1. **A signal of the political will 'to do sth' against climate change**
2. **It increases over time -> counterbalance the role of discount rate against investing in long lived capital stocks**
3. **Surrogate of a « gobal price signal »:** it does not hurt existing capital stock and ***avoids the fragmentation*** of climate finance
4. **Politically negotiable** :

- The cost of cement in India will not be doubled by a 50$/t VCRA
- The VCRA differs across countries but is conditional upon the content of their development policies
- Hence countries may accept ***similar VCRA for different reasons,*** including various views of the co-benefits of climate mitigation



a) Carbon prices 2020-2100
430-480 ppm
480-530 ppm
530-580 ppm
580-650 ppm
650-720 ppm
CO_2 Price [\$/tCO_2]
9 28 60 61 34
9 28 60 54 32
2020
2030
2050
2100
c) Consumption losses 2020-2100
Consumption Loss [% baseline consumption]
7 16 46 40 14
7 16 46 32 14


Governments
I
Agreement on the « SCC»
II
Monetary policy announcement
III
Monitoring ↘ CO2
Surpervisory Body
MRV
Low-carbon projects
Repayment
$ et CC
Loans
IV
Redirecting long term saving
Central Bank
Asset
Liability
Gold
Currency
SDR
Bank's deposits
↘ C02
Liquidity
CC
$
Banks
Asset
Liabilities
Climate bonds
Loans
- low-carbon loans
- BAU loans
Deposits
-$
Net worth
interests
$
Saving
Households
Institutionnal
Investors

Gvt's commitments and issuance of carbon-based liquidity by Central Banks

Central Bank balance sheet

Asset	Liability
Gold	Bills and coins
Sovereign bonds	Banks' deposits
% of Governments' "CO_2 commitment"	Liquidity drawing right

Out of balance sheet

New credit lines for commercial banks, refundable with ↘ of CO_2

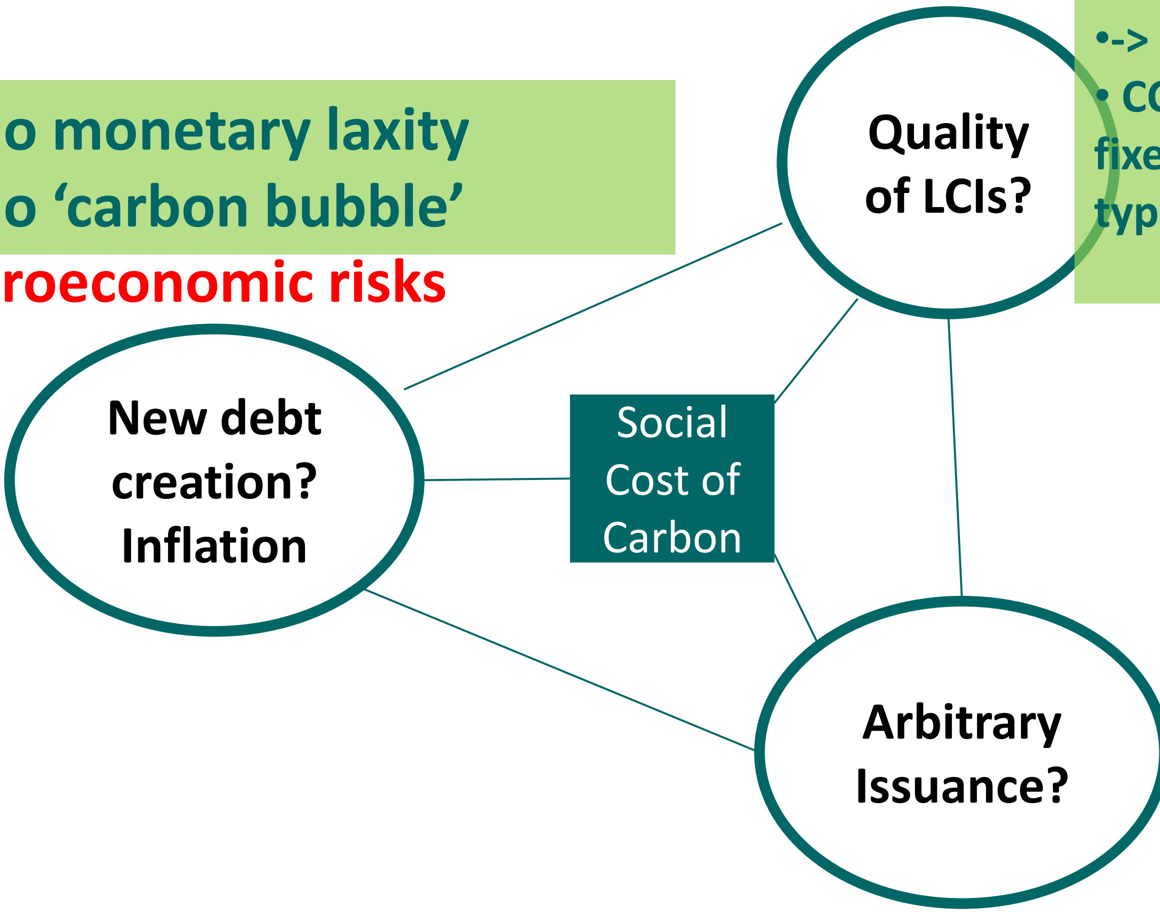
Adressing potential risks of the system

- No monetary laxity
- No ‘carbon bubble’

Macroeconomic risks

Environmental risk

- -> statistical additionality
- CC pre-determined share of a fixed EV of abatements per type of investment



Regulatory risk

To be weighed against the benefits of redirecting part of (misused) savings toward a « green growth » recovery

Orders of magnitude

based on last ‘World Energy Outlook’ and macroeconomic simulations from Imaclim – R

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The nature of the funding challenge

1. **Cumulated Energy Related Investments in the US up to 2035**

   - BAU: between **5,5** and **6, 05** trillions US$

   - 450 ppm: between **5,83** and **6,39** trillion US$

2. **Cumulated Energy Related Investments in the EU up to 2035**

   - BAU++: between **4,94** and **5,25** trillions US$

   - 450 ppm: between **5,29** and **6,61** trillion US$

3. **Cumulated Energy Related Investments in the world up to 2035**

   - BAU: between **47, 44** and **54, 7** trillions US$

   - 450 ppm: between **39,68** and **43,17** trillion US

Orders of magnitude of the C.R.A.s issuance (in 2035)

	OECD	DC (Middle East Excl)
Total Energy INV	**988**	**1143**
Redirected INV	**494**	**571**
Need of Carbon Assets		
Leverage 5	**98**	**114**
Leverage 10	**49**	**57**

% of the total GDP **between 0.19 and 0. 30**

The full study available at http://www.centre-cired.fr

See also

Venturing into uncharted financial waters: an essay on climate-friendly finance finance JC Hourcade, BP Fabert, J Rozenberg, ***International Environmental Agreements: Politics, Law and Economics*** 12 (2 ...

Can indebted Europe afford Climate Policy? Can it bail out its debt without Climate Policy? M Aglietta, JC Hourcade ***Intereconomics*** 47 (3), 81-87