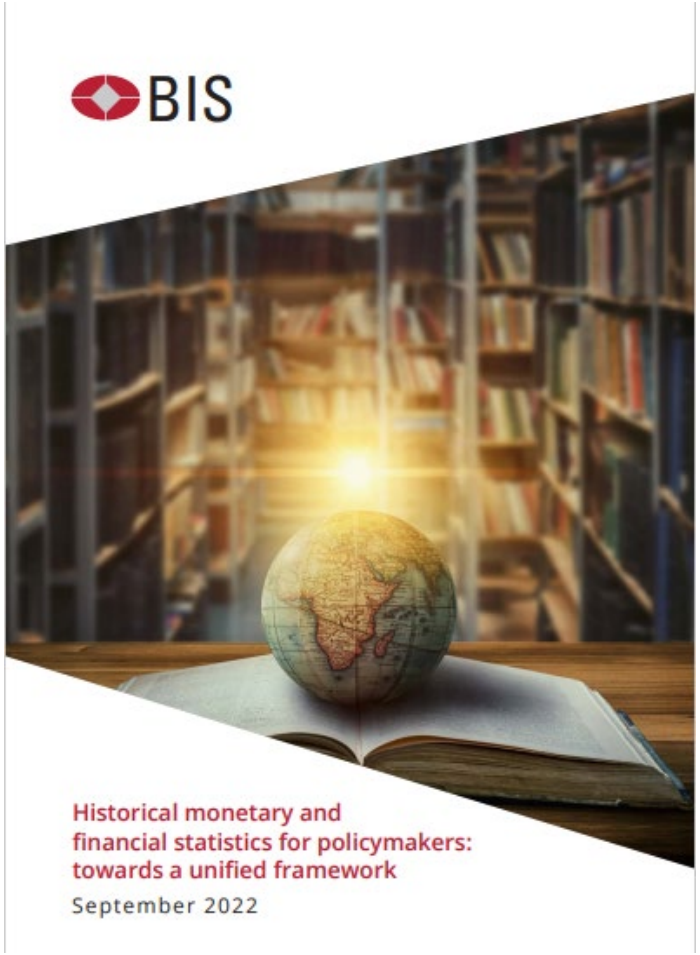
BANQUE DE FRANCE
EUROSYSTÈME

Historical and financial statistics for policy-makers :
The relevance of long, historical, series for policy analysis

Vincent Bignon:
Banque de France

The Power of Data – 6th statistics conference
Santiago de Chile 3-4 June 2025

HISTORICAL AND FINANCIAL STATISTICS FOR POLICY-MAKERS: REVIEWS ISSUES, CHALLENGES AND PROPOSES A METHOD



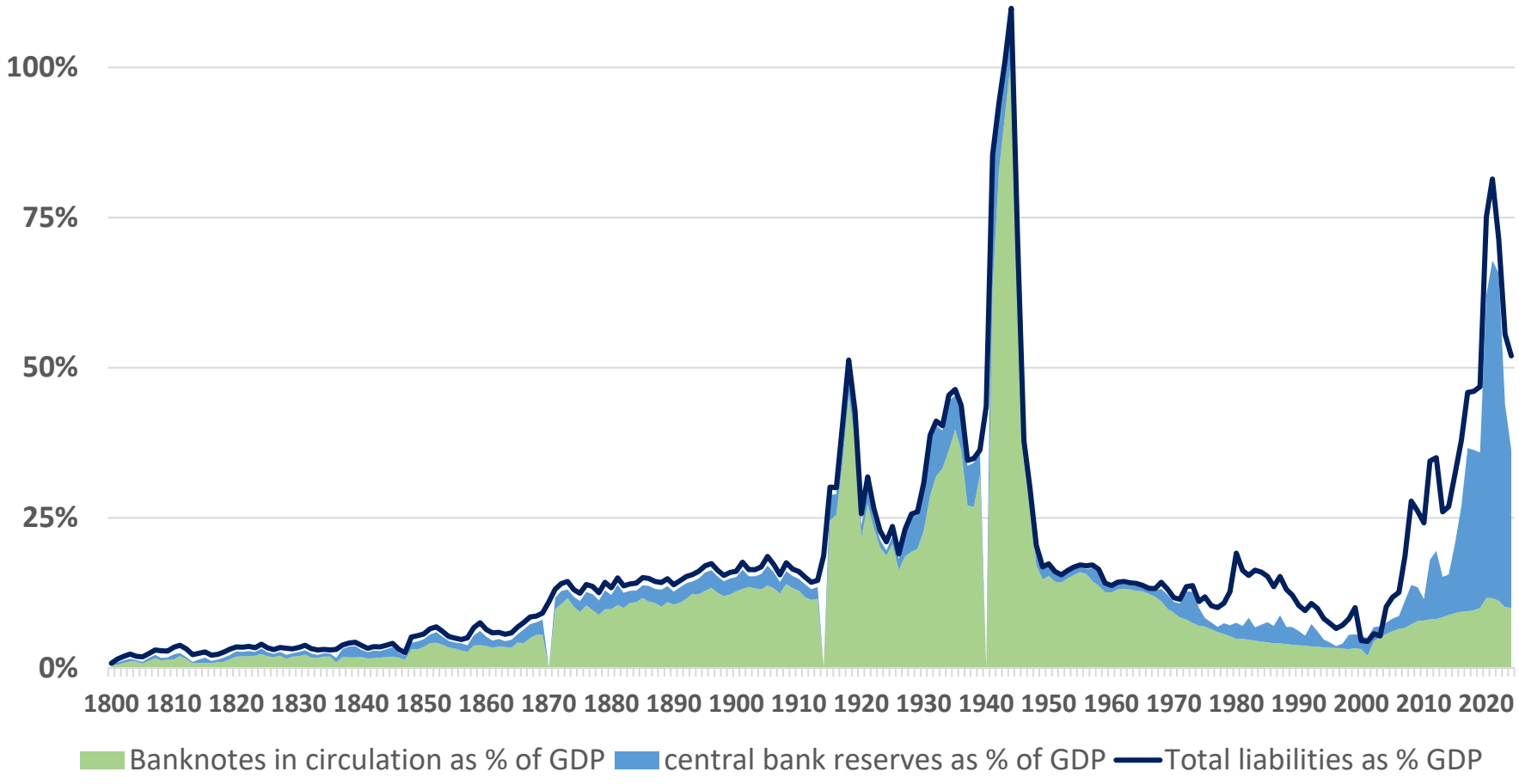
- Call for cooperation between statisticians & historians
- Start with 3 domains: credit aggregates, interest rates & property prices index
- Start with existing historical series, listing their issues, to allow others to improve them
- Best practices compiled using available info from academic historical literature
- Propose a road map: working with original data & archives
  - 1st step: Long series on central bank total assets

HISTORY AND POLICY MAKING

- **The academic debate in financial and monetary policy is partly shaped using historical evidence**
  - Regularly used in support of econ or political narratives (with sometimes quality issues), e.g. Reinhard & Rogoff, Schularick
  - E.g. monetary policy and credit booms, central bank balance sheet contractions, eligibility to the central bank and crises, CB policies to fight financial crises

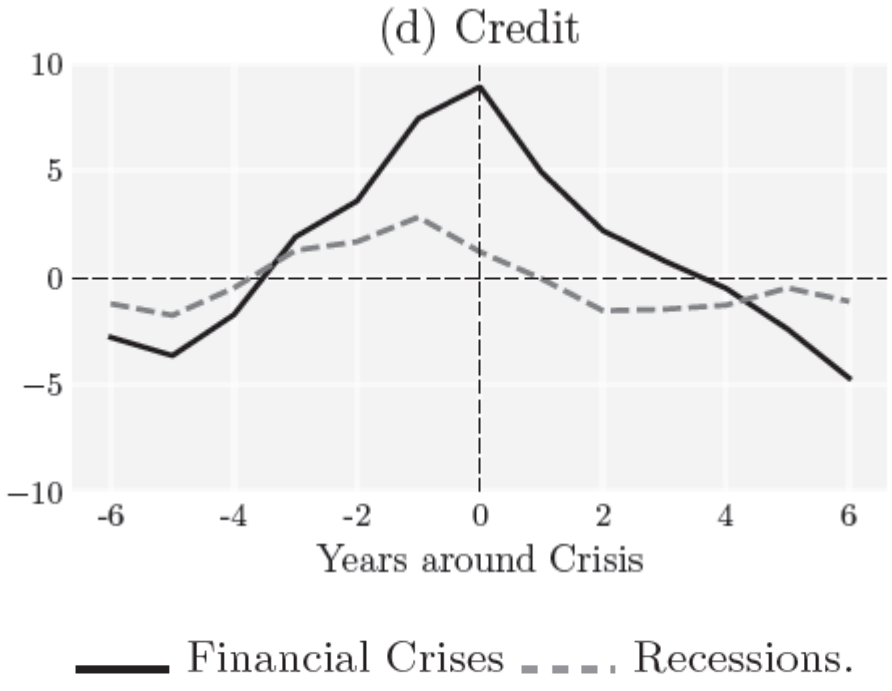
  $\Rightarrow$ **The "public" wants longer series**
- **Longer series also better inform policy making:**
  - To prevent and debunk presenteeism biases
  - Allow better grasp (and judge) what is "normal" vs "exceptional"

ADVANTAGE OF LONG-SERIES #1: JUDGING "NORMAL" VS "EXCEPTIONAL" TIMES



ADVANTAGE OF LONG-SERIES #2: MOTIVATING POLICY ANSWER DOES PAST CREDIT GROWTH PREDICT FUTURE CRISES?

- A main motivation for macroprudential policies
- Long-standing debate (Minsky, 1977; Kindleberger 1978), reinvigorated by empirical quantification with multi-country data :
  - Borio & Lowe (2022) with series starting in 1970
  - Shularick & Taylor (2012) with series starting in 1870
- But with few discussions on the comparability of the series



Source: Boissay, Collard, Gali and C. Manea, 2025, Monetary policy and endogenous financial crises

ISSUES ON CREDIT STAT OVER THE VERY LONG TIME

- **The lamp-post syndrom:** existing series pile up existing sources
- **Pitfalls in data extraction and construction:**
  - *Comparability over time:* banks were not always regulated, and often differently over time

  ⇒ Piling up existing series will generate breaks and biases
  - *Extent of coverage:* When regulated, often regulation generates escapes from it: shadow banking is and always had been pervasive
  - *Representativeness of population:* Issues w/ voluntary disclosure by non-regulated bank entities: reliability, representativeness?
- **Scope in accounting for credit:**
  - Credit have always existed (Babylon)
  - Bank credit was rather an invention of the 20th century

  ⇒ Accounting for the importance of non-bank credit intermediation
- 2024 : First step in harmonizing a (special) credit series: Historical central bank balance sheet

BIS CENTRAL BANK BALANCE SHEETS DATABASE

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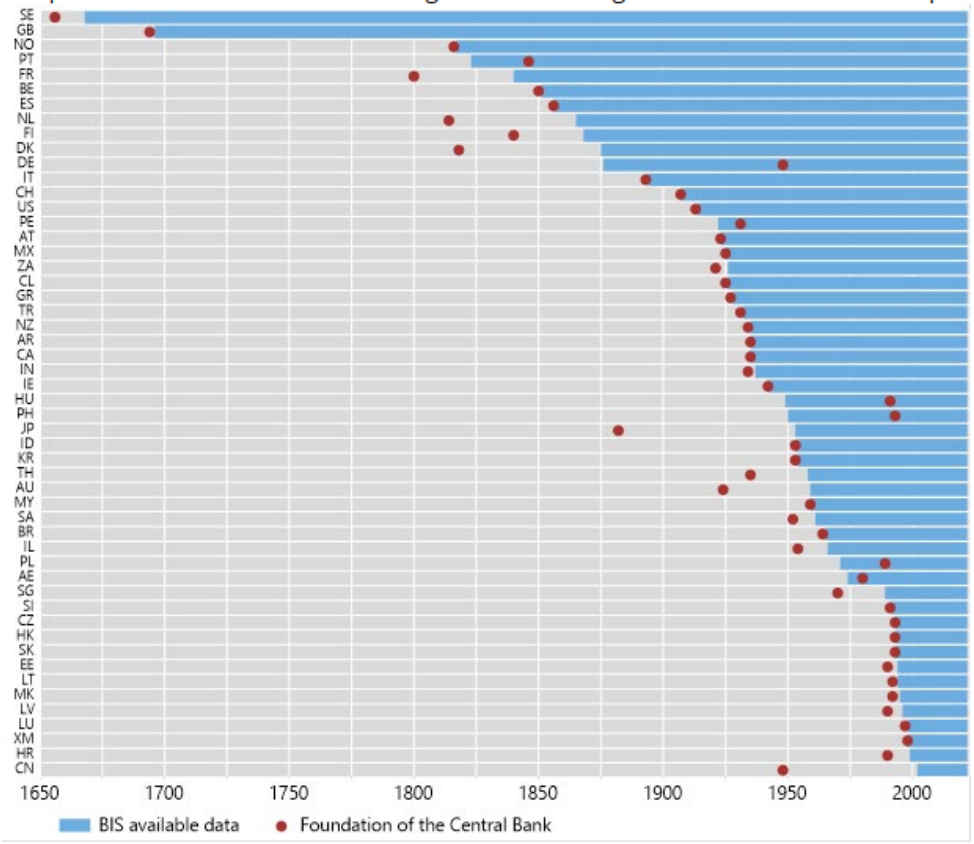
27 Feb 2025

Long series on central bank total assets

Bank for International Settlements

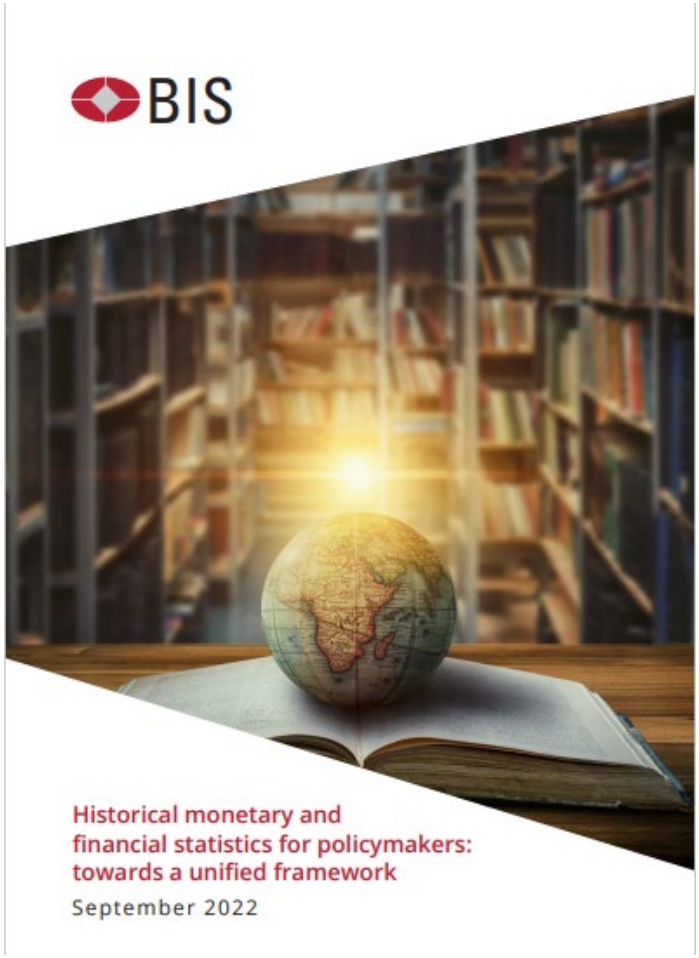
The BIS central bank total assets data set tracks the evolution of central banks' balance sheets size across the world. The document explains which sources are used to generate the long series and details the compilation for each country.



THE NEED FOR *STATISTORIAN*

- **Addressing this type of issue requires a specific (and rare) set of skills**
- **Historians and statisticians have a lot in common**
  - Same bottom-up approach,
  - Same tension btw accuracy of measurement & evolution over the long run => need for consistency when chaining series
  - Same need to produce series comparable over time

⇒ *Statistorian* not necessarily a single person, can be a hybrid team



- **Producing/publishing long-run series is usually thought outside the remit of CBs, even though series already exist,** leaving some quality issues of series used in academia unresolved

THE WAY FORWARD

- Historical data provide guidance in policy-making but
  - Lack of available series, over a long enough time frame
  - Mainly because of quality issues, i.e. comparability across countries over time
  - Start of historical series? 2000s? 1990s? 1945? 19th century?
- A tool to contribute: HMFS group of the Irving Fisher Committee
- Roadmap and tasks of HMFS :
  1) Discuss methodological issues to design solutions
     - E.g. how do we compare credit series over time?
  2) Produce, on a national basis, data series and documents available publicly
  3) Produce or assess existing series and work with the BIS statistical team
     - E.g. Central bank historical balance sheet
- Publish online the « old » time series, as part of historical dataset

THE 7 RATES USED OF BANQUE DE FRANCE IN 1970s: WHICH ONE WAS *THE* POLICY RATE?

30 — TAUX D'INTERVENTION DE LA BANQUE DE FRANCE SUR LE MARCHE MONETAIRE

(% l'an)

DATES	PENSIONS SUR BONS DU TRESOR					PENSIONS SUR EFFETS PRIVES			
	jour le jour	sept jours	un mois	trois mois	six mois	jour le jour	sept jours	un mois	trois mois
1-2-72	4 7/8	4 7/8	4 7/8	5	5 1/8	5	5	5	5 1/8
2-2-72	5	5	5	5 1/8	5 1/4	5 1/8	5 1/8	5 1/8	5 1/4

The two rates of interventions on the money market (each with at least 4 maturities: repo against government securities and those against private commercial debts (bills)

29 — TAUX DES OPERATIONS DE LA BANQUE DE FRANCE

(Concours à taux fixes)

(% l'an)

		Escompte (1) (2)	Mobilisation de créances nées sur l'étranger	Achats d'effets publics (3)	Avances à 30 jours sur effets publics (4)	Avances sur titres
8 avril	1965	3 1/2	3	3	3 1/2	5

The five different types of rates: discount, « mobilization of debts originating in foreign countries, advances against government securities, advances against other securities,

			Court terme (5)	Moyen terme (5)			
8 mai	1969	6	4	3	4		7 1/2
13 juin	1969	7	5	3	4		8 1/2

p. 69 and 70 Bulletin trimestriel de la Banque de France | 1972-05-01 | Gallica (bnf.fr)

ISSUES WITH CHOOSING THE RIGHT POLICY RATE

- **Official policy rate:** the discount rate
  - Is the legal policy rate until 1989, provide the ceiling on other rates
  - Discontinued as a tool for monetary policy sometimes between 1968 and 1989
- **Historical literature:** Discount rate no longer used in 1980 (Levy-Garboua & Monnet, 2016)
  - But no longer the main rate in terms of volume of operations

⇒ Criteria for choosing?

- Start with what users will most likely search for:
- Policy rate is about monetary policy, influencing the macroeconomic situation and therefore influencing the volume of credit (or exchange rate)

⇒ Which rates move enough to influence commercial banks?

DISCOUNT RATE VS THE MARKET RATE INTERVENTION, 1969-90

APPENDIX

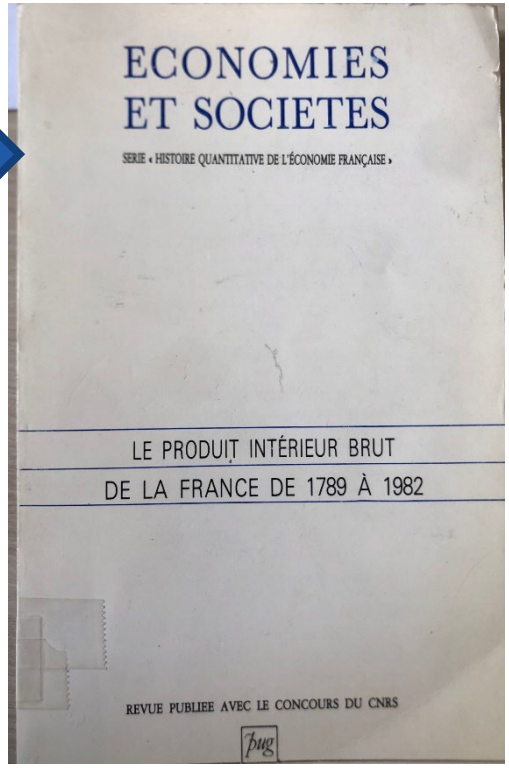
FRENCH GDP DURING THE WORLD WARS?

GDP source according to Jordà-Schularick-Taylor Macrohistory Database:

GDP (converted to billions FRF (new francs))

1870 – 1938 data from Mitchell, Brian (2013), International Historical Statistics: Europe 1750 – 2010, Pallgrave MacMillen, London. No data for 1914 – 1919.

1914 – 1919 & 1939 – 1949 Bordo, Michael D., Barry Eichengreen, Daniela Klingebiel, and Maria Soledad Martinez–Peria. 2001. "Is the Crisis Problem Growing More Severe?" Economic policy: A European Forum 32: 51–75.



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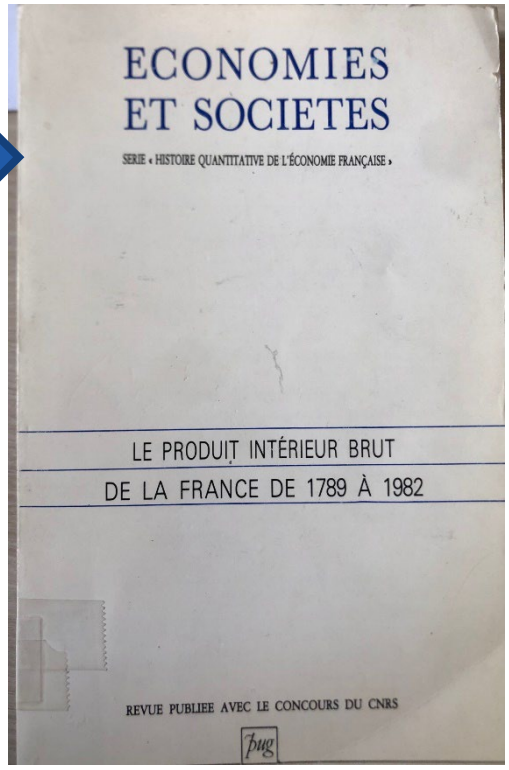

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Volume 16, Issue 32
1 April 2001

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JOURNAL ARTICLE

Is the crisis problem growing more severe? Get access

Michael Bordo, Barry Eichengreen, Daniela Klingebiel, Maria Soledad Martinez-Peria

Economic Policy, Volume 16, Issue 32, 1 April 2001, Pages 52–82,
https://doi.org/10.1111/1468-0327.00070
Published: 21 July 2014

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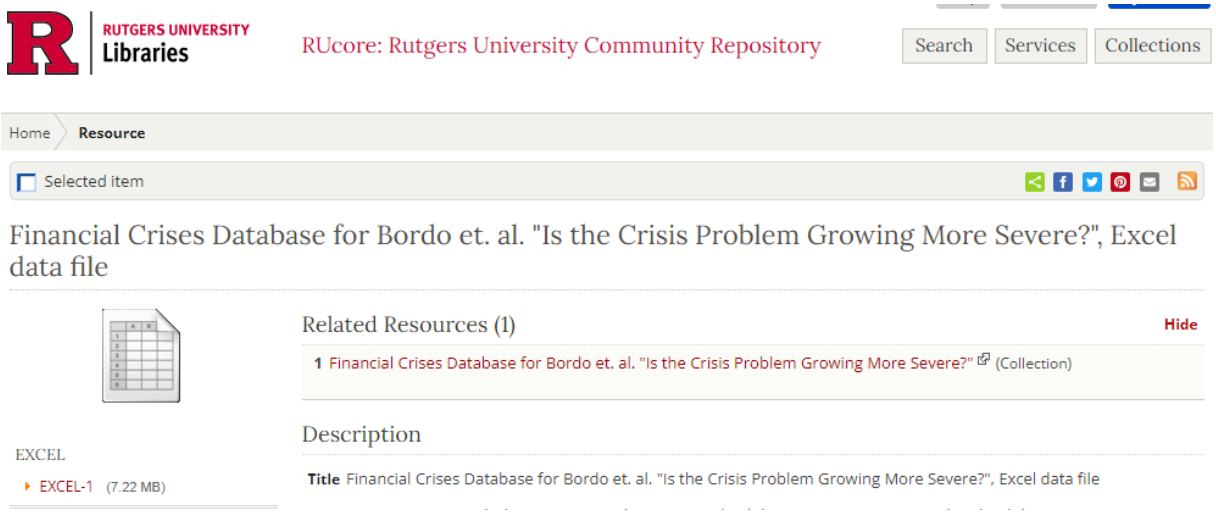
SUMMARY

FRENCH GDP DURING THE WORLD WARS?



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Financial Crises Database for Bordo et. al. "Is the Crisis Problem Growing More Severe?", Excel data file

EXCEL

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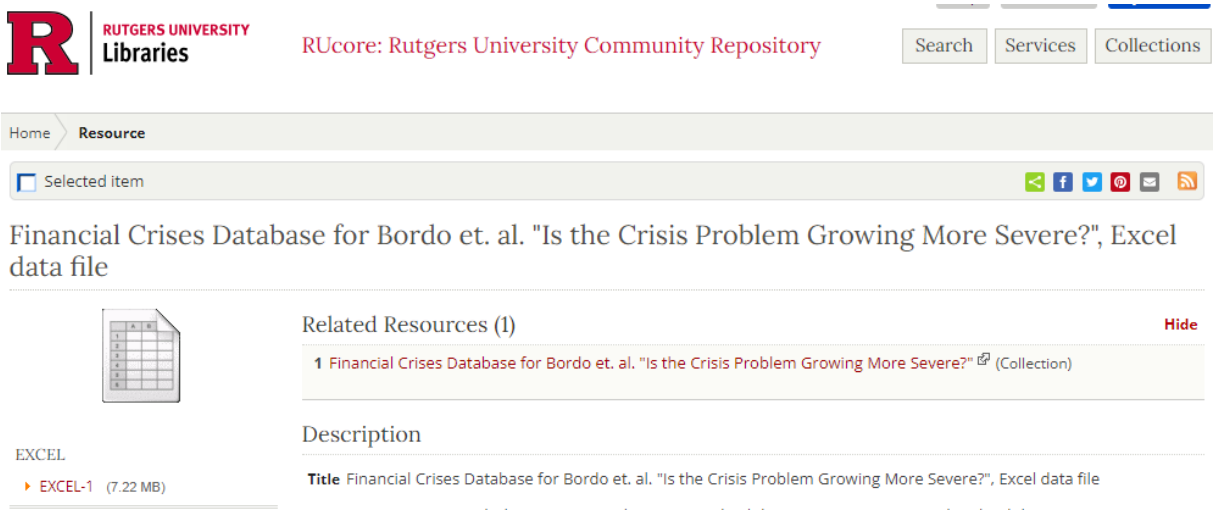
1 Financial Crises Database for Bordo et. al. "Is the Crisis Problem Growing More Severe?" (Collection)

Description

Title Financial Crises Database for Bordo et. al. "Is the Crisis Problem Growing More Severe?", Excel data file

id	Country	Year	nGDP	gsugdp	infl
17	France	1909	401010000	-0,11222	6,862745
17	France	1910	409140000	-0,11732	1,834862
17	France	1911	450890000	0,312715	0,900901
17	France	1912	493600000	0,230956	0,892857
17	France	1913	495710000	0,050433	2,654867
17	France	1914	469912405,2	-11,7384	.
17	France	1915	541532972,2	-31,012	.
17	France	1916	654239594,8	-34,9322	.
17	France	1917	650729551,1	-43,608	.
17	France	1918	665460342,3	-51,5072	.
17	France	1919	985825010,3	-27,0717	.
17	France	1920	1753710000	-9,77471	.
17	France	1921	1337290000	-7,27292	.
17	France	1922	1556360000	-13,6858	-5,59284
17	France	1923	1889610000	-6,38703	28,67299
17	France	1924	2172880000	-5,49639	14,73297
17	France	1925	2479450000	-1,13735	14,1252
17	France	1926	3237660000	-0,02286	28,97328
17	France	1927	3045060000	-0,04039	-12,9771
17	France	1928	3303690000	1,189276	0,75188
17	France	1929	3464260000	1,423969	-1,74129
17	France	1930	3340830000	-1,47209	-12,6582
17	France	1931	2987850000	-1,83543	-16,087
17	France	1932	2662240000	-1,73839	-11,0535
17	France	1933	2487400000	-4,58672	-3,8835
17	France	1934	2299900000	-3,83191	-6,26263
17	France	1935	2044120000	-5,07945	-5,17241
17	France	1936	2463180000	-6,94752	16,59091
17	France	1937	3467640000	-8,22894	39,18129
17	France	1938	4139520000	-6,70102	13,72549
17	France	1939	4706387023	-18,5091	.
17	France	1940	4615756493	-28,6079	.
17	France	1941	4279247593	-9,53555	.
17	France	1942	4625495550	-7,71377	.
17	France	1943	5442037285	-6,56997	.
17	France	1944	5627533889	-22,9347	.
17	France	1945	9045471111	-26,8643	.
17	France	1946	20973706774	-4,14805	.
17	France	1947	33916595109	-0,58968	.
17	France	1948	57726495030	0,485046	.

FRENCH GDP DURING THE WORLD WARS?



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Source ?

FRENCH GDP DURING THE WORLD WARS?

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APPENDIX A: Data Appendix for "Is the Crisis Problem Growing More Severe?" Michael Bordo, Barry Eichengreen, Daniela Klingebiel and Maria Soledad Martinez-Peria in Economic Policy April 2001, volume 16, issue 32.

Data Appendix for 21 Countries – Argentina, Australia, Belgium, Brazil, Canada, Chile, Denmark, Finland, France, Germany, Greece, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK and USA.

Real GDP: Argentina (GDP)– 1884-1913, Gerardo della Paollera: (1988), 1914-1988, *International Historical Statistics: The Americas, 1750-1988,* 1993 (B. R. Mitchell New York: Stockton Press), 1989-1997 *International Financial Statistics (IFS) 1998*; Australia (GDP)-1880-1988 *International Historical Statistics: Asia, 1750-1988,* 1998 (B. R. Mitchell New York: Stockton Press), 1989-1997 *IFS 1998*; Belgium (GNP) - 1913-1988, B. R. Mitchell (1992) *International Historical Statistics: Europe, 1750-1988* (New York: Stockton Press), 1989-1997 *IFS 1998*; Brazil (GDP) - 1880-1988, B. R. Mitchell (1993), 1989-1997 *IFS 1998*; Canada (GNP) - 1880-1988, B. R. Mitchell (1993), 1989-1997 *IFS 1998*; Chile (GDP) - 1880-1894, Agustin Llona Rodriguez (1991), 1909-1988, B. R. Mitchell (1993), *Historical Statistics of Chile 2001* (Rolf Luders), 1989-1997 *IFS 1998*; Denmark (GDP)– 1880-1950 GDP, Mitchell (1992), 1951-95 GDP, *IFS*, series 99B.P; Finland (GDP)– 1880-1980 GDP, Statistical Appendix in R. Hjerppe (1989), *The Finnish Economy 1860-1985, Growth and Structural Change*, Bank of Finland, Helsinki, Government Printing Centre, Table 1, 1981-95: GDP, *IFS*, series 99B.P; France (GNP)- 1880-1988, B. R. Mitchell (1992), 1989-1997 *IFS 1998*; Germany (GNP) -1880-

	A	B	C	D	E	F	
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FRENCH GDP IN MITCHELL DURING THE WORLD WARS?

J1 National Accounts Totals

1945–1979

	Denmark (in thousand million kroner at factor cost)				Finland (in thousand million 1963 markkaa at market prices)				France (in million francs to 1949 1st line and thousand million new (1959) francs subsequently)			
	Current Prices		Constant Prices		Current Prices		Constant Prices		Current Prices		Constant Prices	
	GDP	CF	GDP	CF	GDP	CF	GDP	CF	GNP/GDP[24]	CF	GNP/GDP[25]	CF
	1929 Prices						1985 Prices	Index 1926=100			1963 Prices	
1945	14.0	1.98	6.66	1.10	1.46	0.18	60.5	116	...	...	...	...
1946	14.8	2.79	7.70	1.60	2.19	0.37	65.4	163	...	...	...	...
1947	16.3	3.63	8.13	1.53	2.97	0.53	66.9	194	...	...	...	...
1948	17.7	4.45	8.40	1.77	4.10	0.89	72.2	216	...	...	...	...
1949	18.9	4.67	8.79	1.78	4.44	0.99	76.5	236	88.1	21.4	207	49.7
1950	21.6	5.88	9.41	2.15	5.47	1.22	79.5	248	102	23.9	222	51.8
								1970 Prices				
								3.5				
1951	23.4	5.83	9.47	1.80	8.28	1.82	86.3	4.6	125	28.5	235	51.3
1952	25.0	6.20	9.62	1.79	8.15	2.16	89.1	5.2	147	32.9	243	50.7
1953	26.5	7.08	10.2	2.12	9.04	2.20	89.8	5.1	153	31.8	249	48.6
1954	27.6	7.38	10.5	2.21	10.1	2.36	97.6	5.5	162	34.9	259	53.8
1955	28.7	6.97	10.6	2.02	11.1	2.54	103	5.8	173	38.2	272	57.8
1956	30.6	7.97	10.8	2.23	12.2	2.86	106	6.1	193	46.0	288	66.3
1957	32.7	8.94	11.3	2.42	13.2	2.92	111	5.8	216	51.3	305	69.0
1958	34.0	8.57	11.6	2.27	14.2	3.22	111	5.9	249	60.7	313	74.8
1959	37.4	11.0	12.3	2.94	16.0	3.59	118	6.5	273[24]	61.5[24]	323[25]	71.8[25]
											1970 Prices	
									267	54.0	425	80.2
1960	40.5	12.7	13.1	3.33	16.2[23]	4.32[23]	129[23]	7.5[23]	297	59.5	455	86.3
1961	45.4	13.8	13.8	3.38	18.4	5.13	138	8.5	323	68.5	480	95.7
1962	50.8	16.2	14.4	3.84	19.7	5.42	143	8.7	361	77.1	512	104
1963	53.5	15.3	14.8	3.34	21.4	5.46	147	8.4	405	89.5	540	113
1964	61.1	19.8	16.0	4.26	24.1	6.07	155	9.0	449	103	575	125

FRENCH GDP IN MITCHELL DURING THE WORLD WARS?

J1 National Accounts Totals 1945–1979

	Denmark (in thousand million kroner at factor cost)				Finland (in thousand million 1963 markkaa at market prices)				France (in million francs to 1949 1st line and thousand million new (1959) francs subsequently)			
	Current Prices		Constant Prices		Current Prices		Constant Prices		Current Prices		Constant Prices	
	GDP	CF	GDP	CF	GDP	CF	GDP	CF	GNP/GDP[24]	CF	GNP/GDP[25]	CF
	1929 Prices						1985 Prices	Index 1926=100			1963 Prices	
1945	14.0	1.98	6.66	1.10	1.46	0.18	60.5	116	...	...	...	...
1946	14.8	2.79	7.70	1.60	2.19	0.37	65.4	163	...	...	...	...
1947	16.3	3.63	8.13	1.53	2.97	0.53	66.9	194	...	...	...	...
1948	17.7	4.45	8.40	1.77	4.10	0.89	72.2	216	...	...	...	...
1949	18.9	4.67	8.79	1.78	4.44	0.99	76.5	236	88.1	21.4	207	49.7
1950	21.6	5.88	9.41	2.15	5.47	1.22	79.5	248	102	23.9	222	51.8
								1970 Prices				
								3.5				
1951	23.4	5.83	9.47	1.80	8.28	1.82	86.3	4.6	125	28.5	235	51.3
1952	25.0	6.20	9.62	1.79	8.15	2.16	89.1	5.2	147	32.9	243	50.7
1953	26.5	7.08	10.2	2.12	9.04	2.20	89.8	5.1	153	31.8	24[illegible]	48.6
1954	27.6	7.38	10.5	2.21	10.1	2.36	97.6	5.5	162	34.9	259	53.8
1955	28.7	6.97	10.6	2.02	11.1	2.54	103	5.8	173	38.2	272	57.8
1956	30.6	7.97	10.8	2.23	12.2	2.86	106	6.1	193	46.0	288	66.3
1957	32.7	8.94	11.3	2.42	13.2	2.92	111	5.8	216	51.3	305	69.0
1958	34.0	8.57	11.6	2.27	14.2	3.22	111	5.9	249	60.7	313	74.8
1959	37.4	11.0	12.3	2.94	16.0	3.59	118	6.5	273[24]	71.5[24]	323[25]	71.8[25]
											1970 Prices	
1960	40.5	12.7	13.1	3.33	16.2[23]	4.32[23]	129[23]	7.5[23]	297	54.0	425	80.2
1961	45.4	13.8	13.8	3.38	18.4	5.13	138	8.5	327	59.5	455	86.3
1962	50.8	16.2	14.4	3.84	19.7	5.42	143	8.7	361	68.5	480	95.7
1963	53.5	15.3	14.8	3.34	21.4	5.46	147	8.4	405	77.1	512	104
1964	61.1	19.8	16.0	4.26	24.1	6.07	155	9.0	449	89.5	540	113
									103		575	125

Source ?

FRENCH GDP IN MITCHELL DURING THE WORLD WARS?

J1 National Accounts Totals

NOTES

1. SOURCES:- The main sources used have been the official and other publications noted on p. 00 and the United Nations, *Yearbooks of National Accounts Statistics*, whichever seems to have the latest revisions. In addition, the following have been used:-

Belgium 1913–1948 (1st line)—F. Baudhuin, "Prix, consommation, balance et revenus en 1957", *Bulletin des Recherches Economiques et Sociales* (1958). Conversion to constant prices to 1953 was by using the cost-of-living index in table H2.

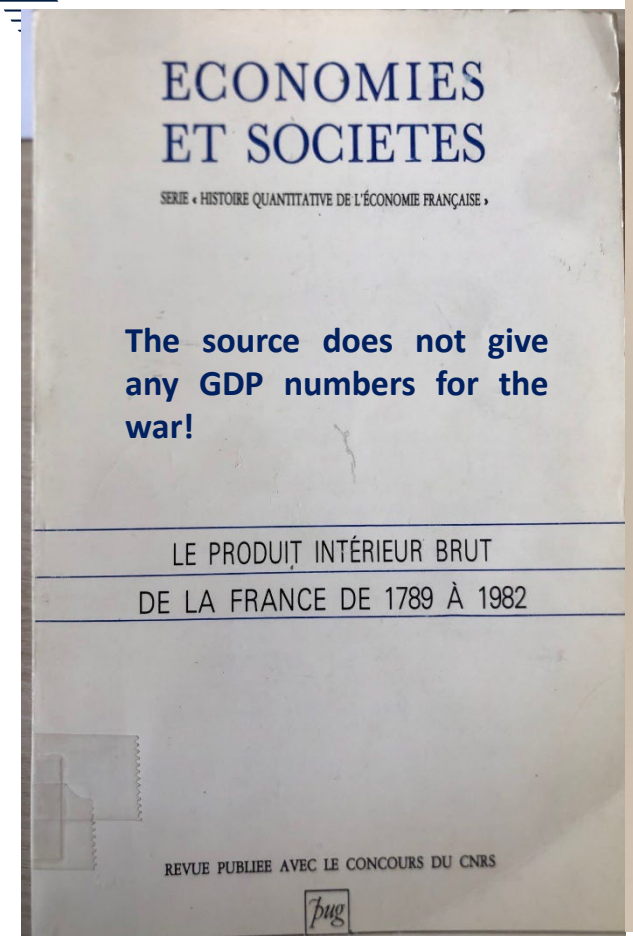
Bulgaria 1924–46—United Nations, *National Income Statistics* (1950). Conversion to constant prices to 1946 was by using the cost-of-living index in table H2.

Czechoskovakia 1913–37—based on Frederic L. Pryor *et al,* "Czechoslovak Aggregate Production in the Interwar Period", *Review of Income and Wealth* (1971).

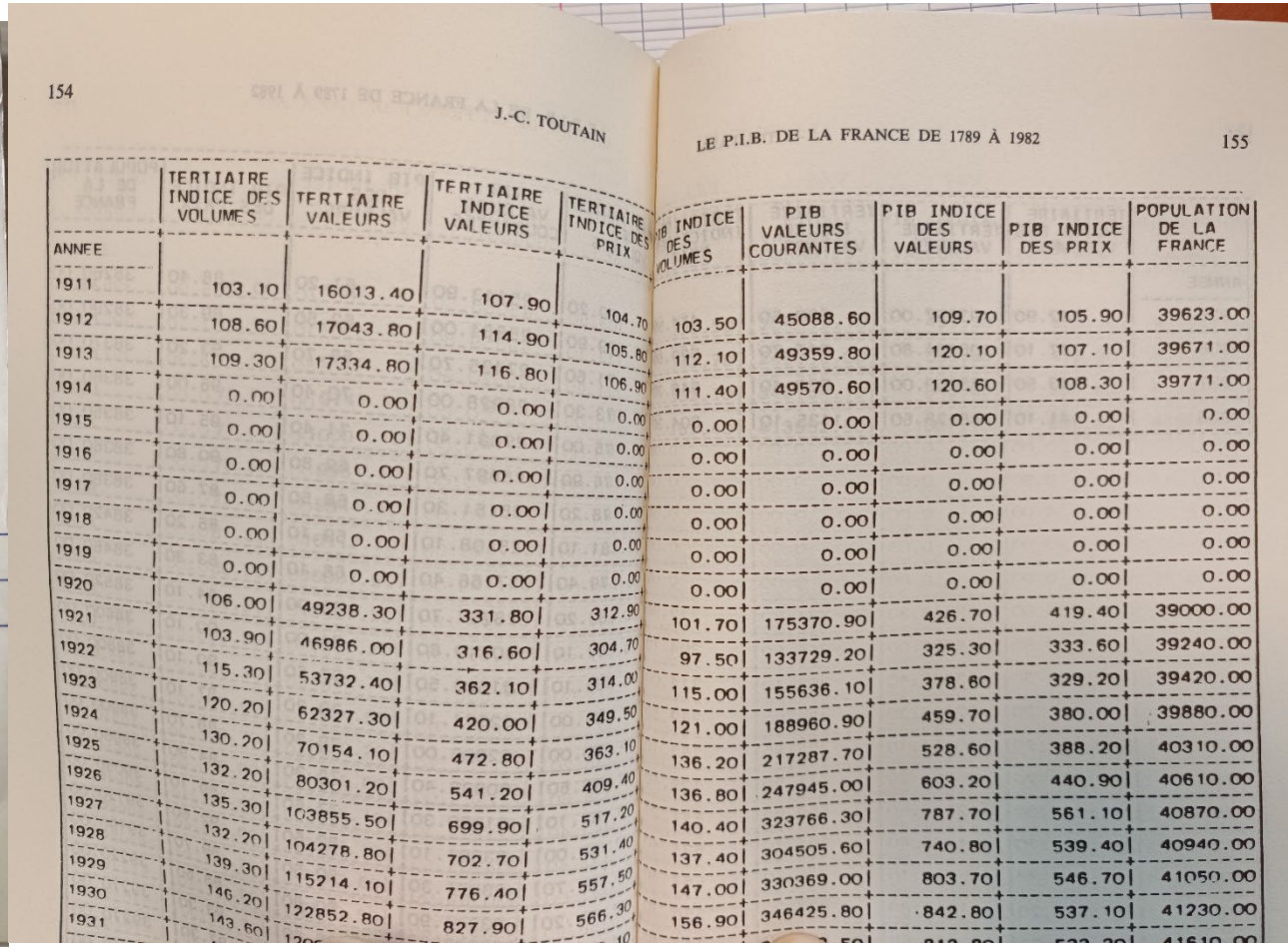
Finland 1860–1950—Riitta Hjerppe, *The Finnish Economy 1860–1985* (Helsinki, 1989)

France 1915–1938—J-C. Toutain, "Le Produit intérieur brut de la France de 1789 à 1982", *Economi et Sociétés* XXI (1987)

FRENCH GDP IN MITCHELL DURING THE WORLD WARS?



The source does not give any GDP numbers for the war!



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ANNEE	TERTIAIRE INDICE DES VOLUMES	TERTIAIRE VALEURS	TERTIAIRE INDICE VALEURS	TERTIAIRE INDICE DES PRIX
1911	103.10	16013.40	107.90	104.70
1912	108.60	17043.80	114.90	105.80
1913	109.30	17334.80	116.80	106.90
1914	0.00	0.00	0.00	0.00
1915	0.00	0.00	0.00	0.00
1916	0.00	0.00	0.00	0.00
1917	0.00	0.00	0.00	0.00
1918	0.00	0.00	0.00	0.00
1919	0.00	0.00	0.00	0.00
1920	106.00	49238.30	331.80	312.90
1921	103.90	46986.00	316.60	304.70
1922	115.30	53732.40	362.10	314.00
1923	120.20	62327.30	420.00	349.50
1924	130.20	70154.10	472.80	363.10
1925	132.20	80301.20	541.20	409.40
1926	135.30	103855.50	699.90	517.20
1927	132.20	104278.80	702.70	531.40
1928	139.30	115214.10	776.40	557.50
1929	146.20	122852.80	827.90	566.30
1930	143.60			
1931				

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PIB INDICE DES VOLUMES	PIB VALEURS COURANTES	PIB INDICE DES VALEURS	PIB INDICE DES PRIX	POPULATION DE LA FRANCE
103.50	45088.60	109.70	105.90	39623.00
112.10	49359.80	120.10	107.10	39671.00
111.40	49570.60	120.60	108.30	39771.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
101.70	175370.90	426.70	419.40	39000.00
97.50	133729.20	325.30	333.60	39240.00
115.00	155636.10	378.60	329.20	39420.00
121.00	188960.90	459.70	380.00	39880.00
136.20	217287.70	528.60	388.20	40310.00
136.80	247945.00	603.20	440.90	40610.00
140.40	323766.30	787.70	561.10	40870.00
137.40	304505.60	740.80	539.40	40940.00
147.00	330369.00	803.70	546.70	41050.00
156.90	346425.80	842.80	537.10	41230.00