

**Webinar:**  
**COVID-19, debt monetization  
and lessons from war financing**

WITH HAROLD JAMES  
PRINCETON UNIVERSITY

Friday, April 24, 12:30 PM ET  
Pre-Registration Required



Public Policy & Finance PRINCETON ECONOMICS



**Intro:** MARKUS BRUNNERMEIER

Twitter: @MarkusEconomist

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# Markus' intro

## ■ Previous webinars

- Hyun Shin: international finance & Capital Flows
- Harold James: debt monetization and war financing
- Joseph Stiglitz:

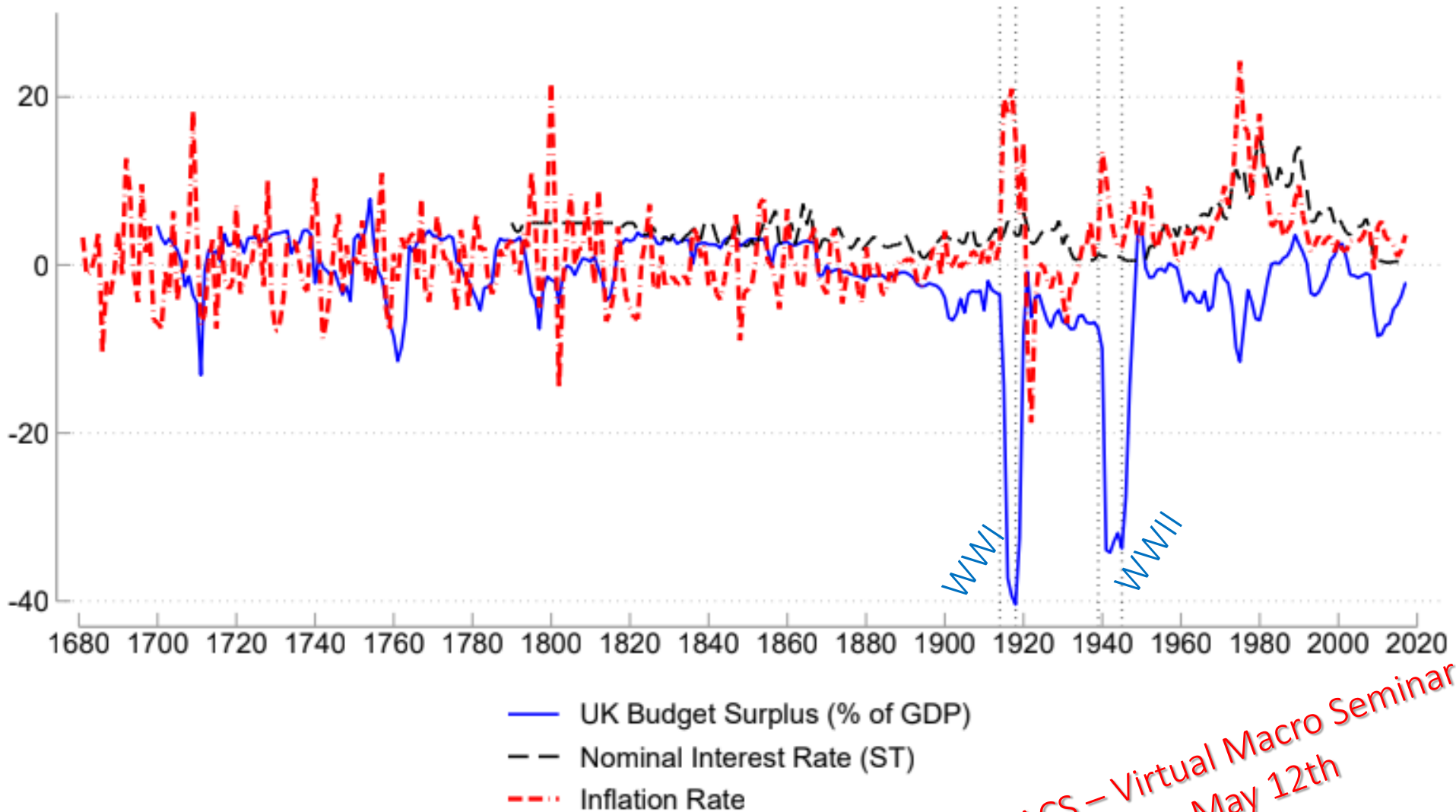
## ■ Speakers



# War vs. pandemic financing

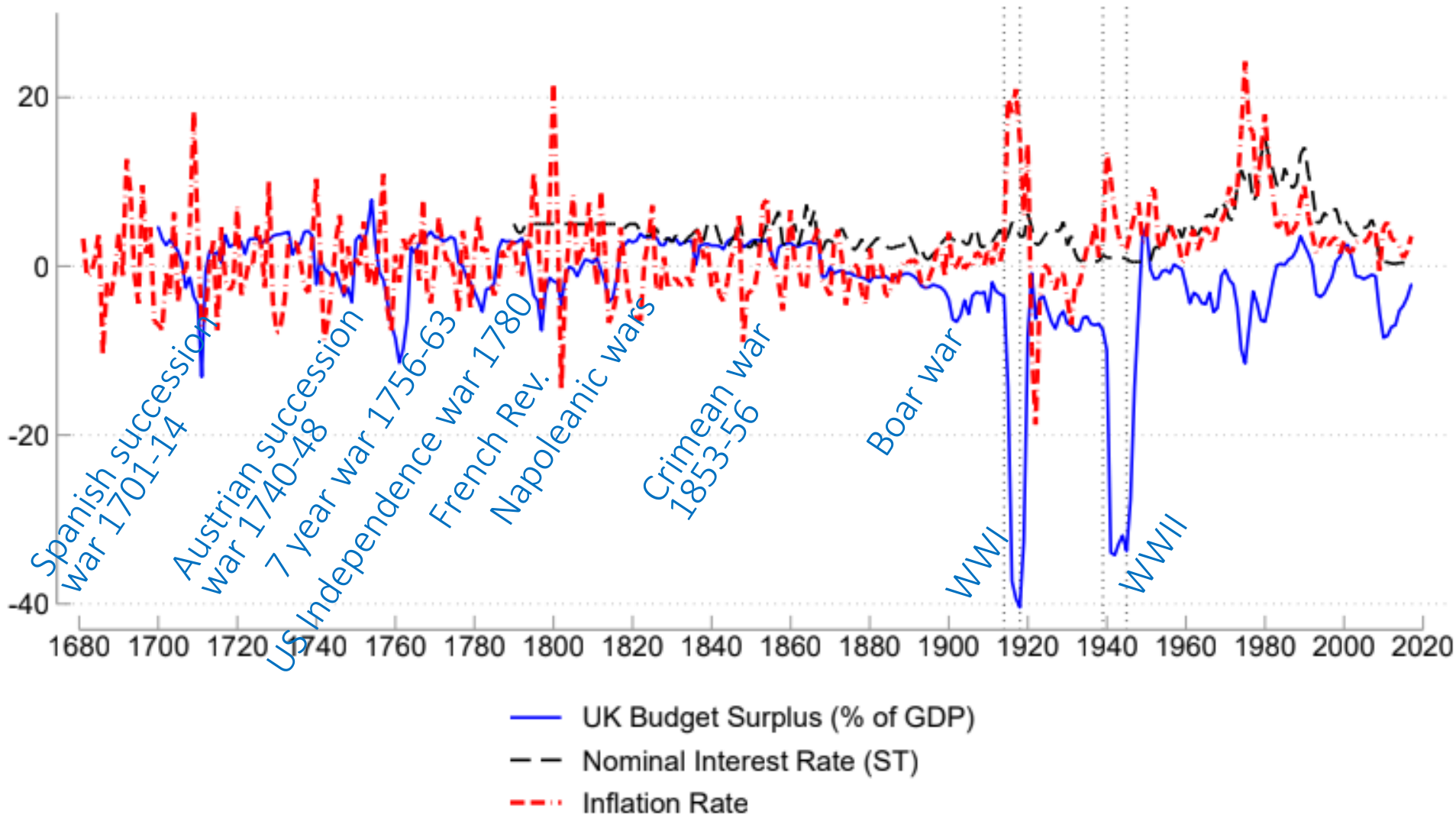
- War vs. COVID: Commonalities and Differences
  - Enemy vs. common enemy
  - National thinking vs. group-feeling (?)
    - Suicide rate decline during wars (Deaton's webinar)
  - Young vs. elderly
  - Government control (incl. price controls)
  - Large relative price shifts
  - Involuntary savings
  - Government expenditure hike + tax revenue collapse
  - Issue bonds in hope of reparation payments vs. no hope
  - Monetary financing (?)

# UK: Budget, interest, inflation



VMACS – Virtual Macro Seminar  
on May 12th

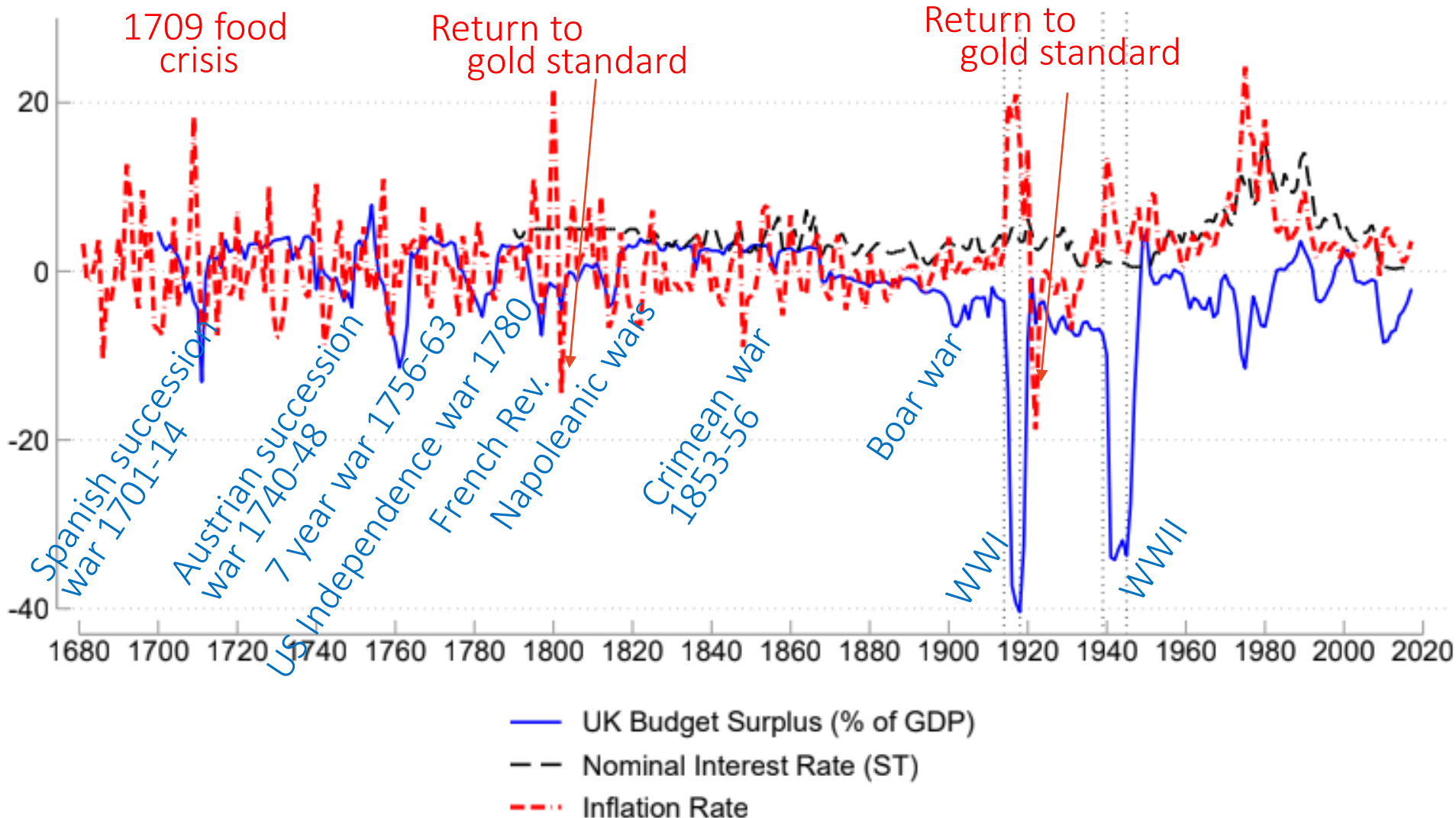
# UK: Budget, interest, inflation



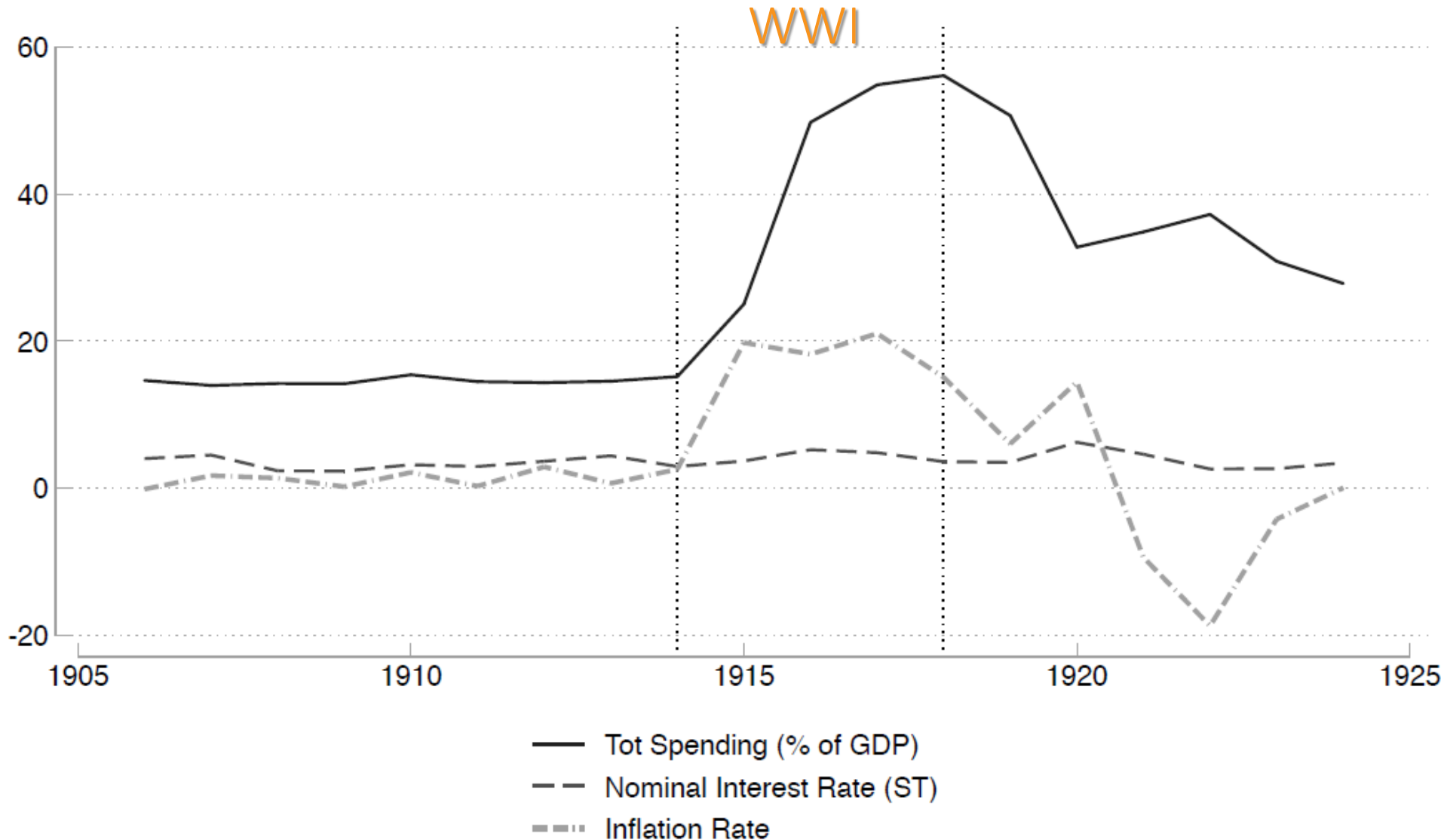


# UK: Budget, interest, inflation

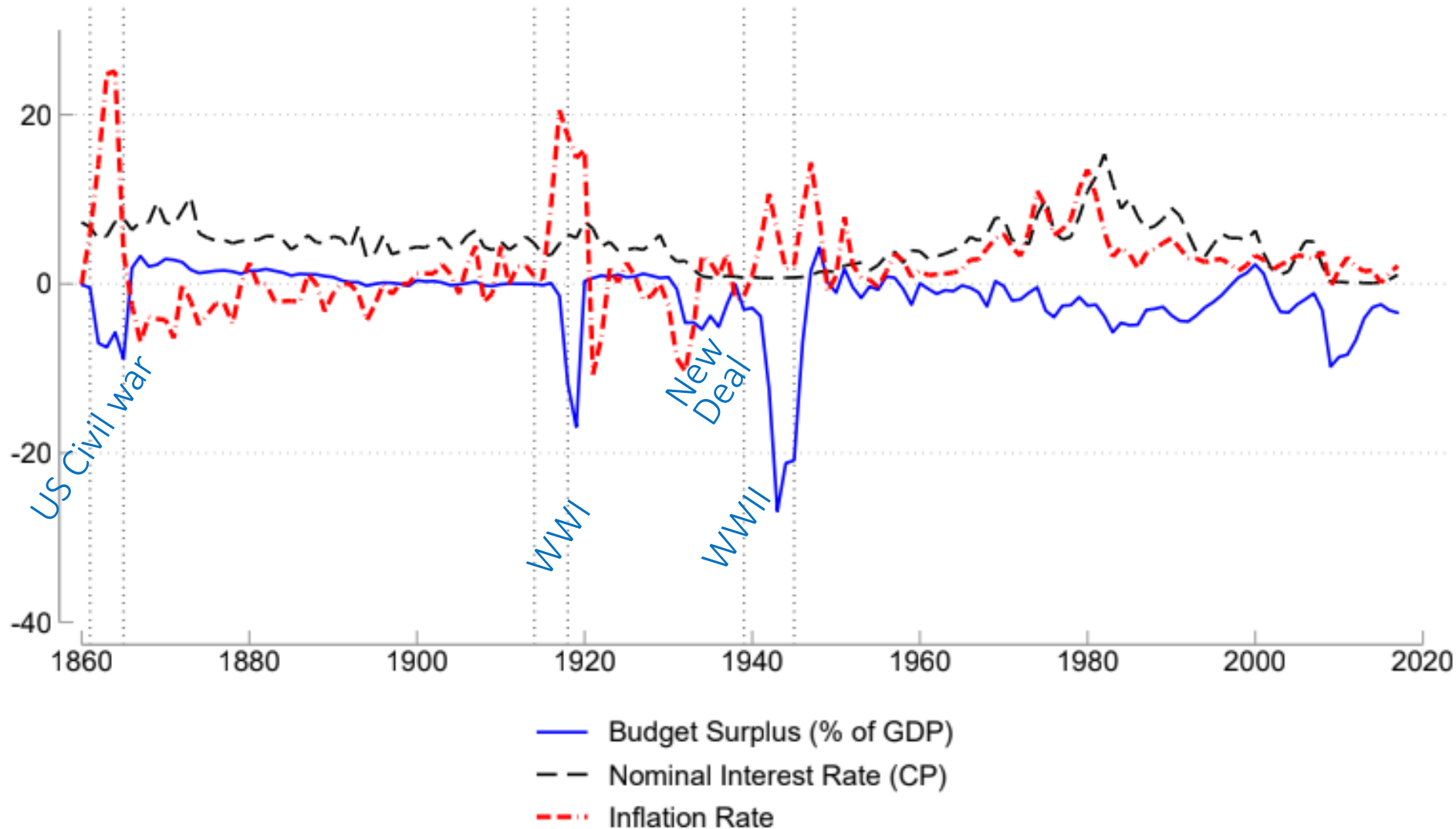
High inflation volatility due to crop failures + flexible wages/prices



# UK: spending, interest, inflation



# US: Budget, interest, inflation





# Lockdown = stop clock

- **Stop clock** = total standstill of all debt/rent/wages/...
- Not possible
  - Essential sector                      food, ...
  - Less essential sector
- Shut down **part** of economy
  - Supported by other part – with debt monetization?



# Inflation/Deflation pressures

Inflation

- Output loss, productivity loss (permanent)
- Issuance of money + government bonds
- Involuntary (dis)savings (temporary)
- More idiosyncratic risk
  - Esp. if crisis drags on
- Wealth inequality
- Physical capital misallocation
- Future government policy

Depends on relative  
speed of adjustment



“The I theory of money”

- Banks’ reduce risk bearing capacity
  - Can’t diversify idiosyncratic risk away  $\Rightarrow$  money demand  $\uparrow$



# Inflation expectations

- TIPS: 10 year break-even rate



# Poll 01

## 1. Inflation expectations in US (average over next 5 years)

- a.  $< -1\%$
- b.  $-1\%$  to  $0\%$
- c.  $0\%$  to  $1\%$
- d.  $1\%$  to  $2\%$
- e.  $2\%$  to  $3\%$
- f.  $3\%$  to  $5\%$
- g.  $5\%$  to  $10\%$
- h.  $>10\%$

## 2. Your location

- a. US/Mexico
- b. Latin America
- c. Europe
- d. Asia
- e. Africa
- f. Australia

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# Wartime and after .....

Harold James

Bendheim Center Webinar, April 24, 2020, Princeton



# Learning from past disasters

- Pandemics:
  - Black Death 1347-53: 75 m. dead
  - 17<sup>th</sup> century recurrences;
  - “Spanish” influenza 1918-1920 50 m. dead worldwide.
- Great Depression or Global Financial Crisis
- Wars of twentieth century:
  - 1914-18: 17 m. dead
  - 1939-45: 70 m. dead

# Wartime

- Xi Jinping, February 6, 2020: “people’s war”
- Boris Johnson, March 17, 2019: “We must act like any wartime government and do whatever it takes to support our economy.”
- Rishi Sunak: “We have never faced an economic fight like this one.”
- Donald Trump, March 19, 2020: “our big war”: “We continue our relentless effort to defeat the Chinese virus.”
- Kenneth Rogoff, March 18, 2020: “The whole point of having a sound government balance sheet is to be able to go all out in situations like this, which is tantamount to a war.”
- Peter Navarro, March 28, 2020: “We are engaged in the most significant industrial mobilization since World War Two. We have a wartime President fighting an invisible enemy.”
- Laura Lane (UPS), March 29, 2020, at White House: “the way we’re going to win this war is with great logistics”

# War: Short-term effects

- Destruction of conventional jobs
- High level of unemployment / unproductive employment
- BUT: we measure that differently (GDP doesn't look as if it shrinks during major wars because of the way military expenditure is accounted for)

# The Immediate Response:

## (1) Mobilization

- a colossal and largely unanticipated mobilization of material resources for responding to the immediate situation and ensuring victory, that requires central direction of resources: development of PPE, disinfection material, diagnostic testing (central to eliminating contagion), testing for antibodies, antiviral drugs
- equivalent to industrial mobilization: US discussion and then use of 1950 Defense Production Act:  
Priorities and Allocations;  
Expansion of Productive Capacity and Supply;  
General Provisions (industrial organization)
- Shutting of large parts of civilian economy
- High levels of involuntary saving

# Medical export restrictions

## Medical exports restricted under the Defense Production Act



## (2) Morale and supply

- Attention to morale and provisioning:  
there was an acute awareness in the great 20<sup>th</sup> conflicts ,  
especially in WW2, that civilian morale was a vital part of the  
war effort, that inadequate supplies of food (or perceived  
injustice: the rich having stupendous meals) would be  
destructive. Rationing was designed not just to alleviate the  
first problem (inadequate supply) but also the second  
(perception of injustice)



### (3) Mobilization of people

- “the front” of nurses, doctors, other hospital staff, but also those involved in supply chains and in the maintenance of public order

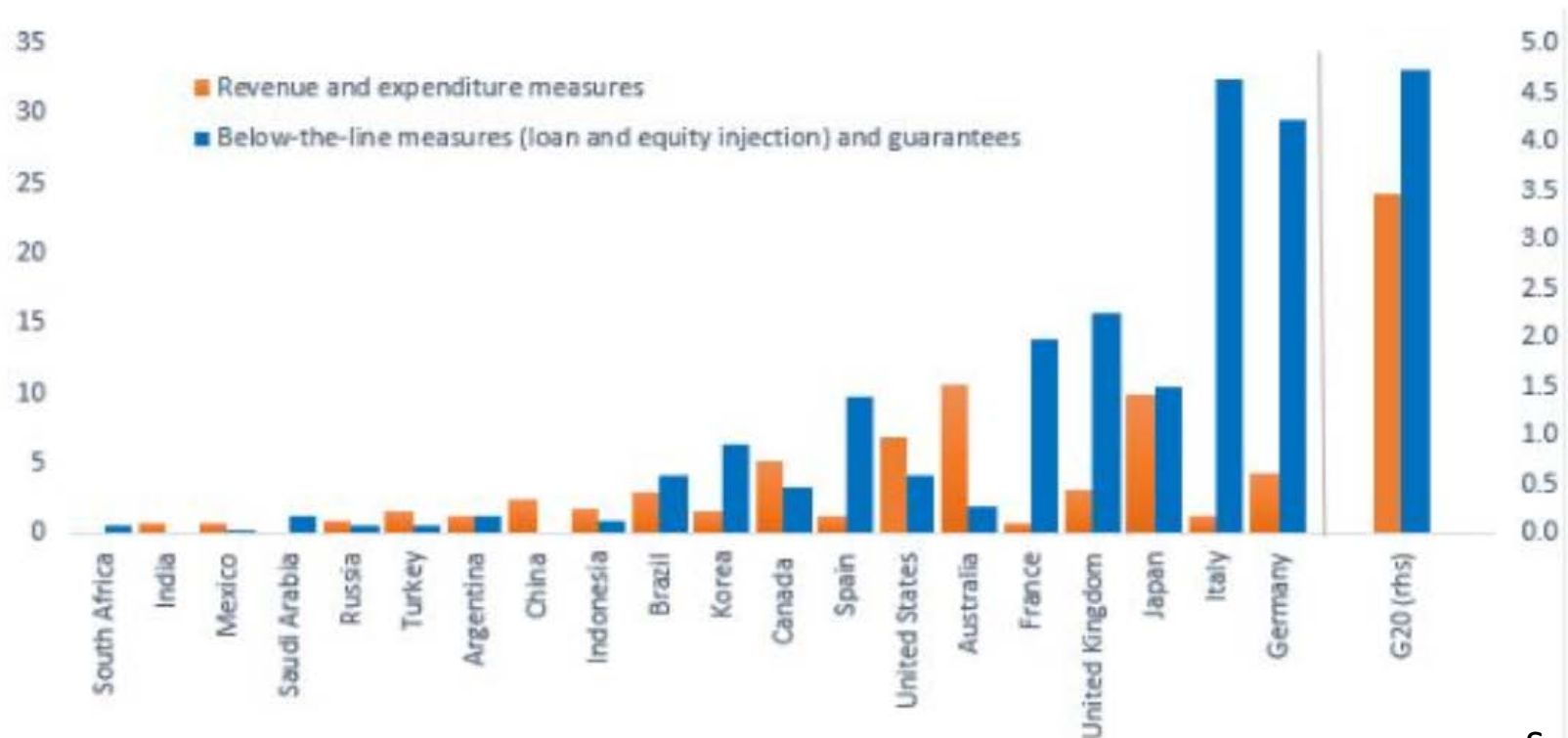
# Public Order

Wuhan,  
March 28, 2020



# (4) Fiscal & monetary consequences

(Announced fiscal measures in G20 economies, % of GDP)



Source:  
IMF, 2020

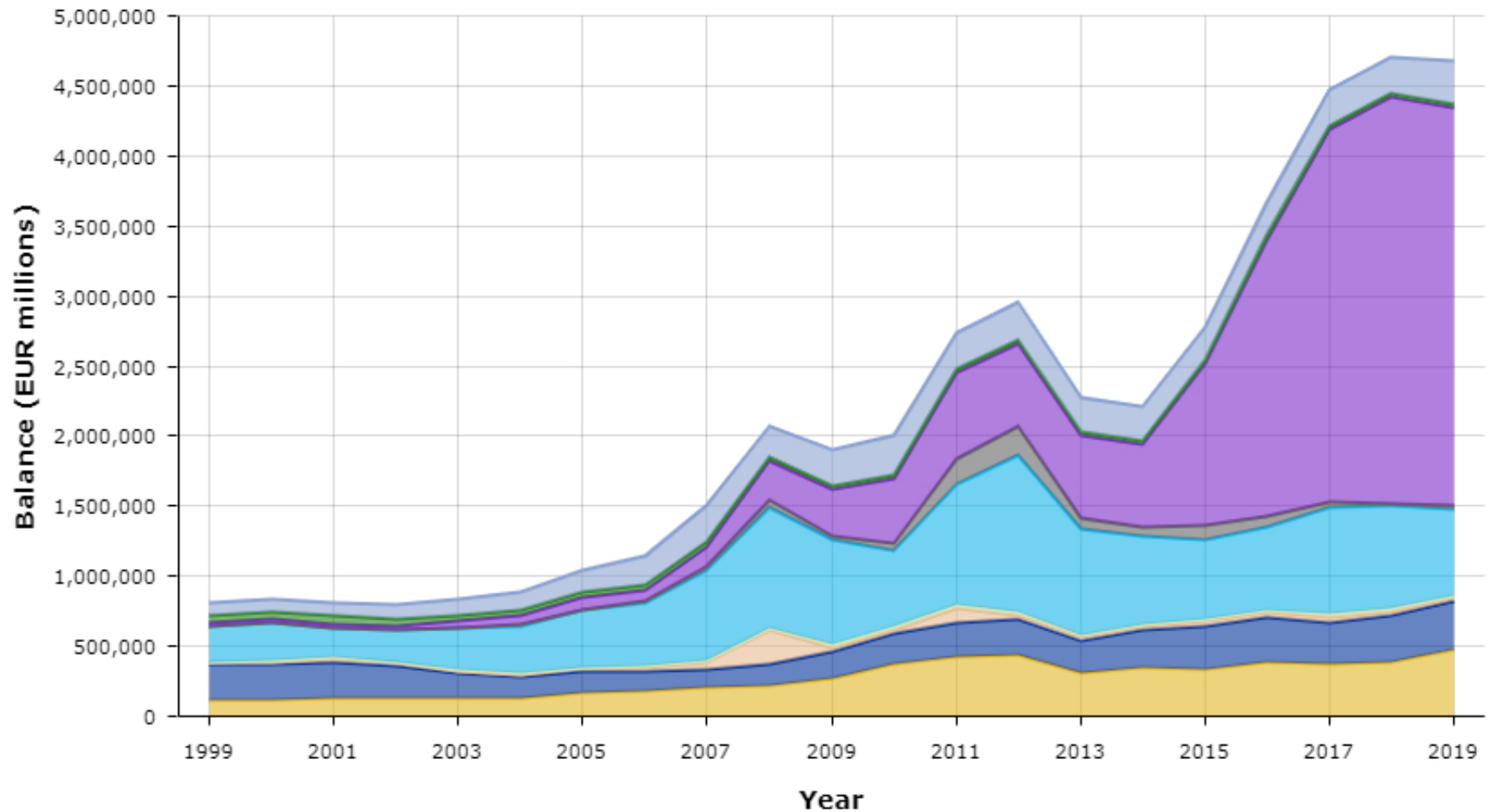
Sources: National authorities; and IMF staff estimates as of April 8, 2020.

Note: G20 = Group of twenty. G20 aggregates are calculated using PPP-adjusted GDP weights

# Central bank financing

- Federal Reserve: additional \$2tn-\$3tn (at end of 2019 \$4.2tn)
- ECB: €750 bn Pandemic Emergency Purchase Programme (PEPP); promise to buy €120 bn additional bonds (at end of 2019 €4.5 tr)

# ECB balance sheet



Source: ECB

# Mario Draghi

Financial Times, March 25, 2020

- Much higher public debt levels will become a permanent feature of our economies and will be accompanied by private debt cancellation.
- During the first world war, in Italy and Germany between 6 and 15 per cent of war spending in real terms was financed from taxes. In Austria-Hungary, Russia and France, none of the continuing costs of the war were paid out of taxes.





- Roesler 1967:
  - Germany: 13 percent of total expenditure from ordinary budget, financed by taxes and other regular income;
  
- Balderston 1989:
  - 16.7 percent (compare UK 26.2 percent)

# Deficits as share of expenditures

	1914	1918
United Kingdom	61.3	69.2
France	54.8	80.0
Germany	73.5	93.8
Italy	6.1	70.2
United States	0.1	71.2

Source: Eichengreen 1992

# Inflation: Wholesale prices

1913=100

	1918	1920
United States	195	173
United Kingdom	246	264
France	335	444
Germany	260	1440
Italy	296	596
Sweden	335	267

Source: Moggridge, 1989

# Dramatic changes in *relative* prices

- Deflationary shocks (fall in demand for civilian goods)
- Inflationary shocks (scarcities of food, cigarettes, basic provisions, driven in part by hoarding)

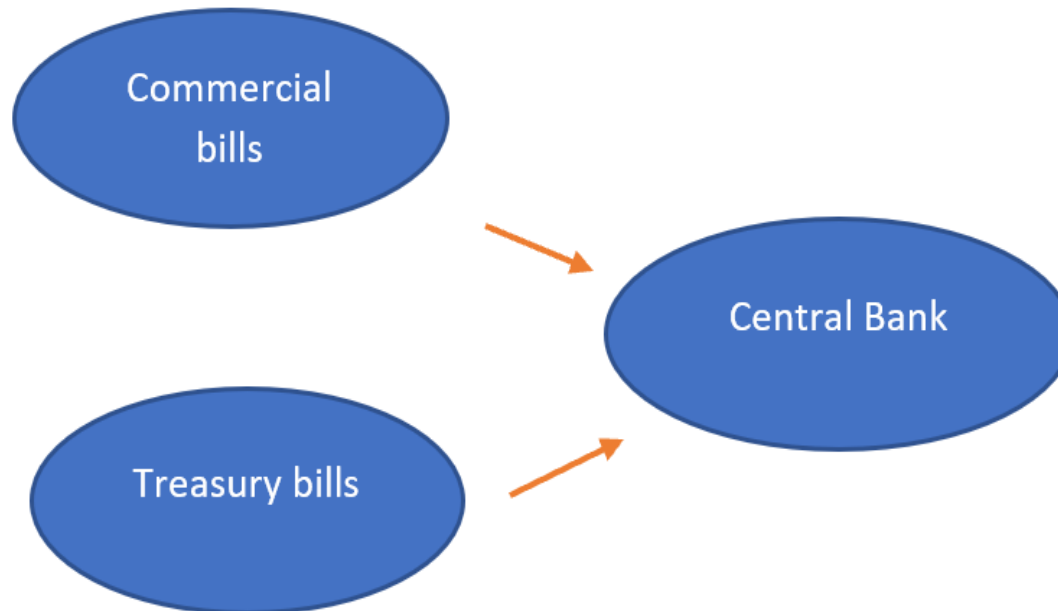
Cost of living calculations highly politicized (discussion of automatic adjustments)

# 2 contrasting models

- UK/US vs Central Europe
- Wartime finance vs postwar management
- A discussion about how to “exit” an emergency

Enterprises (employees)

Banks|



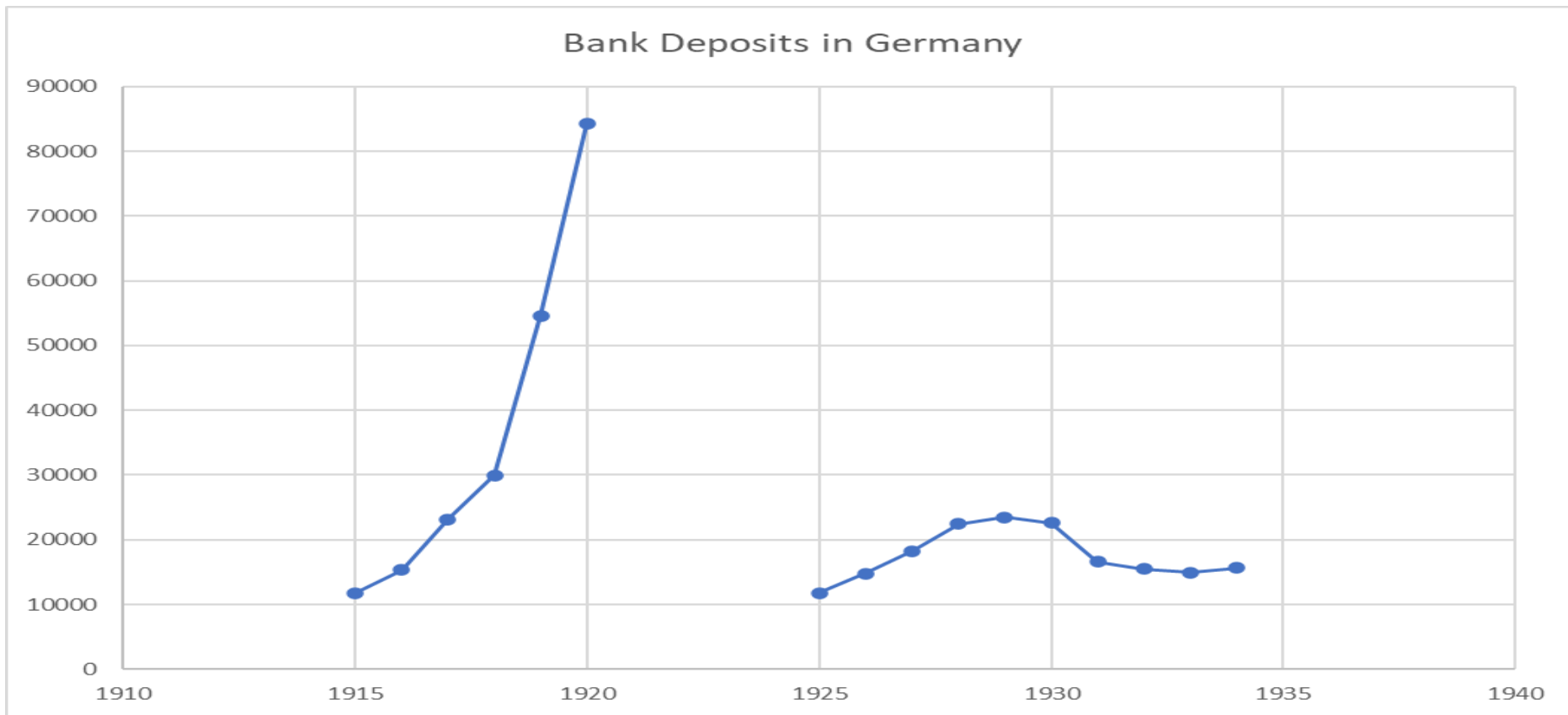
Banks

Treasury (soldiers)

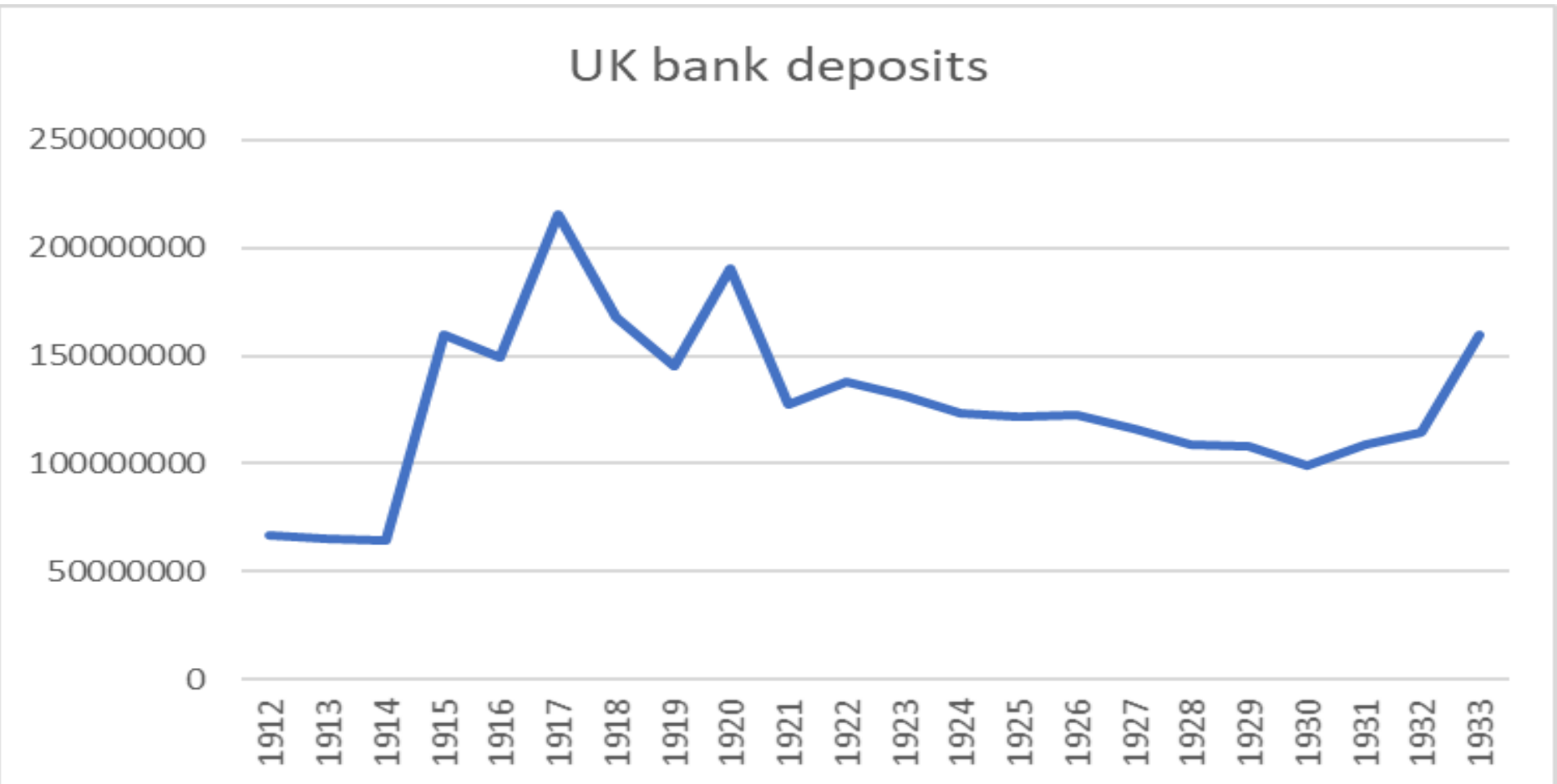


# German Bank Deposits

Explosion



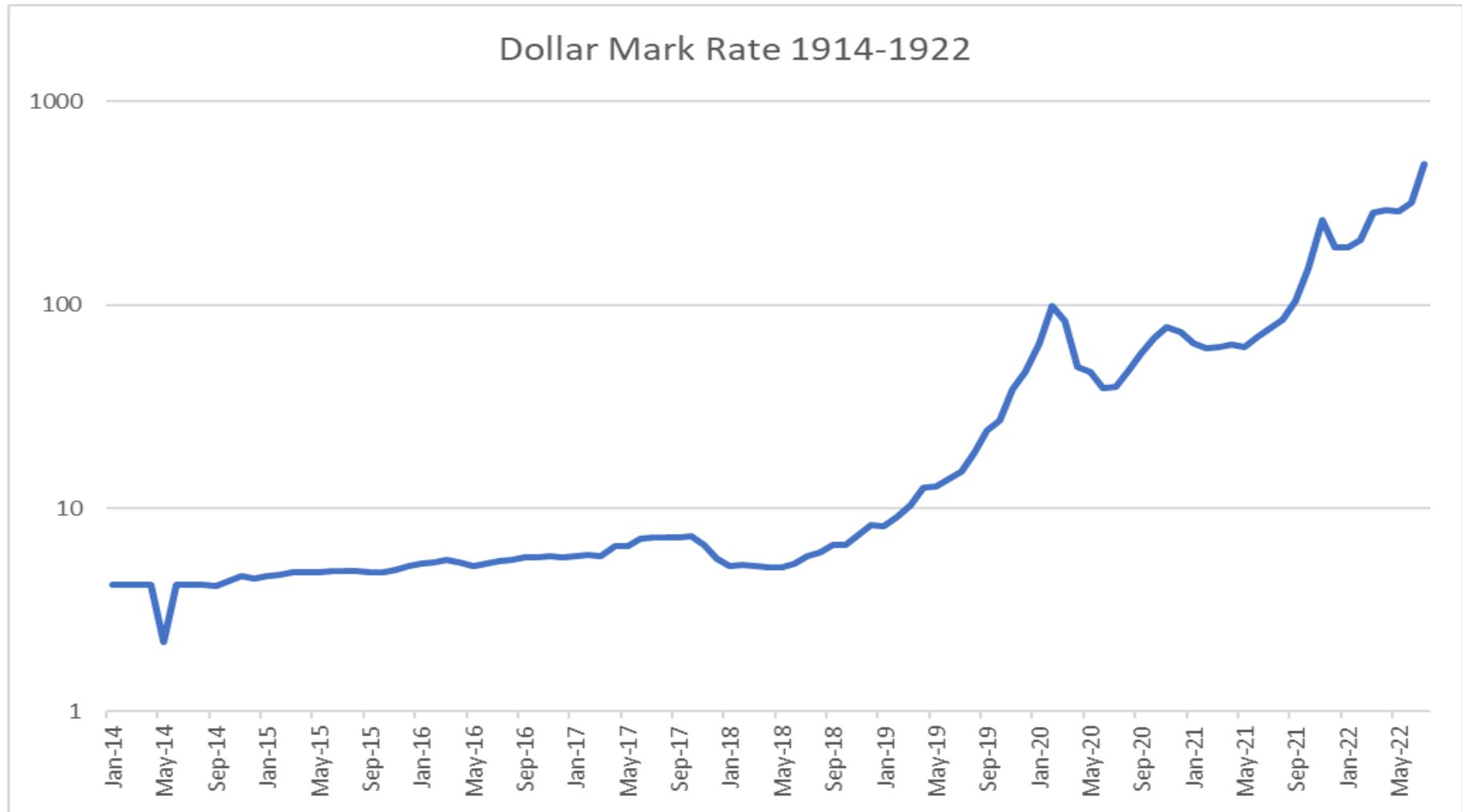
# UK Bank Deposits



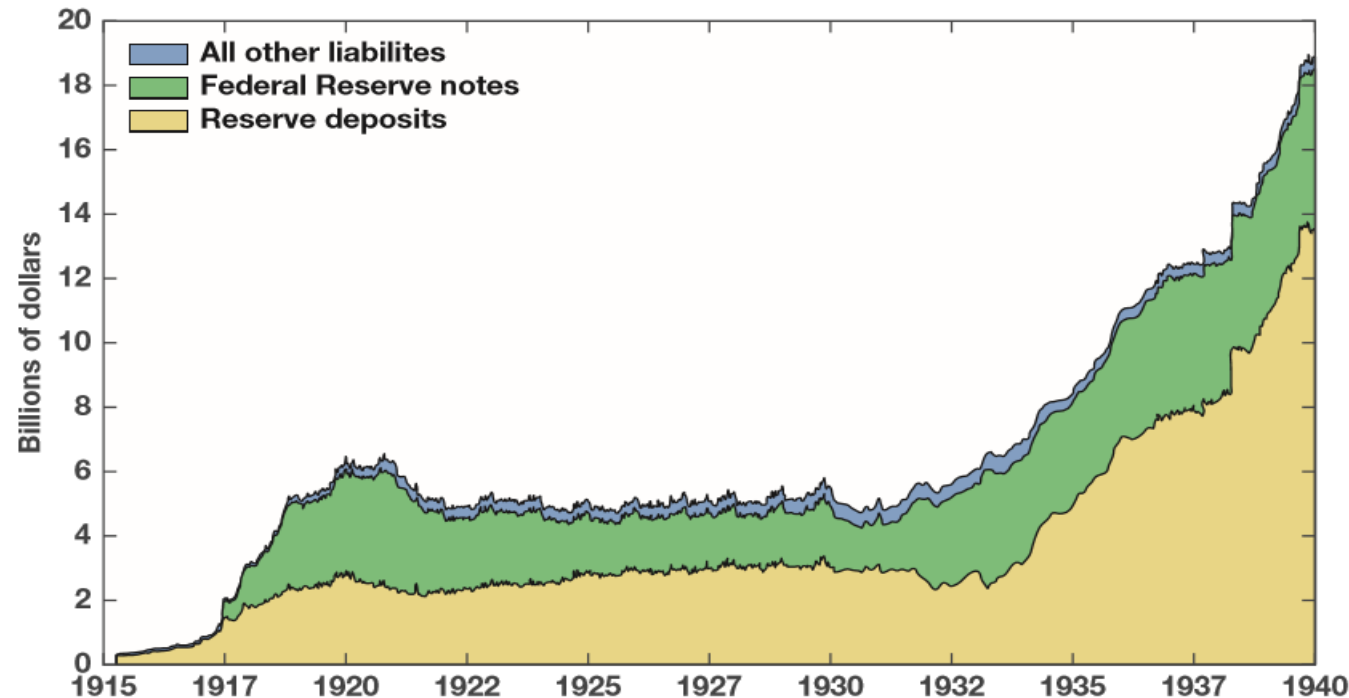
# Postwar monetary & fiscal management

- Centrality of interest rate policy (management of government debt)
- Alternative strategies: high inflation; debt cuts / capital levies

# German Inflation 1914-1923



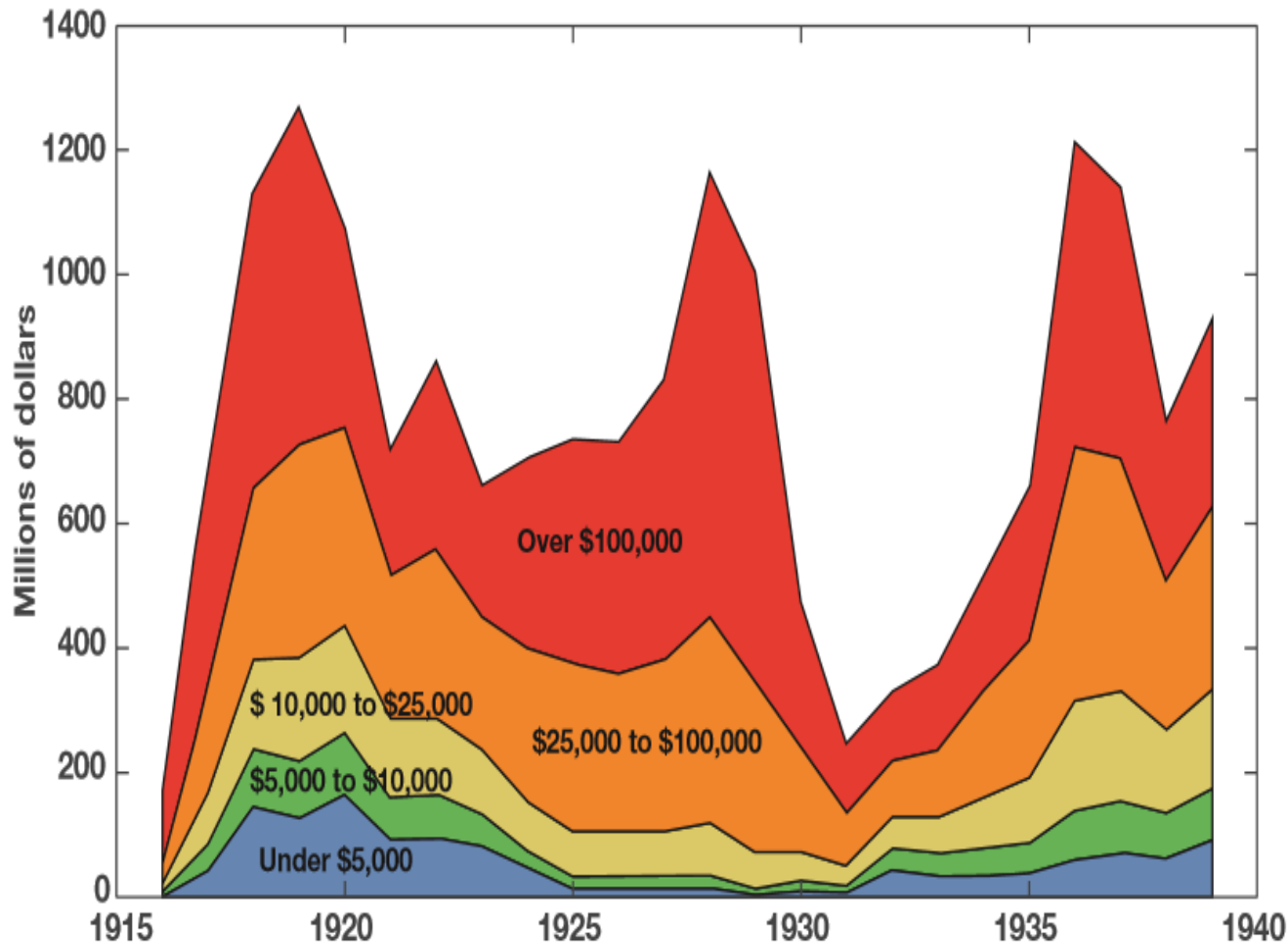
# Federal Reserve Liability



Source: Board of Governors of the Federal Reserve System (1915–40).

Source: Thomas Sargent in (ed.) Era Dabla-Norris, Debt and Entanglements Between the Wars, 2019

# Taxation (US)



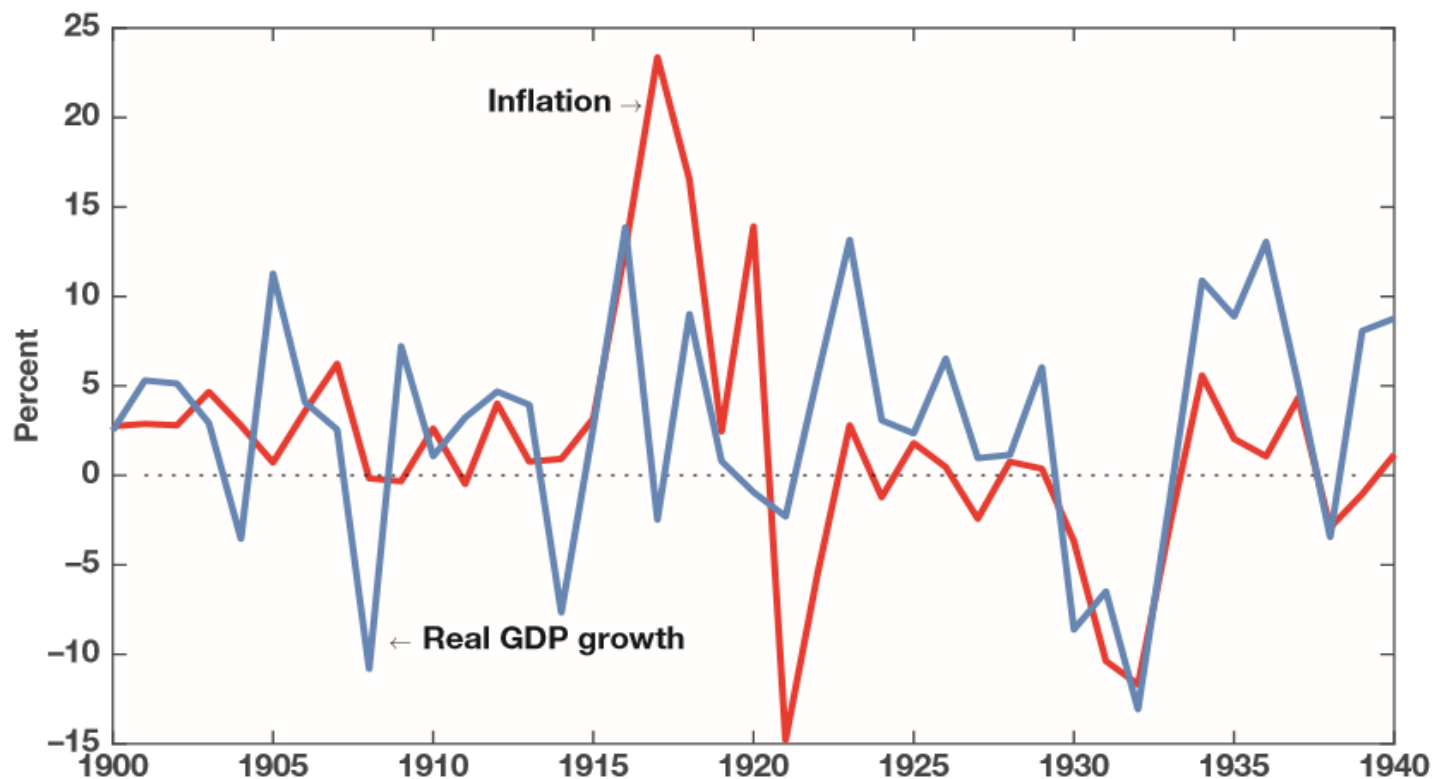
Source: US Internal Revenue Service (1920–40).

Source: Thomas Sargent in (ed.) Era Dabla-Norris, Debt and Entanglements Between the Wars, 2019

# Real GDP Growth and Inflation

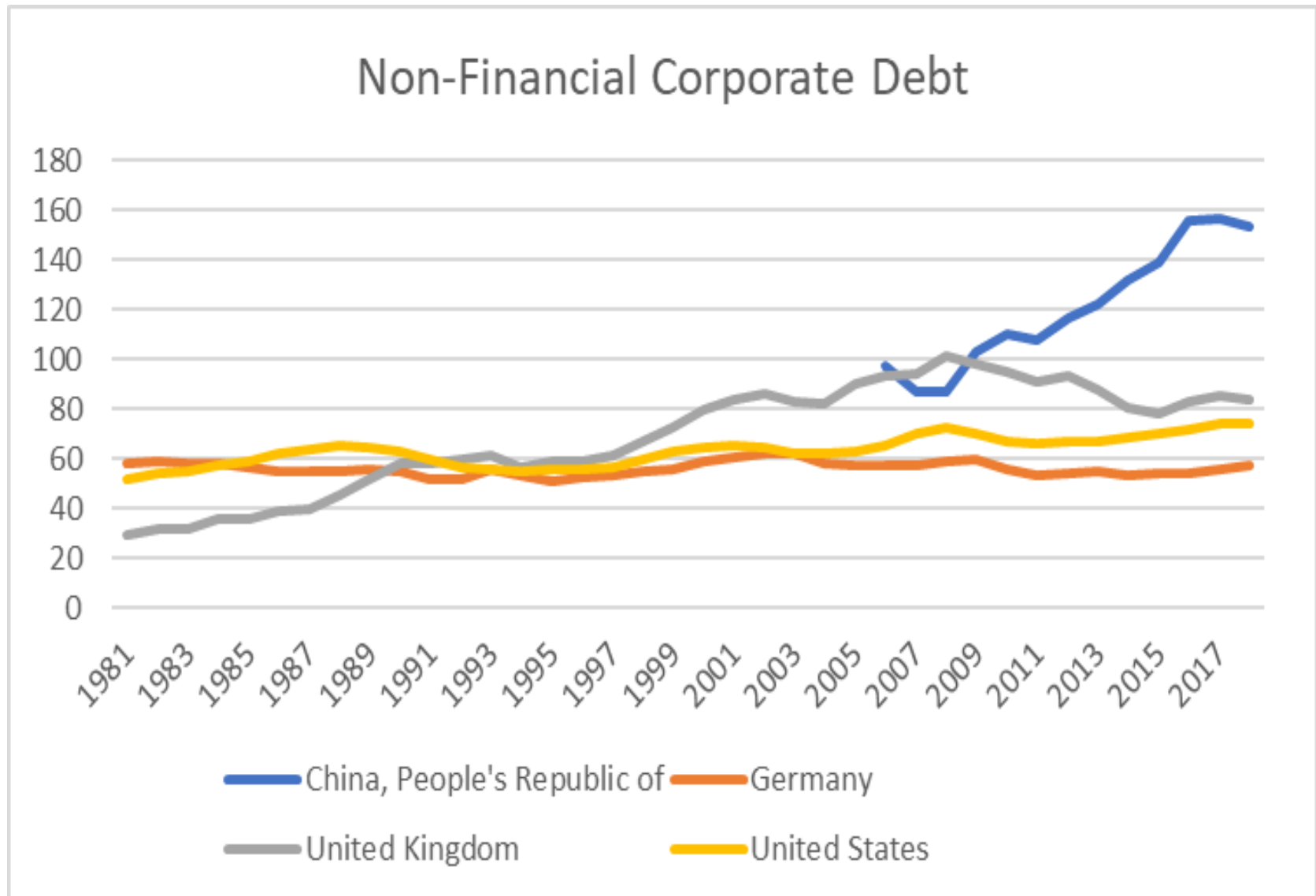


**Figure 1.29. Real GDP Growth and Inflation Measured by the GDP Deflator**



Source: <http://www.measuringworth.com>.

# Non-Fin Corporate Debt





# Even longer term perspectives BENDHEIM CENTER FOR FINANCE

Government fiscal sustainability and economic growth:  
numerator and denominator

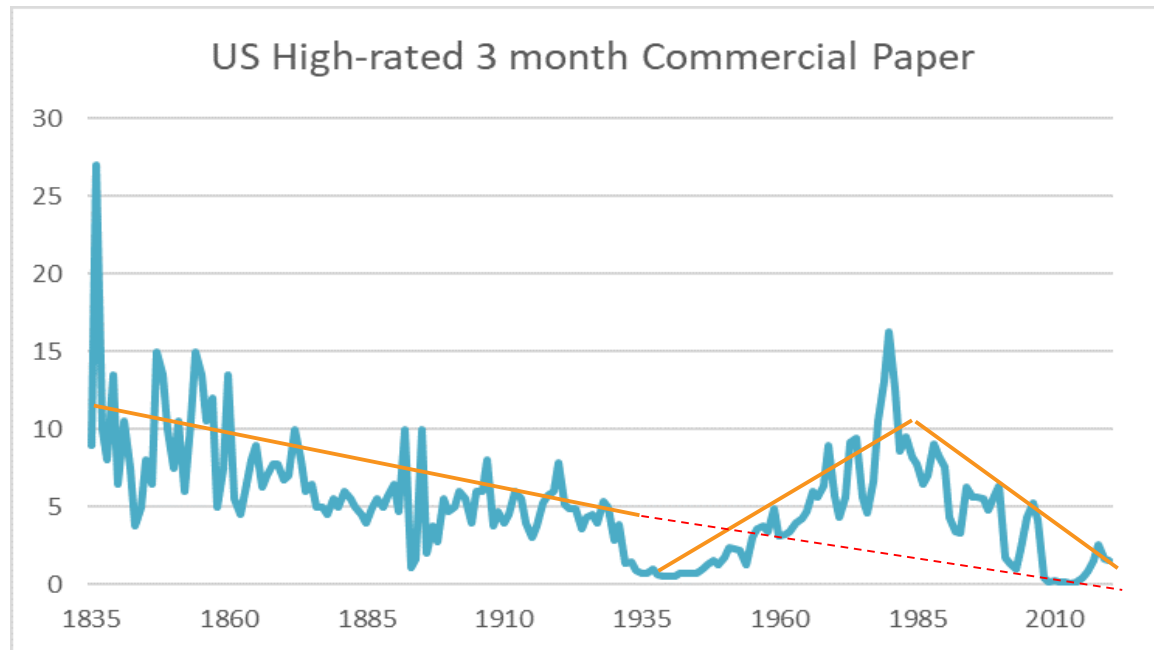
Technical developments: stimulus of wartime (eg penicillin),  
changes in working practices etc.

# Long term evolution of interest

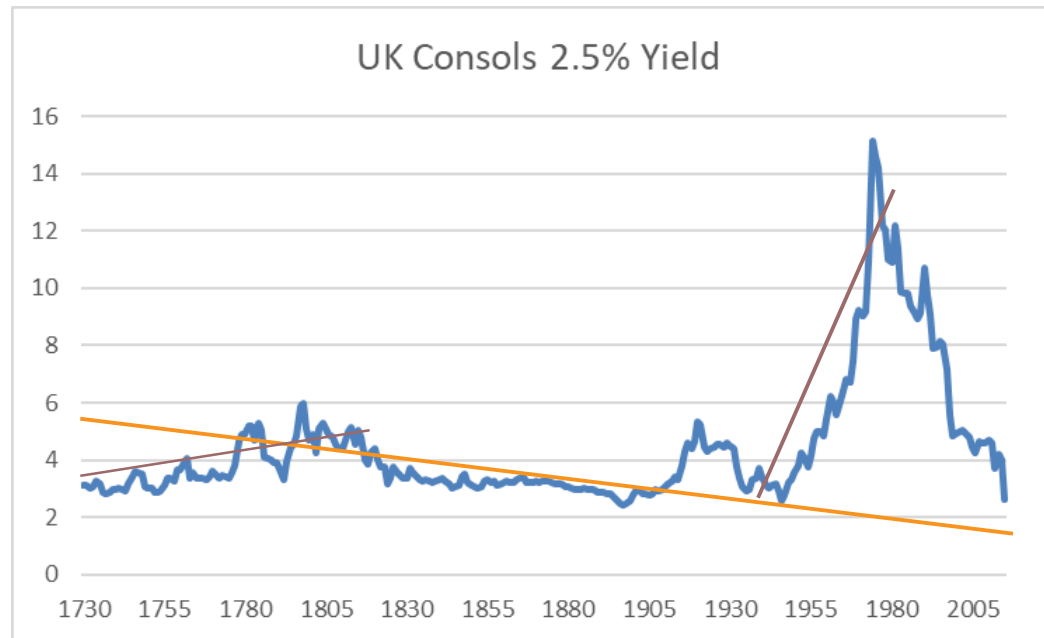
- Paul Schmelzing:

Eight centuries of global real interest rates,  $R-G$ , and the 'suprasecular' decline, 1311-2018 (2019)

# Long term evolution of interest

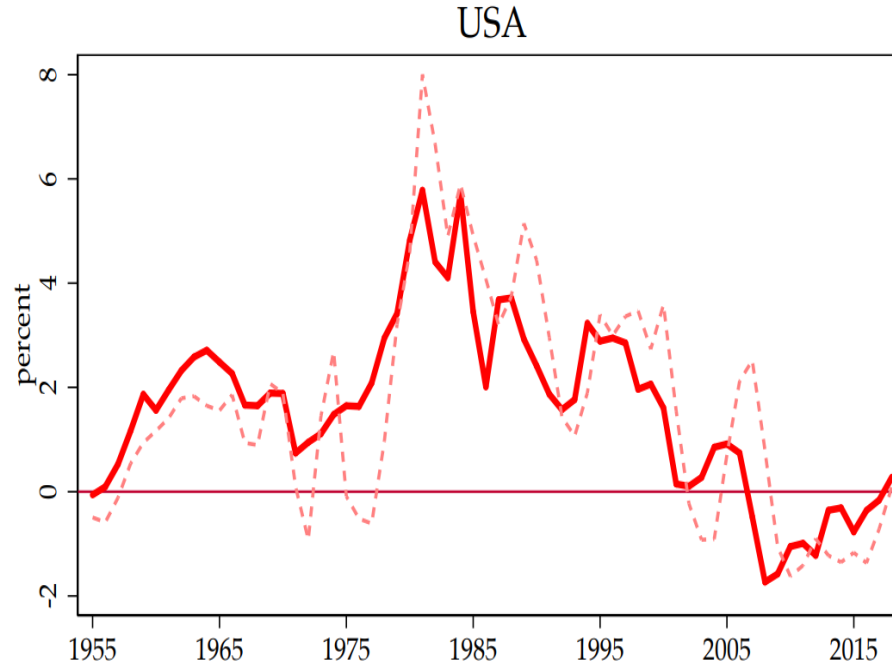


# Long term evolution of interest



# Long term evolution of interest

Estimates of  $r^*$  and  $\eta_t^B$  versus actual real short rate



From: Òscar Jordà and Alan M. Taylor, Riders on the Storm, NBER Working Paper 26262

# Exceptionality of 1945-1979

- Large-scale debt reductions / cancellations
- Currencies reorganized (Bretton Woods): was that a sort of creation of Glosbies, explaining why nominal/real rates in US/UK break out of historical trend?