THE TUG OF WAR

GOVERNMENTS, CENTRAL BANKERS AND CLIMATE POLICIES:
ECONOMICS AND POLITICS

Donato Masciandaro

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Outline

- **Four Steps:**
  - 1) **Motivation:** Central Banks and Climate Change: A Political Economy Approach
  - 2) **Facts:** Central Banks’ Green Activism
  - 3) **Analysis:** Politicians, Central Bankers and Climate Change Policies: A Walsh Contract
  - 4) **Conclusion**
1) **Motivation**: Central Banks and Climate Change

- In recent years governments and central banks stressed the relevance of climate change.
- **2015**: 196 national governments signed the Paris Agreement, aiming to limit global warning.
- **2015**: Bank of England’s (BoE) Mike Carney delivered his seminal speech at Lloyd’s, zooming on climate change as a potential source of financial instability.
- From that moment, central banks show an increasing and heterogeneous level of green activism both in the monetary and prudential areas.
- Producing mixing reactions: ....
1) **Motivation: Central Banks and Climate Change**

- Producing *mixing* reactions:
- **Media:**
  - “Climate Change should be tackled by the state, not central banks” (Tony Yates, FT, January 2024)
- **Politicians:**
  - Project 2025, The Heritage Foundation, i.e. the so-called “GOP Manifesto”, p. 740:
  - “Elected official *must* clamp down on the Fed’s incorporation of *environmental*, social and governance factors into its mandate”
- **How to explain it?**
Most of the extant literature has adopted a standard economic approach to investigate the potential of central banks’ climate action.

Two options has been used, given a standard Three Equation Model:

\[
\pi = \pi^e + b\varepsilon y + (\mu - 1) + u
\]

\[
y = (a + m + l) - \pi + \phi \pi^e
\]

\[
i_T = r^* + \pi + \alpha(\pi - \pi^*) + \beta(y - y^*)
\]
Two options have been used:

1) à la Taylor: Explicit climate targets are exogenously included in the central bank’s goal function.

2) à la Tinbergen: Multiple policy rules are considered in order to differentiate the central bank’s tools on a sectorial basis.

But two missing points emerge ...
The **Economic Approach: The missing points** (3/3)

1) **First**, even if in economic terms this would provide relatively more efficient results, central banks’ interventions **cannot** be envisioned as targeting an explicit climate objective but must fall within the scope of their **existing** ones (Dikau and Voltz 2021: only 16 central banks on 135 had an explicit environment mandate)

2) **Second**, this setting **neglects** a crucial fact: green activism implies central bank **non-neutrality**, which automatically means that **any** decision produces both **political** and **economic** effects

For both reasons, a **political** economy approach can be adopted. Going into the details ...
A Political Economy Approach (1/3)

- **Intuition**: given the mandate, the central bank involvement in climate change policy is a **Tug of War**

- **Where**:
  - **Rope** = Legal Mandate
  - **Players** = Central Banker and the Politicians
  - **Outcome** = Central Bank Involvement in Climate Change Policies = how green becomes the actual mandate implementation
A Political Economy Approach (2/3)

- Details:
  - Green activism produces an overlap of policy considerations among three different macro goals: monetary stability, financial stability and climate change.
  - In two different fields: monetary and banking policies.
  - But the more central banks would like to handle multiple goals, the more likely unpleasant trade-offs with redistributive effects can arise.
  - In turn, redistributive effects jeopardise the standard central banks’ neutrality.
  - Then, the need to consider the relationships among politicians and central bankers comes in.
A Political Economy Approach (3/3)

- A Political–economy approach (PEA) can address both the economic and the political perspective

- The PEA can be implemented using a principal–agent framework: central banker contract (CBC) approach

- The CBC approach can be interpreted as an implicit Green Memorandum between the government and the central bank

- That allows to investigate in a transparent way the interactions between politicians and central bankers in designing green policies, uncovering the inherent trade-offs
Background Papers


- *Designing a Green Memorandum: Central Bankers, Politicians, Monetary Policy and Macroprudential Regulation* (with G. Chortareas and R. Russo), 2023, mimeo
2) Facts: Given the **Institutional Setting** ... (1/5)

- **Institutional** setting: the central bank is likely to manage both monetary and banking tools.
- And **climate** change considerations can impact both fields:

Source: The IMF's Annual Macroprudential Policy Survey, 2018
2) Facts: Central Bank Green Activism is ... (2/5)

- The Central Bank Green Activism can be evaluated building up a metric that include a wide range of central bank activities that are associated with climate change issues, as:

  - 1) Green Network participation; 2) Incorporation of ESG criteria in central banks portfolio management; 3) Integration of climate risk into prudential policy; 4) guidelines on environmental risk management; 5) green bond support programmes; 6) green lending guidelines; 7) green reports; 8) mandate updated to incorporate green activities; 9) incorporation of sustainable practices into central bank activities as an institution,

- The resulting CB Green Sensibility Index (from 0 to 14) shows that ...
2) **increasing** ... (3/5)
2) ... in a really **heterogeneous** way, both in terms of **levels** ... (4/5)
2) ... and **dynamics** too; Why? **A Political Economic View ...** (5/5)
3) **Politicians, Central Bankers and Climate Change Policies: A Walsh Contract**

- The *relationships* between politicians, central bankers and climate change policies can be analysed using a Walsh (*contingent* contract) approach (Masciandaro and Russo 2022, Cortareas et al. 2023)

- **General Setting**, in terms of:
  - 1) Economics
  - 2) Politics

- Going ahead ...
1) Economics:

- In the economy there are two productive sectors, brown and green. The former is exposed to a climate shock, which reflects environmental risks, the latter is not.
- The central bank controls both monetary and prudential policies.
- Green activism can influence prudential policies.
- The interactions between the economy and the policy choices influences:
  - output growth and
  - inflation
Politics

❑ Baseline Scenario, 2) Politics:

❑ a) Government and central bank do **not** share the **same** loss function

❑ b) Government members = *Helping hand* career concerned politicians = **benevolent, but myopic players**

❑ c) Central bank board members = *Career concerned bureaucrats* = hawkish/dovish players

❑ d) Given that in a **constitutional** stage a **legal monetary dominance** regime has been defined: Non – **neutral policies do not** fall in the central bank constitutional mandate, including the **green ones**

❑ e) **Actual independence can differ from legal independence.** In fact ....
The **Baseline Scenario (1/3) : Legal Independence (ECB 2020)** ...

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**Table 1**  
Selected indices of central bank independence

(main components of the indices)

<table>
<thead>
<tr>
<th>Political independence</th>
<th>Legal independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Governor not appointed by government</td>
<td>1. Chief Executive Officer (CEO):</td>
</tr>
<tr>
<td>2. Governor’s term &gt; 5 years</td>
<td>• term of office;</td>
</tr>
<tr>
<td>3. All Board members not appointed by government</td>
<td>• appointed by;</td>
</tr>
<tr>
<td>4. Board term &gt; 5 years</td>
<td>• dismissed by;</td>
</tr>
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<td>5. No mandatory government representative on Board</td>
<td>• possibility of holding other offices in government.</td>
</tr>
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<td>6. No government approval for monetary policy formulation</td>
<td>2. Policy formulation</td>
</tr>
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<td>7. Statutory requirement to pursue monetary stability</td>
<td>• Who formulates monetary policy?</td>
</tr>
<tr>
<td>8. Provisions to strengthen the central bank in the event of conflict with the government</td>
<td>• Who has the final word in the resolution of conflict?</td>
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<td>• not automatic;</td>
<td>• Price stability is sole objective or one among others</td>
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**The Baseline Scenario (1/3) : Legal Independence (ECB 2020) ...**

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...
The **Baseline Scenario (1/3) : ... vs Actual Independence (Metrics: Binder, JMCB 2020)**

## TABLE 4

**Correlation between Legal CBI Indices and Political Pressure Measures**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\hat{p}_i &gt; 0$</th>
<th>$\hat{p}_i$</th>
<th>$\hat{p}^{\text{cut1}}_i$</th>
<th>$\hat{p}^{\text{cut2}}_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garriga index</td>
<td>−0.12</td>
<td>0.00</td>
<td>−0.10</td>
<td>0.07</td>
</tr>
<tr>
<td>CWN 1992</td>
<td>−0.21</td>
<td>−0.97</td>
<td>−0.32</td>
<td>−0.44</td>
</tr>
<tr>
<td>Objective independence</td>
<td>−0.11</td>
<td>0.00</td>
<td>−0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>CEO independence</td>
<td>−0.26</td>
<td>−0.96</td>
<td>−0.52</td>
<td>−0.64</td>
</tr>
<tr>
<td>Political independence</td>
<td>−0.03</td>
<td>0.05</td>
<td>−0.04</td>
<td>0.11</td>
</tr>
<tr>
<td>Political autonomy</td>
<td>−0.76</td>
<td>−0.59</td>
<td>−0.70</td>
<td>−0.27</td>
</tr>
<tr>
<td>Limits on lending</td>
<td>−0.04</td>
<td>0.09</td>
<td>−0.05</td>
<td>0.17</td>
</tr>
<tr>
<td>Arnone et al.’s index</td>
<td>−0.65</td>
<td>−0.36</td>
<td>−0.61</td>
<td>−0.08</td>
</tr>
<tr>
<td>GMT 1991</td>
<td>−0.11</td>
<td>−0.05</td>
<td>−0.09</td>
<td>0.01</td>
</tr>
<tr>
<td>−0.23</td>
<td>−0.62</td>
<td>−0.34</td>
<td>−0.95</td>
<td>0.01</td>
</tr>
<tr>
<td>−0.02</td>
<td>−0.07</td>
<td>−0.11</td>
<td>−0.96</td>
<td>0.02</td>
</tr>
<tr>
<td>−0.84</td>
<td>−0.49</td>
<td>−0.25</td>
<td>−0.82</td>
<td>0.02</td>
</tr>
<tr>
<td>−0.06</td>
<td>−0.05</td>
<td>−0.06</td>
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**Notes:** This table shows correlation coefficients between legal CBI indices or subindices and measures of political pressure on central banks. Below each correlation coefficient is the $p$-value for the test that the correlation coefficient is statistically significantly different than zero. Legal CBI data are from Garriga (2016) (averaged over 2010–2012) and Arnone et al. (2007) (for 2003). First column ($\hat{p}_i > 0$) is an indicator that there are any reports of political pressure for the central bank. $\hat{p}_i$ is the fraction of quarters for which there is pressure on the bank. $\hat{p}^{\text{cut1}}_i$
The Baseline Scenario (1/2)

- Then an implicit and contingent contract (CC) can influence the central bank behaviour ...

- Baseline Scenario without a CC:
  - The brown sector does not internalize the future output losses it causes
  - The central bank implements neutral policies both in the monetary and in the prudential fields
  - The government acknowledges the brown sector negative spillovers
  - Moreover, the government knows that the brown sector can invest in green technology, but it considers them adaptation costs

- Then two cases can arise ...
The **Baseline Scenario (2/2)**

- Baseline Scenario *without* a CC:
- Then two cases can arise, assuming the government myopic perspective:
  - 1) If the *adaptation* costs are higher than the brown sector negative *spillovers* to the overall economy
  - 2) If the *adaptation* costs are lower than the brown sector negative *spillovers*
- The government is *brown* as well, and it does not offer any CC
- The government becomes *green*, and it is ready to offer an implicit CC ...
The **Green Memorandum Scenario (1/2)**

- The Government can offer a **green Memorandum (GM)** to the central bank
- The GM represents a legitimacy signalling that allows the central bank to disfavour the brown sector and promote the green transition
- As any CC the GM is a “stick and carrot” device:
  - The GM lets the central bank to introduce a “tilt factor” penalizing the allocation of financing to the brown sector
  - A punishment is present, representing the central bank disutility of a political stigma, influencing the central bank actual independence
- Depending on the climate preferences of government and central bank, the GM can be interpreted in either a hostile or cooperative equilibrium
The Green Memorandum Scenario (2/2)

- **Hostile equilibrium**: a green government bend a hawkish central bank to its political agenda
- **Cooperative equilibrium**: the GM allows a dovish central bank to stretch its mandate
- In any case, now the central bank is allow to take preventive action to incentivize the brown sector to become green
- The central bank applies the tilt factor, calibrating the prudential policy
- The tilt factor should be large enough for its implied losses to exceed those the brown sector would bear to adapt
- Being uncertainty, it’s a scenario with multiple equilibria...
Green Equilibrium vs Brown Restrictive Equilibrium

- Where two extreme opposite situations can arise:
  - 1) The tilt factor losses are bigger than the adaptation costs = green equilibrium
  - 2) The tilt factor losses are lower than the adaptation costs = brown restrictive equilibrium

- The brown sector would not switch, and simultaneously a relative restrictive prudential policy will be in action

- The more the restrictive action will cause aggregate effect, the more likely will be both intended and unintended non-neutral effects

- Under some conditions, a green activism paradox can emerge: green firms are relatively more penalized
In these years all central banks address climate risks, in defining and implementing both monetary and macro prudential policies.

The green activism shows a high degree of heterogeneity.

Political economy explanation: green activism is the actual outcome of an implicit contract between government and central bank that defined which actions are at the same time economically and politically feasible.

Theoretical extension: Grabbing hand perspective, green activism in both monetary and banking field.

Empirical extensions: uncovering the actual implicit contracts using text-analysis (Ferrara et al. 2021), building up consistent metrics, testing their macro impact.
That's all Folks!