How Governments and Central Banks face Crises: From the Great War to the Pandemic Crisis

Francesco Menoncin

Università di Brescia – Dipartimento di Economia e Management

Torino 30/03/2022

1 Introduction

2 The Great War

3 Prices out of Control

4 1929 A New Crisis

5 The Other Side of the Economic Policy

6 The Interest Rate

7 The Pandemic Crisis

8 The War (again)

9 Conclusions

«The supreme vice is shallowness. Whatever is realised is right.»
Oscar Wilde – *De profundis*

Introduction

Data Source

- Banca d'Italia (Italian central bank)
- FRED Economic Data: https://fred.stlouisfed.org/
- Yahoo finance: https://it.finance.yahoo.com
  https://finance.yahoo.com
- OECD: https://data.oecd.org

A Wise Sentence

- Very few of us realize with conviction the intensely unusual, unstable, complicated, unreliable, temporary nature of the economic organization by which Western Europe has lived for the last half century. We assume some of the most peculiar and temporary of our late advantages as natural.
- J.M. Keynes (1919) – The Economic Consequences of the Peace

The Great War

Keynes' Point of View (1919)

- In this book I have not generally had in mind the situation of England.
- "Europe" in my narration must generally be interpreted to exclude the British Isles.
- English problems are of a different kind altogether from those impending on Europe.

Keynes' proposal

- The settlement of inter-ally indebtedness
- An international loan
- The reform of the currency

Debt Situation (mln $)

Loans to	By US	By UK	By France	Total
UK	4'210			4'210
France	2'750	2'540		5'290
Italy	1'625	2'335	175	4'135
Russia	190	2'840	800	3'830
Belgium	400	490	450	1'340
Serbia	100	100	100	300
Others	175	395	250	820
Total	9'450	8'700	1'775	19'925

Some Gossip (1/2)

- Clemenceau wore a square-tailed coat of very good, thick black broadcloth, and on his hands, which were never uncovered, gray suède gloves...
- his boots were of thick black leather, very good, but of a country style, and sometimes fastened in front, curiously, by a buckle instead of laces.
- With Signor Orlando on his left, the President next by the fireplace, and the Prime Minister opposite on the other side of the fireplace on his right.

Some Gossip (2/2)

- He carried no papers and no portfolio, and was unattended by any personal secretary.
- He closed his eyes often and sat back in his chair with an impassive face of parchment.
- A short sentence, decisive or cynical, was generally sufficient.

The Relevance of Language (footnote)

- Clemenceau alone amongst the Four could speak and understand both languages [English and French]...
- Orlando knowing only French and the Prime Minister and President only English...
- and it is of historical importance that Orlando and the President had no direct means of communication.

Prices out of Control

Germany 1921-1923

- Weimar Republic must pay all the war debts
- A huge amount of Marks is issued
- The vaulue of the Mark constantly reduces
- In 1923 1 Paper Mark is worth 10^12 Gold Marks
- Inflation: 1400% per year – 3.86% per day

A Way Out

- 1923: A new Mark is issued: RentenMark
- It was backed by bondes indexed to gold
- RentenMarks were NOT redeemable (just indexed)

Other Cases of Hyperinflation

Country	Year	Annual inflation (%)
France	1796	304
Soviet Union	1917	213
Greece	1944	30'000'000'000
Hungary	1946	41'900'000'000'000'000
Bolivia	1985	20'000
Yugoslavia	1994	3'130'000'000
Zimbabwe	2004	79'600'000'000
Venezuela	2018	1'698'488

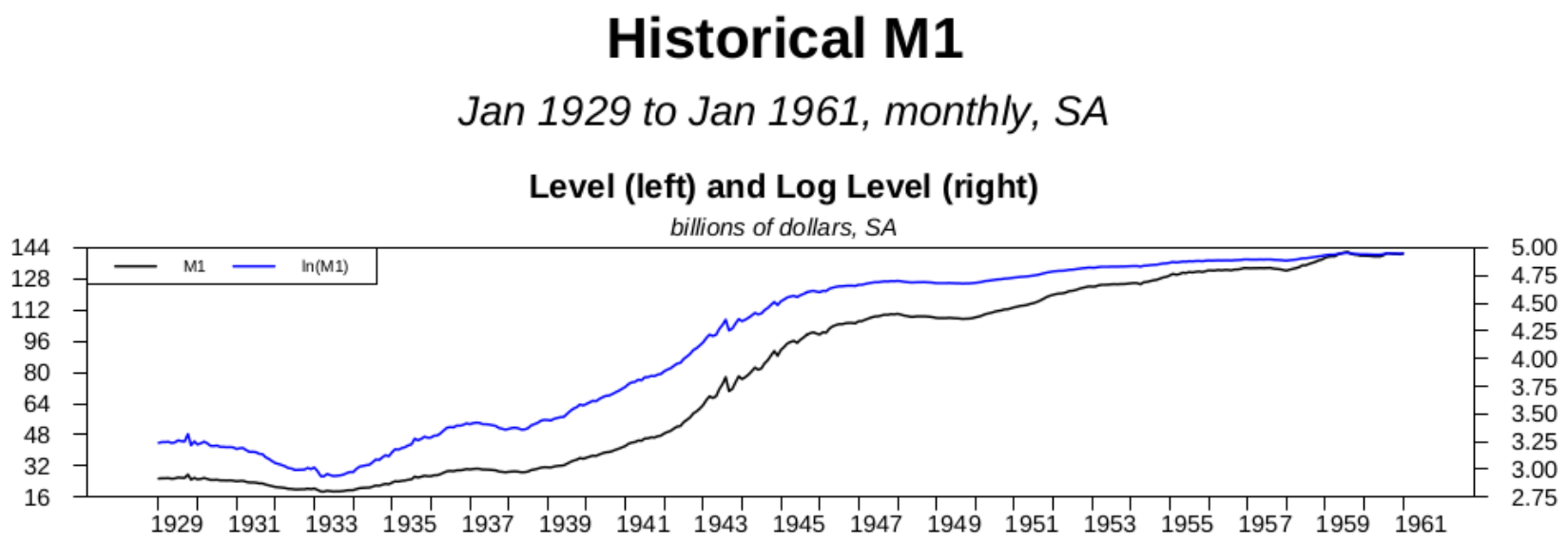
How to Exit Hyperinflation

- Issuance of a new currency
- Pegging of the new currency to a reserve of value
  - a good (gold, land, jewels)
  - another currency
- Sometimes a fiscal reform

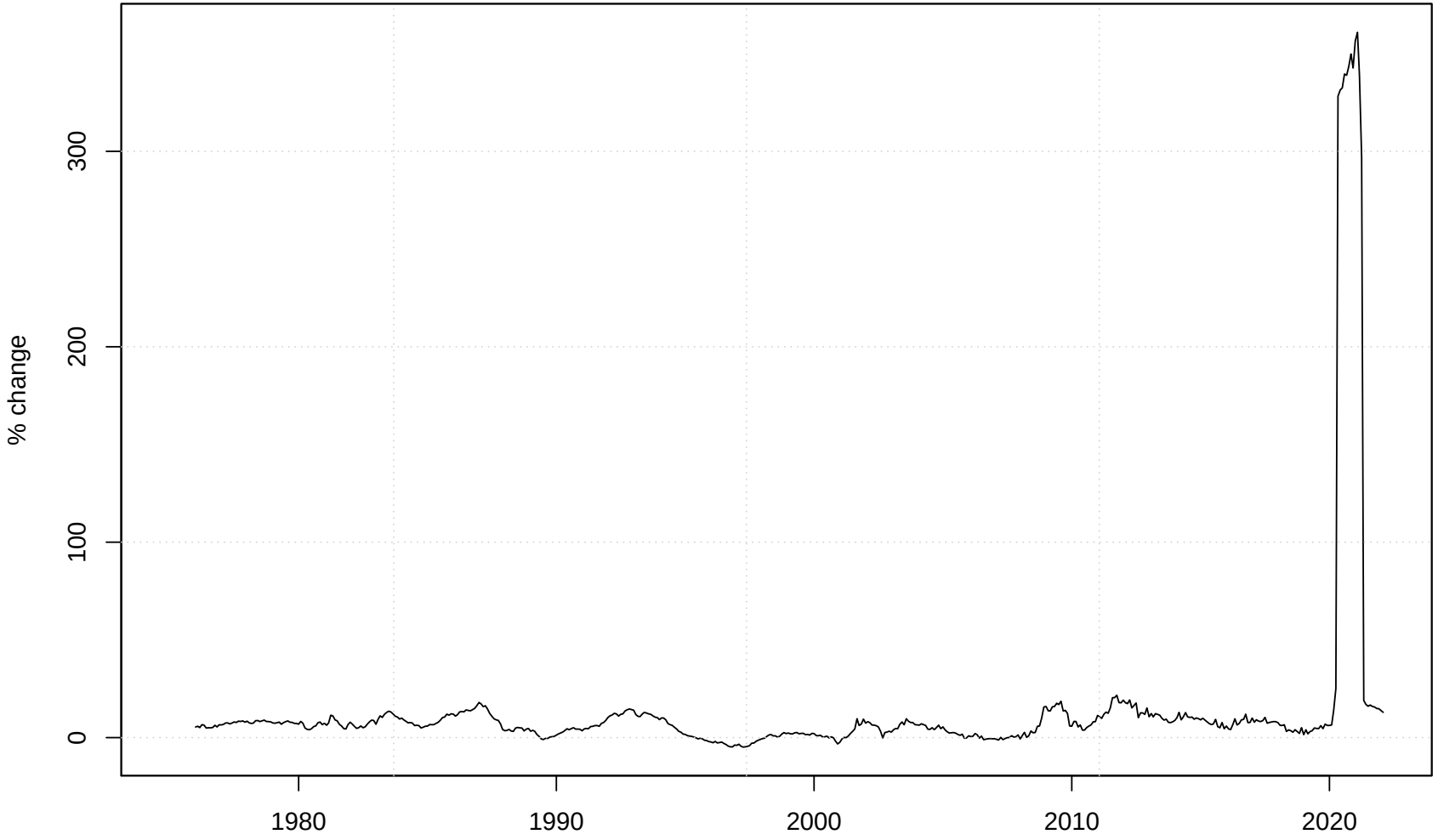
1929 A New Crisis

S&P500 and the '29 Crisis

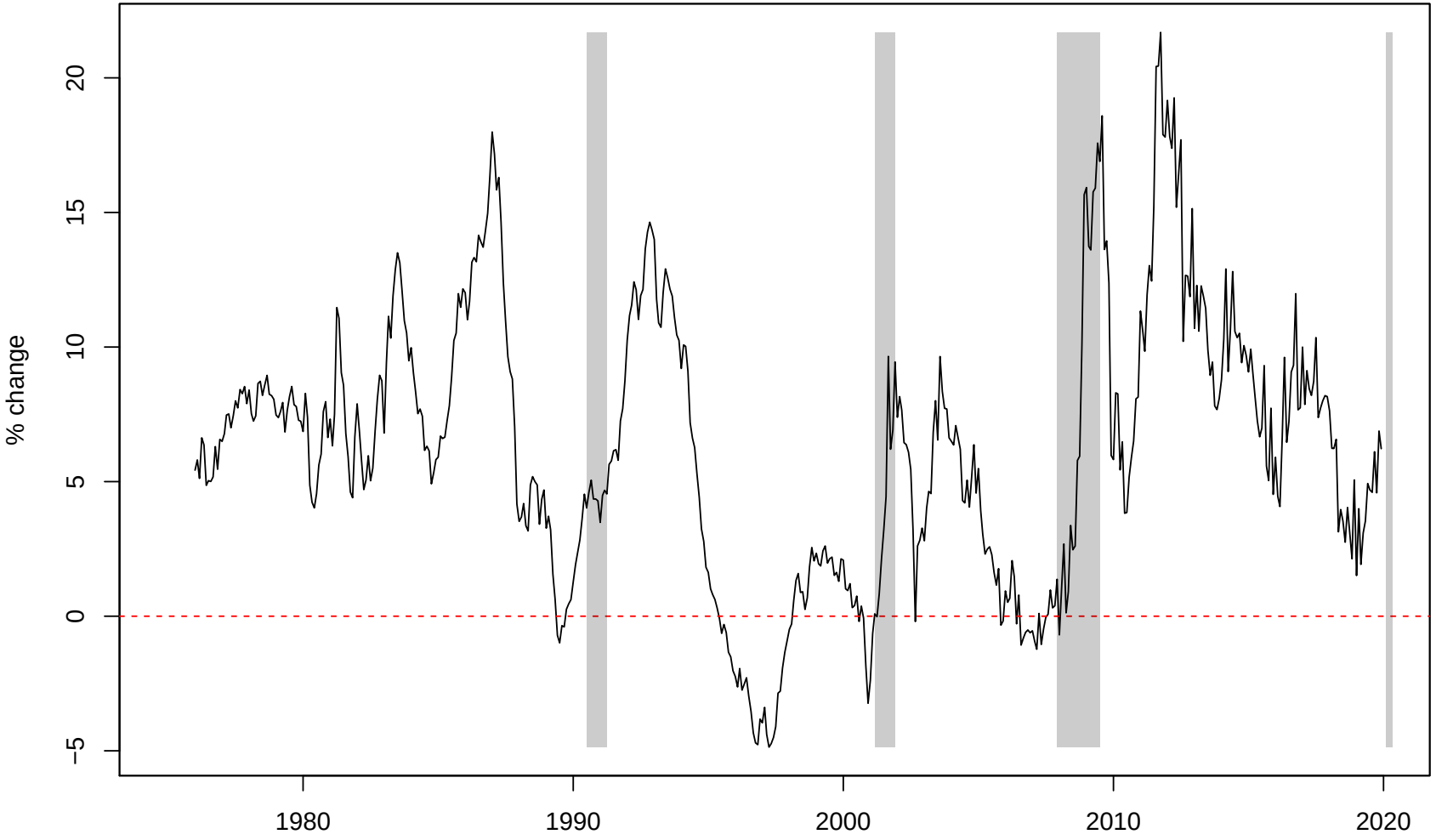
The Role of Money



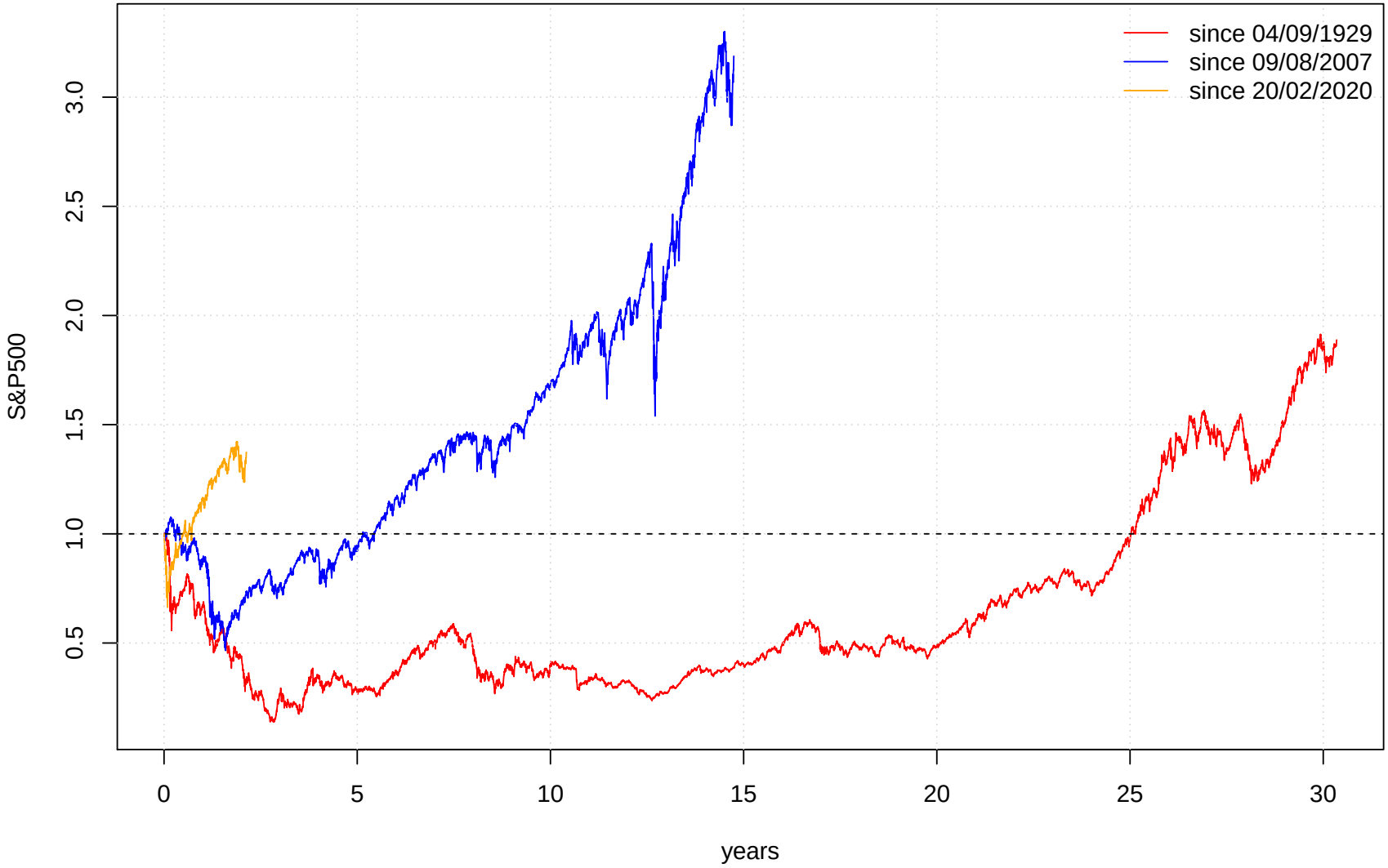
What About the Money in Other Crises?



. . . without the Pandemic Crisis



A Stock Exchange Comparison



1945: Avoiding the same Mistake

- After the IIWW...
- European Recovery Program (1947)
  - 14 Billion $
  - provided in 4 years

The Other Side of the Economic Policy

The Government

- Government spends money G_t
- It collects taxes T_t
- It pays interest (at the rate r_t)
- ...on its debt B_t
- The debt dynamics is

$$dB_t = (B_t r_t + G_t - T_t)\, dt$$

Government and Growth

- The GDP grows at rate g_t
- which means

$$\frac{dY_t}{Y_t} = g_t dt$$

- The Debt/GDP ratio dynamics is

$$d\left(\frac{B_t}{Y_t}\right) = \left(\frac{B_t}{Y_t}(r_t - g_t) + \frac{G_t - T_t}{Y_t}\right) dt$$

The Parameters of the Formula

- Debt/GDP grows at rate

$$(r_t - g_t)$$

- Deficit/GDP

$$\frac{G_t - T_t}{Y_t}$$

  makes the Debt/GDP increase
- What about "sustainability"?
- Debt is sustainable if $d\left(\frac{B_t}{Y_t}\right) \leq 0$
- ...i.e. (with $r_t > g_t$)

$$B_t \leq \frac{T_t - G_t}{r_t - g_t}$$

The Maastricht Treaty (1992)

- Maastritcht constraints
  - $\frac{\text{Debt}}{\text{GDP}} \leq 60\%$
  - $\frac{\text{Deficit}}{\text{GDP}} \leq 3\%$
- If we substitute in the sustainability formula

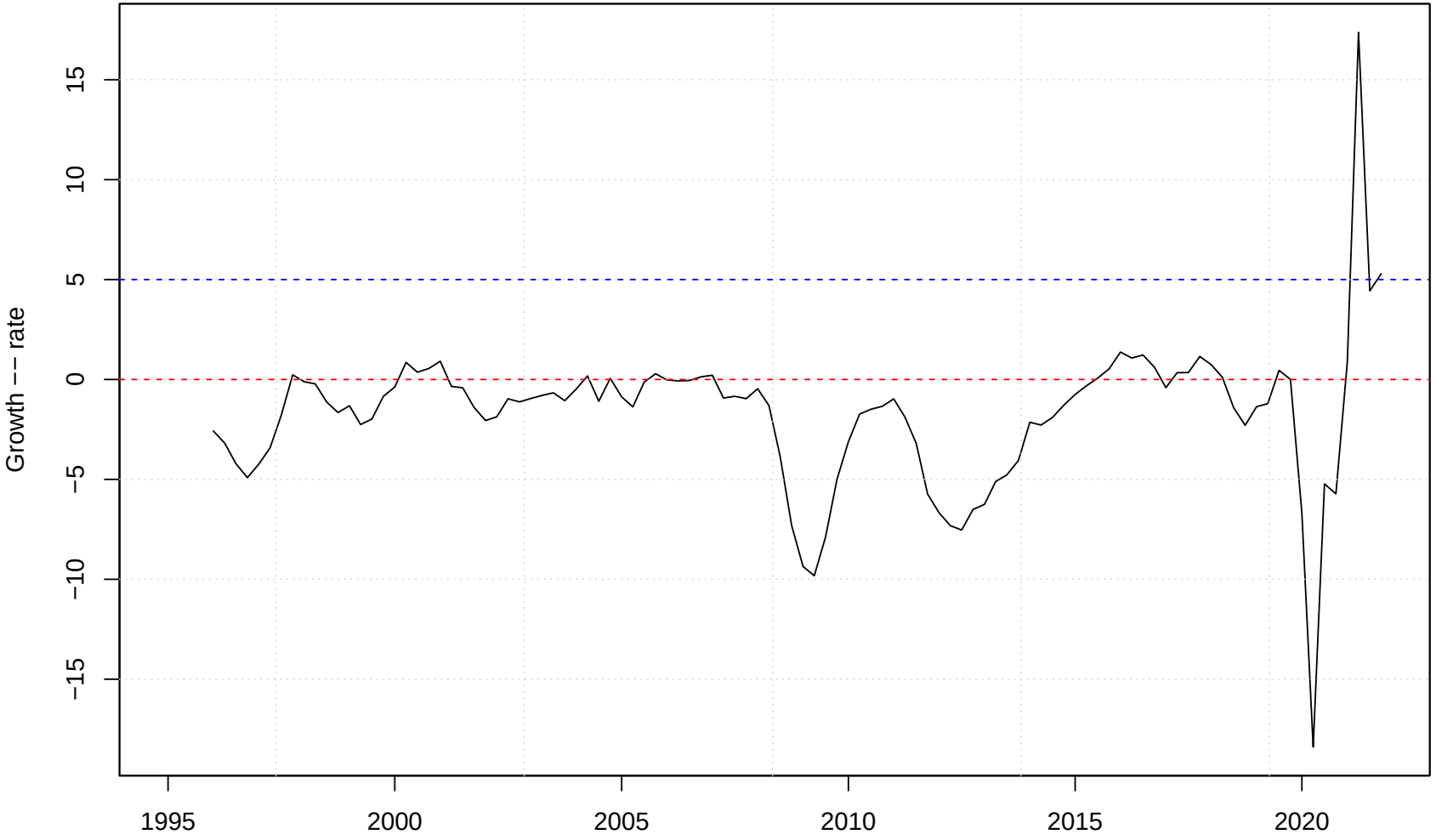
$$0.6\left(r_t - g_t\right) + 0.03 \leq 0$$

- ...i.e.

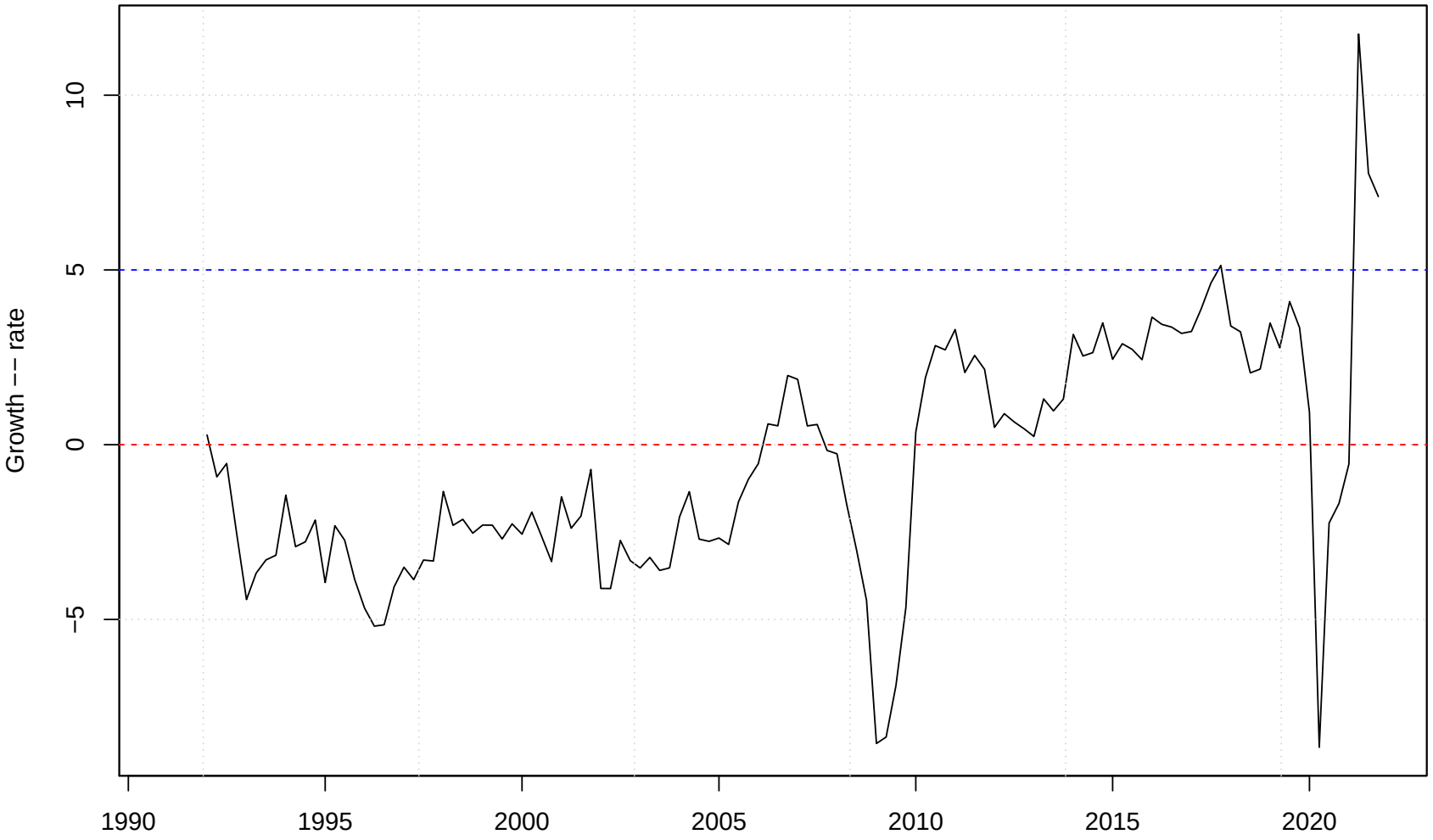
$$g_t \geq r_t + 0.05$$

- it that reasonable?

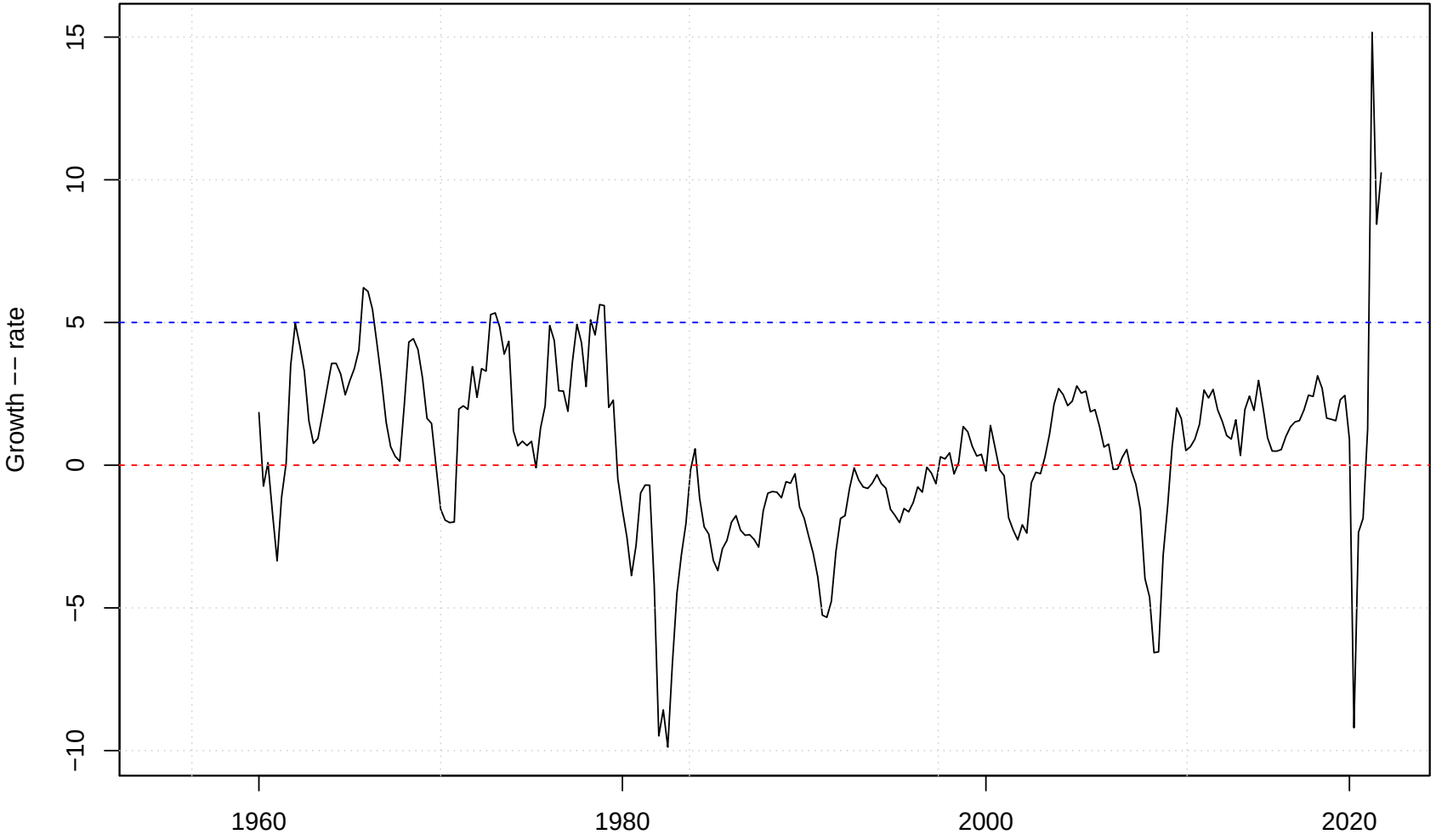
Maastricht on the Data (Italy)



Maastricht on the Data (Germany)



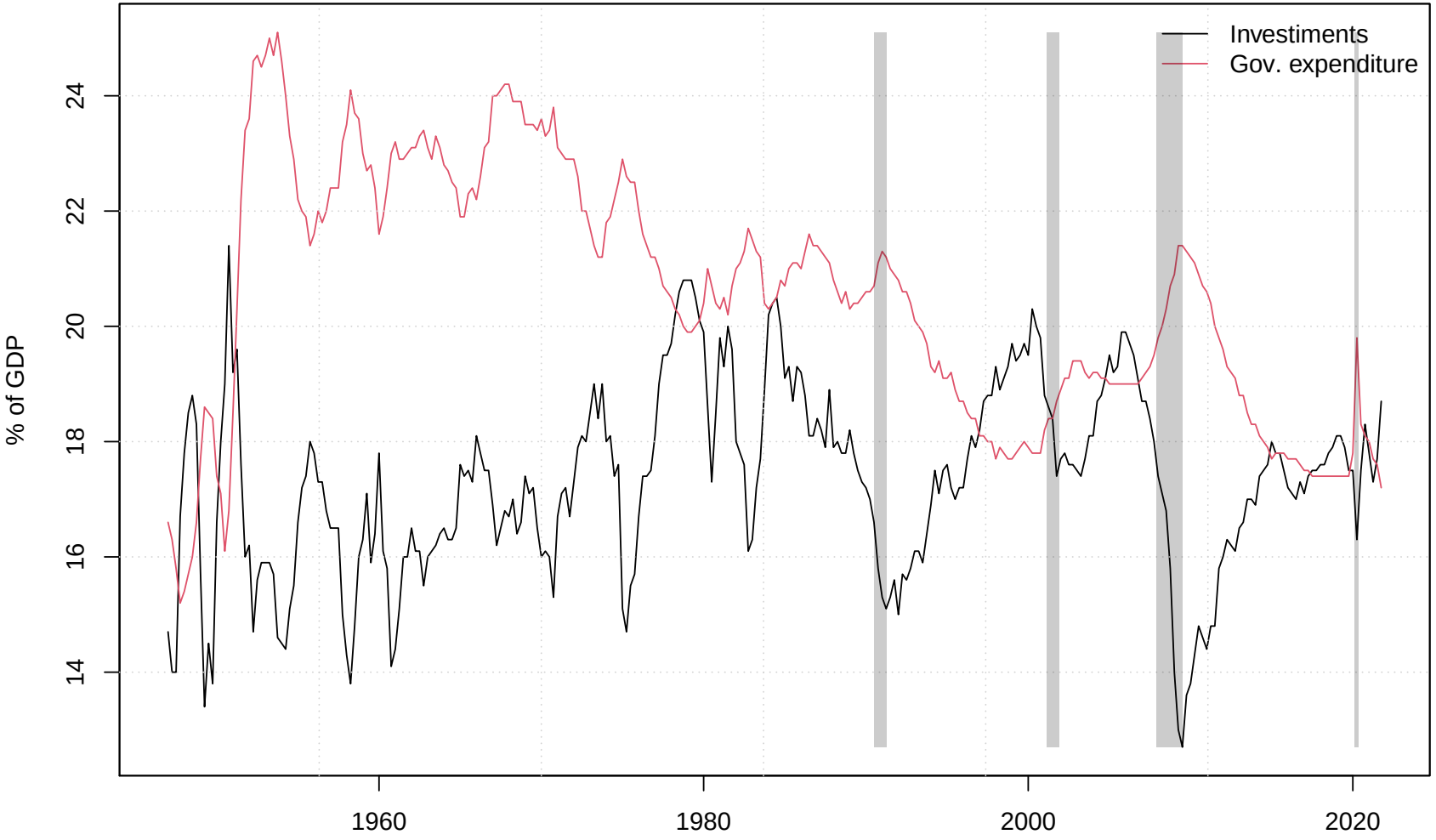
Maastricht on the Data (USA)



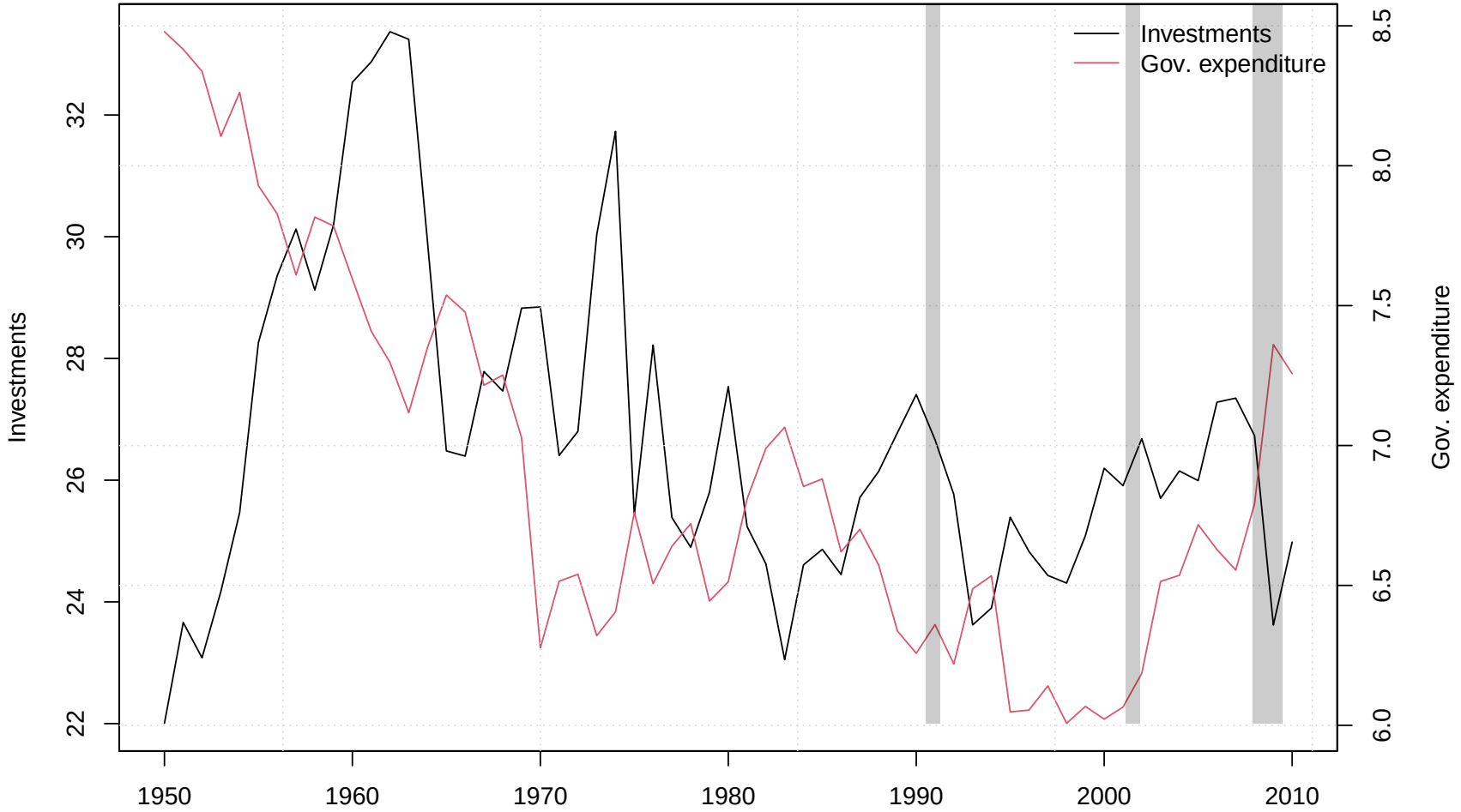
Conclusion

- Empirically: $g_t - r_t$ is close to zero
- Thus, any deficit makes the Debt/GDP grow over time
- De facto, Maastricht asks for a zero deficit

The Role of Public Expenditure (USA)

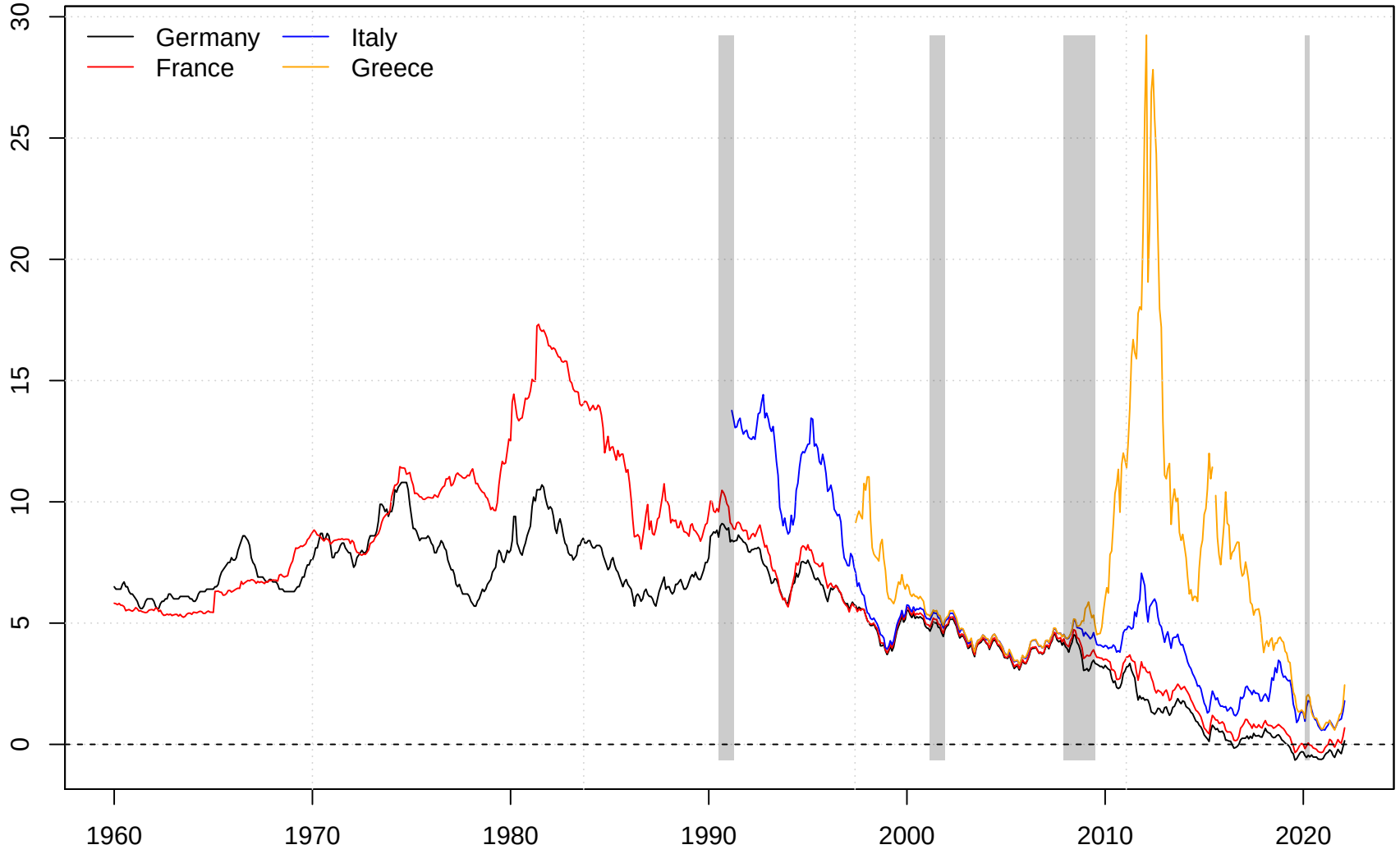


The Role of Public Expenditure (Italy)

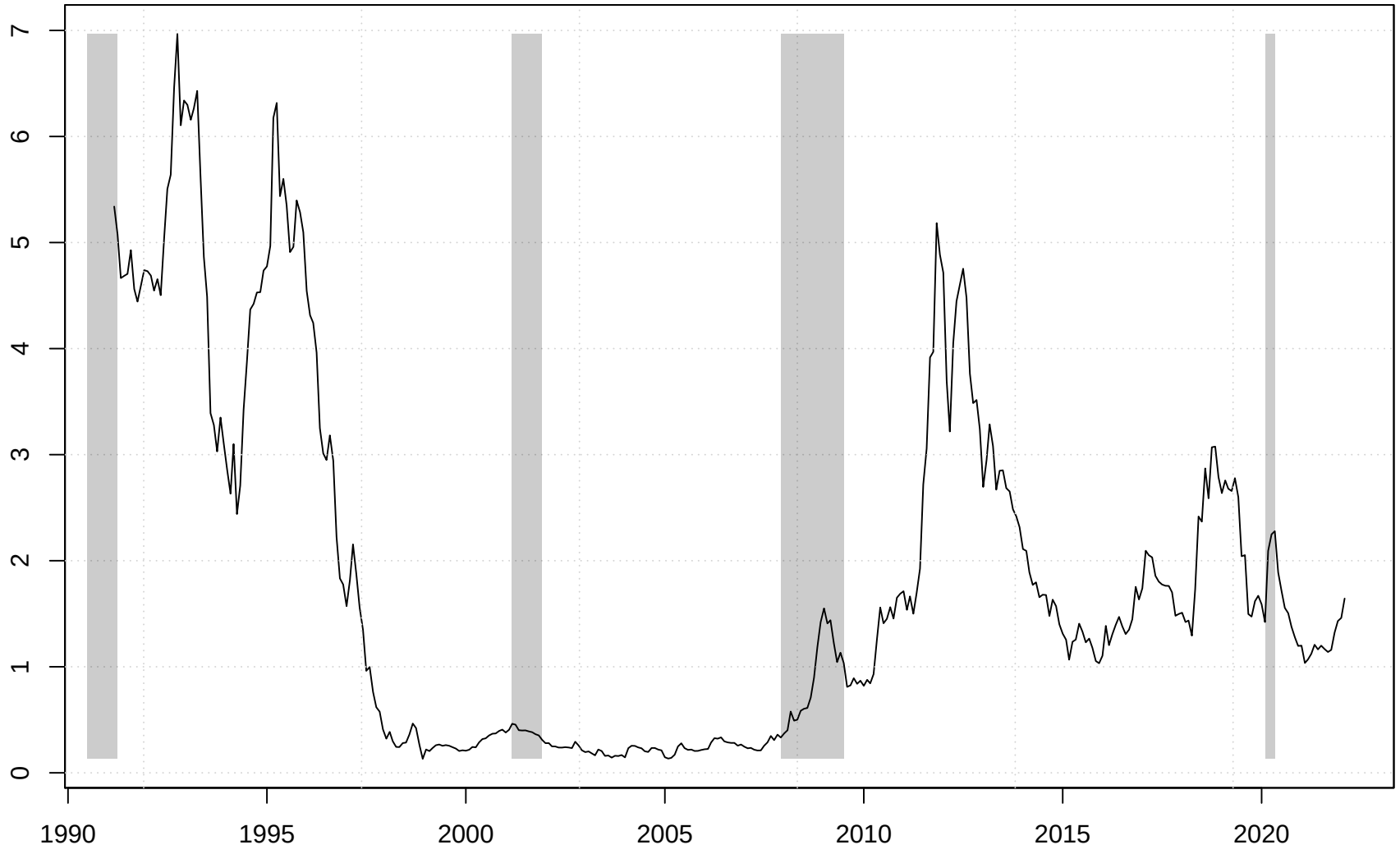


The Interest Rate

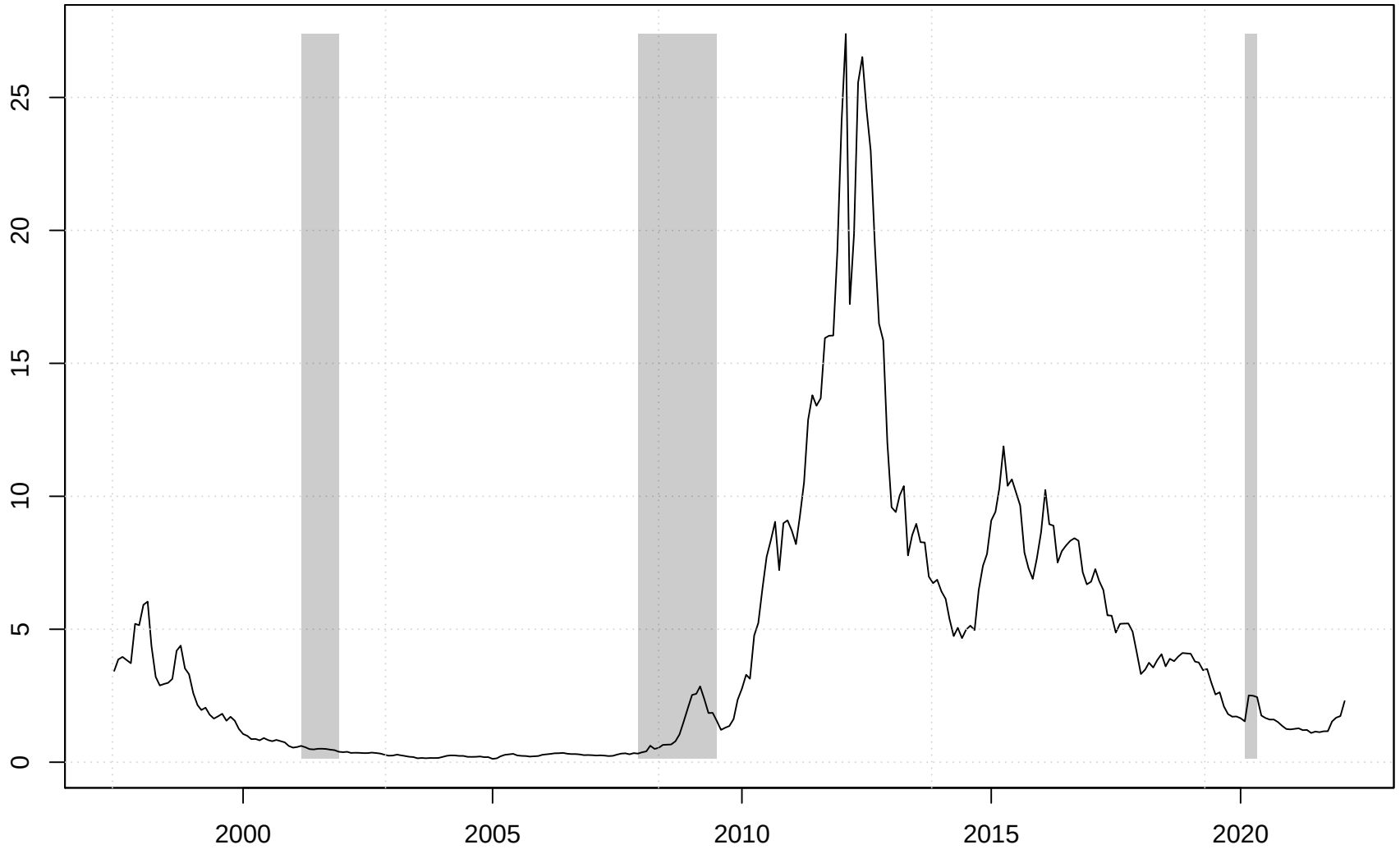
10 Year Interest Rate



Spread: Germany vs Italy



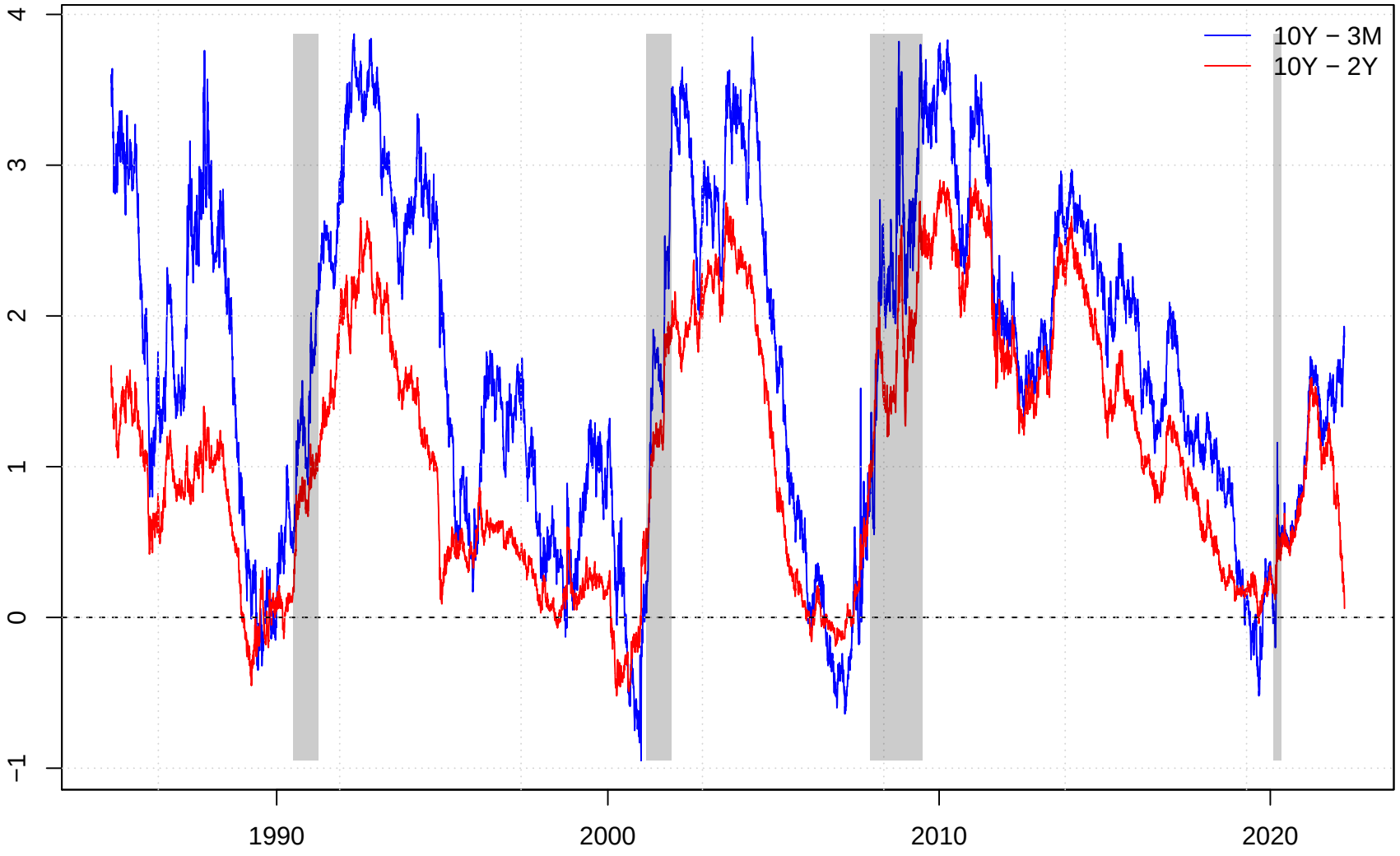
Spread: Germany vs Greece



Interest Rate and Maturity

- The longer the maturity the higher the risk
- The higher the risk the higher the return
- The longer the maturity the higher the interest rate
- ... but this is not always true

Difference: Longer Term Rate - Shorter Term Rate



The Pandemic Crisis

The Europena Central Bank (ECB)

- It decides new purchases of bonds on the market
- PEPP: Pandemic Emergency Purchasing Programme

The European Stability Mechanism (ESM)

- Statute: https://www.esm.europa.eu/legal-documents/esm-treaty
- Equity: 700 billions

Contributions Shares

Paese	Quota
Germania	26.96
Francia	20.25
Italia	17.80
Spagna	11.82
Paesi bassi	5.68
Belgio	3.45
Grecia	2.80
Austria	2.76
Portogallo	2.49

Paese	Quota
Finlandia	1.79
Irlanda	1.58
Slovacchia	0.82
Slovenia	0.42
Lituania	0.41
Lettonia	0.27
Lussemburgo	0.25
Cipro	0.19
Estonia	0.18
Malta	0.07

ESM and Pandemic

- Funding technicalities:
  - Funds used for health structure expenditure
  - Precautionary assistance(2% EU GDP = 240 bln)
- European Commission:
  - Maastricht Treaty discontinues
  - Multiannual Financial Framework (2021-2027): *1074 bln*
  - Next Generation EU: *750 bln* (312.5 - *grant*)
  - New Pandemic Bonds issued by the EU

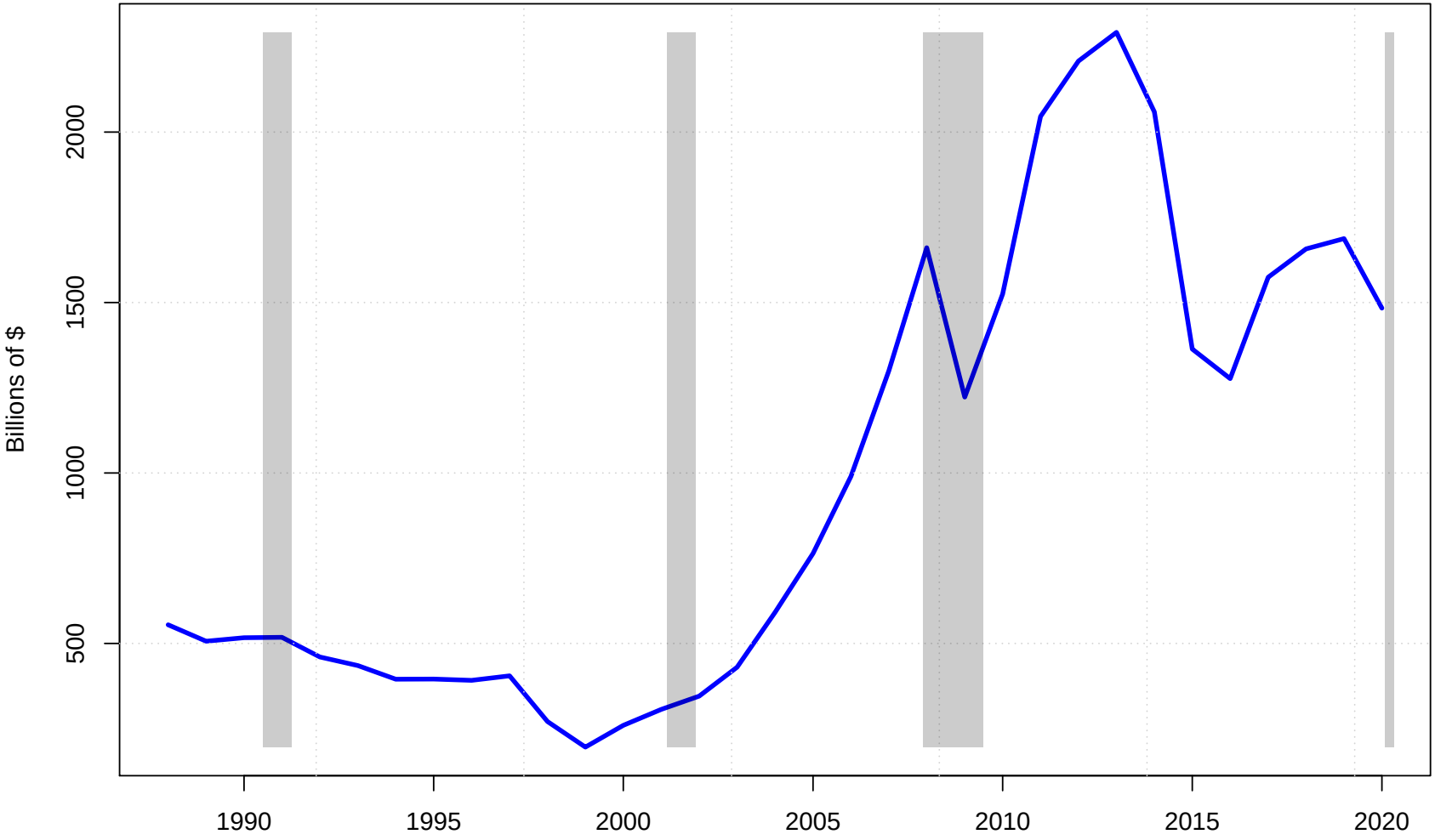
Distribution by country (grant)

Paese	Quota
Spagna	69.5
Italia	68.9
Francia	39.4
Germania	25.6

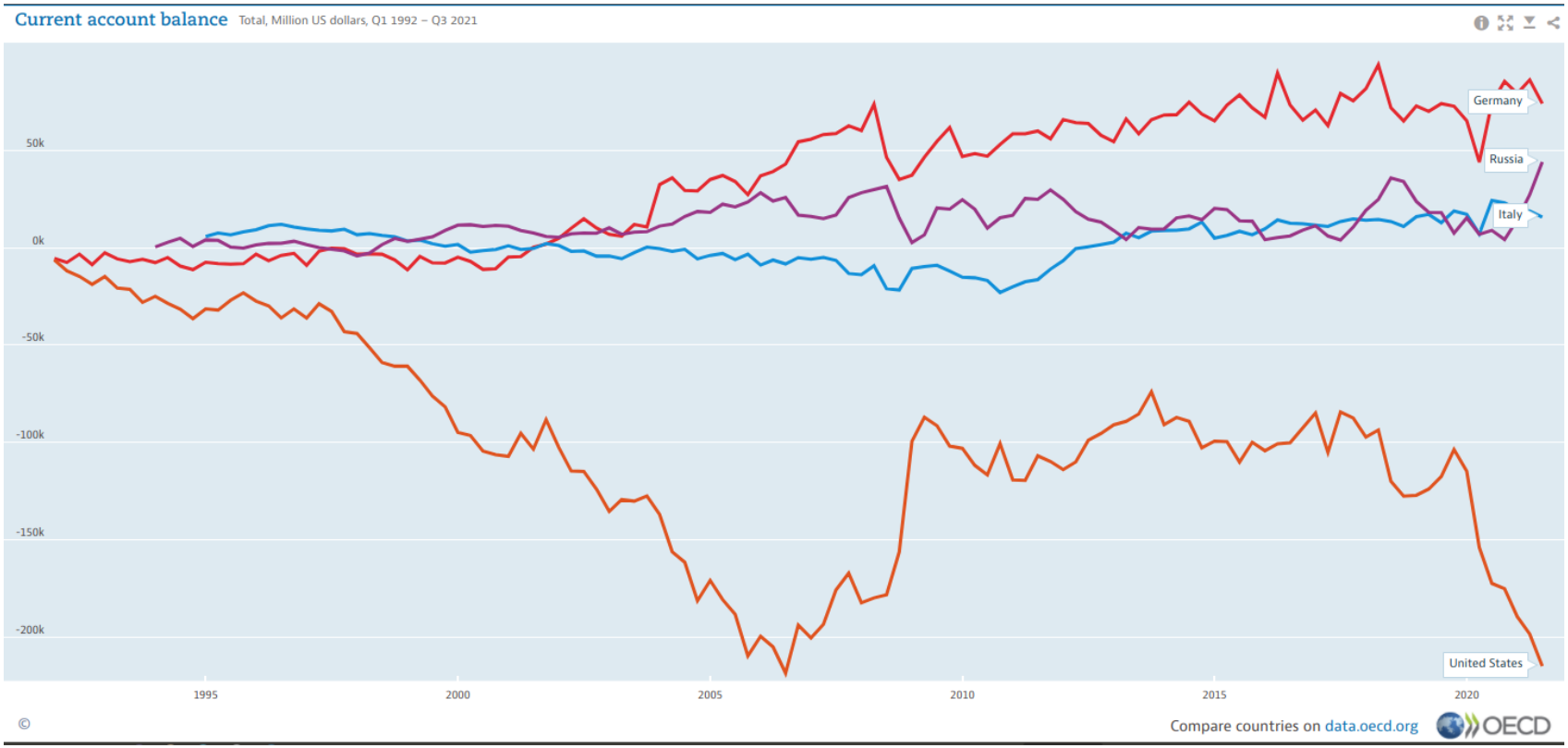
Paese	Quota
Polonia	23.9
Grecia	17.8
Romania	14.2
Portogallo	13.9

The War (again)

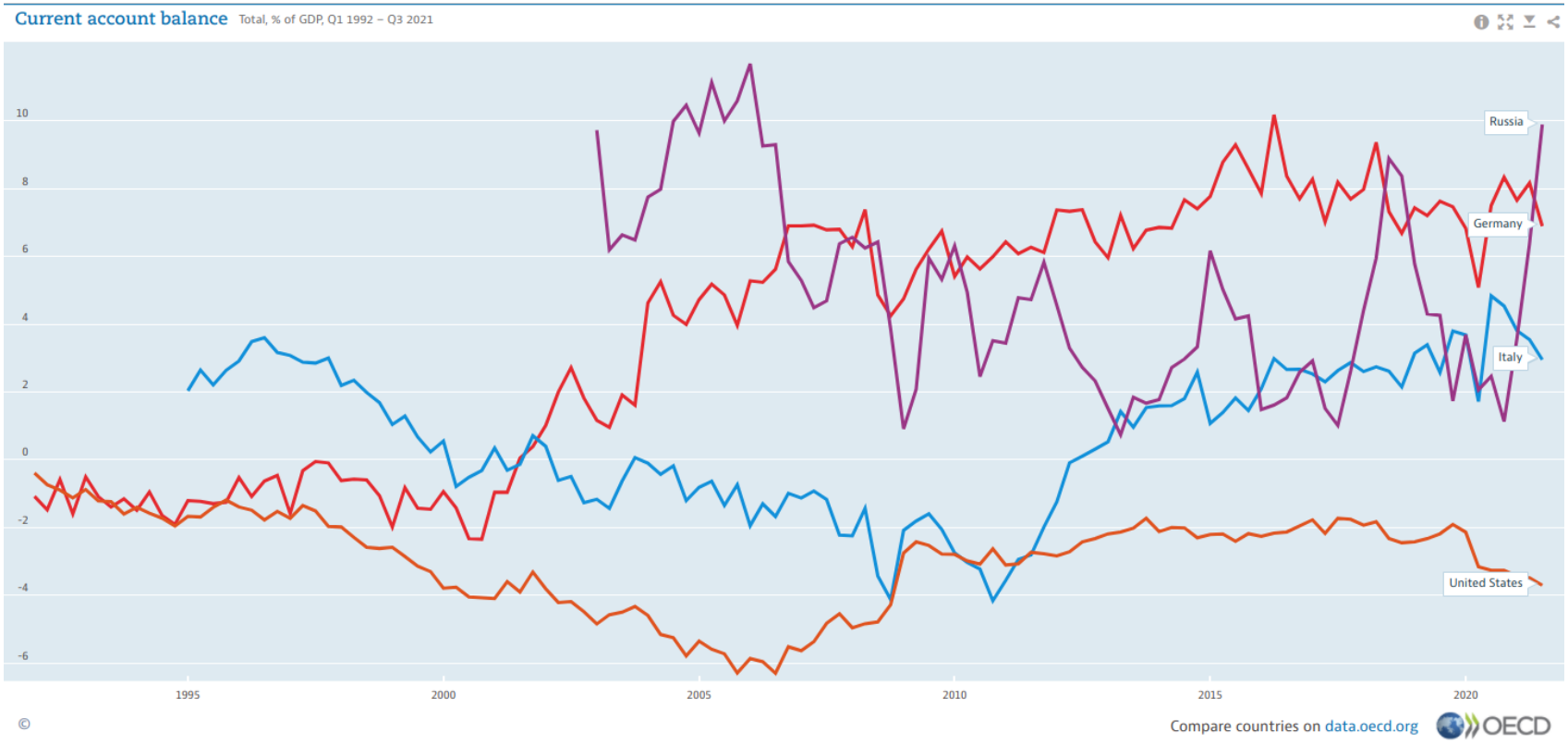
Russian GDP


Billions of $
500
1000
1500
2000
1990
1995
2000
2005
2010
2015
2020

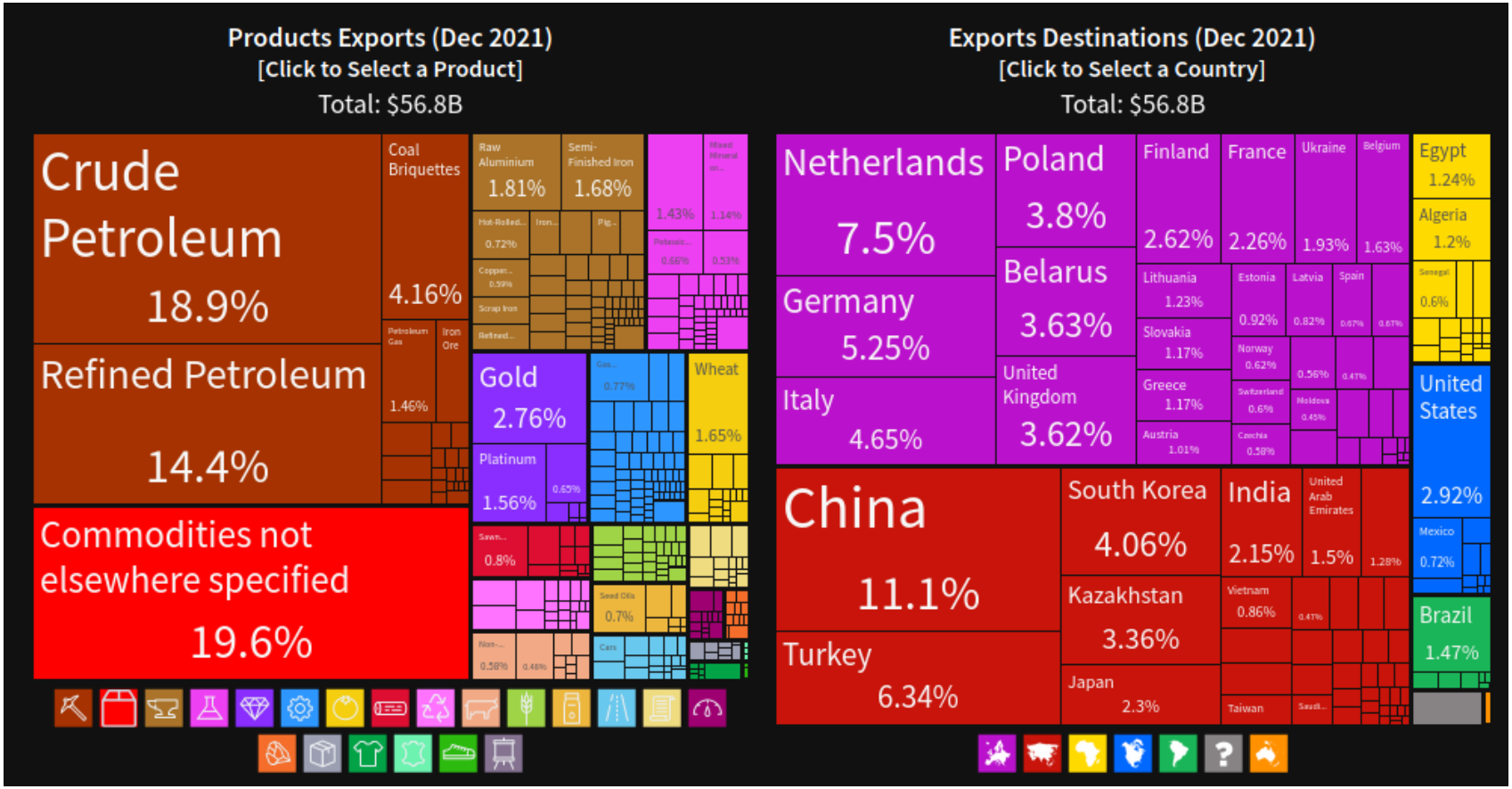
Is Russian an "Open" Country?



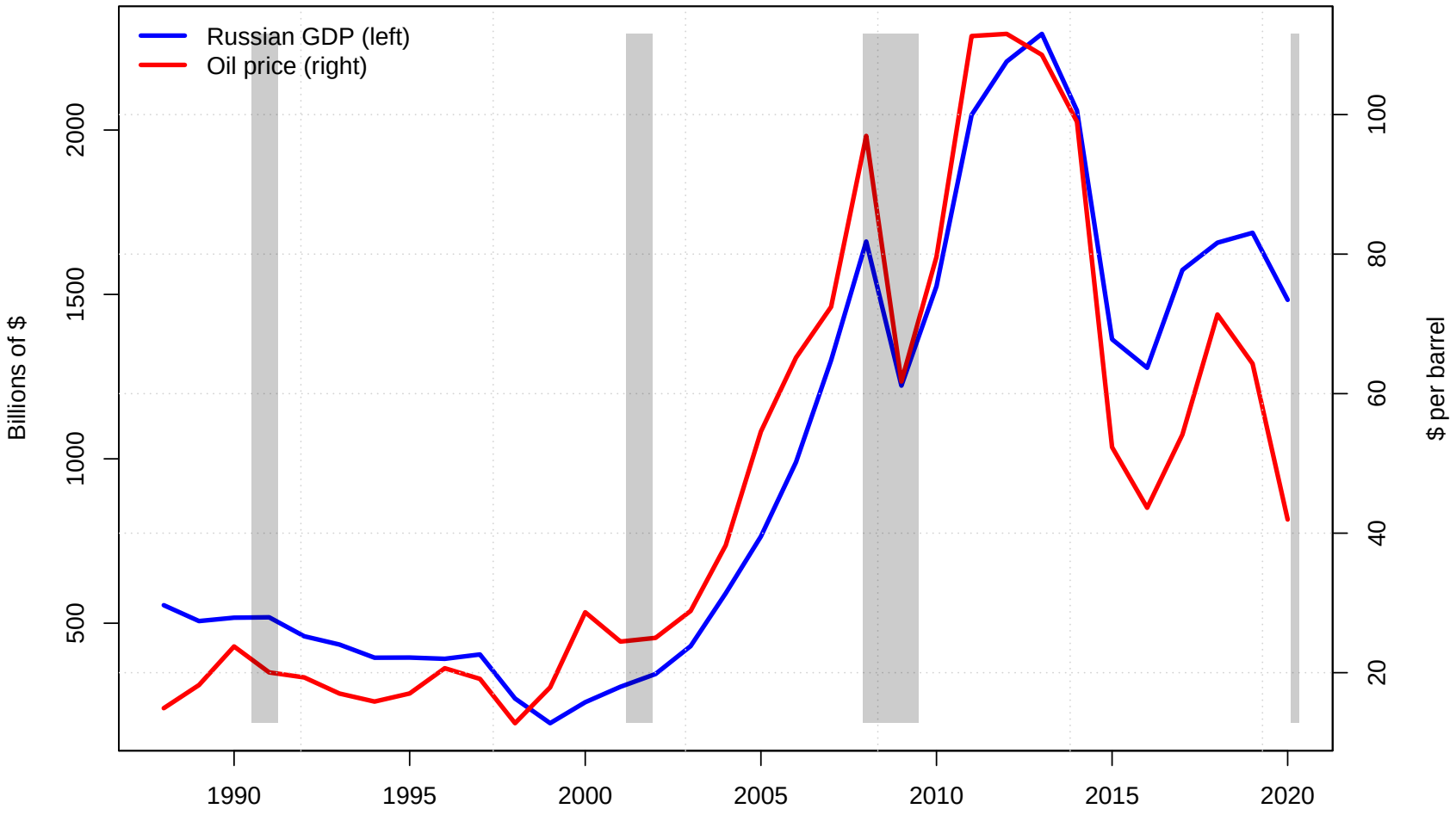
The Imp./Exp. Share on GDP



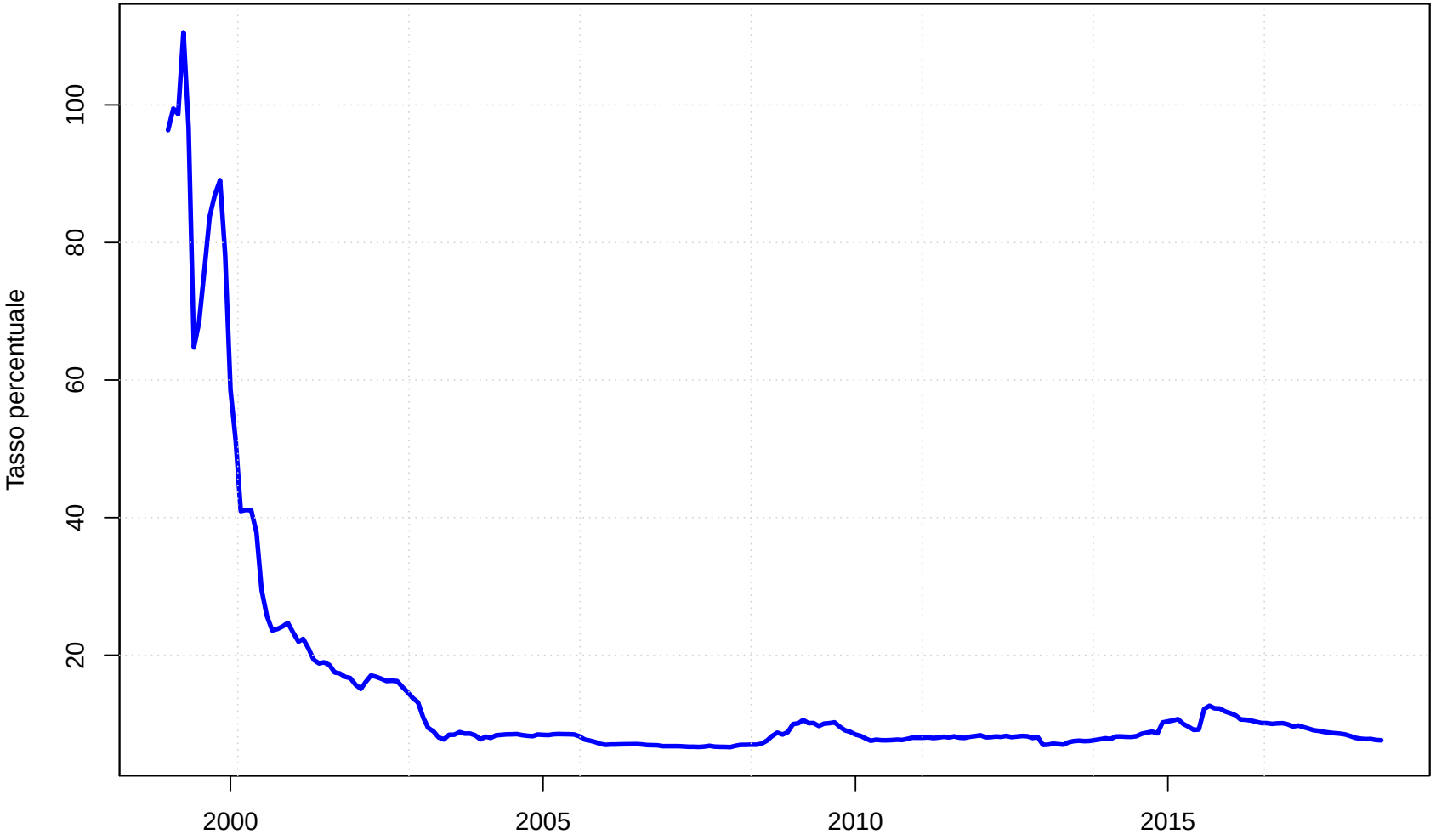
What about Russian Export?



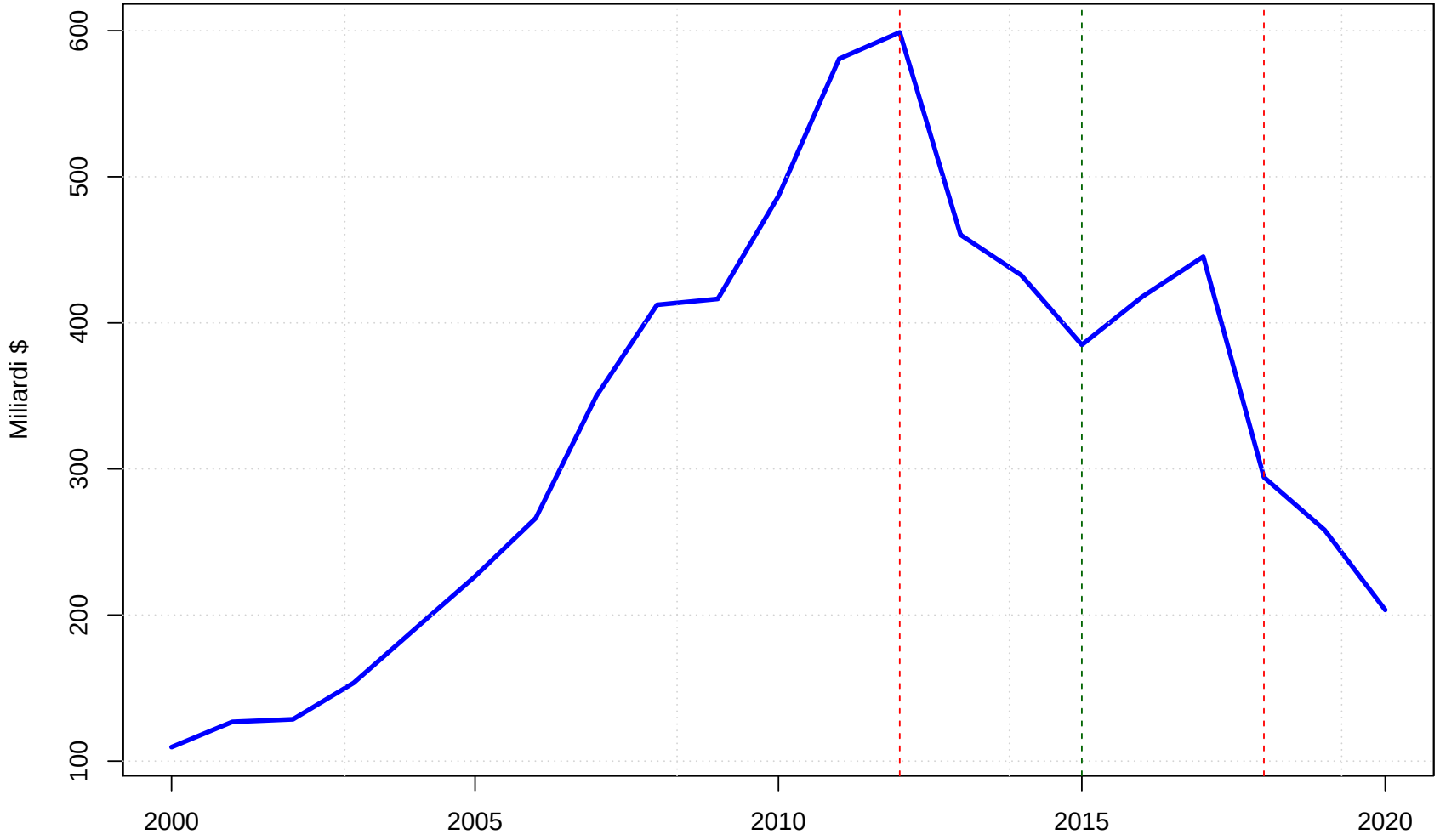
Russian GDP and Price of Brent Oil



Russian 10Y Interest Rate



SWIFT Sanctions: The Case of Iran

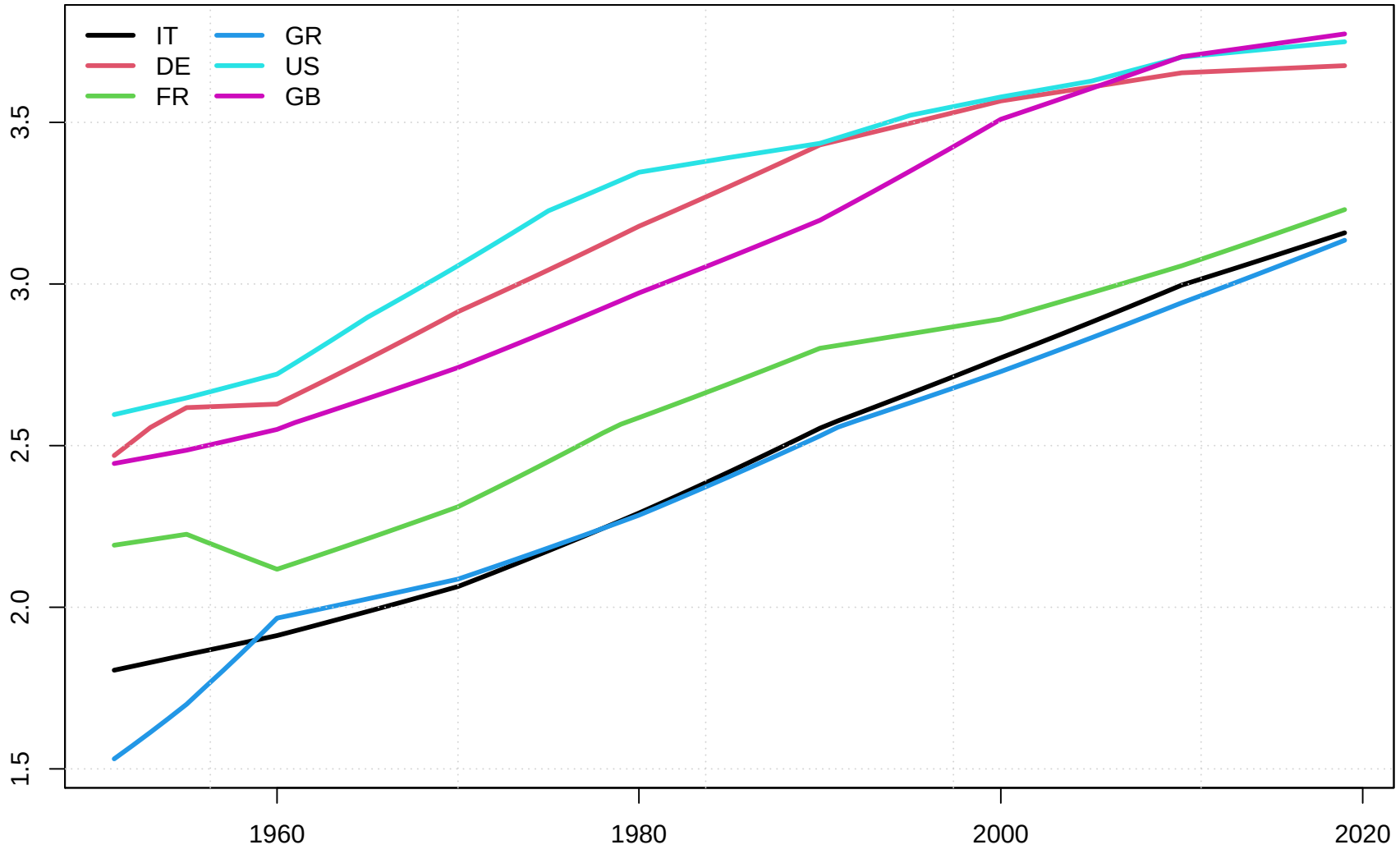


Conclusions

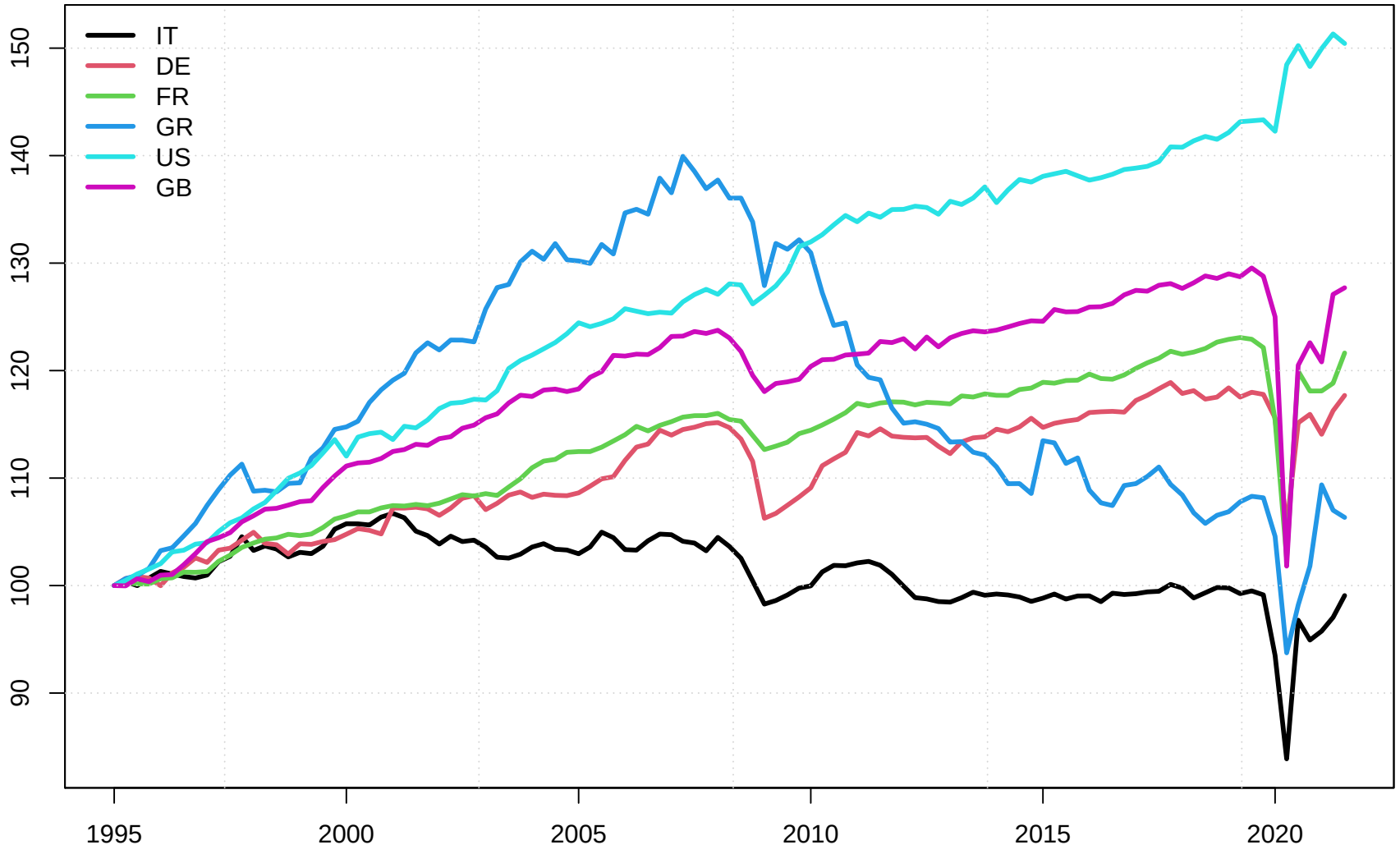
Italian Problems

- Italy has a (very) low human capital
- Italy has a (very) low productivity

Index of Human Capital



Productivity (US Dollars per working hour)



. . . finally

- Be always curious and never lazy . . . look for the complete answer (which is often the less simple)