Can Central Bank operate under negative capital?

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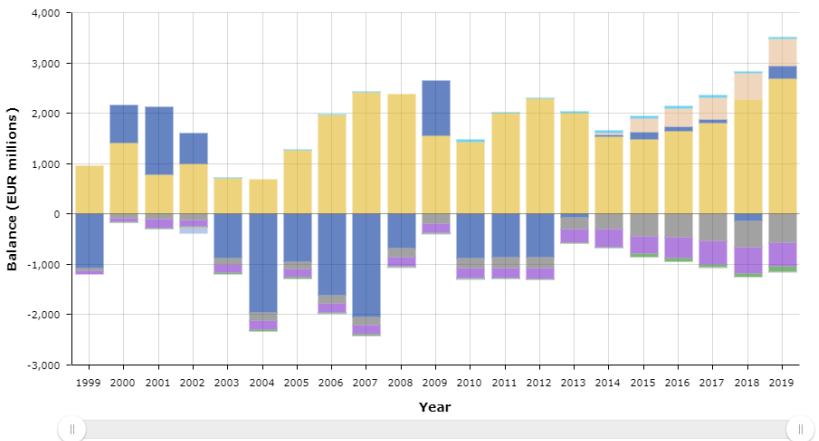
Motivation

- Times of uncertainty around the profitability of CBs
- Increased involvement of the CB in fiscal policy
- Fiscal dominance



Points of view

- Historical perspective - emergence of the role of central banks, 19th century England and France
- The Central Bank as a fiscal agent
- Negative capital in an open economy at the ZLB

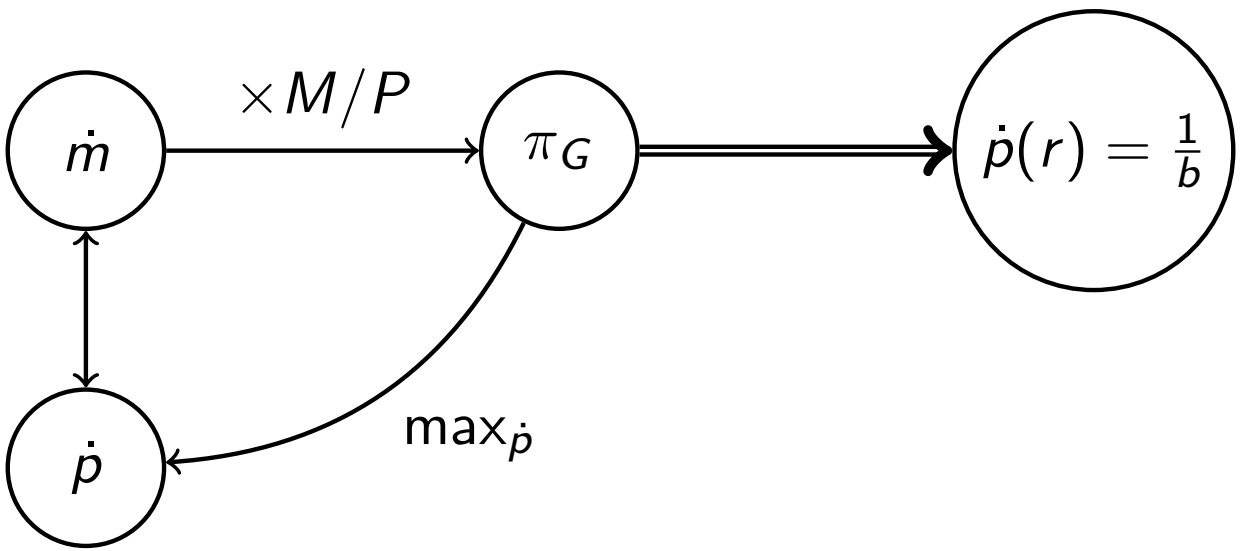
Emergence of private Central Bank

Why do central banks have balance sheets? Evidence from the 19th century France and England. CB as...

- a private (regulated) monopoly on liquidity supply
- alignment of private incentive and public interest
- high shareholders profits

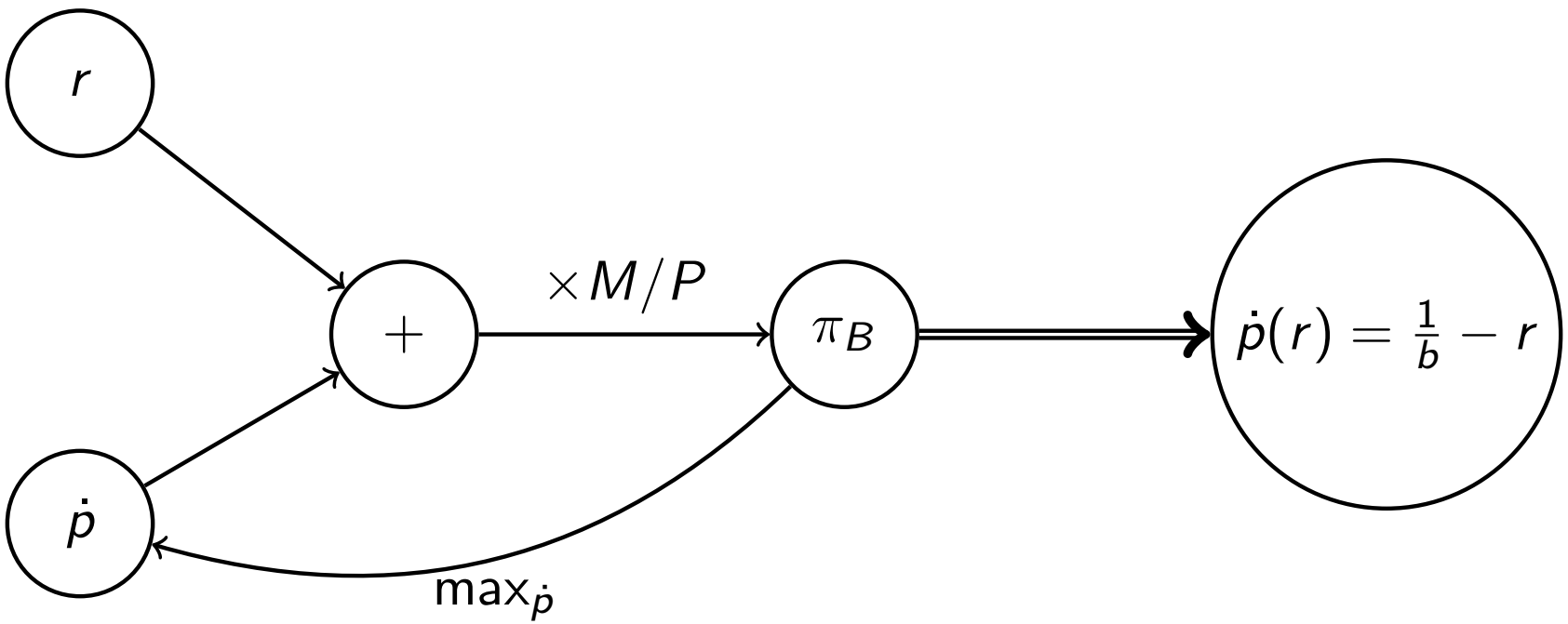
Incentives of seigniorage maximizing government

Government that maximizes seigniorage has no incentive to react to real economy r. At $b \to \infty$, cannot collect real resources



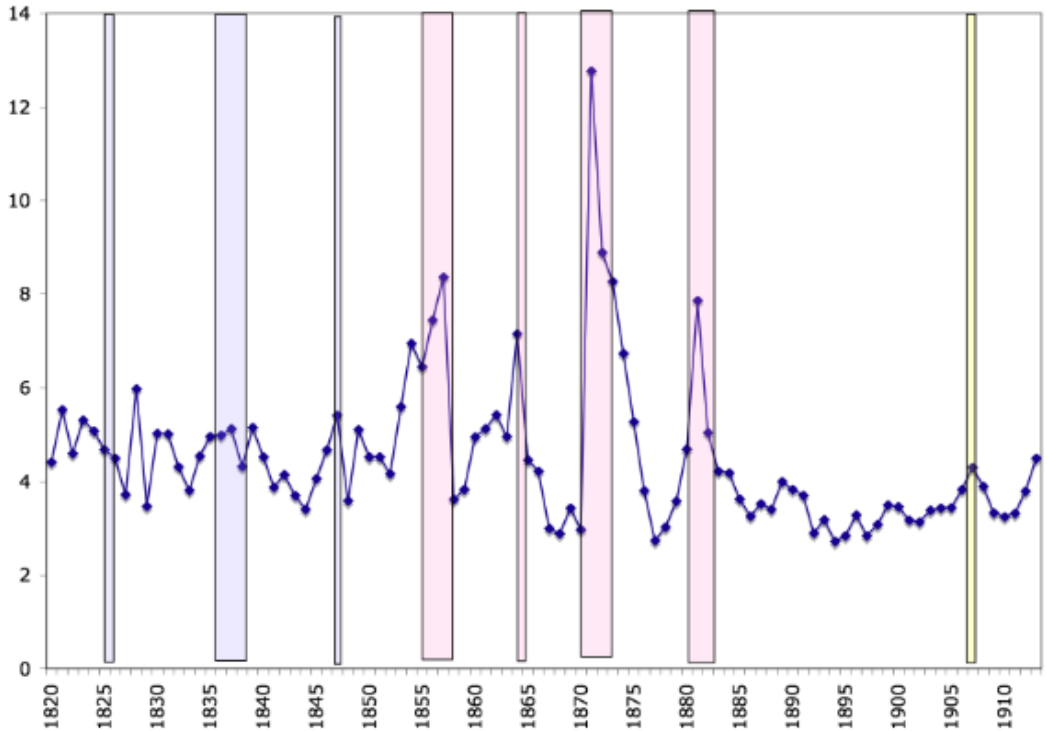
Incentives of Private Central Bank

Profit maximizing Central Bank wants to maximize demand real money balances, which increases profit from lending. At $b \to \infty$ converges to Friedman rule.



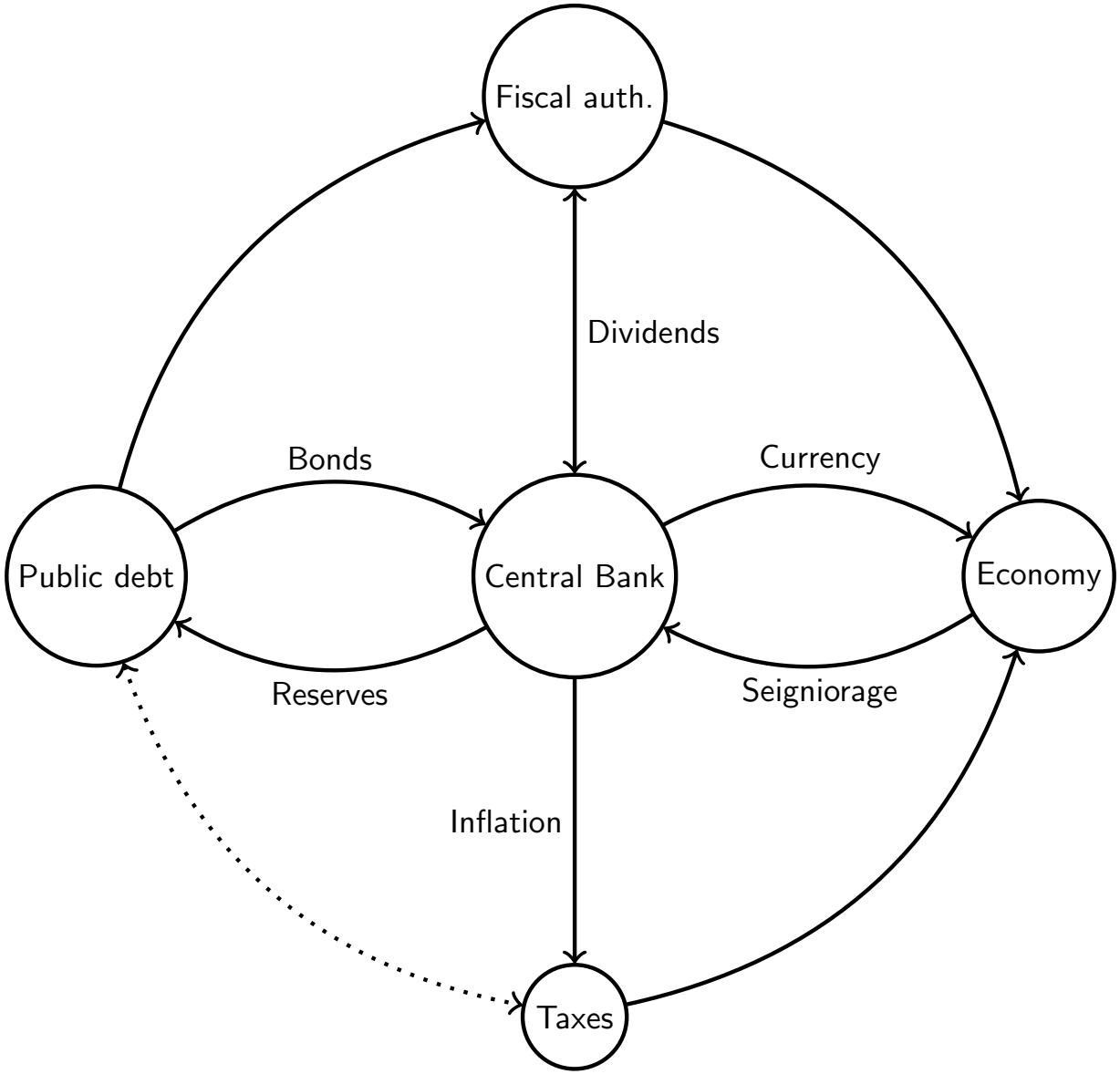
Bagehot's rule, lender of last result

Figure 4. The Bank of France dividend and financial crises



Source: Author's computations. Dividend calculated from data in Bouvier et al. (1965); chronology of crises from Juglar (1889). We added the crisis of 1907.

Central bank as fiscal agent - closed economy



Reserves flows, one period solvency

In a closed economy, given a current period solvency constraint, negative capital can be sustained either via *seigniorage* or *recapitalization* (i.e. $d_t < 0$).

$$v_t \hookleftarrow (1 + r_t) \cdot v_{t-1} - \underbrace{(s_t)}_{\text{seigniorage}} + \overbrace{(d_t)}^{\text{dividends}} + \underbrace{q_t \cdot b_t - \delta_t \cdot b_{t-1}}_{\text{public debt revenue}} \quad (1)$$

Reserves flows, multiple period solvency

In a closed economy, negative capital can be sustained by deferring recapitalization using present value *seigniorage*. Assuming $d_t = 0 \; \forall t$,

$$\underbrace{\mathbb{E}\left(\sum_{j=0}^{\infty} m_{t,t+j} \cdot s_{t+j}\right)}_{\text{present value seigniorage}} - \underbrace{(1+r_t)\cdot v_t}_{\text{current capital}} + \underbrace{\frac{\delta_t B_{t-1}}{p_t}}_{\text{bond value}} \geq \underbrace{\mathbb{E}\left(\sum_{j=0}^{\infty} m_{t,t+j} \cdot d_{t+j}\right)}_{\text{present value dividends}}$$

A more contemporary approach

What about negative capital in an open economy?

Negative capital can have effects on exchange rate (Beggar-thy-neighbor) and be seen as a fiscal expansion.

Using framework by Caballero, Farhi, and Gourinchas (2016).

References I

Caballero, R. J., Farhi, E., and Gourinchas, P.-O. (2016). Global imbalances and currency wars at the zlb.

Flandreau, M. (2007). Pillars of globalization: A history of monetary policy targets, 1797-1997. *The role of money: money and monetary policy in the twenty-first century*.

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