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Climate Change, Monetary Policy and Financial Stability: Fiddling While Rome Burns?

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Debates on the role central banks and financial supervisors in the age of climate change are intense

So far, two issues have been assessed largely in isolation:

- Growing ecological threats to price stability and financial stability
- Ongoing redefinition of the role and actions of central banks (large asset purchases, liquidity provision, etc.)

In Oman, Salin, and Svartzman (2022), we identify **three main normative approaches** to the practices of central banks and financial supervisors (CBFS) with regards to ecological issues – ordered by rising scale of their response:

1. **Risk-based approach:** address climate insofar as it poses risks to monetary/financial stability
2. **Proactive central banks and financial supervisors**
3. **Evolutionary perspective** on role of central banks and financial supervisors

- A less common view is that CBFS should refocus on “core mission” as the “first-best” solution is carbon pricing

Each approach rests on different underlying conceptions of the **world**, **money**, **finance,** the **state** and **value**

These assumptions are **historically and ideologically situated**

This raises the question of the **origins of central bank mandates** and the theories/beliefs that support them

View 1 – Central banks and financial supervisors as guardians of financial stability

Rationale – implicitly assumes money neutrality, efficient financial markets, market-fixing state

- Financial system resilience to climate-related risks is within CBFS's mandate
- Climate change could affect CBs' ability to deliver on price stability
- **CBFS can contribute to transition by assessing physical/transition risks to price/financial stability**

Proposals

- Measure climate-related risks to financial and price stability
- Forward-looking scenario analyses (climate stress tests), Basel framework
- Monetary policy: assess implications of climate for design of monetary regimes

Debates and potential limitations

- CBs may directly or indirectly contribute to build-up of climate-related risks (double materiality)
- Clim. risks hard to measure; good measurement does not naturally lead good capital reallocation
- **Therefore, unclear that CBFS would be able to deliver on their price and financial stability mandate**

View 2 – Climate-proactive central banks and financial supervisors

Rationale – assumes money non-neutral, financial markets not efficient, market-shaping state

- CBFS have significant power over finance, which has significant power over the economy
- Climate-related radical uncertainty requires precautionary approach
- **CBFS can trigger systemic change, and should play proactive role to green financial system**

Proposals

- Regulated financial institutions required to submit low-carbon transition plans
- Differentiated interest rates, double materiality
- “Green” QE, CB purchases of low-carbon bonds issued by public investment banks

Debates and potential limitations

- Could lead CBs to aim to resolve social problems that should fall on governments
- CBs’ actions need to be accompanied by measures in real economy
- There could be clashes between existing objectives and environmental objectives (greenflation)
- **Unclear CBs could deliver on inflation mandate, change in CB mandate likely needed**

View 3 – Evolutionary role of central banks and the state in the economy

Rationale – views money as social institution, finance as unstable, state as key for coordination

- Dilemma: CBs may need to work on Views 1-2, but can't substitute for other actors' insufficient actions
- CBFS and financial system are exposed to Green Swans – calling for policy coordination, system change
- **CBFS transformation necessary but part of broader institutional change, requiring evolutionary perspective**

Proposals

- CBFS could play a new role within the policy framework
  - Coordination with other policy institutions (but fiscal, industrial, sufficiency policies need to be in place)
- CBs would support governments by keeping borrowing costs low
- Direct monetary financing may be valid option

Debates and potential limitations

- Issue of CB independence and compatibility of proposals with existing CB mandates
- CBs have limited ability to address other ecological crises & are affected by ecological limits (growth)
- Need to consider interactions between real & monetary-financial sides of economy
- **May require democratic debate on balance between CBs' inflation goals & environmental objectives**

Do tipping points mean we are in a planetary emergency?

All three views may be affected in profound ways by an unacknowledged development – we may already be in an ecological emergency (Lenton et al. 2020):

$$E = R \times U = p \times D \times \tau / T$$

- Define **emergency** (E) as product of **risk** and **urgency**
- **Risk** (R) defined by insurers as **probability** (p) multiplied by **damage** (D)
- **Urgency** (U) defined in emergency situations as **reaction time to an alert** (τ) divided by **intervention time left to avoid a bad outcome** (T)
- Situation is an emergency if **both risk and urgency are high**
- If **reaction time is longer than intervention time left** ($\tau / T > 1$), we have lost control

State of planetary emergency could have major implications for decision under uncertainty…

Climate change poses a big challenge to decision under uncertainty (Hansen 2022)

- Model **misspecification** could unravel insights/overturn predictions in significant ways
- Need to explore model misspecification indicates the limitations of our **body of knowledge**

With great power (to destabilize the Earth system) comes great responsibility:
Ethical "obligation to know" our impacts faces limits & unpredictability (Dupuy 2022)

- Objective and **structural complexity of ecosystems** – unknowable tipping points
- Unpredictable limits to the **substitutability of natural inputs with artificial inputs**

The concept of financial risk could become less relevant as risk compensation/insurance cannot occur when damages are global (e.g., global cascade of tipping points) (Bourg 2022)

… leading to crucial open questions on the role of central banks – do they need a "Plan B"?

Bottom line: Are efforts by central banks to maintain old mandates and old monetary policy frameworks in the face of existential ecological challenges akin to **"fiddling while Rome burns"?** (William White)

What is the right philosophical attitude to decide the role of central banks?

- Existing policy frameworks assume Earth system stability – this likely no longer applies
- What is the right **ethics** to decide on the right policy framework for the "age of catastrophes"?
- Normative assessment must anticipate **retrospective ethical judgment of present choices** (Dupuy 2022)
  - "No regrets" policies appear inadequate – not conservative enough

What hierarchy of objectives should guide the choice of policy rules and frameworks?

- In **1930s**, microeconomic goals were subordinated to macroeconomic goals **(Great Depression)**
- In **2020s**, does macroeconomics need to be subordinated to ecology? **(climate/ecological crisis)**
  - *"The economy is a wholly owned subsidiary of the environment, not the reverse"* – Herman Daly

What would this "inversion" mean for central banks – do they need a "Plan B"? (closest to View 3)

- **Revisiting their evolutionary role?** Greater focus on longer-run effects of monetary policy, coordination?
- Does planetary emergency justify **"wartime financing" role for central banks?**
- Does **backward induction justify credit control now?** (likely last resort to avoid tipping points)
  - E.g., U.S. 1977 Reform Act requires Fed to *"maintain long run growth of monetary & credit aggregates commensurate with the economy's long run potential to **increase production** […]."*
- Would this "Plan B" require giving CBs a **new mandate, or a new institutional configuration**?

Thank you