Comments on Ferguson et al., "Central Bank Balance Sheets"

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May 12, 2023

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The authors assemble a remarkable 400 year data set of CB balance sheets and their correlates

- They have undertaken a monumental empirical and historical task.
- We are in their debt for the data set.
- (By saying this I am not minimizing their other contributions. But there is much more here than crunching, or re-crunching, an existing data set.)

The authors assemble a remarkable 400 year data set of CB balance sheets and their correlates

- In addition to important data, there are important findings.
  - The authors show that the circumstances in which CBs expand their balance sheets have changed over time.
    - Initially, war finance.
    - More recently, financial rescues.
  - They find that liquidity support during financial crises is stabilizing.
  - They also find that it raises the probability of future boom-bust cycles (moral hazard).

These findings are not surprising, but their straight forward nature doesn't make them less important.

- The second finding, about boom-bust cycles, confirms basic intuition, namely that financial-market participants respond to incentives, if not always in socially-desirable ways.
- The first finding, of stabilizing effects on financial markets, confirms my view of the importance of the CB's lender-and-liquidity-provider-of-last resort function.

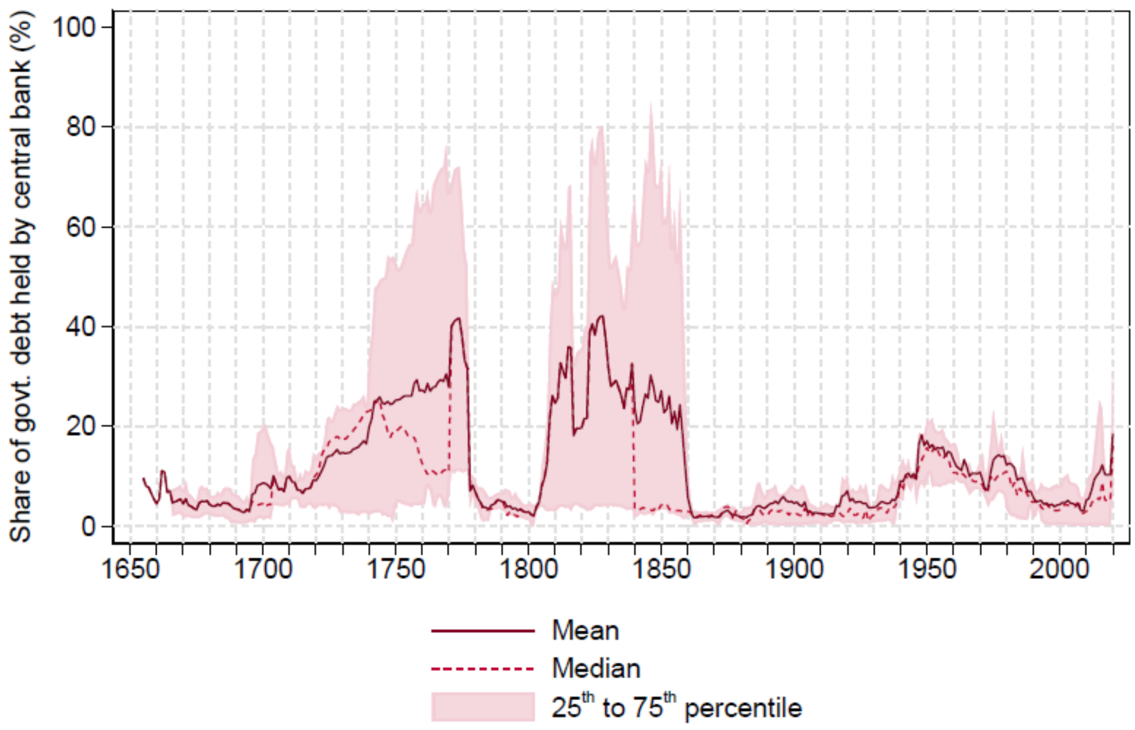
- In addition, there are many other findings in the paper. They should reassure the balance-sheet alarmists amongst us.

Is fiscal dominance more of a problem now than in the past? Not obviously.

(This is also a reminder of how early central banks originated as financiers to the state.)

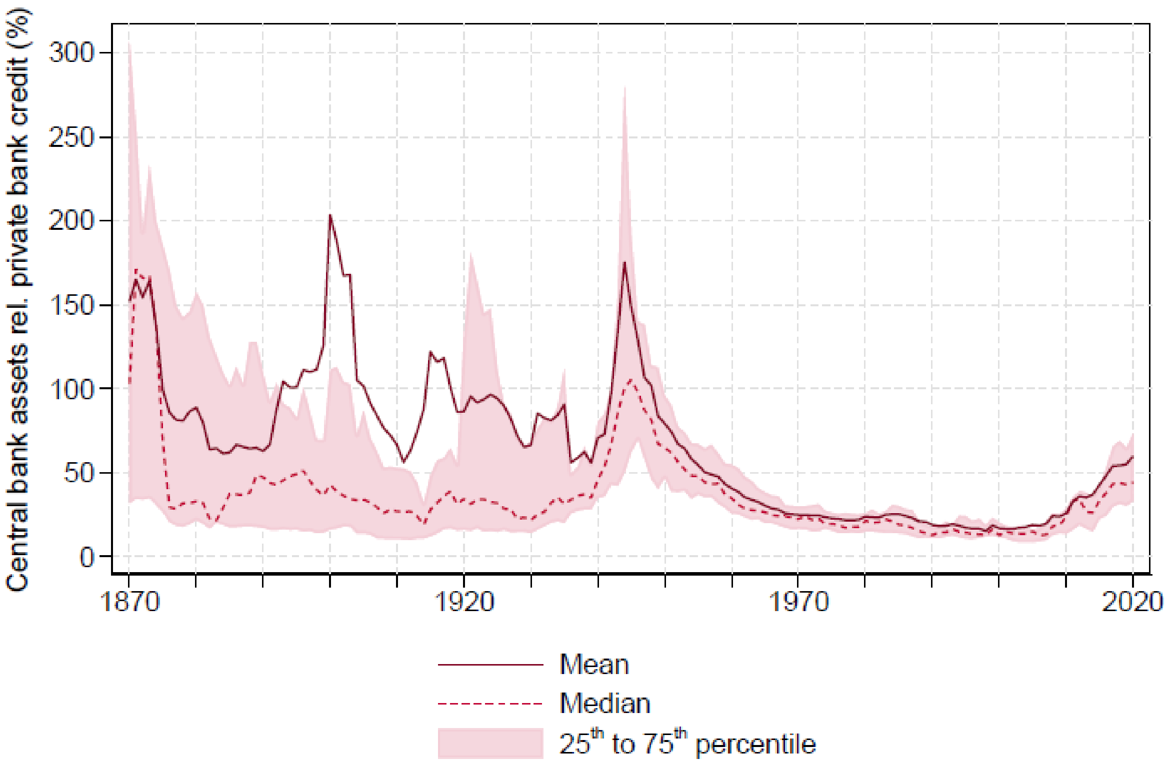
Figure 3: Government debt held by central banks, 1652-2020

(a) As a share of national government debt outstanding



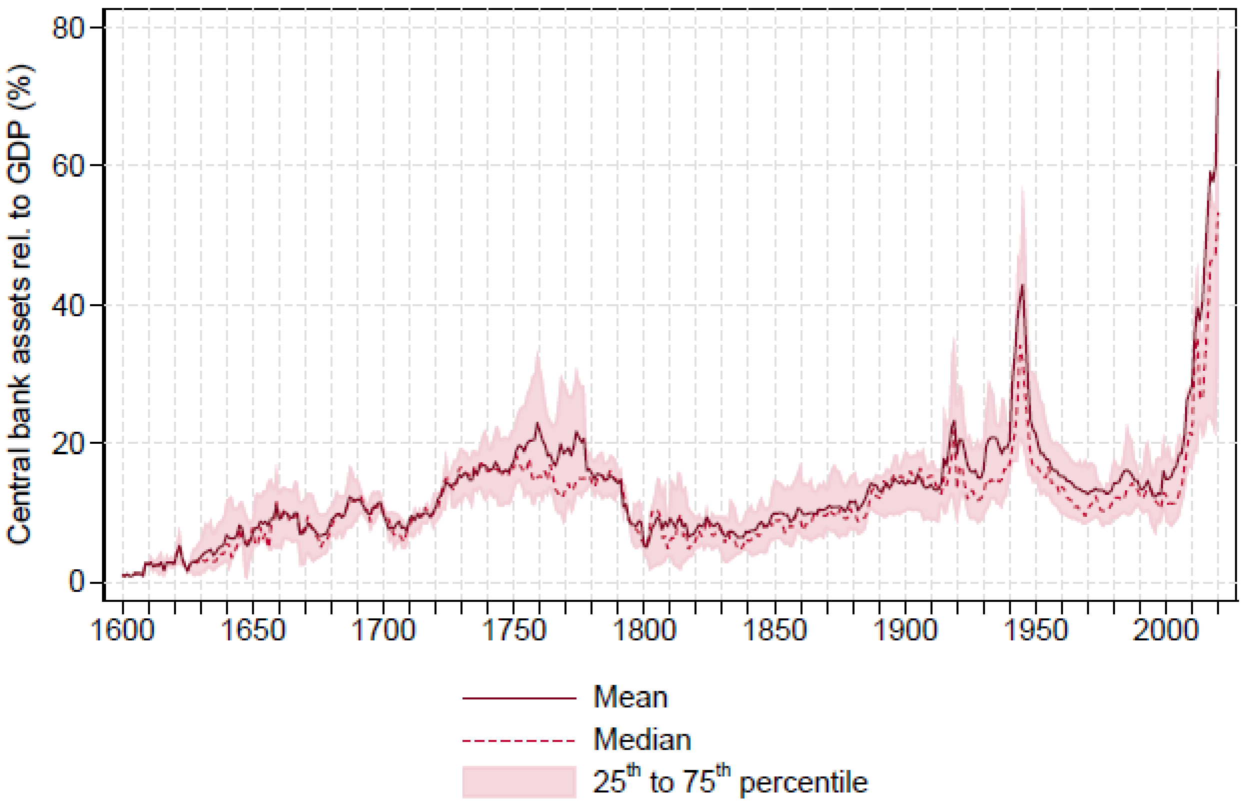
Are CB balance sheets in the last decade unprecedentedly large relative to the financial sector? Not obviously.

Figure 2: Central bank assets as a share of total bank lending to the non-financial private sector



CB balance sheets have grown relative to GDP. But that's entirely because financial sectors have grown.

Figure 1: Central bank assets relative to GDP, 1611-2020



Some questions

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- What is a central bank?
  - An institution established under the provisions of a central banking law?
    - But what exactly constitutes a central banking law?
  - An institution with a monopoly of note issue?
    - On this criterion, the Riksbank, generally referred to as the first central bank (est. 1668), was not a central bank in the 19th century.
  - An institution with special responsibility for accommodating the government's financial needs?
    - What responsibilities exactly?
  - "Occupying a position as 'bank among banks'"?
    - Which means exactly what?

Thus, the authors count…

- The *Banque de France* (est. 1800).
- But not the *Banque Générale/Banque Royale* (est. 1716)
- Or *la Caisse d’escompte* (est. 1776).

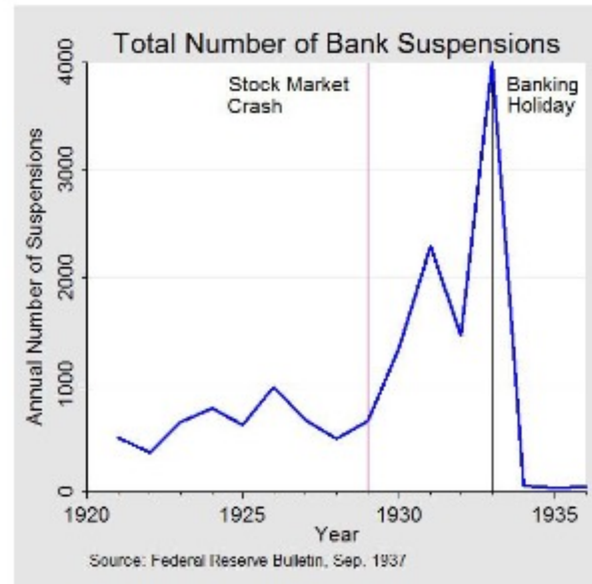
- This is not a distinctively French issue; the problem is more general.

- At this point it is customary to invoke Justice Potter Stewart…

- All authors who work on central banking face this dilemma. I think the authors have generally made sensible judgment calls. But they are still judgment calls.

Some questions (this one about the categorization of expansions as responses to different events)

- It's not hard to cite episodes that resist categorization.
  - For example, is the Fed's balance-sheet expansion in 1932 a response to the 1931 banking crisis (is it a financial-rescue-related expansion?) or a response to Congressional pressure to reverse deflation and help struggling farmers in an election year (an "other" balance-sheet expansion)?
  - The wave of U.S. bank runs that followed by the UK's departure from gold in September 1931 had largely dissipated by the spring of 1932.
    - I would classify this one as an "other" balance-sheet expansion. Not clear what the authors categorize it as (they don't tell us in the paper).
    - So it is hard to assess reliability.

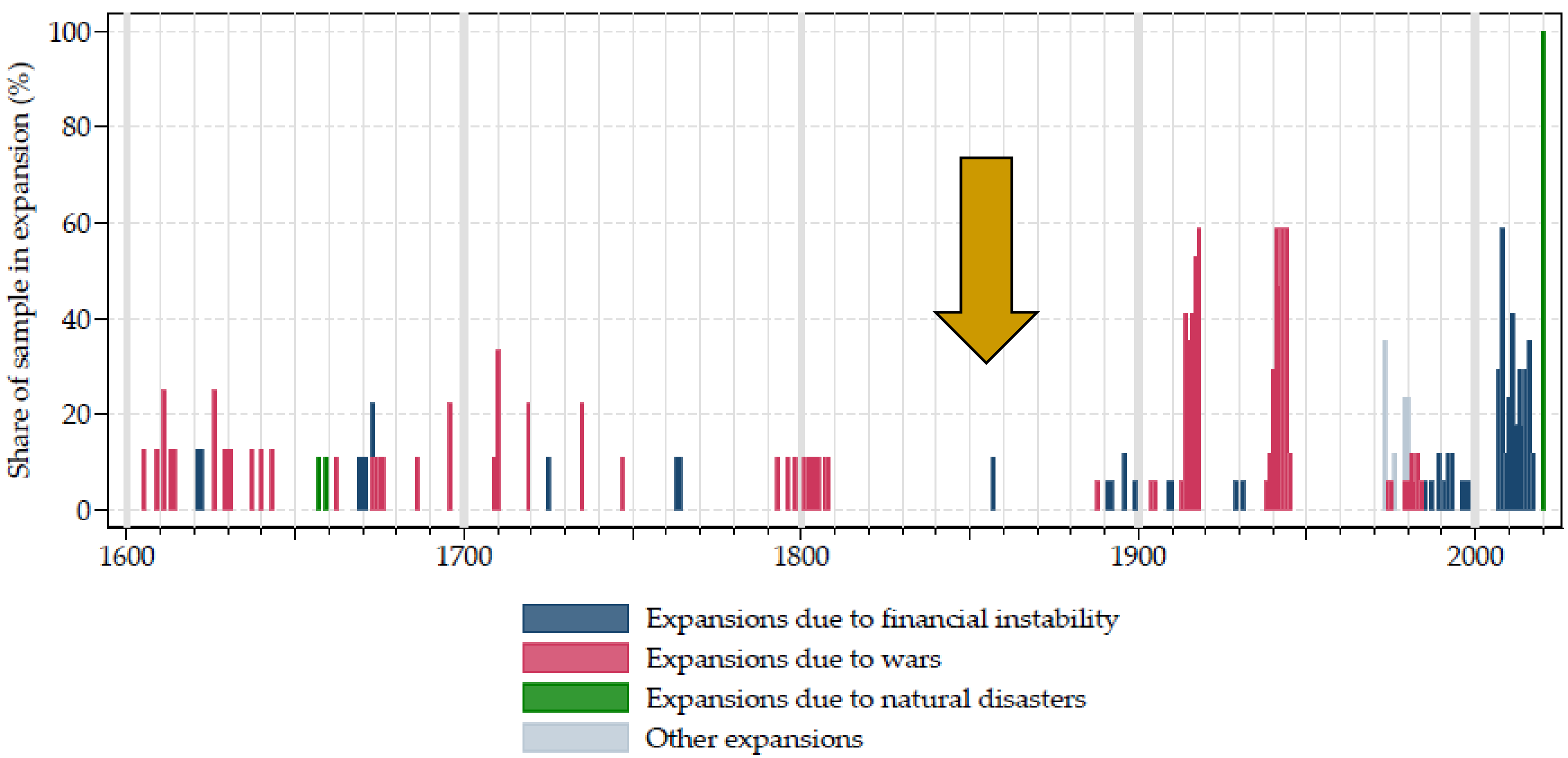


Some questions

- Why go back 400 years, if the authors' interest is showing that liquidity operations encourage boom/bust episodes, when earlier operations were in the main not liquidity related?
- What does this early history add, other than the observation, which could have been made quickly, that the circumstances of balance-sheet expansions have changed over time?
- This point could have been made without extensive documentation, since we know that the functions of central banks changed over time (they having been originally created to act as underwriters to government in times of war, and their only acknowledging their LLR functions *starting in 1866*). [Next slide.]
- I'm certainly a believer that "a long-run historical view [is] useful for both policymakers and researchers as a complement to studies focusing on the past decade," and especially when we are studying relatively rare events such as financial crises (p.1). But how long run, when there are essentially two distinct regimes and the authors are interested here in studying one?
- In any case, the local projections go back only to 1870, given the Schularick data set, so the starting point is coincident with what I would call the second regime. Maybe there are two separate papers here.

OK, they do find a few earlier "financially-motivated" expansions. But one can question the classification in some cases I think….

Figure 5: Major balance sheet expansion events, by type, 1600-2020



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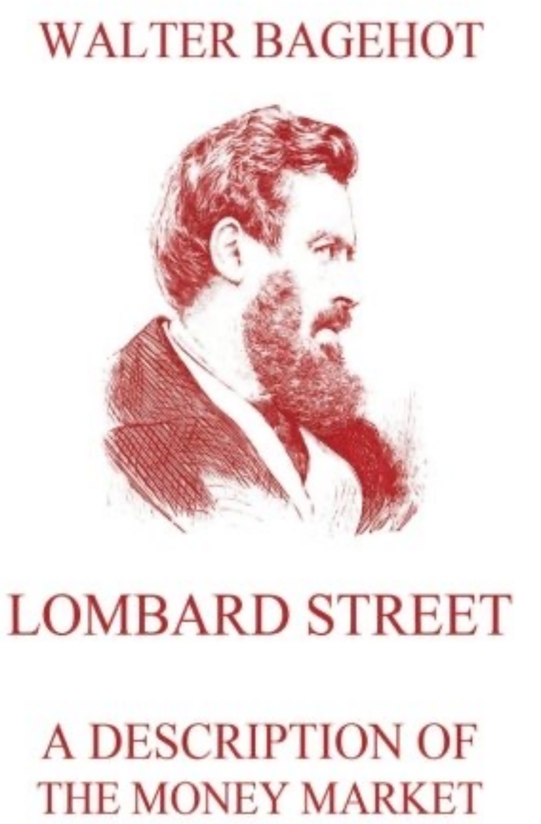
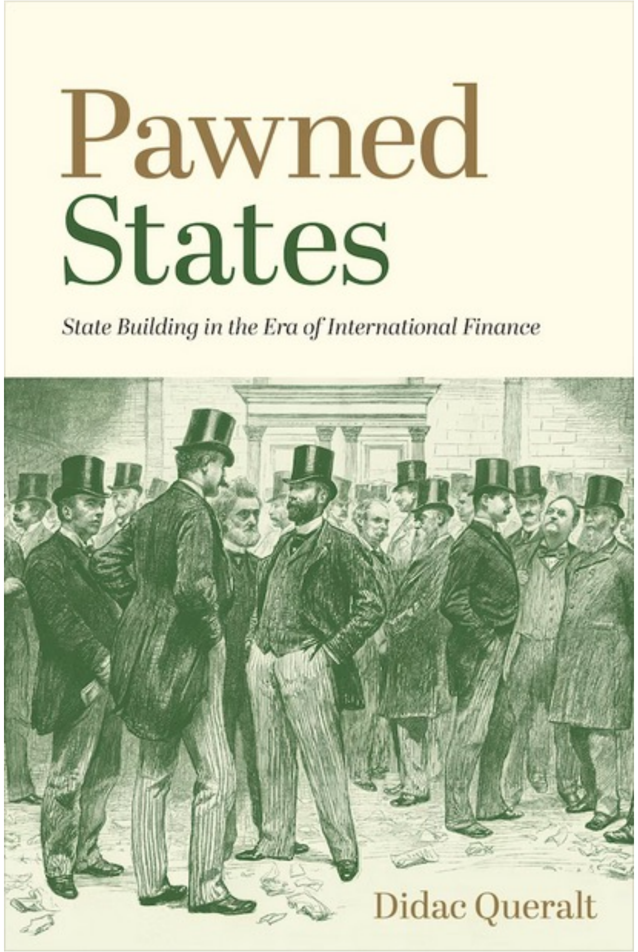
Some more questions

- What about Bagehot's rule?
- In other words, shouldn't the moral-hazard effects and likelihood of a boom/bust cycle depend on whether or not the emergency liquidity (expansion of the CB's balance sheet) was accompanied by a penalty rate?
- Might we want to distinguish balance-sheet expansions accompanied by penalty rates from other balance-sheet expansions?



Some more questions

- If there is moral hazard from bailouts, is there also moral hazard from emergency finance to governments?
- This author argues that easy availability of finance from abroad (the ability to tap global capital markets, especially in times of war) discouraged 19th century states from developing their fiscal capacity (their ability to administer an efficient tax system).
- Might not easy availability of finance from the central bank have the same effect?



About that instrument

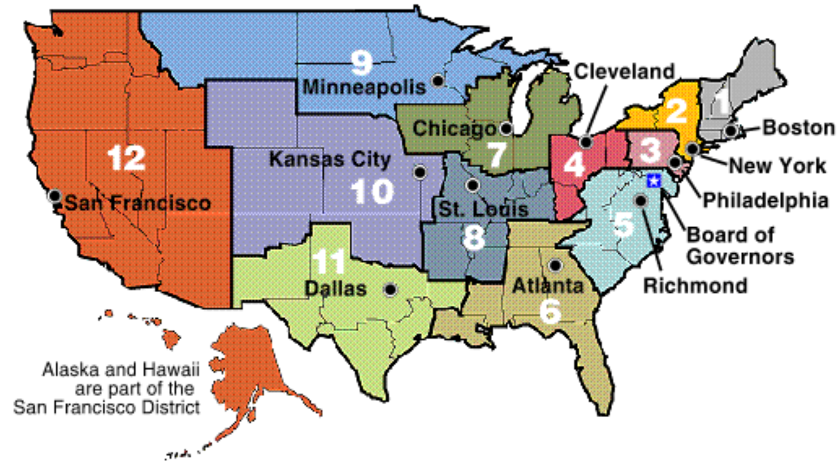
- Is it really straightforward to identify the “pre-determined ideological beliefs of CB governors” with respect to financial sector support?
- Subsequent historical analyses/biographies are among the inputs used to characterize ideological belief.
  - “National biographical dictionaries were particularly relevant in our approach given their nature as extensive peer-reviewed compendia…”
- Might not those analysts/biographers have been influenced by subsequent actions actually taken?

About that instrument

- And is it really the governor to takes the decision (as opposed to a committee of board members, or the government itself when the CB is not independent)?
  - In the 1920s, Daniel Crissinger and then Roy Young served as Fed Chairs. But Benjamin Strong served as President of the FRBNY. Who was more important in shape the Fed's views toward the financial system?
  - Starting in 1930, Eugene Meyer served as Chairman of the Federal Reserve Board. But George Harrison served as President of the FRBNY. Who was the main mover and shaker in the System's LLR operations?

And then there's that Richardson/Troost example, much cited in the paper.

- Was the decision of whether to expand the System's balance sheet in 1931-2 taken by Eugene Meyer and colleagues at the Board or by the head of the St. Louis and Atlanta Feds (and their colleagues)?
  - William McChesney Martin Sr. and Eugene R. Black…



Some more questions

- What about the controls?
- For example, the authors control for CB independence, citing Garriga (2016, updated).
- But Garriga goes back only to 1970.
- What about the earlier period?

CBI data

*****NEW VERSION OF THE DATA*** January 2023**

This version 2 of the dataset covers 190 countries, between 1970 and 2012.
It includes 344 new observations with scores for the components and the indices;
and corrections based on legislation retrieved between 2018 and 2022.

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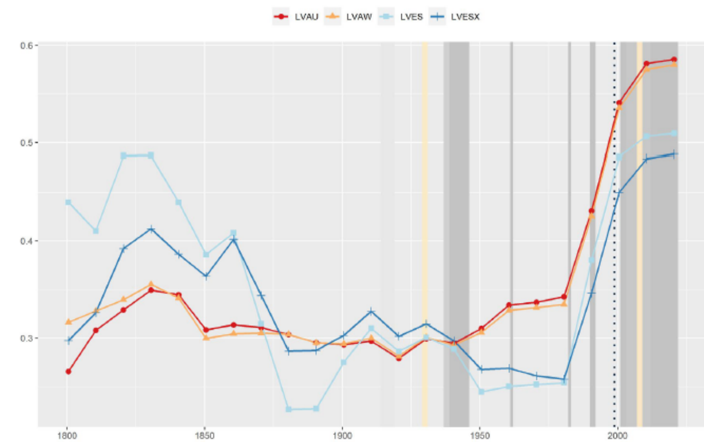
- But Garriga goes back only to 1970.
- What about the earlier period?
- I'm not sure what the authors did here, exactly, but I can recommend a source.
  - It shows that central bank independence has waxed and waned.

Figure 3: Central bank independence, decade averages, 1800-2021



Notes: The decade averages are calculated after removing missing values at the country-year observation level. The following wars and their duration are represented in grey shaded areas in the background: WWI (1914-1918), WWII in Asia and Pacific (1937-1945), WWII in Europe (1939-1945), Bay of pigs (1961), Lebanese war (1982), Gulf war (1990-19914), US Afghanistan war (2001-2021), US Iraq war (2003-2011) and the Great Financial Crisis (2007-2008). The Crash of 1929 and Great Financial Crisis of 2007 are represented in yellow areas. The ECB introduction in December 2009 is represented in a dotted line. LVAU is the unweighted Cukierman et al. (1992) index that takes the simple average of eight components: chief execute officer (CEO), policy formulation, objectives, advances criterion under limits on lending to the government, securitized lending criterion under limits on lending to the government, terms of lending, potential borrowers from the bank criterion, and other criteria on the limits on lending to the government (see Dincer & Eichengreen, 2013). LVAW is the weighted average version of the eight components. LVES and LVESX are two narrower indices. LVES is the weighted average of components *Who formulates monetary policy*, *Who has final word in resolution of conflict and objectives*. LVESX is a weighted average between the LVES and *limitations on lending -miscellaneous* subcomponent under the *Limitations on lending to the government* component.

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Central Bank Independence:

Views from History and Machine Learning

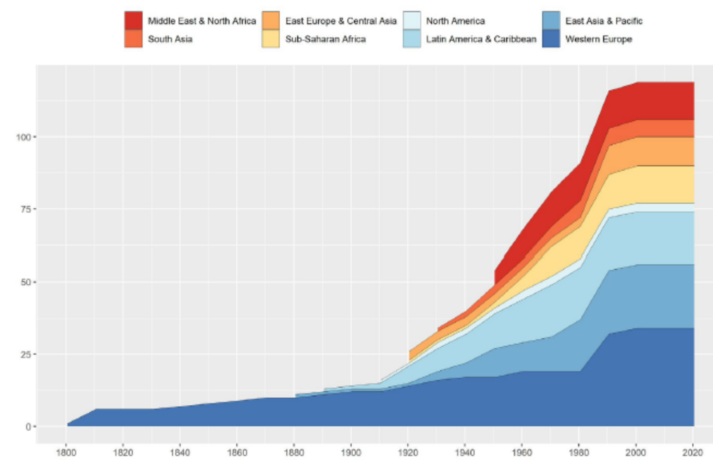
Nergiz Dincer, Barry Eichengreen and Joan J. Martinez

Abstract

We assemble an almost complete set of central bank statutes since 1800 in order to assess the legal independence of central banking institutions. We use these to extend existing indices of legal independence backward and forward in time. Globally, we document the well-known trend toward increased independence post 1980, but also earlier, more limited movement in the direction of greater independence starting in the 1920s. We apply natural language processing to current statutes for more than 90 central banks to corroborate our human-reader assessment. Using non-parametric machine learning methods, we quantify the extent to which topics in those statutes contribute to the independence measure based on our reading of the statutes. The topic with the largest positive contribution to explaining the variation in central bank independence has to do with disclosure, transparency and reporting obligations. This is consistent with the presumption that independence and accountability go together and that transparency is the mechanism by which central banks provide information enabling them to be held accountable by politicians and the public. The topic with the largest negative contribution entails regulatory powers over, inter alia, securities markets. These powers presumably complicate the central bank's mandate, make accountability more difficult, and render independence more problematic.

- You will now appreciate why I am sensitive to the question of what constitutes a central bank…

Figure 1: Number of operating central banks by decade, 1800-2021



Notes: The figure presents the number of countries of sample each decade and its region composition in the period 1800-2020. The regional classification was adapted from World Bank. The sample consist of central banks laws' collection of 120 countries which was gathered from central bank websites, central bank libraries, the IMF Central Bank Legislation Database, the BIS central bank law database, books providing collection of laws (such as Singer, 1932; Aufricht, 1962 and Effros, 1982), and through personal correspondence with the legal and research departments of a various central banks.

- Let me stop there.
- Thank you for your attention.