

# How We Pay for It: The Financial Costs of Great Crises

Moritz Schularick

SAFE and IBF Webinar

April 22, 2020

Macroeconomics Lab Bonn



# 1. Can we afford it?

- Covid-19 pandemic is a bad economic shock and we want to stabilize our income.
- Time tested way to deal with catastrophes: borrow from the future.
- Where do we get the money from? Ourselves and foreigners, mostly.

## 2. How much can we borrow?

- Germany has a lot of fiscal space, abundant savings and is an important provider of safe assets in the world economy.
- DB Research: 50% of GDP increase in government debt, including all guarantees, but not all will be drawn.
- More realistic that Germany will end up around 80% of GDP.
- Is this is a safe level? Yes, industrial revolution in UK at 200%; postwar boom in US at 120%
- Yet eventually we must stabilize the debt/GDP ratio as it can't grow indefinitely.

# 3. Debt sustainability

- Why look at debt/GDP ratio?
  - Taxes are the resources needed to service the debt and the tax base grows with GDP.
- Debt/GDP ratio has two components
  - The numerator is determined by fiscal policy, and the denominator, GDP, by growth rates.
  - The two are not independent of each other: austerity and fiscal multiplier.
  - Debt/GDP can decrease because of repayments or because of GDP growth

## 4. How debt ratios evolve

- Law of motion for debt/GDP:

$$\left(\frac{Debt}{GDP}\right)_t = \frac{(1+r)}{(1+g)} * \left(\frac{Debt}{GDP}\right)_{t-1} - \text{primary balance} - x\text{factor}$$

- The x-factor captures one-off measures: default, wealth taxation, privatizations, valuation adjustments
- Example for one-off measure to change fiscal position: London Debt Agreement 1953

# 5. Illustration

## Debt Dynamics

### Debt dynamics in terms of GDP ratios: Autonomous component

Think of debt-to-GDP as an aerostatic balloon:



Interest rate is like hot air: it pushes debt-to-GDP up

GDP growth is like the sand bags: it helps bring the debt-to-GDP down

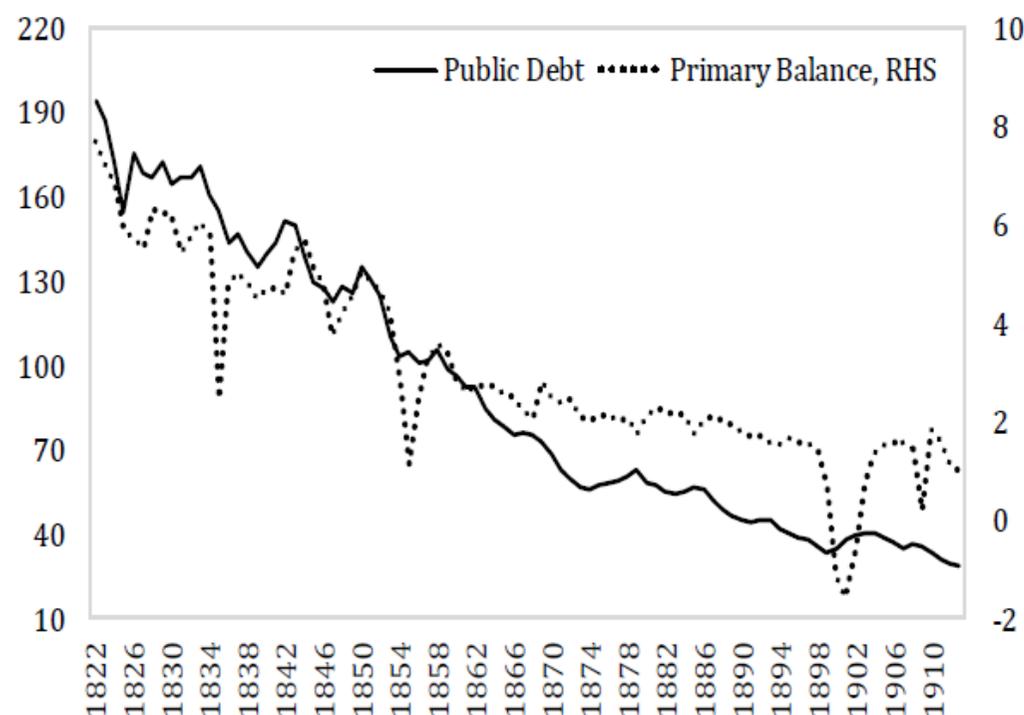
If interest rate  $>$  GDP growth, debt-to-GDP tend to  $\uparrow$

If interest rate  $<$  GDP growth, debt-to-GDP tend to  $\downarrow$

# 6. After the Napoleonic Wars: UK debt/GDP fell from 200% to 20%

19th century adjustment often via fiscal surpluses

**Figure 2. Public Debt and Primary Balance in the United Kingdom**  
(In percent of GDP)

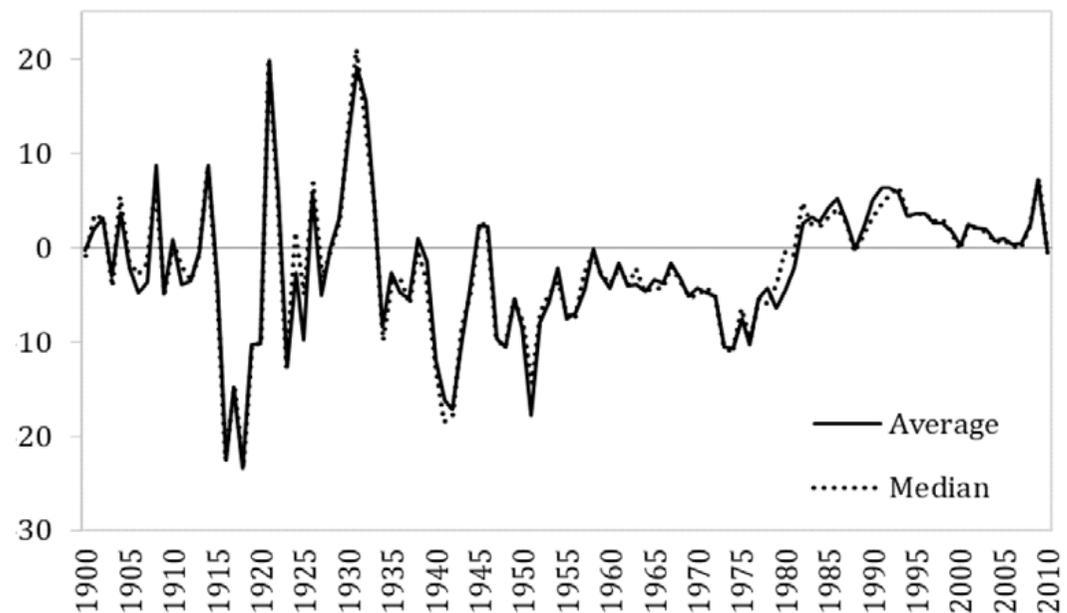


Sources: The Bank of England's database 'A millennium of macroeconomic data: <https://www.bankofengland.co.uk/-/media/boe/files/statistics/research-datasets/a-millennium-of-macroeconomic-data-for-the-uk.xlsx> and authors' calculations.

# 7. After WW2: Debt/GDP from 150% to 30%

20th century adjustment  
via r vs. g differentials

**Figure 10. Interest-Growth Differential in Advanced Economies**  
(Difference in percentage points)



Source: Abbas et al. (2014a).

Notes: G-20 advanced countries included are Australia, Canada, France, Germany, Italy, the U.K. and the U.S.

# 8. How good are modern democracies at adjusting fiscal stance?

**Table 3** Debt sustainability regressions, 1870–2007

	(1)	(2)	(3)	(4)
Public debt/GDP( $t-1$ )	0.0161*** (0.00299)	0.0208*** (0.00268)	-0.0156*** (0.00500)	-0.0197*** (0.00494)
Cyclical position		-0.0205 (0.0140)		0.102*** (0.0234)
War		-0.0688*** (0.00310)		0.0378*** (0.00556)
Observations	2,025	2,025	2,180	2,180
$R^2$	0.014	0.213	0.004	0.037

*Notes:* Dependent variable is the primary balance in (1) and (2) and the change in the public debt-to-GDP ratio in (3) and (4). \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . Standard errors in parentheses. Country fixed effects not shown.

*Sources:* See text. Primary balances from Mauro *et al.* (2013).

$$\left(\frac{Debt}{GDP}\right)_t = \frac{(1+r)}{(1+g)} * \left(\frac{Debt}{GDP}\right)_{t-1} - primary\ balance - xfactor$$

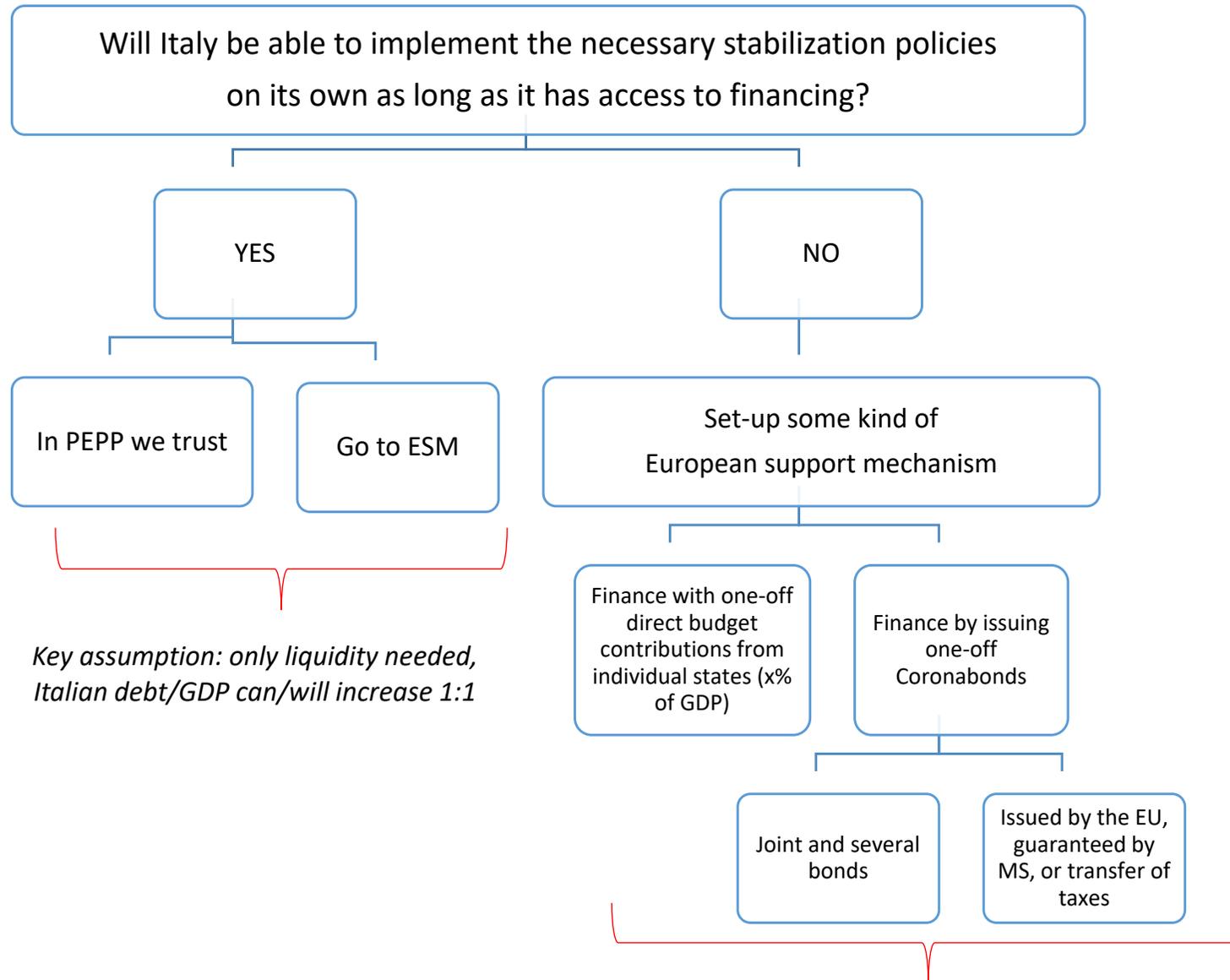
# 9. What should we do here?

- Do we need the x-factor here? A new Lastenausgleich, or a wealth tax?
- No. We have enough space and can rely on  $r$  vs.  $g$  differential.
  - German bund yields are -50bp, real growth 1-2%
  - We can grow out of debt in an environment of low rates.
- Next generation cares about two things: how much to pay & how much richer
  - Poorer when debt/GDP is 20% and GDP is 10bn than with 50% debt when GDP of 20bn

# 10. The European dimension

- Not all countries in Europe have the same fiscal space as Germany today.
- This creates a risk of highly asymmetric responses to Corona across Europe.
- This is economically bad, for everyone.
- Europe lagged behind the U.S. and China in the last crisis.
- Can we cope with another lost decade?

# 11. The questions to ask



# 12. Outlook

- The Spanish proposal: perpetual bonds
  - Art. 122(2)
  - One-off, limited
- European Council tomorrow.
- Germany's choice.