

The Ends of 27 Big Depressions: Online Appendix

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A Preferred measures of key variables

Country	Nominal interest rate	Prices	Output
Argentina	Discount rate of Banco de la Nacion	Wholesale price index - total (1926 = 100)	-
Australia	Discount rate of Commonwealth Bank	Wholesale price index - total (1911 = 100)	-
Austria	Monthly money rate	Wholesale price index - total (first half of 1914 = 100)	Index of general business (1923 - 1931 = 100)
Belgium	Private discount rate	Wholesale price index - total (April 1914 = 100)	Production - total (1923 - 1925 = 100)
British India	Discount rate of central bank	Wholesale price index - total (in Bombay) (July 1914 = 100)	-
Bulgaria	Average market discount rate	Cost of living - total 1914 = 100 from 1925 to 1934 1926 = 100 from 1933 to 1936 rebased to 1914 = 100	Production - total (1934 - 1935 = 100) available only after 1935
Canada	-	Wholesale price index - total (1926 = 100)	Production - total (1926 = 100)
Czechoslovakia	Market discount rate	Wholesale price index - total (July 1914 = 100)	Production - total (1929 = 100)
Denmark	Discount rate of central bank	Wholesale price index - total 1913 = 100 from 1925 to 1934 1931 = 100 from 1932 to 1936 only first half used	Production - total (1931 = 100) available only after 1934
Dutch East Indies	Discount rate of central bank	Wholesale price index - total (1913 = 100)	Production - hard coal (1000 tons)
Estonia	Discount rate of central bank	Wholesale price index - total (1913 = 100)	Production - oil shale (1000 tons)
Finland	Discount rate of central bank	Wholesale price index - total (1926 = 100)	Production - export industries (1926 = 100) Production - total (1926 = 100) available only after 1932
France	Private prime paper rate	Wholesale price index - total (July 1914 = 100)	Production - total (1913 = 100)
Germany	Prime banker's acceptance rate	Wholesale price index - total (1913 = 100)	Production - total (1928 = 100)
Hungary	Prime commercial paper rate	Wholesale price index - total (1913 = 100)	Production - total (1927 = 100) available only after 1927
Italy	Market discount rate	Wholesale price index - total 1913 = 100 from 1927 to 1934 1928 = 100 from 1934 to 1936 rebased to 1913 = 100	Production - crude steel (1000 tons) Production - total (1928 = 100) available only after 1929

Japan	Market discount rate	Wholesale price index - total (in Tokyo) (July 1914 = 100)	Production - textile industry (1930 = 100) Production - Total 1928 = 100 from 1926 to 1934 1930 = 100 from 1932 to 1936 only first half used
Lithuania	Discount rate of central bank	Wholesale price index - total (1913 = 100)	-
Netherlands	Private discount rate	Wholesale price index - total (1913 = 100)	Production - coal (1000 Tons)
New Zealand	Bank discount rate	Wholesale price index - total (1909 - 1913 = 100)	-
Peru	Discount rate of central bank	Wholesale price index - total (1913 = 100)	-
Poland	Discount rate of joint-stock banks	Wholesale price index - total (1928 = 100)	Production - total (1928 = 100)
South Africa	Discount rate of central bank	Cost of living - total (1910 = 100)	Production - hard coal (1000 Tons)
Spain	Discount rate of central bank	Wholesale price index - total (in Barcelona) (1913 = 100)	Production - iron ore (1000 Tons)
Sweden	Discount rate of central bank	Wholesale price index - total (1913 = 100)	Production - crude steel (1000 Tons) Production - total 1925 - 1930 = 100 from 1925 to 1934 1935 = 100 from 1934 to 1936 only first half used
Switzerland	Private discount rate	Wholesale price index - total July 1914 = 100 from 1926 to 1934 1926 - 27 = 100 from 1932 to 1936 rebased to July 1914 = 100	Hallmarking of watch cases (1000 pieces)
UK	Three month rate	Wholesale price index - total 1913 = 100 from 1919 to 1930 1924 = 100 from 1931 to 1936 rebased to 1924 = 100	Index of business activity (1924 = 100)
US	Prime commercial paper rate	Wholesale price index - total (1926 = 100)	Production - total (1923 - 25 = 100)

B Specification of estimated models

This appendix describes the separate dynamic factor models we estimate for each country. Where possible we follow the Bok et al. (2018) specification of the New York Fed nowcasting model, which assigns different categories of variables to latent factors according to Table B.2. A global factor affects all variables that are observed, whereas three additional factors are specific to variables observed in real, financial and labour markets respectively.¹ We do not have a separate factor specific to nominal variables, which means that inflation expectations are exclusively accounted for by the global factor. For a few countries we do not have enough data to identify a separate labour market factor, in which case we estimate a model with three latent factors and allow the labour market data we do have to be affected by the real and global factors.

Category	Global Factor	Real Factor	Financial Factor	Labour Factor
Housing and Construction	x	x		
International Trade	x	x		
Labour	x			x
Money, Banking, and Finance	x		x	
Prices	x			
Production	x	x		
Retail and Consumption	x	x		
Transport	x	x		

Table B.2: Specification of latent factors.

The datasets used in estimation of each country’s dynamic factor model follow in Appendices B.1-B.28, where sources are abbreviated using the convention in Table B.3 and release delays are consistent with the *Federal Reserve Bulletin*.

¹The labelling of the factor that affects all variables as “global” is taken from Bok et al. (2018), although for our purposes it is not necessary to attach labels to the latent factors. For the avoidance of doubt, we reiterate that that we estimate a separate dynamic factor model for each country. Our global factor is “global” in the sense of affecting all the variables within a country, but is not global in the sense of being estimated from developments in the global economy.

Source	Editors
FRB	Federal Reserve Bulletin (FRASER)
IA	International Abstract of Economic Statistics (two volumes)
SHW	Statistisches Handbuch Der Weltwirtschaft (two volumes)
NBER	NBER Macrohistory Database

Table B.3: Data sources

B.1 Argentina

Series Name	Category	Release Delay (in Month)	Source
Building Permits (in Buenos Aires)	Housing and Construction	2	SHW
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
All Banks - Advances	Money, Banking, and Finance	2	SHW
All Banks - Balances of Receivables and Liabilities vis-a-vis Foreign Countries	Money, Banking, and Finance	2	SHW
All Banks - Deposits	Money, Banking, and Finance	2	SHW
All Banks - Bills of Exchange	Money, Banking, and Finance	2	SHW
All Banks - Savings	Money, Banking, and Finance	2	SHW
All Banks - Securities	Money, Banking, and Finance	2	SHW
Banco de la Nacion - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Banco de la Nacion - Deposits	Money, Banking, and Finance	2	SHW
Notes in Circulation	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Turnover	Money, Banking, and Finance	2	SHW
Stock Exchange - Turnover of Fixed-income Securities	Money, Banking, and Finance	2	SHW
Bankruptcies	Money, Banking, and Finance	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Agricultural and Forestry Products	Prices	2	SHW
Wholesale Price Index - Non-agricultural Products	Prices	2	SHW
Wholesale Price Index - Skins	Prices	2	SHW
Wholesale Price Index - Wool	Prices	2	SHW
Wholesale Price Index - Meat	Prices	2	SHW
Cattle Slaughtering	Production	3	SHW
Turnover of Land Sales (in Buenos Aires)	Retail and Consumption	2	SHW
Turnover in Department Stores (in Buenos Aires)	Retail and Consumption	2	SHW
Railways - Freights Carried	Transport	2	SHW

B.2 Australia

Series Name	Category	Release Delay (in Month)	Source
Construction Activity in Sydney (Without City) - Approved Buildings	Housing and Construction	2	SHW
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Unemployed Union Members - Number	Labour	3	SHW
Unemployed Union Members - Percent	Labour	3	SHW
Weekly Average Wages (in 12 Industries)	Labour	2	SHW
Commonwealth Bank of Australia - Notes in Circulation	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Agricultural Products	Prices	2	SHW
Wholesale Price Index - Dairy Products	Prices	2	SHW
Wholesale Price Index - Meat	Prices	2	SHW
Wholesale Price Index - Wool	Prices	2	SHW
Production - Butter	Production	3	SHW
Observable Wheat Stocks	Production	3	SHW
Maritime Shipping - Inbound Traffic	Transport	2	SHW
State Railways - Freights Carried	Transport	2	SHW

B.3 Austria

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Unemployed - Registered	Labour	3	SHW
Number of Unemployed Relieved - Austria	Labour	3	IA
Labour Exchange - Vacancies Filled	Labour	3	IA
Austrian National Bank - Notes in Circulation and Demand Deposits	Money, Banking, and Finance	2	IA
Austrian National Bank - Foreign Exchange	Money, Banking, and Finance	2	IA
Monthly Money Rate	Money, Banking, and Finance	0	SHW
Stock Exchange - Stock Prices	Money, Banking, and Finance	0	SHW
Stock Exchange - Total Value of Turnover	Money, Banking, and Finance	2	IA
Payment Difficulties - Initiated Compensation Procedures	Money, Banking, and Finance	2	SHW
Payment Difficulties - Opened Bankruptcies	Money, Banking, and Finance	2	SHW
Cost of Living - Total (Vienna)	Prices	2	SHW
Retail Prices - Total	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	IA
Wholesale Price Index - Food	Prices	2	IA

Wholesale Price Index - Industrial Goods	Prices	2	IA
Order Backlog - Cotton-spinning Mills	Retail and Consumption	2	SHW
Order Backlog - Iron Industry	Retail and Consumption	2	SHW
Turnovers - Production Goods	Retail and Consumption	2	SHW
Turnovers - Consumption Goods	Retail and Consumption	2	SHW
Index of General Business	Production	3	SHW
Production - Crude Steel	Production	3	NAI
Production - Electricity	Production	3	SHW
Production - Coal	Production	3	IA
Railways - Freight Car Provision	Transport	2	SHW

B.4 Belgium

Series Name	Category	Release Delay (in Month)	Source
Exports Value	International Trade	3	IA
Imports Value	International Trade	3	IA
Wholly Unemployed	Labour	3	IA
Unemployment on Part Time	Labour	3	IA
Days Lost by Insured Workers	Labour	3	IA
Proportion of Applicants to Vacancies	Labour	3	IA
CGER Savings	Money, Banking, and Finance	2	SHW
Call Money Rate	Money, Banking, and Finance	0	SHW
Private Discount Rate (Commercial Paper)	Money, Banking, and Finance	0	IA
Issues - Shares of Belgian Stock Companies	Money, Banking, and Finance	2	SHW
National Bank of Belgium - Notes in Circulation	Money, Banking, and Finance	2	IA
National Bank of Belgium - Gold	Money, Banking, and Finance	2	IA
Mortgages Registered	Money, Banking, and Finance	2	IA
Postal Cheques Total Turnover	Money, Banking, and Finance	2	IA
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Bankruptcies	Money, Banking, and Finance	2	SHW
Unpaid Bills of Exchange	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	IA
Cost of Living - Food	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	IA
Retail Prices - Total	Prices	2	IA
Sensitive Goods Price Index	Prices	2	SHW
Tax Receipts Total	Retail and Consumption	2	IA
Production - Total	Production	3	SHW
Railways - Freights Carried	Transport	2	SHW

B.5 British India

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Gold Value of the Currency	Money, Banking, and Finance	0	SHW
Notes in Circulation	Money, Banking, and Finance	2	SHW
Issues - Securities	Money, Banking, and Finance	2	SHW
Stock Exchange - Value of Five Indian Railway Bonds (in London)	Money, Banking, and Finance	0	SHW
Cost of Living - Total (in Bombay)	Prices	2	SHW
Cost of Living - Clothing (in Bombay)	Prices	2	SHW
Cost of Living - Food (in Bombay)	Prices	2	SHW
Wholesale Price Index - Total (in Bombay)	Prices	2	SHW
Production - Cotton Fabrics	Production	3	SHW
Production - Cotton Yarn	Production	3	SHW
Sea Freight Index	Transport	2	SHW

B.6 Bulgaria

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Employed Workers and Employees	Labour	3	SHW
Bulgarian National Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bulgarian National Bank - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Bulgarian National Bank - Deposits	Money, Banking, and Finance	2	SHW
Bulgarian National Bank - Foreign Exchange	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Protested Bills of Exchange	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Corn	Prices	2	SHW
Wholesale Price Index - Wheat	Prices	2	SHW
Production - Coal	Production	3	SHW
Shipping - Inbound	Transport	2	SHW

B.7 Canada

Series Name	Category	Release Delay (in Month)	Source
Construction Contracts Awarded	Housing and Construction	2	IA
Building Permits	Housing and Construction	2	IA
Production - Construction Industry	Housing and Construction	2	SHW
Total Exports	International Trade	3	IA
Total Imports	International Trade	3	IA
Index of Employment	Labour	3	IA
Unemployment in Trade Unions	Labour	3	IA
Employment - Applications	Labour	3	IA
Employment - Placements	Labour	3	IA
Employment - Vacancies	Labour	3	IA
Strikes - Days Lost	Labour	3	IA
Strikes - Disputes in Existence	Labour	3	IA
Strikes - Number of Employees	Labour	3	IA
Bank Debits	Money, Banking, and Finance	2	IA
Chartered Banks - Commercial Loans	Money, Banking, and Finance	2	IA
Chartered Banks - Call Loans - Canada	Money, Banking, and Finance	2	IA
Chartered Banks - Call Loans - Elsewhere	Money, Banking, and Finance	2	IA
Chartered Banks - Short-term Deposits	Money, Banking, and Finance	2	IA
Chartered Banks - Long-term Deposits	Money, Banking, and Finance	2	IA
Chartered Banks - Total Securities	Money, Banking, and Finance	2	IA
Clearings	Money, Banking, and Finance	2	SHW
Notes in Circulation	Money, Banking, and Finance	2	SHW
Stock Exchange - Number of Shares Sold	Money, Banking, and Finance	2	IA
Stock Exchange - Share Prices - Common Stocks	Money, Banking, and Finance	0	IA
Stock Exchange - Share Prices - Preferred Stocks	Money, Banking, and Finance	0	IA
Stock Exchange - Share Prices - Banking	Money, Banking, and Finance	0	IA
Stock Exchange - Share Prices - Industrial	Money, Banking, and Finance	0	IA
Stock Exchange - Share Prices - Mining	Money, Banking, and Finance	0	SHW
Stock Exchange - Share Prices - Iron and Steel	Money, Banking, and Finance	0	IA
Stock Exchange - Share Prices - Utilities	Money, Banking, and Finance	0	IA
Stock Exchange - Share Turnover	Money, Banking, and Finance	2	SHW
Bankruptcies - Number	Money, Banking, and Finance	2	IA
Bankruptcies - Liabilities	Money, Banking, and Finance	2	IA
Retail Cost Per Week of Family Budget - Cost of Living	Prices	2	IA
Wholesale Price Index - Total	Prices	2	IA
Wholesale Price Index - Raw Materials	Prices	2	IA
Wholesale Price Index - Finished Goods	Prices	2	IA
Wholesale Price Index - Non-ferrous Metals	Prices	2	IA
Wholesale Price Index - Food and Tobacco	Prices	2	IA
Sales of Agricultural Products - Cattle	Retail and Consumption	2	SHW
Sales of Agricultural Products - Grain	Retail and Consumption	2	SHW
Production - Total	Production	3	SHW

Production - Steel Ingots and Castings	Production	3	IA
Production - Newsprint	Production	3	IA
Production - Pig Iron	Production	3	IA
Production - Coal	Production	3	IA
Railways - Car Loadings	Transport	2	IA
Railways - Freight Ton Miles	Transport	2	IA
Railways - Operating Revenues	Transport	2	IA

B.8 Czechoslovakia

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	IA
Total Imports	International Trade	3	IA
Average Hourly Wage Rates of Industry	Labour	2	SHW
Unemployed Jobseekers	Labour	3	SHW
Czechoslovak National Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Czechoslovak National Bank - Deposits	Money, Banking, and Finance	2	SHW
Czechoslovak National Bank - Gold	Money, Banking, and Finance	2	SHW
Market Discount Rate	Money, Banking, and Finance	0	SHW
Clearings	Money, Banking, and Finance	2	SHW
Giro Turnover	Money, Banking, and Finance	2	SHW
Turnover of the Postal Savings Bank	Money, Banking, and Finance	2	IA + SHW
Stock Exchange - Bond Prices	Money, Banking, and Finance	0	SHW
Stock Exchange - Share Prices - Industrial and Transportation	Money, Banking, and Finance	0	SHW
Liquidations	Money, Banking, and Finance	2	IA
Bankruptcies	Money, Banking, and Finance	2	IA
Wholesale Price Index - Total	Prices	2	IA
Wholesale Price Index - Food and Fodder	Prices	2	IA
Wholesale Price Index - Industrial Goods	Prices	2	IA
Production - Total	Production	3	SHW
Production - Coke	Production	3	SHW
Railways - Car Loadings in International Traffic	Transport	2	IA

B.9 Denmark

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Hourly Earnings of Workers	Labour	3	SHW
Unemployed Union Members - Number	Labour	3	SHW
Unemployed Union Members - Percent	Labour	3	SHW
Central Bank of Denmark - Notes in Circulation	Money, Banking, and Finance	2	SHW
Central Bank of Denmark - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Credit Banks - Advances	Money, Banking, and Finance	2	SHW
Credit Banks - Bills of Exchange	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Stock Exchange - Bond Prices	Money, Banking, and Finance	0	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Total Foreclosures	Money, Banking, and Finance	2	SHW
Agriculture Foreclosures	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Cost of Living - Clothing	Prices	2	SHW
Cost of Living - Food	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Import Goods	Prices	2	SHW
Wholesale Price Index - Animal Feed	Prices	2	SHW
Wholesale Price Index - Fertiliser	Prices	2	SHW
Wholesale Price Index - Butter	Prices	2	SHW
Wholesale Price Index - Heifers and Oxen	Prices	2	SHW
Pig Slaughtering	Production	3	SHW
Sea Freight Rate	Transport	2	SHW

B.10 Dutch East Indies

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Java Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Java Bank - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Java Bank - Deposits	Money, Banking, and Finance	2	SHW
Java Bank - Foreign Exchange	Money, Banking, and Finance	2	SHW
Java Bank - Gold	Money, Banking, and Finance	2	SHW
Mortgage Institutions - Loans	Money, Banking, and Finance	2	SHW
Mortgage Institutions - Repayments	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Post Office Savings - Payments	Money, Banking, and Finance	2	SHW

Post Office Savings - Proceeds	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Cost of Living - Total	Prices	2	SHW
Cost of Living - Food for Non-Europeans	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Export Goods	Prices	2	SHW
Wholesale Price Index - Import Goods	Prices	2	SHW
Production - Hard Coal	Production	3	SHW
Shipping - With Europe	Transport	2	SHW
Shipping - With US	Transport	2	SHW
Railways - Freight Revenue	Transport	2	SHW

B.11 Estonia

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Employed Workers	Labour	3	SHW
Unemployed	Labour	3	SHW
Bank of Estonia - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bank of Estonia - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Cost of Living - Total (in Tallinn)	Prices	2	SHW
Cost of Living - Food (in Tallinn)	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Export Goods	Prices	2	SHW
Wholesale Price Index - Import Goods	Prices	2	SHW
Production - Oil Shale	Production	3	SHW
Railways - Freights Carried	Transport	2	SHW

B.12 Finland

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Unemployed - Partial Disclosure	Labour	3	SHW
Bank of Finland - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bank of Finland - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Credit Banks - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices (in Helsinki)	Money, Banking, and Finance	0	SHW
Stock Exchange - Share Turnover (in Helsinki)	Money, Banking, and Finance	2	SHW
Bankruptcies - Total	Money, Banking, and Finance	2	SHW
Protested Bills of Exchange - Value	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Cost of Living - Food	Prices	2	SHW
Cost of Living - Clothing	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Export Goods	Prices	2	SHW
Wholesale Price Index - Import Goods	Prices	2	SHW
Production - Export Industries	Production	3	SHW
Wholesale Turnover	Retail and Consumption	2	SHW
Maritime Shipping	Transport	2	SHW
State Railways - Freights Carried	Transport	2	SHW

B.13 France

Series Name	Category	Release Delay (in Month)	Source
Activity in Building Construction	Housing and Construction	2	IA
Total Exports (Quantity)	International Trade	3	IA
Total Exports (Value)	International Trade	3	IA
Total Imports (Quantity)	International Trade	3	IA
Total Imports (Value)	International Trade	3	IA
Unemployed on Benefits	Labour	3	SHW
Coefficient of Placement Index	Labour	3	NBER
Unsettled Job Applications	Labour	3	SHW
Bank of France - Advances to the State	Money, Banking, and Finance	2	SHW
Bank of France - Notes in Circulation	Money, Banking, and Finance	2	IA
Bank of France - Discounts	Money, Banking, and Finance	2	IA
Commercial Banks - Acceptances	Money, Banking, and Finance	2	SHW
Commercial Banks - Advances	Money, Banking, and Finance	2	SHW
Commercial Banks - Credits	Money, Banking, and Finance	2	SHW

Commercial Banks - Cash	Money, Banking, and Finance	2	SHW
4 Banking Institutions Deposits	Money, Banking, and Finance	2	IA
Commercial Banks - Bills of Exchange Discounted	Money, Banking, and Finance	2	SHW
Deposits of Private Banks at Caisse des Depots	Money, Banking, and Finance	2	IA
Private Discount Rate	Money, Banking, and Finance	0	SHW
Private Prime Paper Rate	Money, Banking, and Finance	0	IA
Collateral Loan Rate	Money, Banking, and Finance	0	IA
Returns of Paris Bankers Clearing House	Money, Banking, and Finance	2	IA
Bankruptcies	Money, Banking, and Finance	2	SHW
Stock Exchange - Price of Banking Stocks (4 Commercial Banks)	Money, Banking, and Finance	0	IA
Stock Exchange - Price of Variable Dividend Stocks (300 Domestic)	Money, Banking, and Finance	0	IA
Stock Exchange - Price of Metallurgical Stocks (13 Companies)	Money, Banking, and Finance	0	IA
Taxable Exchange Operations	Money, Banking, and Finance	2	IA
Capital Issuances - Variable Dividend Existing	Money, Banking, and Finance	2	IA
Capital Issuances - Variable Dividend New	Money, Banking, and Finance	2	IA
Cost of Living (Paris)	Prices	2	IA
Retail Price (Paris)	Prices	2	IA
Wholesale Price Index - Food	Prices	2	IA
Wholesale Price Index - Industrial Materials	Prices	2	IA
Wholesale Price Index - Total	Prices	2	IA
Receipts of Post Telegraphs and Telephones	Retail and Consumption	2	IA
Orders - Cotton Spinning	Retail and Consumption	2	IA
Orders - Cotton Weaving (Pieces Per Loom)	Retail and Consumption	2	IA
Yield of Entertainment Tax (Paris)	Retail and Consumption	2	IA
Turnover of Internal Commerce	Retail and Consumption	2	IA
Production - Coal	Production	3	IA
Production - Pig Iron	Production	3	IA
Production - Steel	Production	3	IA
Production - Total	Production	3	IA
Railways - Daily Carloads	Transport	2	IA
Railways - Weekly Receipts	Transport	2	IA
Shipping - Tonnage Cleared	Transport	2	IA

B.14 Germany

Series Name	Category	Release Delay (in Month)	Source
Urban Construction Activity	Housing and Construction	2	SHW
Total Exports	International Trade	3	IA
Total Imports	International Trade	3	IA
Unemployed - Main Beneficiary in Unemployment Insurance	Labour	3	SHW
Male Applicants Per Hundred Positions	Labour	3	NBER
Hourly Wages	Labour	2	SHW
Major Banks - Acceptances	Money, Banking, and Finance	3	SHW
Major Banks - Accounts Payable	Money, Banking, and Finance	3	SHW
Major Banks - Accounts Receivable	Money, Banking, and Finance	3	SHW
Major Banks - Cash and Bank Balance	Money, Banking, and Finance	3	SHW
Major Banks - Bills of Exchange	Money, Banking, and Finance	3	SHW
Major Banks - Advances on Goods	Money, Banking, and Finance	3	SHW
Major Banks - Reports and Lombards	Money, Banking, and Finance	3	SHW
Major Banks - Securities and Syndicate Participations	Money, Banking, and Finance	3	SHW
Reichsbank - Gold and Foreign Exchange Holding	Money, Banking, and Finance	2	IA
Merchandise Bill Rate	Money, Banking, and Finance	0	SHW
Prime Banker's Acceptance Rate	Money, Banking, and Finance	0	SHW
Issues - Domestic Fixed-income Securities	Money, Banking, and Finance	2	SHW
Issues - Domestic Shares	Money, Banking, and Finance	2	SHW
Reichsbank - Clearings	Money, Banking, and Finance	2	IA
Reichsbank - Transfers	Money, Banking, and Finance	2	IA
Reichsbank - Giro Transactions	Money, Banking, and Finance	2	SHW
Money in Circulation	Money, Banking, and Finance	2	IA
Postal Cheque Payments	Money, Banking, and Finance	2	IA
Stock Prices - Mining and Heavy Industries	Money, Banking, and Finance	0	IA
Stock Prices - Trade and Transport	Money, Banking, and Finance	0	IA
Bankruptcies	Money, Banking, and Finance	2	SHW
Composition Proceedings	Money, Banking, and Finance	2	SHW
Number of New Firms Established	Money, Banking, and Finance	2	NBER
Cost of Living - Food	Prices	2	SHW
Cost of Living - Total	Prices	2	IA
Wholesale Price Index - Total	Prices	2	IA
Wholesale Price Index - Agricultural	Prices	2	IA
Retail Sales - Total	Retail and Consumption	2	SHW
Production - Total	Production	3	SHW
Tonnage of Vessels under Construction	Production	3	NBER
Freight Rates - River	Transport	2	SHW
Freight Rates - Maritime	Transport	2	SHW
Railways - Waggon Loadings (Per Working Day)	Transport	2	IA
Railways - Revenue Ton-Kilometres	Transport	2	NBER

B.15 Hungary

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	IA
Total Imports	International Trade	3	IA
Job Seekers	Labour	3	SHW
Unemployed Union Members - Number	Labour	3	SHW
Unemployed Union Members - Percent	Labour	3	SHW
Hungarian National Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Hungarian National Bank - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Hungarian National Bank - Foreign Exchange	Money, Banking, and Finance	2	SHW
Prime Commercial Paper Rate	Money, Banking, and Finance	0	IA
Day to Day Rate	Money, Banking, and Finance	0	IA
Clearings	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Bankruptcies - Number	Money, Banking, and Finance	2	IA
Compositions - Number	Money, Banking, and Finance	2	IA
Cost of Living - Total	Prices	2	SHW
Cost of Living - Clothing	Prices	2	SHW
Cost of Living - Food	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	IA
Wholesale Price Index - Agricultural and Food Products	Prices	2	SHW
Wholesale Price Index - Industrial Materials and Products	Prices	2	SHW
Production - Total	Production	3	SHW
Production - Cotton Goods and Finish	Production	3	SHW
Postage - Letters	Retail and Consumption	2	IA
Postage - Telephone Calls	Retail and Consumption	2	IA
State Railways - Freights Carried	Transport	2	IA

B.16 Italy

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Unemployed - Total	Labour	3	SHW
Unemployed - Insured	Labour	3	SHW
Short-time Workers	Labour	3	SHW
Bank of Italy - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bank of Italy - Foreign Exchange	Money, Banking, and Finance	2	SHW
Market Discount Rate in Milan	Money, Banking, and Finance	0	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Stock Exchange - Share Sales	Money, Banking, and Finance	2	SHW
Bankruptcies	Money, Banking, and Finance	2	SHW
Protested Bills of Exchange	Money, Banking, and Finance	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Finished Goods	Prices	2	SHW
Wholesale Price Index - Semi-finished Goods	Prices	2	SHW
Electricity Industry - Power Consumption	Retail and Consumption	3	SHW
Production - Crude Steel	Production	3	SHW
Production - Pig Iron	Production	3	SHW
Railways - Freights Carried	Transport	2	SHW
Shipping - Sea Freight - Incoming Goods	Transport	2	SHW
Shipping - Sea Freight - Outgoing Goods	Transport	2	SHW

B.17 Japan

Series Name	Category	Release Delay (in Month)	Source
Total Exports - Including Colonies	International Trade	3	IA
Total Imports - Including Colonies	International Trade	3	IA
Wage Rates - Industrial Workers	Labour	2	SHW
Employment - Industrial	Labour	3	SHW
Bank of Japan - Notes in Circulation (Daily Average)	Money, Banking, and Finance	2	IA
Bank of Japan - Advances (Daily Average)	Money, Banking, and Finance	2	IA
Call Money Rate	Money, Banking, and Finance	0	SHW
Market Discount Rate (Average of Lowest, Tokyo)	Money, Banking, and Finance	0	IA
Stock Exchange - Average Price of 50 Industrial Shares	Money, Banking, and Finance	0	IA
Clearing Banks - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Commercial Banks - Advances	Money, Banking, and Finance	2	IA
Clearings	Money, Banking, and Finance	2	SHW

Cost of Living - Total (in Tokyo)	Prices	2	SHW
Cost of Living - Clothing (in Tokyo)	Prices	2	SHW
Cost of Living - Food (in Tokyo)	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Cotton Yarn	Prices	2	SHW
Wholesale Price Index - Raw Silk (in Tokyo)	Prices	2	SHW
Inventory - Raw Silk Warehouse	Retail and Consumption	2	SHW
Production - Total	Production	3	SHW
Production - Textile Industry - Total	Production	3	SHW
Production - Cotton Fabrics	Production	3	SHW
Production - Cotton Yarn	Production	3	SHW
Production - Raw Silk	Production	3	SHW
Railways - Freights Carried	Transport	2	SHW

B.18 Lithuania

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Bank of Lithuania - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bank of Lithuania - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Bank of Lithuania - Gold	Money, Banking, and Finance	2	SHW
Gold Value of the Currency	Money, Banking, and Finance	0	SHW
Protested Bills of Exchange	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Flax	Prices	2	SHW
Railways - Freights Carried	Transport	2	SHW

B.19 Netherlands

Series Name	Category	Release Delay (in Month)	Source
Construction Activity - Completion	Housing and Construction	2	SHW
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Unemployment - Total Job Seekers	Labour	3	SHW
Unemployment - Insured Workers	Labour	3	SHW
Unemployment - Lost Workdays	Labour	3	SHW
Netherlands Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Netherlands Bank - Foreign Currency	Money, Banking, and Finance	2	SHW
Netherlands Bank - Gold	Money, Banking, and Finance	2	SHW
Private Discount Rate	Money, Banking, and Finance	0	SHW
Collateral Loan Rate	Money, Banking, and Finance	0	SHW
Issues - Domestic Shares	Money, Banking, and Finance	2	SHW
Stock Exchange - Domestic Share Prices	Money, Banking, and Finance	0	SHW
Bankruptcies	Money, Banking, and Finance	2	SHW
Cost of Living - Total (Amsterdam)	Prices	2	IA
Cost of Living - Food (Amsterdam)	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	IA + SHW
Wholesale Price Index - Food	Prices	2	IA + SHW
Production - Coal	Production	3	IA

B.20 New Zealand

Series Name	Category	Release Delay (in Month)	Source
Construction Activity - Building Permits	Housing and Construction	2	SHW
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Weekly Wages - Total	Labour	3	SHW
Unemployed	Labour	3	SHW
Notes in Circulation	Money, Banking, and Finance	2	SHW
Credit Banks - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Credit Banks - Gold	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Bankruptcies	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Cost of Living - Food	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Exporting Goods Total	Prices	2	SHW
Wholesale Price Index - Exporting Dairy Products	Prices	2	SHW

Wholesale Price Index - Exporting Meat	Prices	2	SHW
Wholesale Price Index - Exporting Wool	Prices	2	SHW
Wholesale Price Index - Importing Goods Total	Prices	2	SHW
Butter - Consignments	Retail and Consumption	2	SHW
Butter - Stocks	Retail and Consumption	2	SHW
Cheese - Consignments	Retail and Consumption	2	SHW
Cheese - Stocks	Retail and Consumption	2	SHW
Maritime Shipping - Inbound Traffic	Transport	2	SHW

B.21 Peru

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Central Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Central Bank - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Central Bank - Deposits	Money, Banking, and Finance	2	SHW
Central Bank - Gold and Foreign Exchange	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Building Materials	Prices	2	SHW
Wholesale Price Index - Import Goods	Prices	2	SHW
Wholesale Price Index - Food	Prices	2	SHW
Wholesale Price Index - Metals	Prices	2	SHW
Wholesale Price Index - Textiles	Prices	2	SHW

B.22 Poland

Series Name	Category	Release Delay (in Month)	Source
Construction	Housing and Construction	2	SHW
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Registered Unemployed	Labour	3	SHW
Employed Workers	Labour	3	SHW
Bank of Poland - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bank of Poland - Foreign Exchange	Money, Banking, and Finance	2	SHW
Discount Rate of Joint-Stock Banks	Money, Banking, and Finance	0	SHW
Clearings	Money, Banking, and Finance	2	SHW
Postal Check Turnover	Money, Banking, and Finance	2	SHW
Savings - Deposits	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Issues - New Stocks	Money, Banking, and Finance	2	IA
Bankruptcies	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Cost of Living - Food	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Agricultural Products	Prices	2	SHW
Production - Total	Production	3	SHW
Production - Chemical Industry	Production	3	SHW
Production - Hard Coal	Production	3	SHW
Production - Consumer Goods	Production	3	SHW
Railways - Freight Car Traffic	Transport	2	SHW

B.23 South Africa

Series Name	Category	Release Delay (in Month)	Source
Construction Activity - Residential Buildings Commenced	Housing and Construction	2	SHW
Total Exports Including Gold Bullions and Coins	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Employed in Mining - Gold Mining, Indigenous and Other Coloured	Labour	3	SHW
Employed in Mining - Total Mining, Indigenous and Other Coloured	Labour	3	SHW
Agricultural Credit Banks - Advances	Money, Banking, and Finance	2	SHW
Credit Banks - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Credit Banks - Long-term Deposits	Money, Banking, and Finance	2	SHW
Clearings	Money, Banking, and Finance	2	SHW
Postal Savings Banks - Deposits	Money, Banking, and Finance	2	SHW

South African Reserve Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
South African Reserve Bank - Gold	Money, Banking, and Finance	2	SHW
Bankruptcies	Money, Banking, and Finance	2	SHW
Cost of Living - Total	Prices	2	SHW
Cost of Living - Food	Prices	2	SHW
Production - Hard Coal	Production	3	SHW
Production - Gold	Production	3	SHW
Railways - Freights Carried - Total Excluding Coal	Transport	2	SHW
Railways - Freights Carried - Coal	Transport	2	SHW

B.24 Spain

Series Name	Category	Release Delay (in Month)	Source
Bank of Spain - Notes in Circulation	Money, Banking, and Finance	2	SHW
Bank of Spain - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Bank of Spain - Deposits	Money, Banking, and Finance	2	SHW
Bank of Spain - Foreign Exchange	Money, Banking, and Finance	2	SHW
Bank of Spain - Gold	Money, Banking, and Finance	2	SHW
Gold Value of the Currency	Money, Banking, and Finance	0	SHW
Clearings	Money, Banking, and Finance	2	SHW
Stock Exchange - Fixed Interest Security Prices (in Barcelona)	Money, Banking, and Finance	0	IA
Stock Exchange - Stock Prices	Money, Banking, and Finance	0	IA
Cost of Living - Total (in Madrid)	Prices	2	SHW
Wholesale Price Index - Total (in Barcelona)	Prices	2	IA + SHW
Wholesale Price Index - Food	Prices	2	SHW
Wholesale Price Index - Industrial Materials	Prices	2	SHW
Production - Coal and Lignite	Production	3	IA
Production - Copper Ore	Production	3	IA
Production - Iron Ore	Production	3	IA
Production - Lead Ore	Production	3	IA
Production - Pig Iron	Production	3	IA
Production - Steel	Production	3	IA

B.25 Sweden

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	IA
Total Imports	International Trade	3	IA
Unemployed - Support Seekers	Labour	3	SHW
Unemployed - Union Members - Number	Labour	3	SHW
Unemployed - Union Members - Percent	Labour	3	IA
Credit Banks - Domestic Bills of Exchange	Money, Banking, and Finance	2	SHW
Credit Banks - Advances	Money, Banking, and Finance	2	IA
Yield on Inconvertible State Bonds	Money, Banking, and Finance	0	IA
Riksbank - Clearings	Money, Banking, and Finance	2	SHW
Riksbank - Notes in Circulation	Money, Banking, and Finance	2	IA
Riksbank - Bills of Exchange and Advances	Money, Banking, and Finance	2	SHW
Riksbank - Foreign Exchange	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices - All Shares	Money, Banking, and Finance	0	IA
Stock Exchange - Turnover - Total	Money, Banking, and Finance	2	IA
Bankruptcies	Money, Banking, and Finance	2	IA + SHW
Cost of Living - Total	Prices	2	IA
Wholesale Price Index - Total (Board of Trade)	Prices	2	IA
Wholesale Price Index - Raw Materials	Prices	2	IA
Wholesale Price Index - Semi-finished Goods	Prices	2	IA
Wholesale Price Index - Finished Goods	Prices	2	IA
Wholesale Price Index - Consumer Goods	Prices	2	SHW
Wholesale Price Index - Production Goods	Prices	2	SHW
Production - Total	Production	3	SHW
Production - Production Goods Industries	Production	3	SHW
Production - Consumer Goods Industries	Production	3	SHW
Production - Crude Steel	Production	3	SHW
Production - Rolling Mill Products	Production	3	SHW
Production - Pig Iron	Production	3	SHW
Shipping - Inbound	Transport	2	IA
Shipping - Outbound	Transport	2	IA
Railways - Freights Carried	Transport	2	SHW

B.26 Switzerland

Series Name	Category	Release Delay (in Month)	Source
Total Exports	International Trade	3	SHW
Total Imports	International Trade	3	SHW
Average Employment Level	Labour	3	SHW
Short-time Workers	Labour	3	SHW
Unemployed	Labour	3	SHW
Cantonal Banks - Current Accounts Payable	Money, Banking, and Finance	2	SHW
Stock Exchange - Share Prices	Money, Banking, and Finance	0	SHW
Swiss National Bank - Notes in Circulation	Money, Banking, and Finance	2	SHW
Swiss National Bank - Gold Currency	Money, Banking, and Finance	2	SHW
Swiss National Bank - Gold	Money, Banking, and Finance	2	SHW
Composition Agreements	Money, Banking, and Finance	2	SHW
Cost of Living - Food	Prices	2	SHW
Cost of Living - Total	Prices	2	SHW
Wholesale Price Index - Feed and Fertilisers	Prices	2	SHW
Wholesale Price Index - Food	Prices	2	SHW
Wholesale Price Index - Total	Prices	2	SHW
Wholesale Price Index - Raw and Auxiliary Materials	Prices	2	SHW
Hallmarking of Watch Cases	Production	3	SHW

B.27 United Kingdom

Series Name	Category	Release Delay (in Month)	Source
Estimated Cost of Buildings for Which Plans Were Passed - 146 Cities	Housing and Construction	2	IA
Total Imports (Including Miscellaneous)	International Trade	3	IA
Total Exports (Including Miscellaneous)	International Trade	3	IA
Total Insured Persons Unemployed - Male	Labour	3	IA
Total Insured Persons Unemployed - Female	Labour	3	IA
Percentage of Insured Persons Unemployed - Male and Female	Labour	3	IA
Security Price Index - London	Money, Banking, and Finance	0	NBER
British Railway Common Shares Index	Money, Banking, and Finance	0	NBER
Three Months Rate	Money, Banking, and Finance	0	IA
Day to Day Rate	Money, Banking, and Finance	0	IA
Yield on Consols	Money, Banking, and Finance	0	NBER
Outstanding Treasury Bills	Money, Banking, and Finance	2	IA
Nine Clearing Banks - Advances	Money, Banking, and Finance	2	IA
Nine Clearing Banks - Deposits	Money, Banking, and Finance	2	IA
Nine Clearing Banks - Discounts	Money, Banking, and Finance	2	IA
Nine Clearing Banks - Investments	Money, Banking, and Finance	2	IA
Nine Clearing Banks - Cash to Deposits	Money, Banking, and Finance	2	IA

Bank Clearings - London (London Bankers Clearing House)	Money, Banking, and Finance	2	IA
Bank of England - Notes in Circulation	Money, Banking, and Finance	2	IA
Bank of England - Gold	Money, Banking, and Finance	2	SHW
Bank of England - Other Securities	Money, Banking, and Finance	2	SHW
New Capital Issues	Money, Banking, and Finance	2	IA
Bankruptcies	Money, Banking, and Finance	2	SHW
Retail Prices - Cost of Living (Ministry of Labour)	Prices	2	IA
Retail Prices - Food (Ministry of Labour)	Prices	2	IA
Wholesale Price Index - Total (Board of Trade)	Prices	2	IA
Wholesale Price Index - Food (Board of Trade)	Prices	2	IA
Production - Coal	Production	3	IA
Shipbuilding - Tonnage Commenced	Production	3	IA
Index of Consumption of Raw Cotton	Retail and Consumption	2	IA
Railways - Receipts - All Goods	Transport	2	IA
Railways - Weight of Freight Transported - General Merchandise	Transport	2	IA
Railways - Weight of Freight Transported - Fuel	Transport	2	IA
Shipping - Entered	Transport	2	IA
Shipping - Cleared	Transport	2	IA
Shipping - Index of Time Chartered Rates	Transport	2	IA
Shipping - Index of Freight Rates	Transport	2	IA

B.28 United States

Series Name	Category	Release Delay (in Month)	Source
Construction Contracts	Housing and Construction	2	IA
Building Permits	Housing and Construction	2	IA
Merchandise Imports	International Trade	3	IA
Merchandise Exports	International Trade	3	IA
Employment Index 1929 Revision*	Labour	3	FRB
Employment Index 1934 Revision	Labour	3	FRB
Employment Index 1936 Revision	Labour	3	FRB
Payroll Index 1929 Revision*	Labour	3	FRB
Payroll Index 1934 Revision	Labour	3	FRB
Payroll Index 1936 Revision	Labour	3	FRB
Prime Commercial Paper Rate	Money, Banking, and Finance	0	IA
Bank Rate on Customer Loans - Leading Cities	Money, Banking, and Finance	0	NBER
Banker's Acceptance Rate for New York	Money, Banking, and Finance	0	NBER
Yield on Long-term US Bonds	Money, Banking, and Finance	1	NBER
Gold Stock	Money, Banking, and Finance	2	IA
Money in Circulation	Money, Banking, and Finance	2	IA

Federal Reserve System Reporting Member Banks - Loans on Securities	Money, Banking, and Finance	2	IA
Federal Reserve System Reporting Member Banks - All Other Loans	Money, Banking, and Finance	2	IA
Federal Reserve System Reporting Member Banks - Investments	Money, Banking, and Finance	2	IA
Combined Federal Reserve Banks - Bills Discounted	Money, Banking, and Finance	2	IA
Combined Federal Reserve Banks - Bills Bought in Open Market	Money, Banking, and Finance	2	IA
Volume of Commercial Paper Outstanding	Money, Banking, and Finance	2	IA
Business Failures	Money, Banking, and Finance	2	IA
Average Stock Price - Industrials	Money, Banking, and Finance	0	NBER
Average Stock Price - Railroads	Money, Banking, and Finance	0	NBER
Wholesale Price Index (PPI)	Prices	2	IA
Raw Materials Price Index	Prices	2	IA
Semi Manufactured Goods Price Index	Prices	2	IA
Finished Goods Price Index	Prices	2	IA
Industrial Production	Production	3	FRB
Department Store Sales	Retail and Consumption	2	IA
Total Freight Car Loadings	Transport	2	IA
Revenue Per Freight Ton-Mile	Transport	2	NBER

* The labour variables from the 1929 revision are used for estimation. Using other editions of the variables instead does not alter the results.

C Evidence from commodity futures markets

It is not immediately obvious how to extract inflation expectations from Figure 2.² Hamilton (1987) stresses arbitrage opportunities to claim that futures prices are predictors of future spot prices. One strategy a speculator could follow is to buy a futures contract at t for delivery at $t + 1$ at an agreed price F_t , but with no money changing hands at t . At $t + 1$ the speculator pays the agreed price for delivery of one physical unit, which they can then sell on the spot market at price S_{t+1} . The difference $F_t - S_{t+1}$ is their net cash flow, positive or negative. Under risk neutrality it must be that $E_t(F_t - S_{t+1}) = 0$ because if not, for example if the expectation was negative, a risk-neutral speculator would want to buy an infinite number of futures contracts, forcing up F_t until the condition holds. The condition can equivalently be written in terms of the spread:

$$F_t - S_t = E_t(S_{t+1}) - S_t \quad (\text{C.1})$$

Through the lens of Hamilton (1987) and equation (C.1), traders must have been expecting raw cotton prices to fall in early 1929, to rise through the Great Depression, and to fall again from late 1934. If raw cotton prices are positively correlated with the wholesale price index then expectations of inflation also turned positive at the start of the Great Depression and negative at its end. This is not consistent with estimates of US inflation expectations from our dynamic factor model.

A second strategy a trader could follow is to sell a futures contract at price F_t that promises to deliver the commodity at $t + 1$. The trader buys the commodity from the spot market at t by borrowing at the nominal interest rate i_t . Thus, next period the trader will owe $(1 + i_t)S_t$ to repay the loan, plus storage costs u_t , and may enjoy a convenience yield c_t , which is the benefit to traders or users of the commodity from having inventory in hand. In this strategy, the cash flow is again zero in t and $F_t - (1 + i_t)S_t - u_t + c_t$ in $t + 1$. If u_t and c_t are known at t then this is a risk-free strategy, so net cash flow in $t + 1$ must also be zero in equilibrium. In other words, it must be that:

$$F_t - S_t = i_t S_t + u_t - c_t \quad (\text{C.2})$$

This is the storage theory of Working (1949), Telser (1958) and Fama and French (1987). In the literature $(c_t - u_t)/S_t$ is referred to as the net convenience yield. Equation (C.2) implies that the ratio of futures to the spot price is equal to $1 + i_t$ minus the net convenience yield, so as the latter falls, futures prices rise relative to spot prices. From the data on spot and future prices and an appropriate risk-free interest rate, we can estimate the net convenience yield for any of the commodities in the five countries with futures markets.

The relationship between the net convenience yield and inflation is the subject of Saleuddin and Coffman (2018), who stress the over-supply of raw cotton in the 1920s and 1930s (Enfield, 1931; Howell, 1939) and propose that over-supply increases storage costs and reduces convenience yields. The more pessimistic agents are about the future, the more they expect

²We are extremely grateful to an anonymous referee for clarifying our thinking on this issue. The discussion below is largely based on his feedback to us.

that commodities will end up in storage at higher storage costs and lower convenience yields, which leads to futures prices being higher relative to spot prices.

Additional backing for the storage theory is provided by Gospodinov and Ng (2013), who explicitly analyse the empirical relationship between net convenience yields and expected inflation over the period March 1983 to July 2008. They find that the first two principal components of panels of net convenience yields have strong predictive power for forecasting inflation in the US, Canada, Japan, France, Germany, Italy, and the UK. Furthermore, the empirical estimates describe a positive relationship between inflation expectations and the net convenience yield for many commodities, consistent with the theory of storage.

The solid line in Figure C.1 plots inflation expectations as estimated by our dynamic factor model of the US. Superimposed as a series of dots is the net convenience yield at the beginning of each month, extracted from commodity market futures data and averaged across the different maturities of future contracts traded at the time. The co-movement between the dynamic factor model estimates and the net convenience yield is striking. The correlation between expected inflation and the net convenience yield is positive, in accordance with the Saleuddin and Coffman (2018) interpretation of the theory of storage.

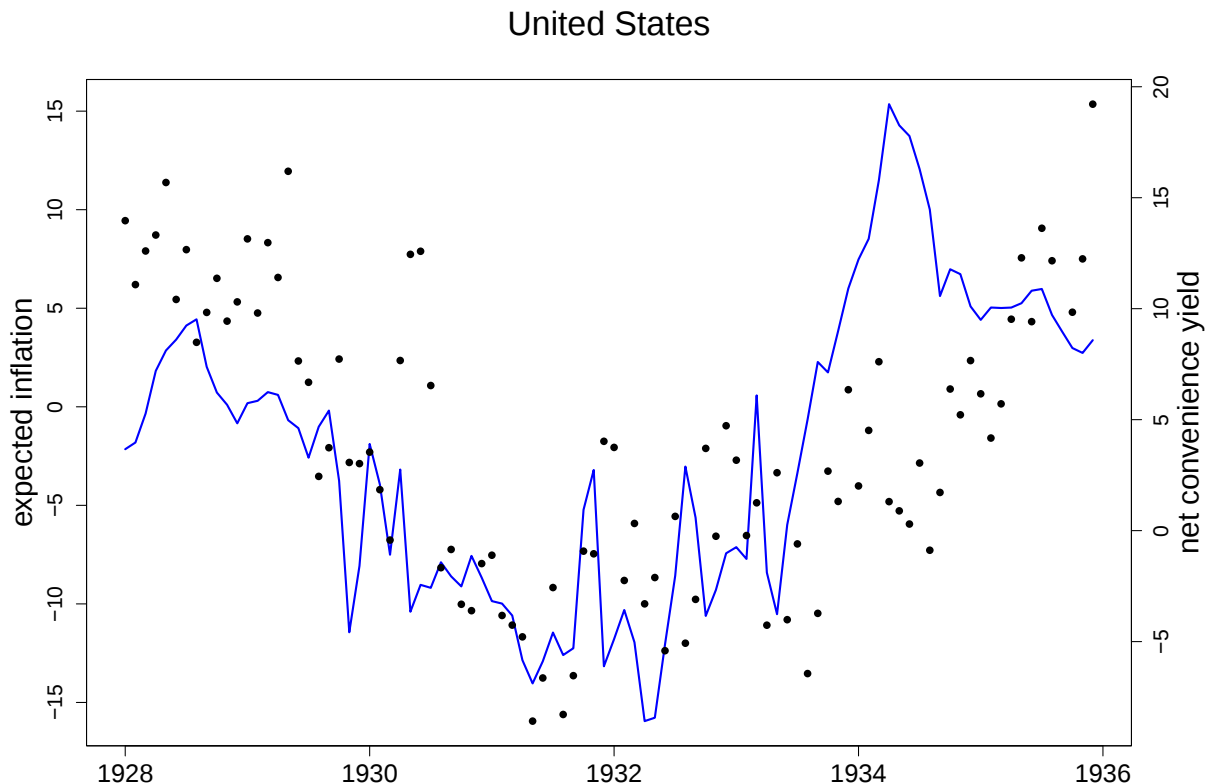


Figure C.1: Expected inflation from the United States dynamic factor model (blue line, left y-axis) and the net convenience yield on cotton futures on the New York Cotton Exchange (black dots, right y-axis).

The strong co-movement in Figure C.1 supports the estimate of inflation expectations from our dynamic factor model. Both measures point towards a turnaround in expectations in late 1931 or early 1932, and where the series do deviate can be explained by known idiosyncrasies of the US cotton market, for example in the 1930s when the Dust Bowl drought emptied storage and increased the net convenience yield.

We also collected prices for other commodities traded in US futures markets, most notably wheat, corn, oats, and rye on the Chicago Board of Trade, from the *New York Times* and the *Wall Street Journal* and cross-checked with *The Baltimore Sun*, *The Boston Daily Globe*, *The Cincinnati Enquirer*, *The Gazette* (Montreal), *The Globe* (Toronto), *The Indianapolis Star*, *The Minneapolis Tribune*, and *The New York Herald Tribune*.³ These grains competed with cotton for storage, so their net convenience yields should pick up the same positive relationship with expected inflation that we observed for cotton. This is indeed the case, although the plots are noisier and the co-movement is less clear-cut. If we follow Gospodinov and Ng (2013) and extract principal components from the net convenience yields of cotton and other commodities such as grains, then the first principal component co-moves with the inflation expectations from our dynamic factor model, see Figure C.2.

³Our data on grain futures prices in Chicago were cross-checked with Iorgulescu et al. (2022).

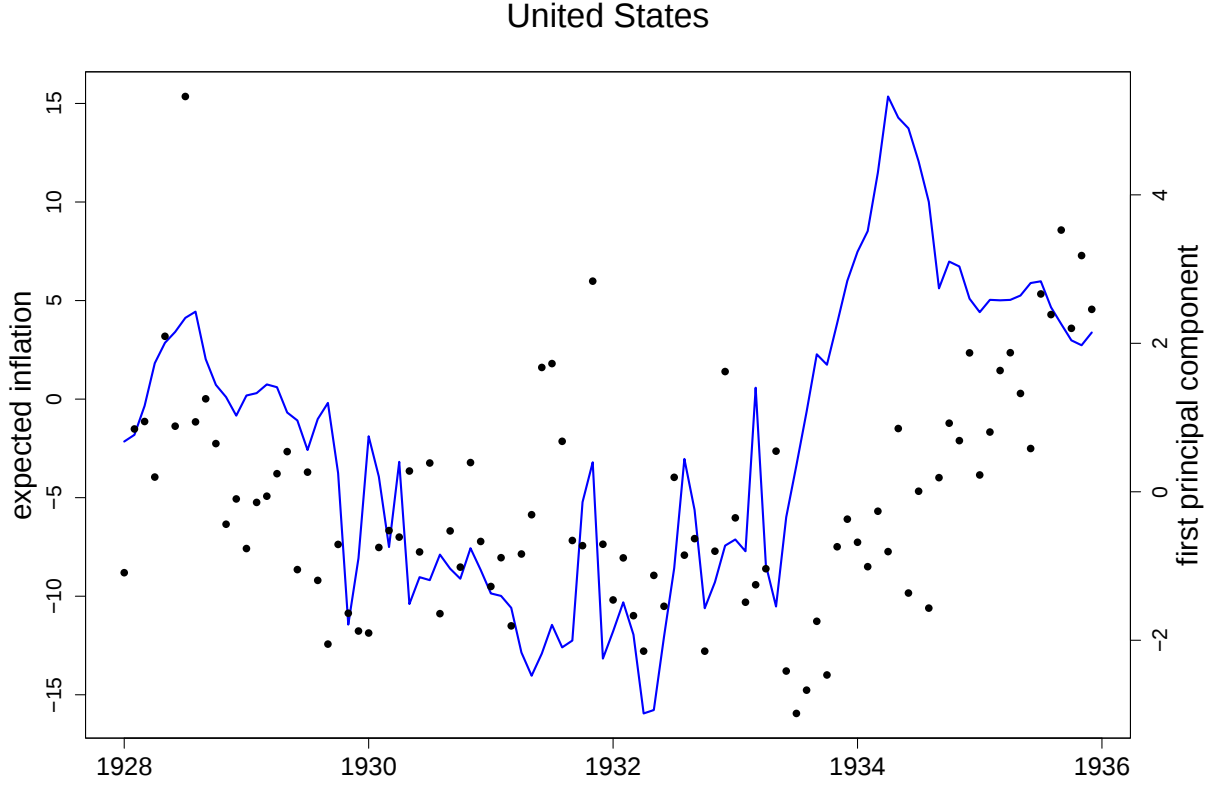


Figure C.2: Expected inflation from the United States dynamic factor model (blue line, left y-axis) and the first principal component of cotton futures on the New York Cotton Exchange and commodity futures on the Chicago Board of Trade (black dots, right y-axis).

For the other countries with commodity futures markets, we transcribed monthly prices from archives of national and financial newspapers. The *Manchester Guardian* and *The Scotsman* were our sources for a variety of contracts on the Liverpool Cotton Exchange and the London Metal Exchange, with some UK prices verified using *The Times* and Lennard et al. (2021). French prices of cotton, coffee and peppers at the Le Havre Futures Market are from *L'Écho de Paris*, while German prices at the Bremen Cotton Exchange are from *Karlsruher Tagblatt*, *Deutsche Allgemeine Zeitung*, *Berliner Tageblatt und Handels-Zeitung*, *Berliner Börsen-Zeitung*, *Badische Presse*, *Hamburger Fremdenblatt* and *Vossische Zeitung*. A peculiarity of the Bremen Cotton Exchange is that prices were quoted in US dollars.⁴ For Japan, cotton yarn prices on the Osaka Sampin Exchange and silk prices on the Kobe Raw Silk Exchange were taken from *China Press* (Shanghai) and *The Times of India*. Taken together with the US data, our newly-transcribed dataset of spot and futures prices includes

⁴Only US cotton was traded on the Bremen Cotton Exchange, and futures being priced in dollars was a response to earlier hyperinflations. Dollar-denominated pricing raises complications for the calculation of net convenience yields, as they mix elements of expected inflation in the US and Germany. Whilst interest rates in US dollars seem to be the relevant ones, storage costs and convenience yields were denominated in German Reichsmark, so expectations of inflation in Germany should also be relevant.

31,512 observations of 636 different contracts across 22 broad categories of commodities.

The relationship between net convenience yields on cotton futures and the dynamic factor model estimates of expected inflation for the UK, France, Germany and Japan is plotted in Figure C.3. The series for the UK and France again co-move strongly, with the factor model estimates and net convenience yields both indicating that inflation expectations bottomed out about one year earlier in the UK than in France. The futures market data for the UK and France offer further corroborating evidence in support of our estimates, the exceptions being around the US Dust Bowl drought of the 1930s and during 1934 when our measure of inflation expectations in the UK rises faster than net convenience yields. The support from futures markets in Germany and Japan is less compelling, although the experience in Germany after 1933 and the establishment of a supervisor board for cotton trade in 1934 make it difficult to draw firm conclusions.⁵ In Japan, the futures market data from late 1930 to the middle of 1931 are contaminated by tensions between spinners and weavers that led to severe cuts in production and a high premium on having cotton yarn at hand.

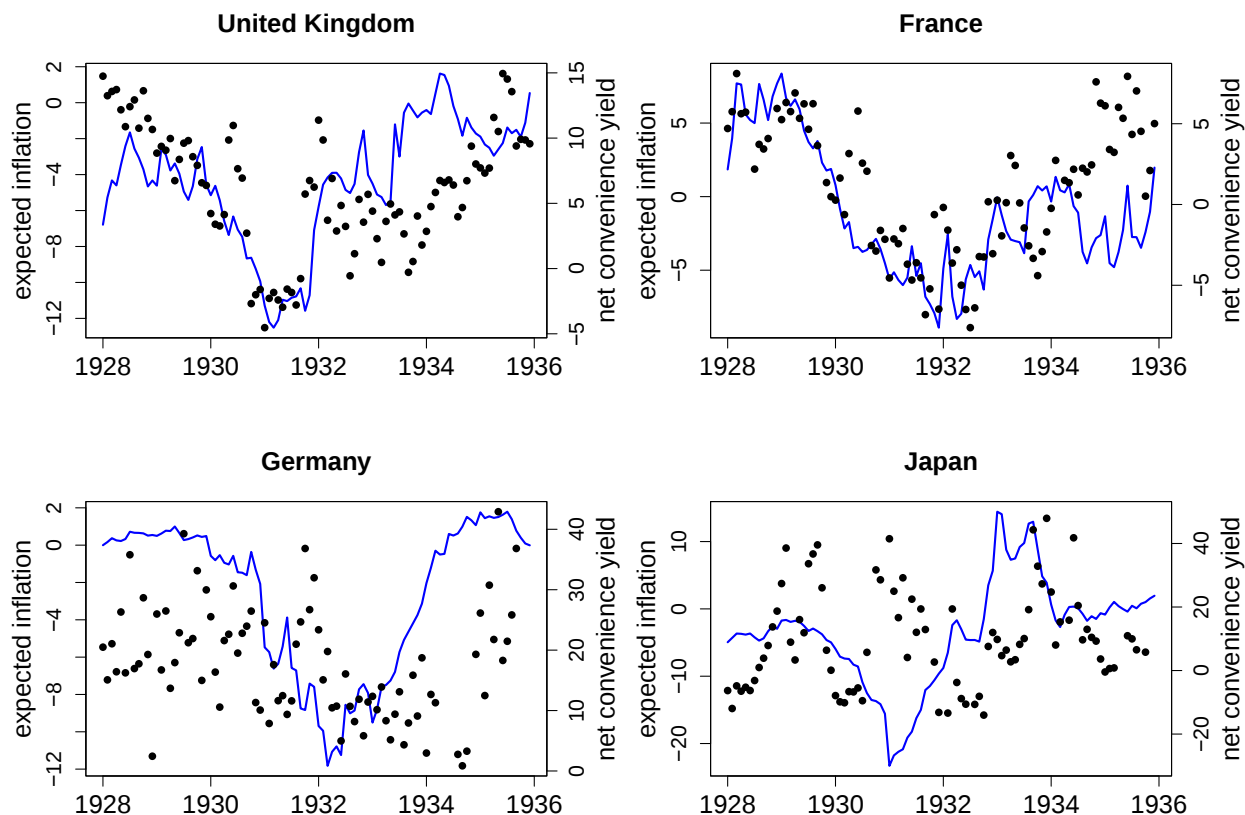


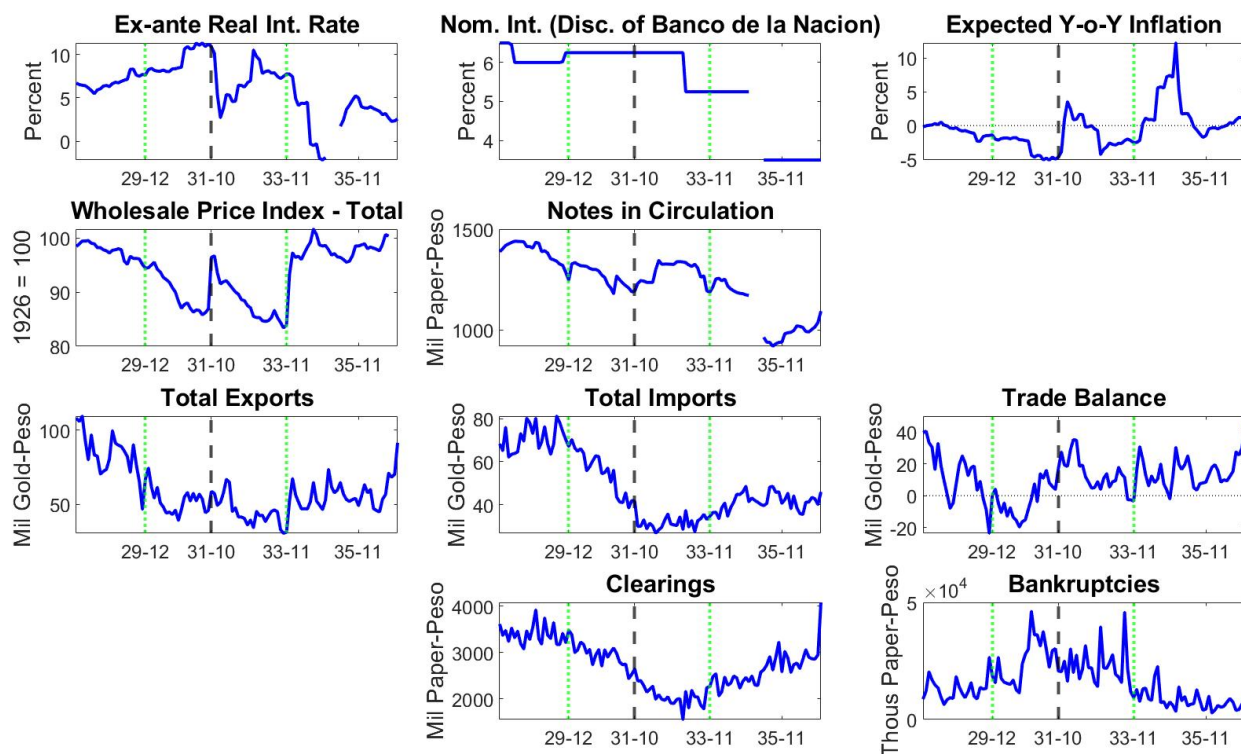
Figure C.3: Expected inflation from the dynamic factor models (blue lines, left y-axes) and the net convenience yield on cotton futures on the Liverpool, Le Havre, Bremen and Osaka Sampin Cotton Exchanges (black dots, right y-axes).

⁵The history of the Bremen Cotton Exchange (Bremer Baumwollbörse) is discussed in Garside (1935) and Linne (2003).

In conclusion, the relationship between commodity futures prices and expected inflation is theoretically ambiguous. If the futures data are interpreted in line with equation C.2, then they are broadly consistent with the inflation expectations generated by our dynamic factor models. If, on the other hand, they are interpreted in line with equation C.1 then they are inconsistent with those estimated expectations. Since both arbitrage conditions should hold in equilibrium, the futures data cannot unambiguously confirm, or rule out, our estimates of inflation expectations. One possible resolution is to acknowledge that investors may not have been risk-neutral, as assumed by equation C.1. As noted in the text of the paper (footnote 11), increases in uncertainty or risk aversion may provide additional reasons why forward premia may have risen during the Great Depression, at a time when traders expected continuing deflation.

D Illustration of key variables by country

D.1 Argentina

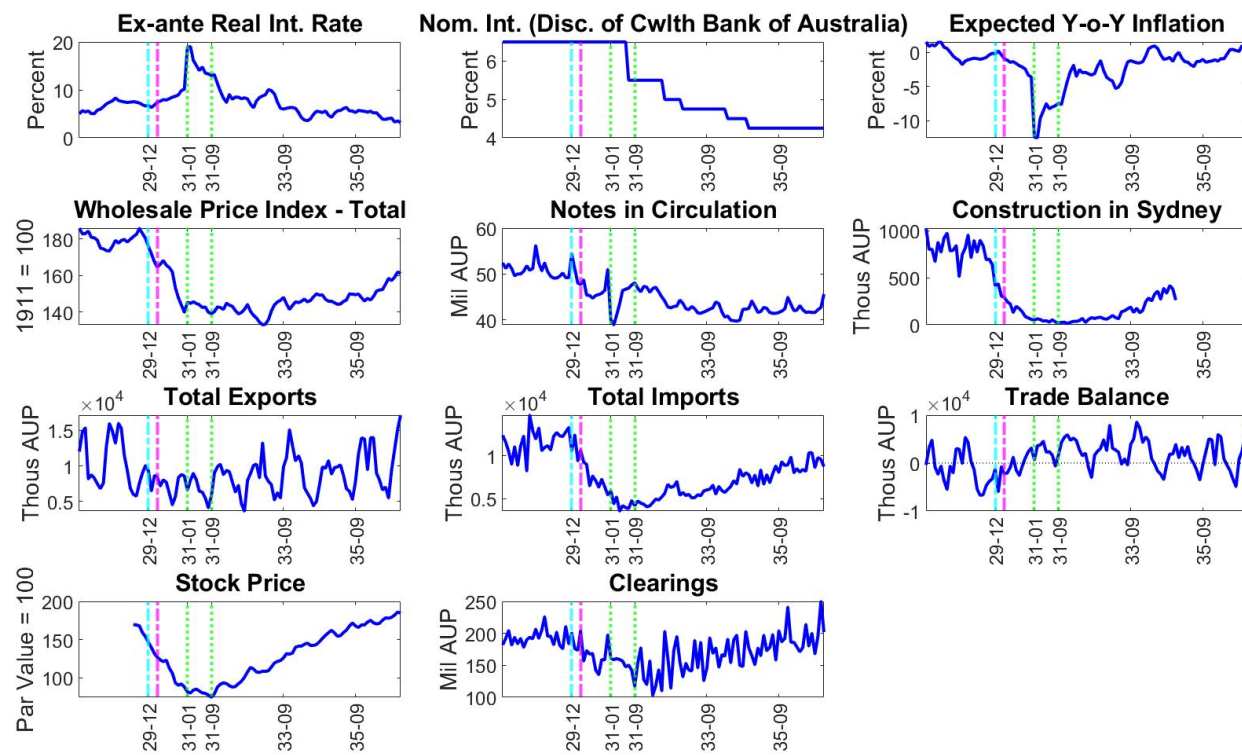


December 1929: suspension of currency board

October 1931: exchange control

November 1933: devaluation and currency reforms

D.2 Australia



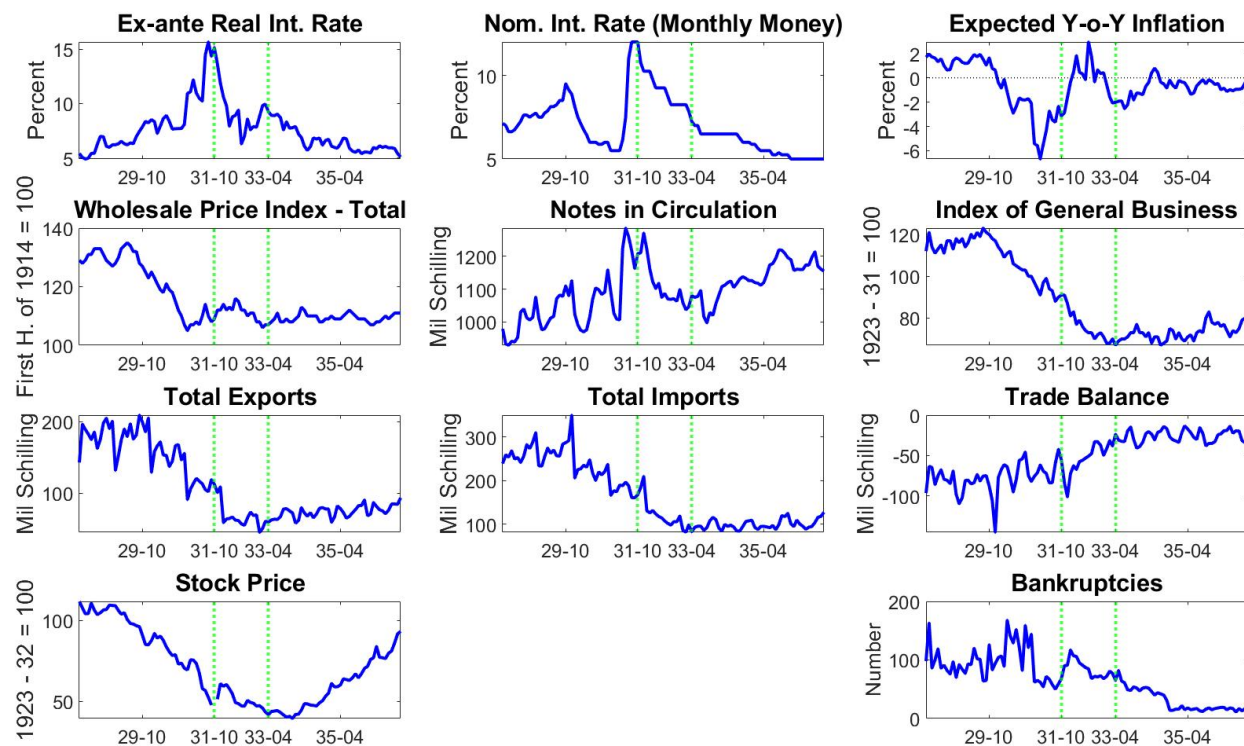
December 1929: official suspension of gold standard

March 1930: devaluation (magenta vertical dash-dotted line)

January 1931: devaluation

September 1931: UK suspension of gold standard

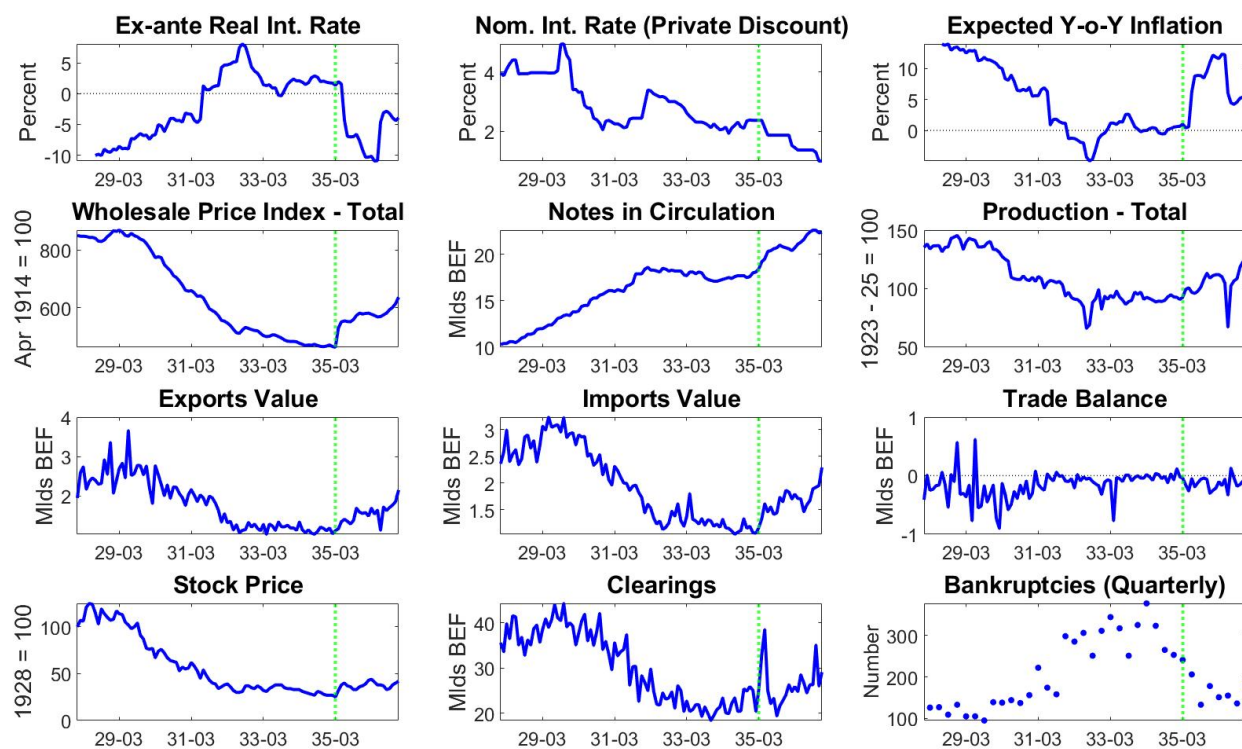
D.3 Austria



October 1931: devaluation

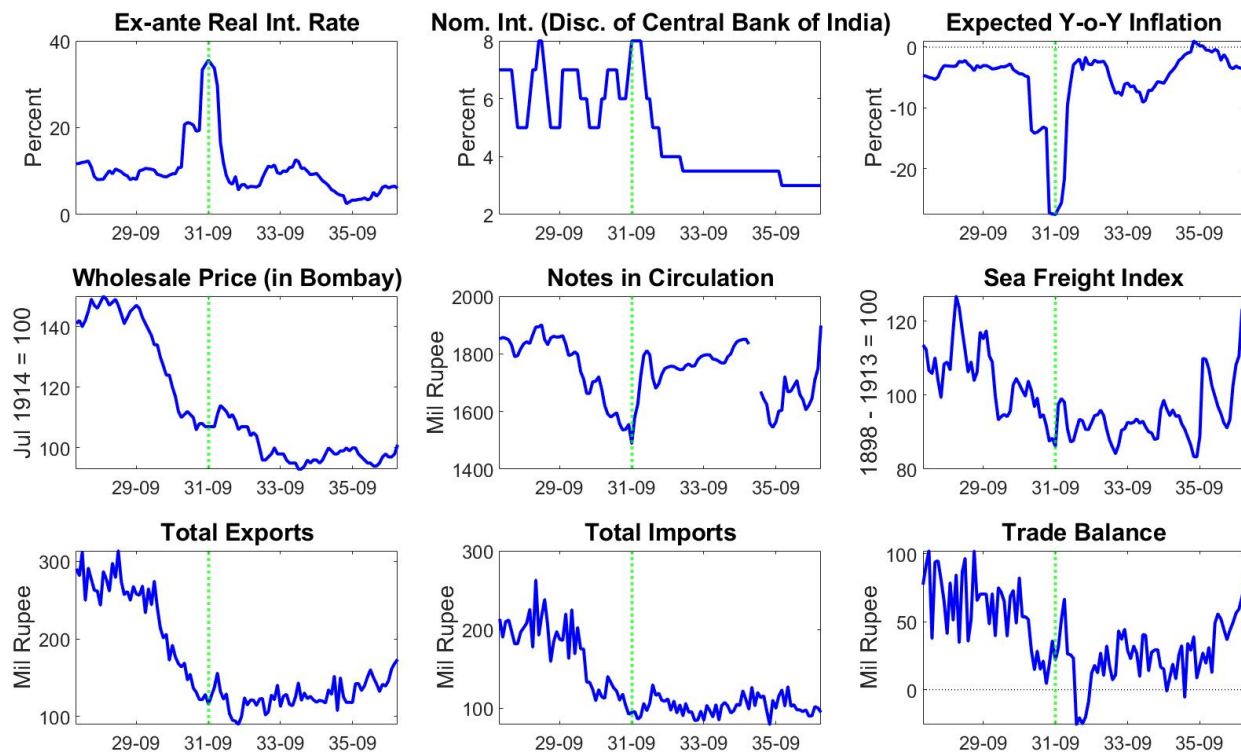
April 1933: devaluation

D.4 Belgium



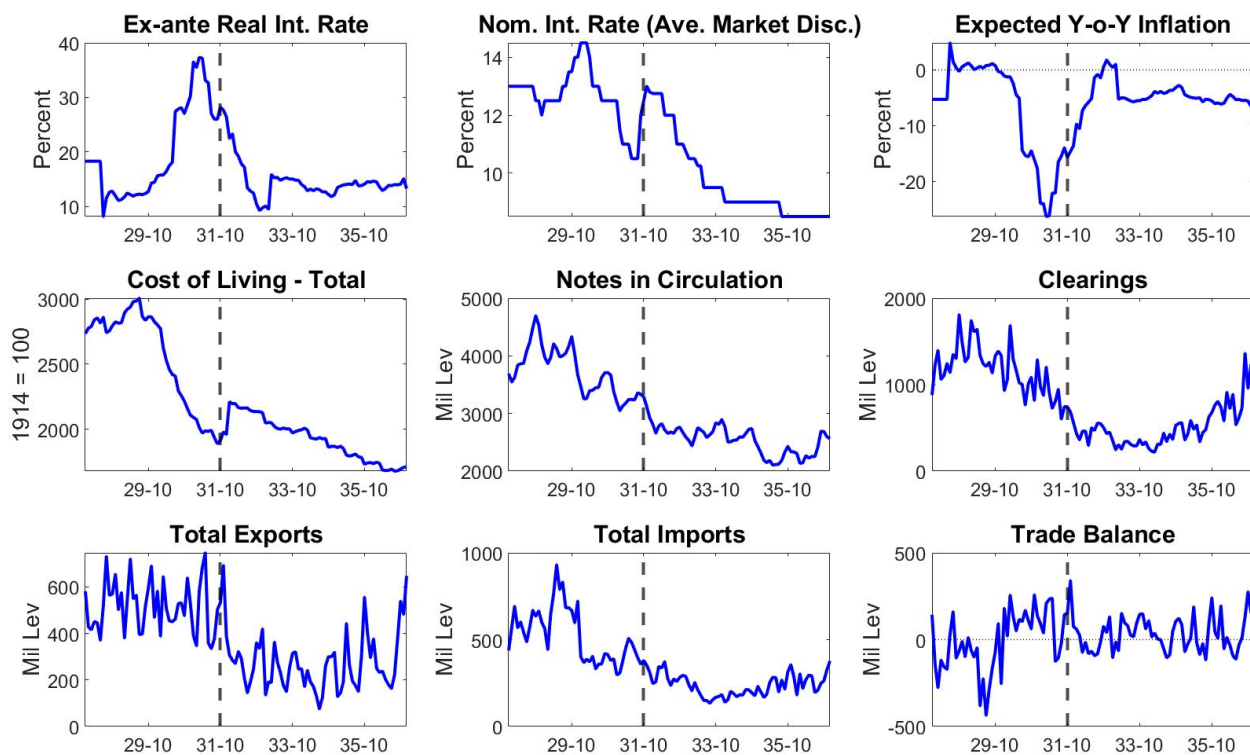
March 1935: official suspension of gold standard, devaluation, and exchange control

D.5 British India



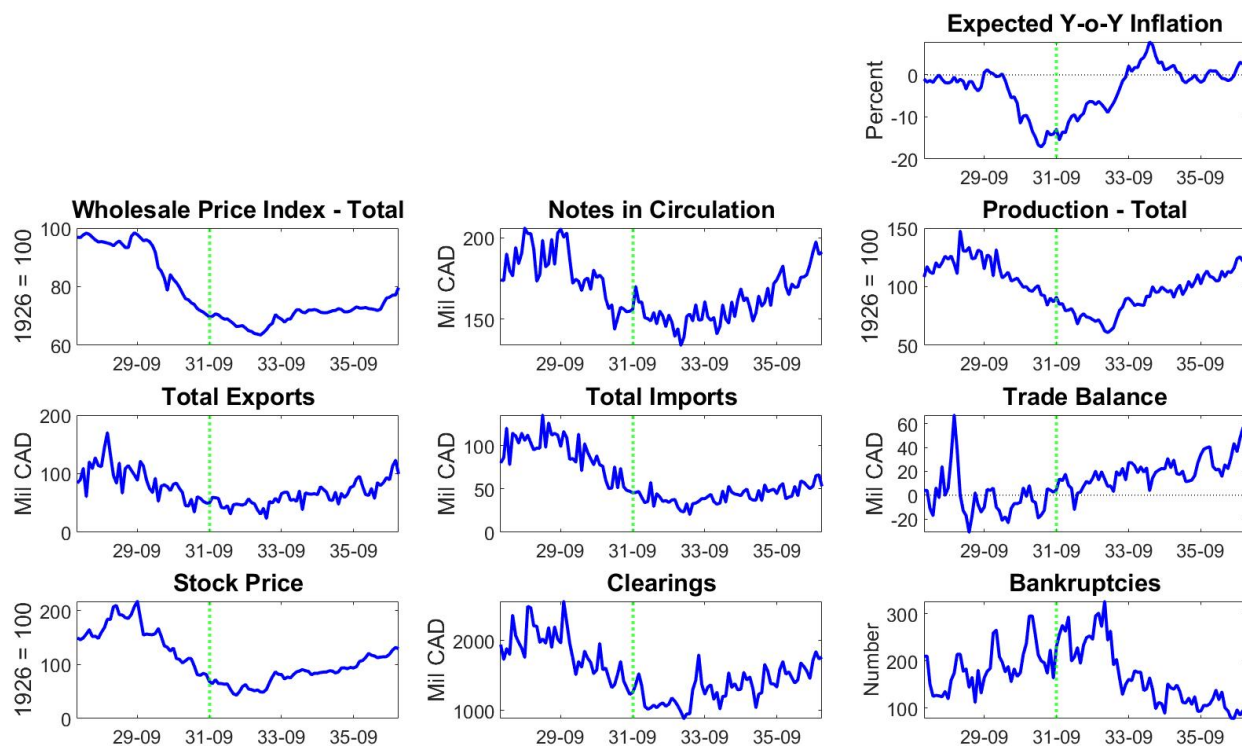
September 1931: UK suspension of gold standard and devaluation

D.6 Bulgaria



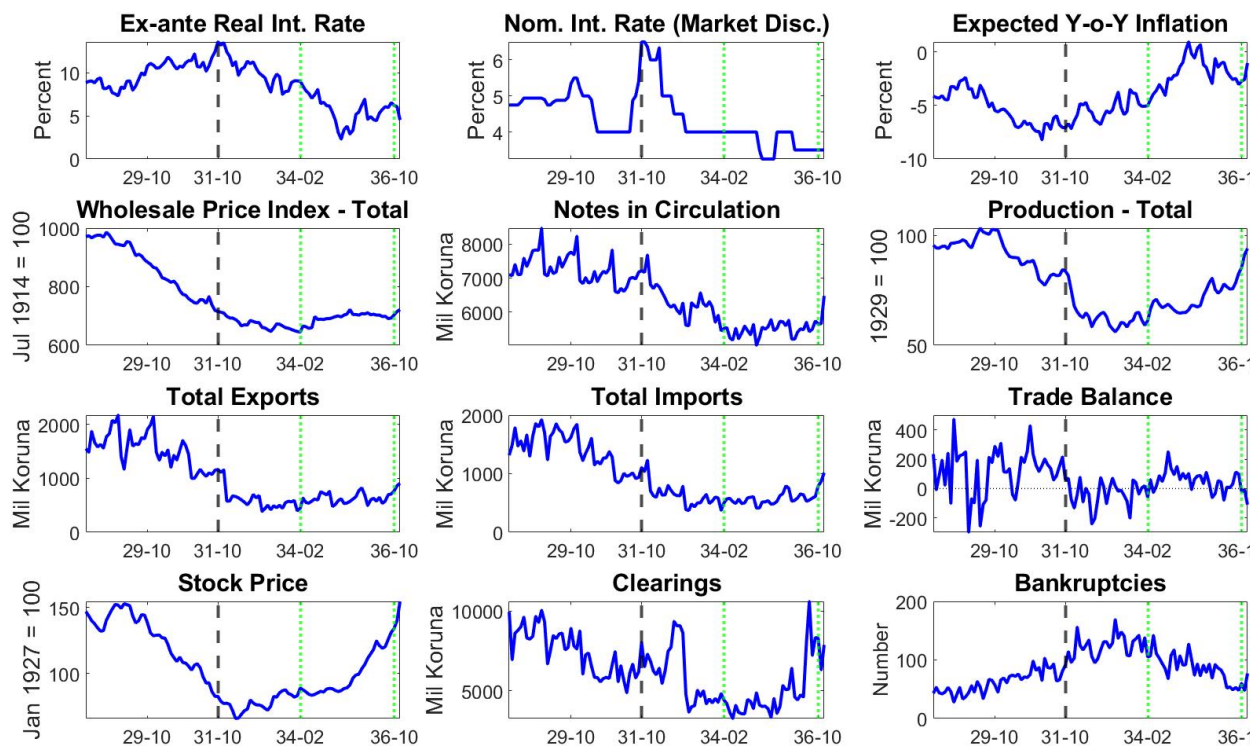
October 1931: exchange control

D.7 Canada



September 1931: devaluation

D.8 Czechoslovakia

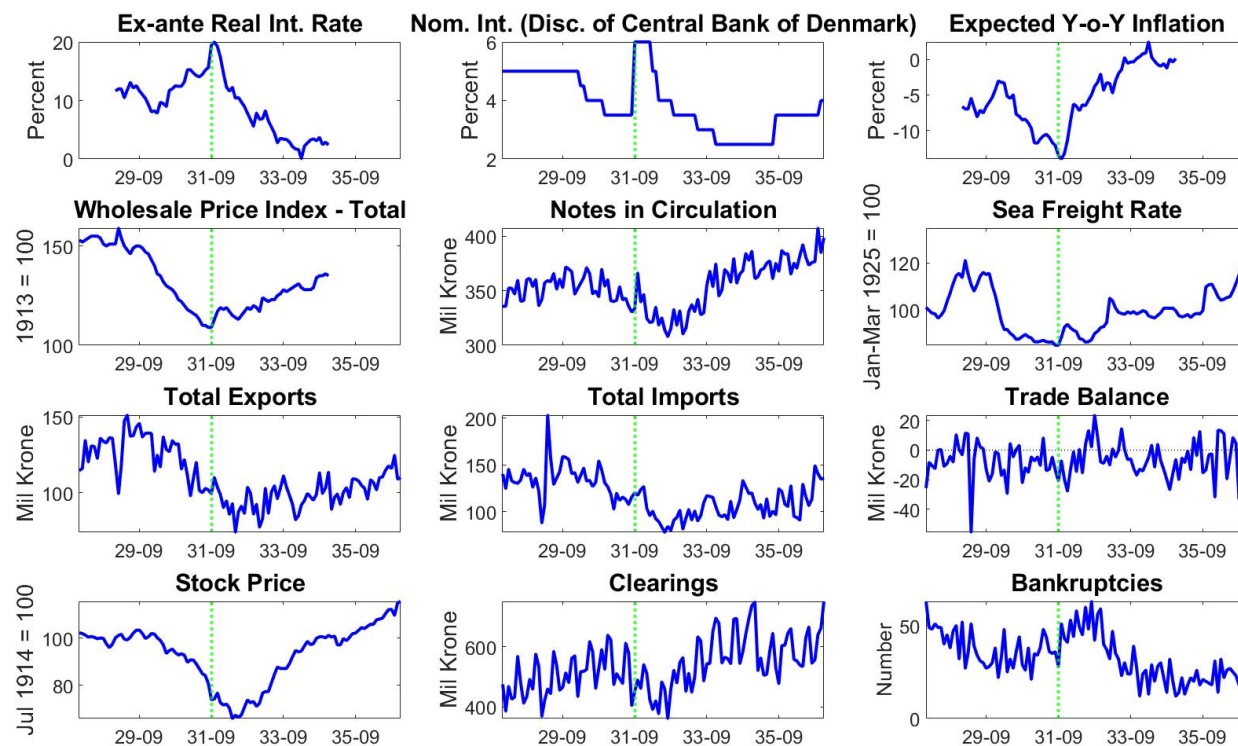


October 1931: exchange control

February 1934: devaluation

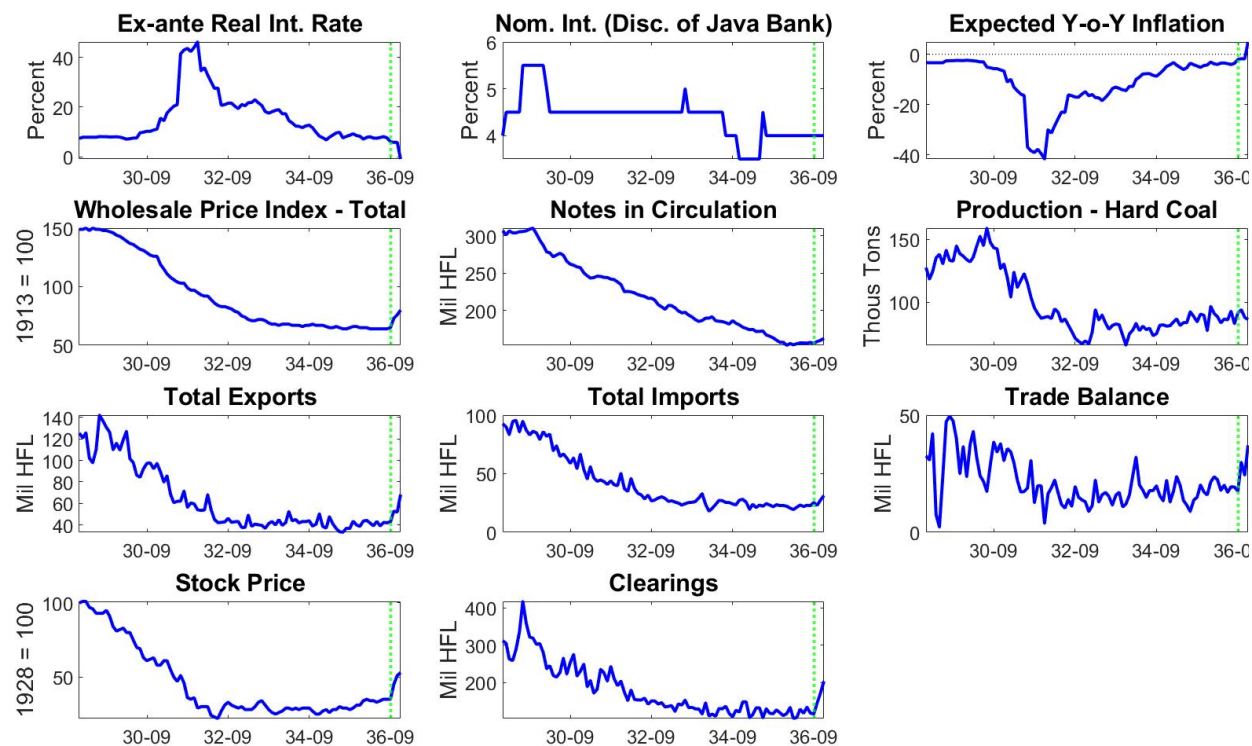
October 1936: devaluation

D.9 Denmark



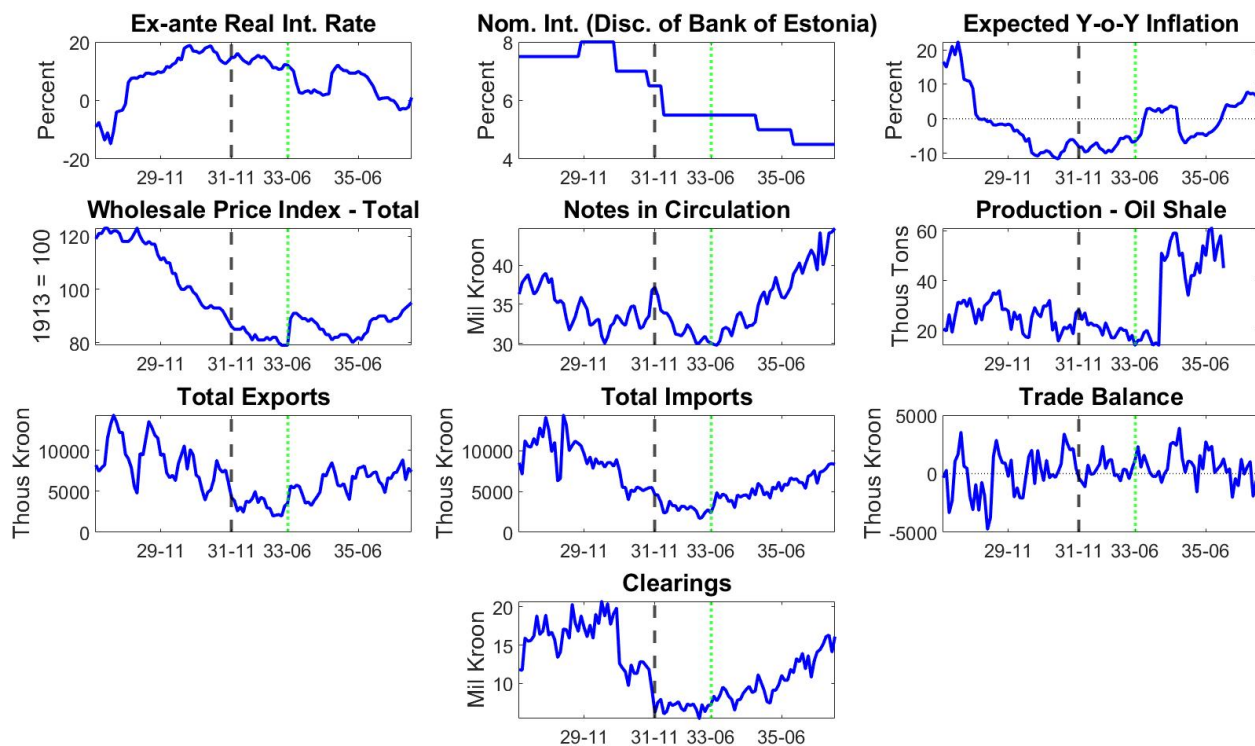
September 1931: official suspension of gold standard and devaluation

D.10 Dutch East Indies



September 1936: Dutch suspension of gold standard

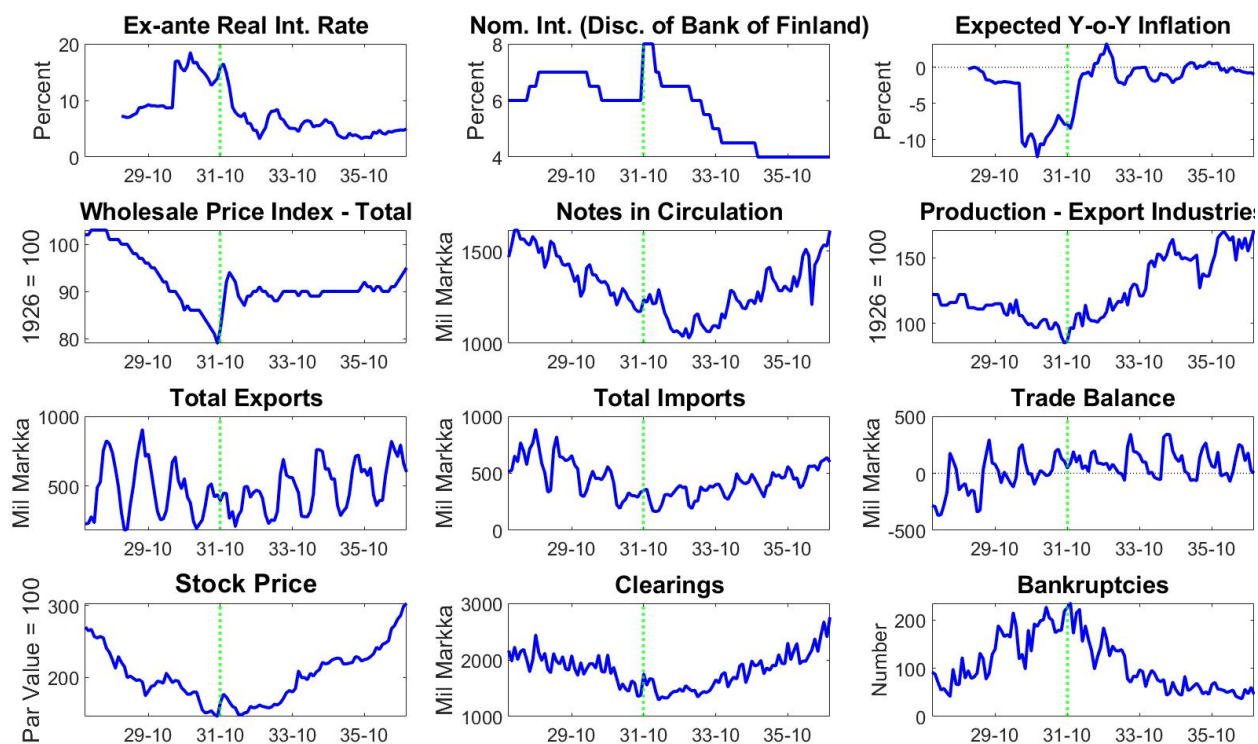
D.11 Estonia



November 1931: exchange control

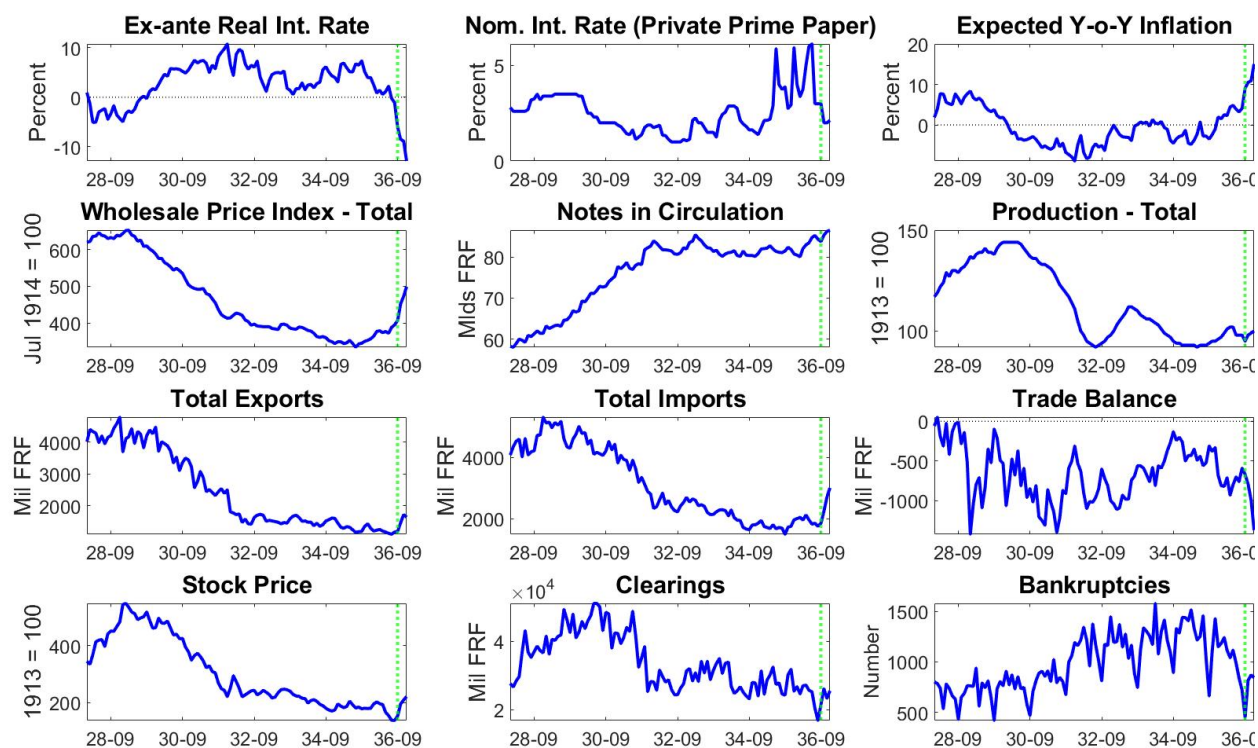
June 1933: official suspension of gold standard and devaluation

D.12 Finland



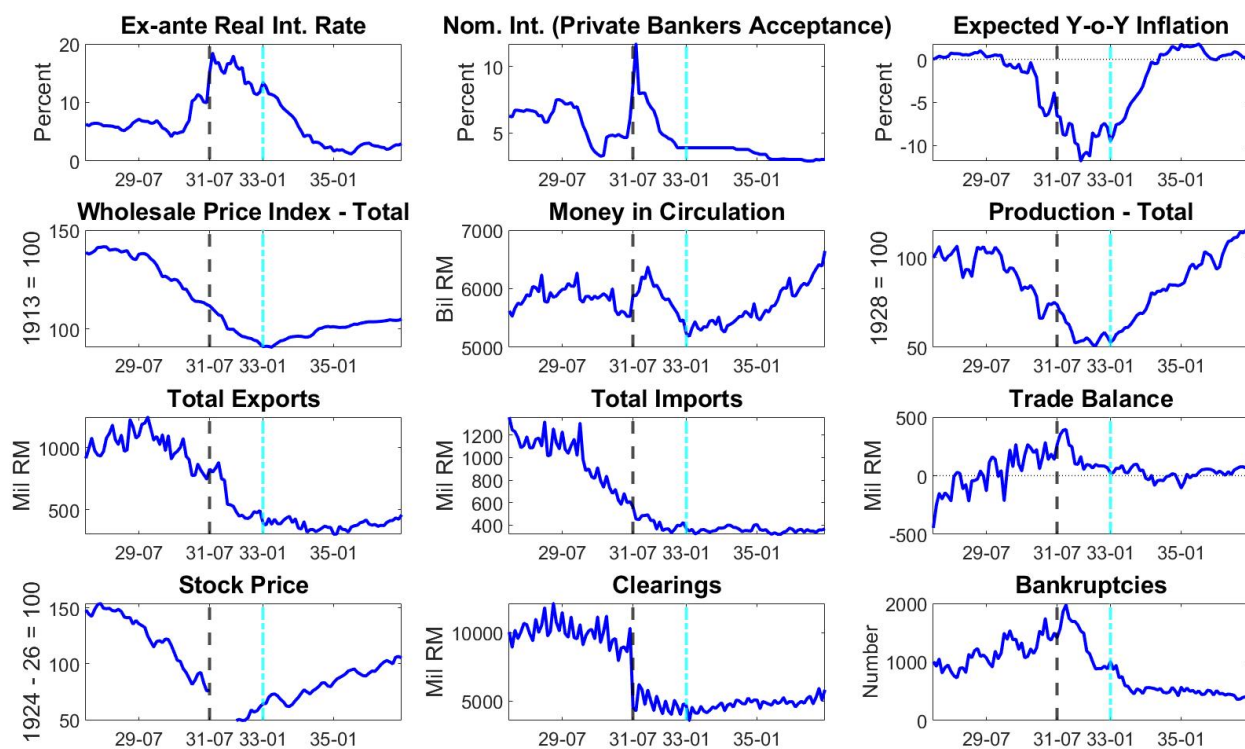
October 1931: official suspension of gold standard and devaluation

D.13 France



September 1936: devaluation

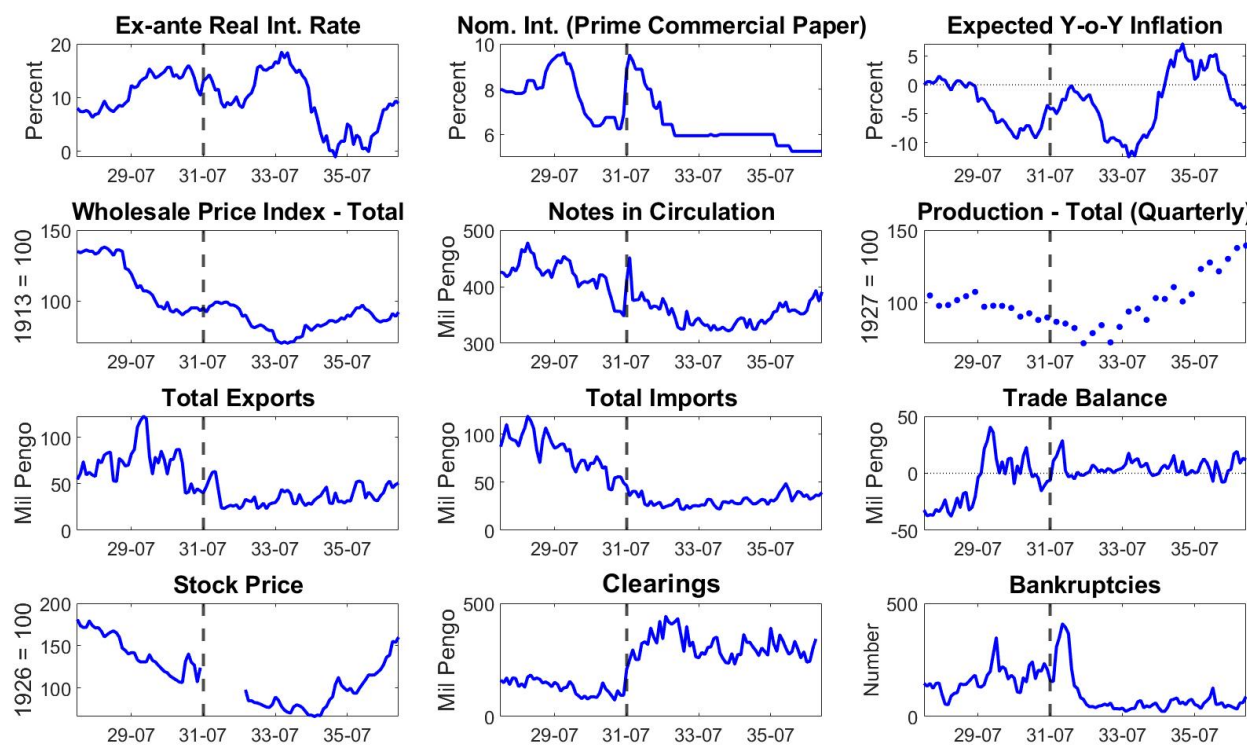
D.14 Germany



July 1931: exchange control

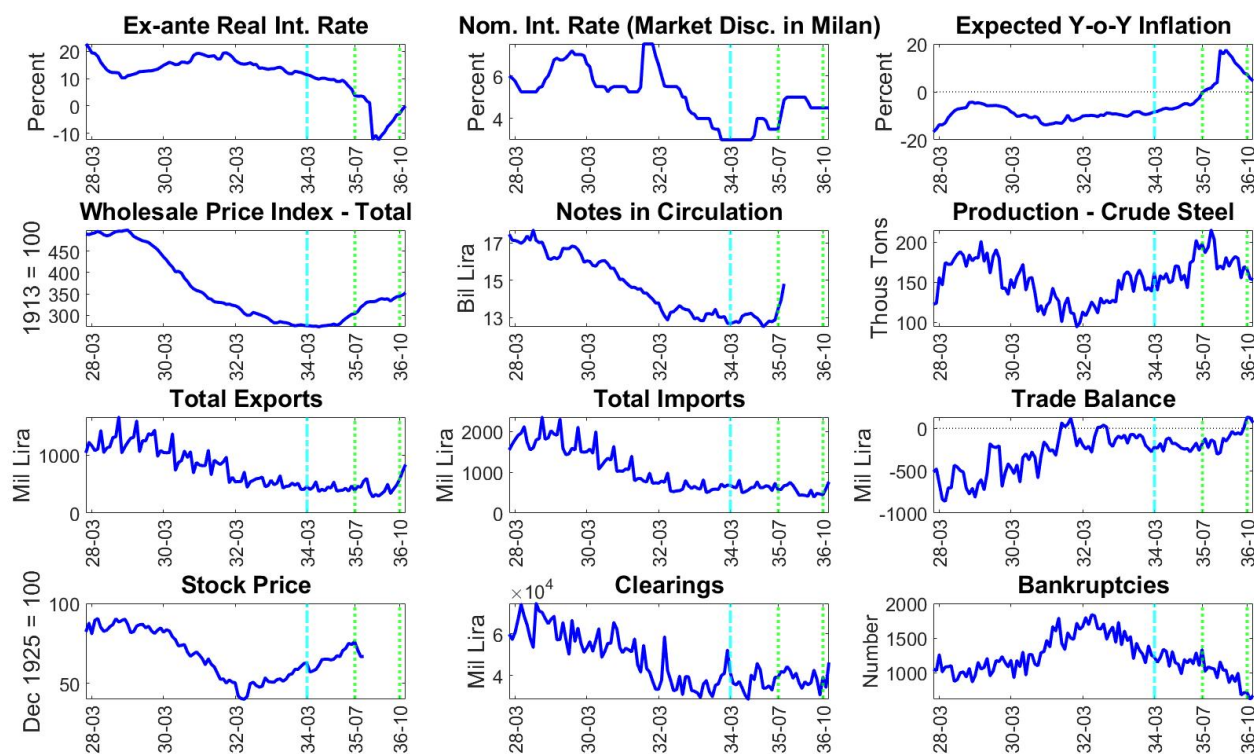
January 1933: Adolf Hitler's rise to power

D.15 Hungary



July 1931: exchange control

D.16 Italy

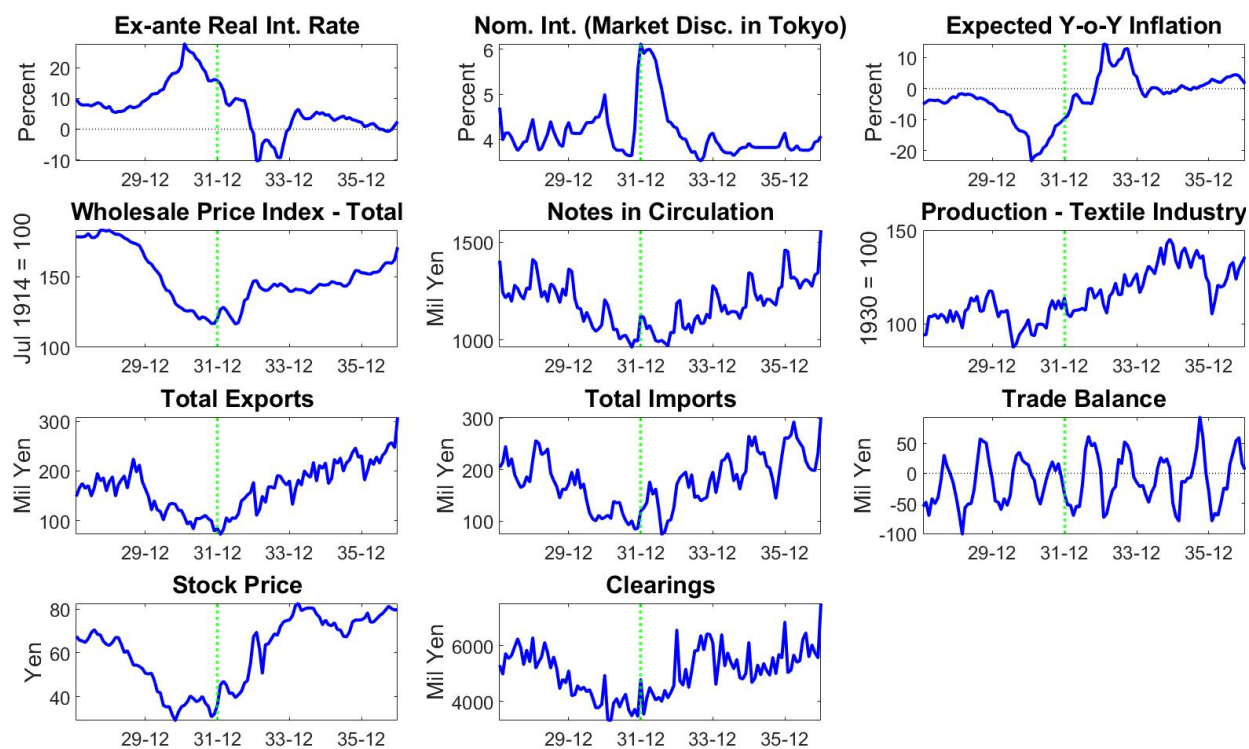


March 1934: devaluation

July 1935: abolition of 40% reserve requirement for paper money

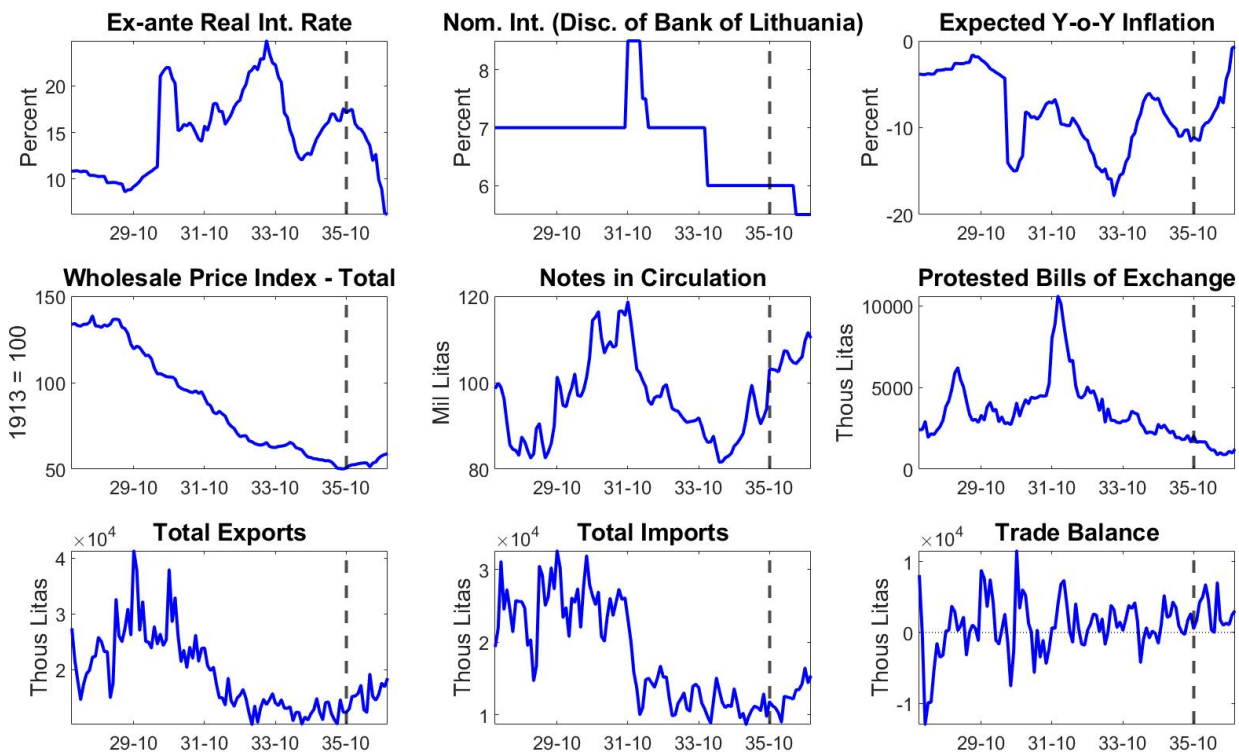
October 1936: devaluation

D.17 Japan



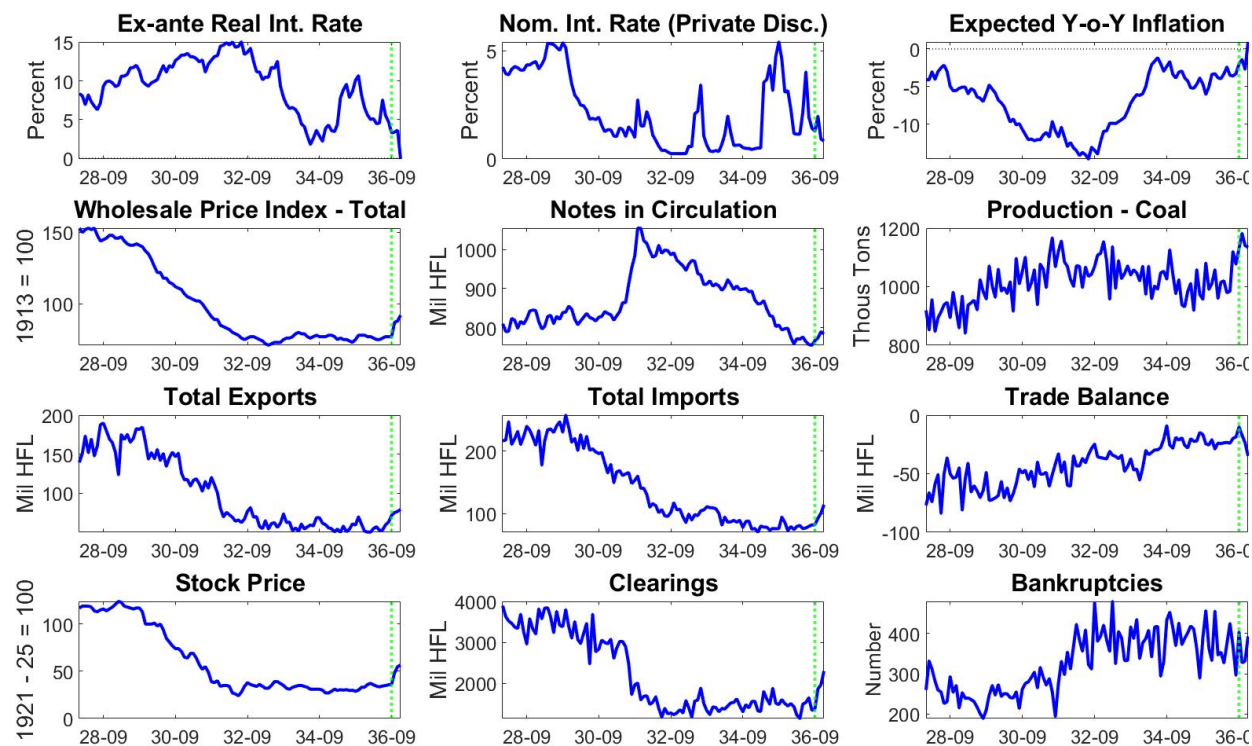
December 1931: official suspension of gold standard and devaluation

D.18 Lithuania



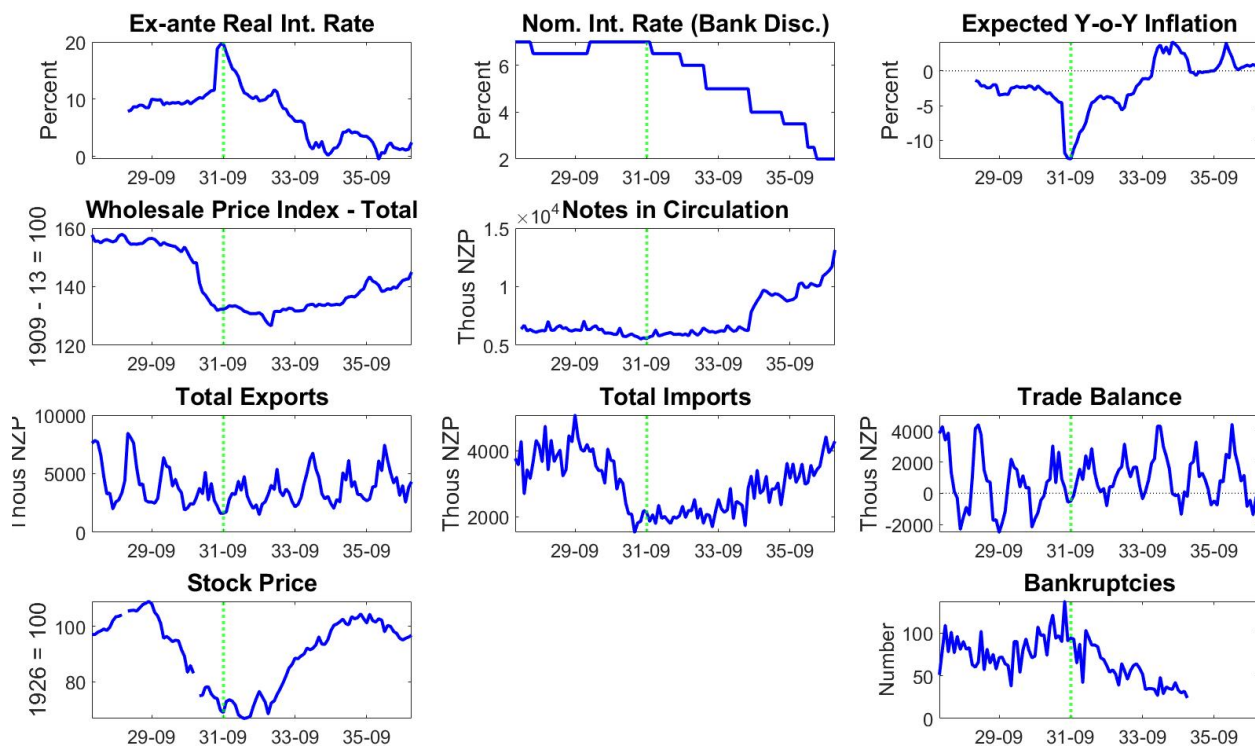
October 1935: exchange control

D.19 Netherlands



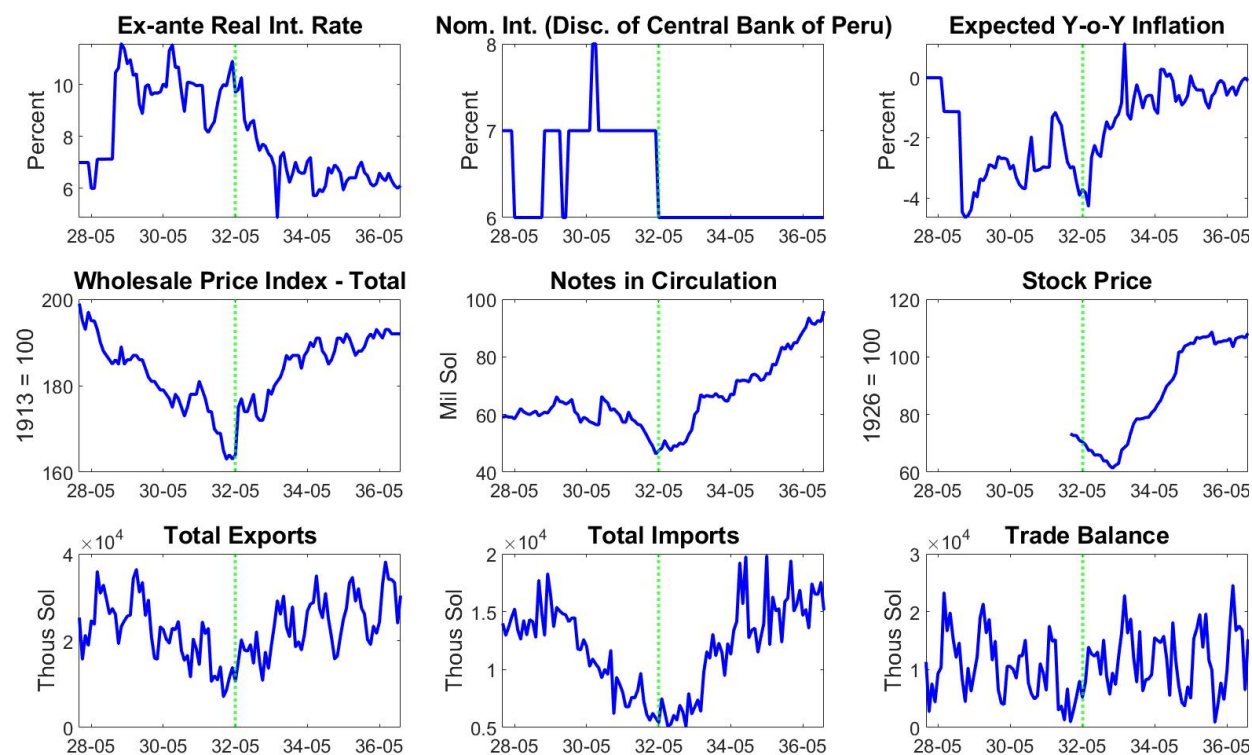
September 1936: official suspension of gold standard and devaluation

D.20 New Zealand



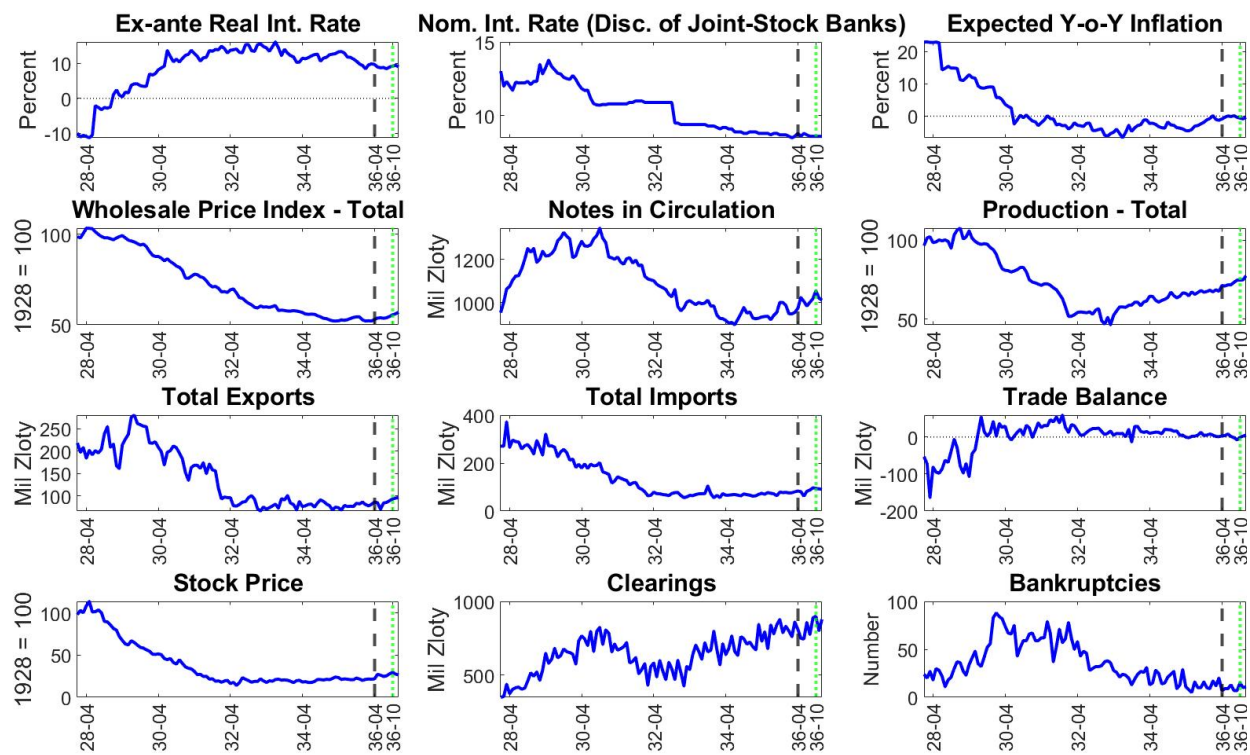
September 1931: official suspension of gold standard

D.21 Peru



May 1932: official suspension of gold standard and devaluation

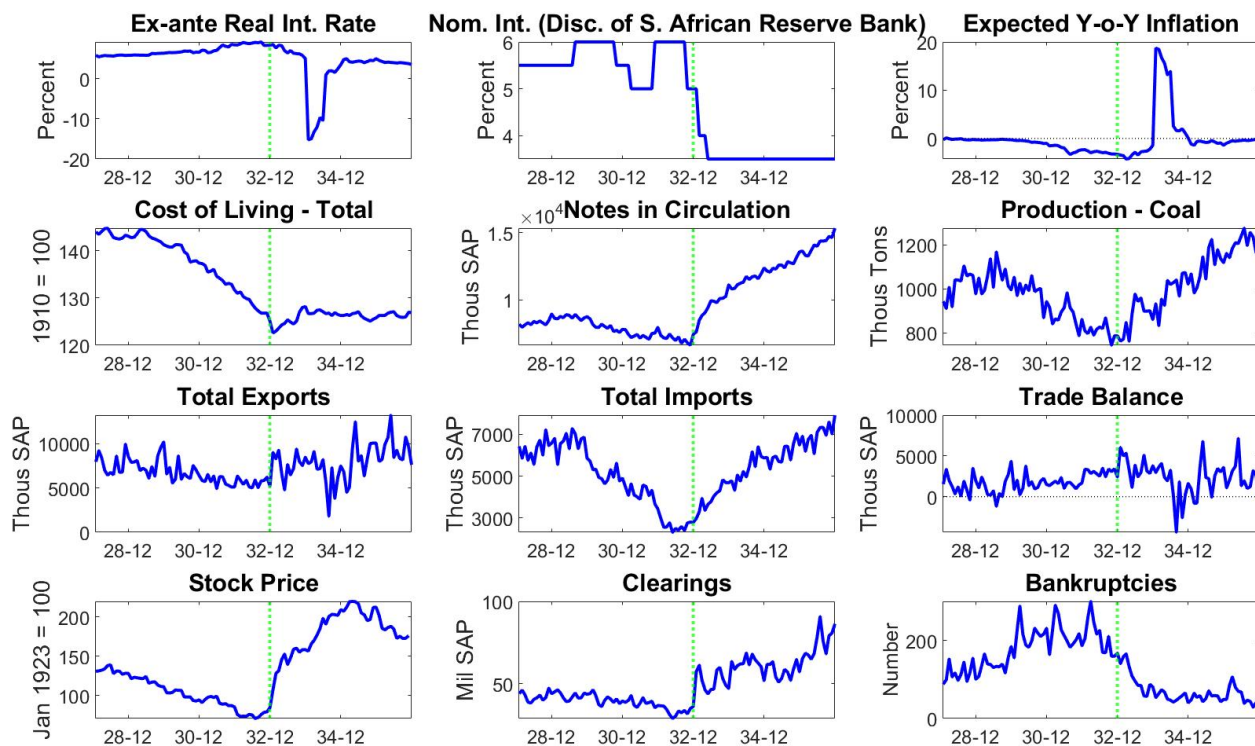
D.22 Poland



April 1936: exchange control

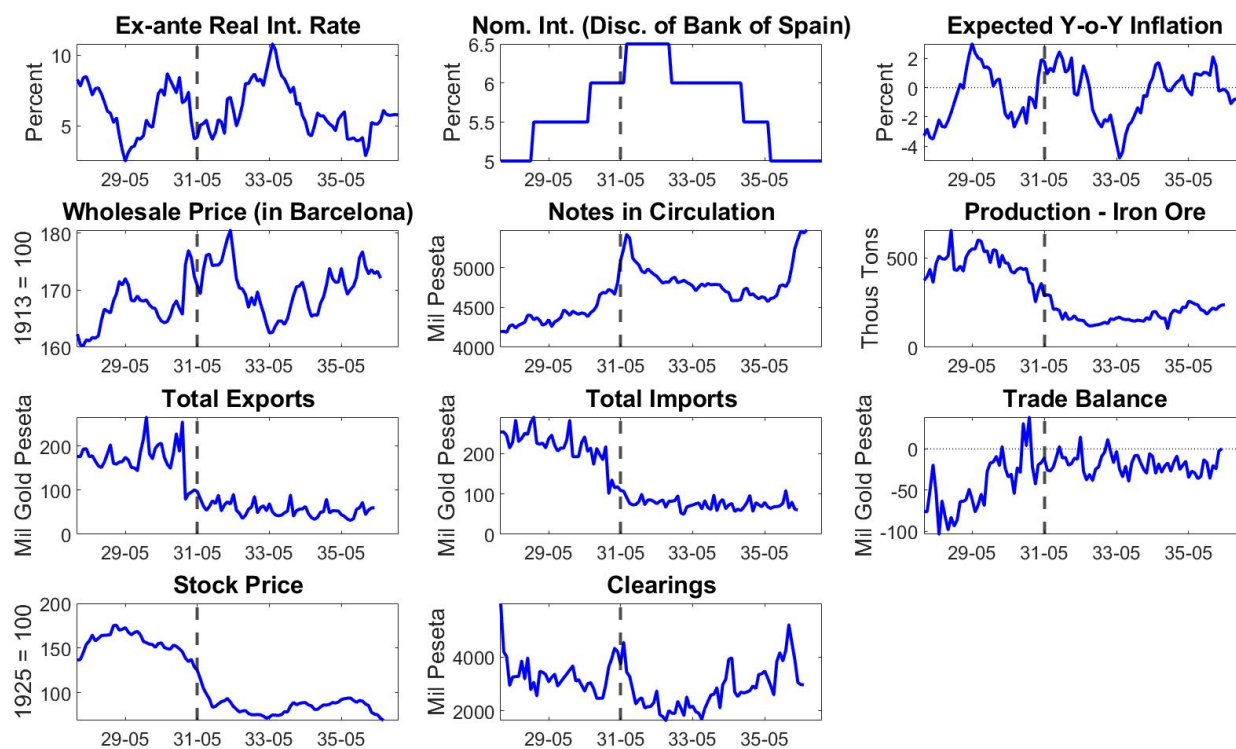
October 1936: devaluation

D.23 South Africa



December 1932: official suspension of gold standard

D.24 Spain

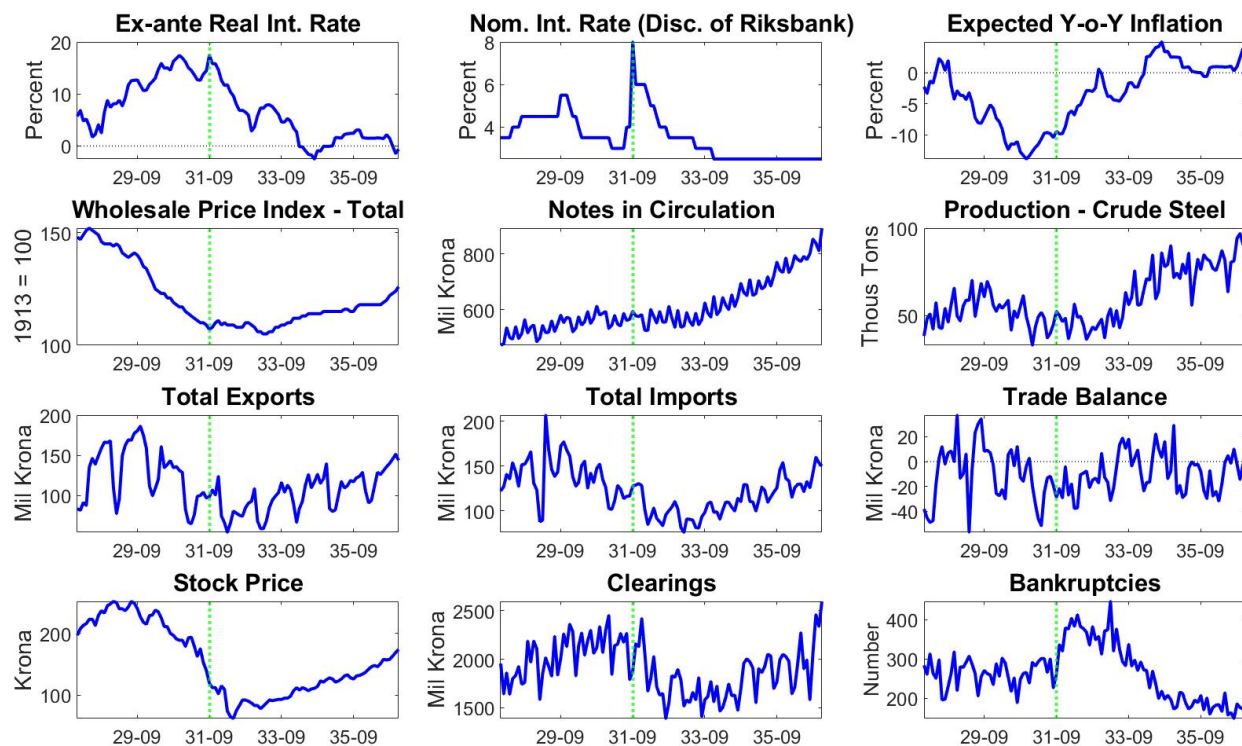


May 1931: exchange control

Spain did not return to gold standard after World War I.

Data are incomplete due to civil war that started in July 1936.

D.25 Sweden



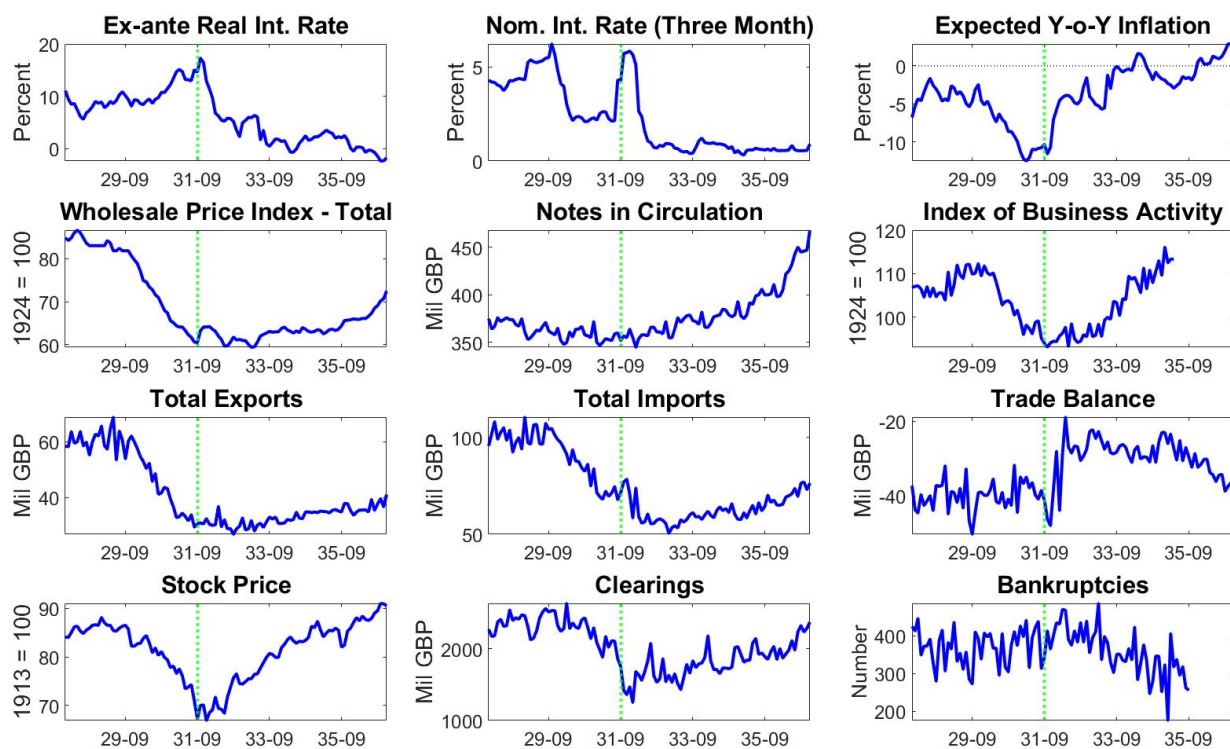
September 1931: official suspension of gold standard and devaluation

D.26 Switzerland



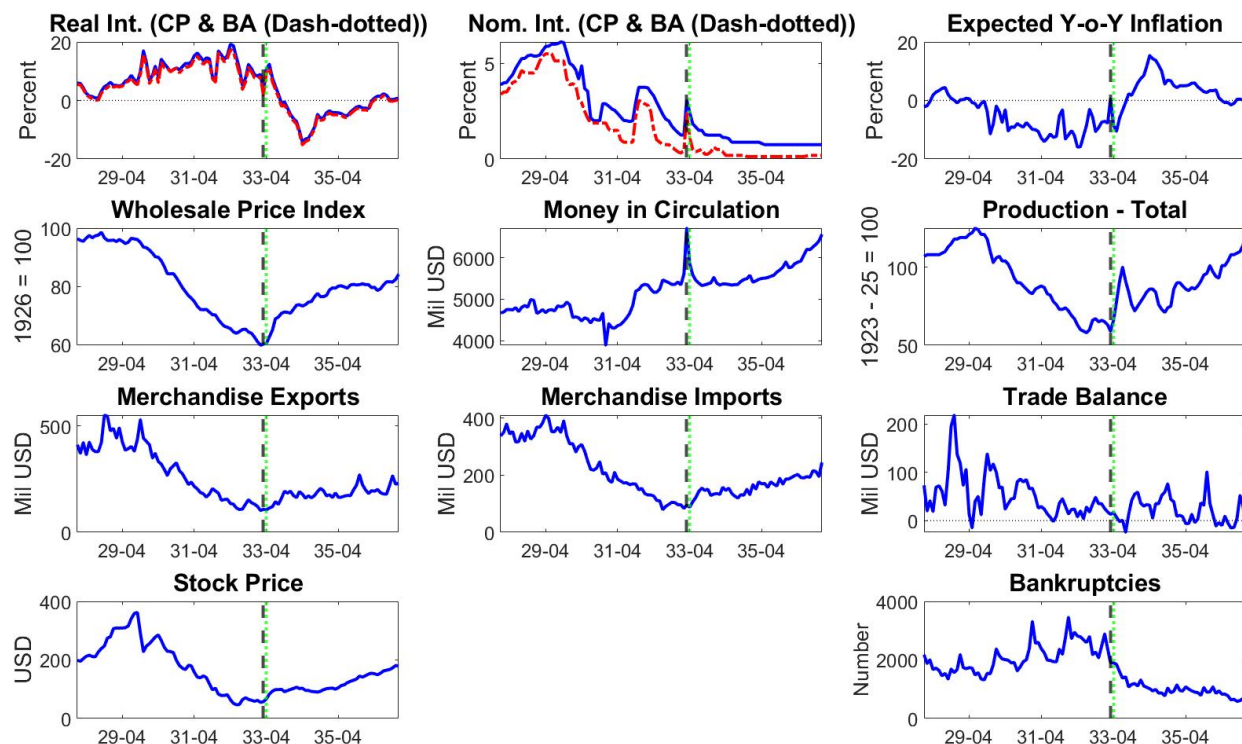
September 1936: devaluation

D.27 United Kingdom



September 1931: official suspension of gold standard and devaluation

D.28 United States



CP: prime commercial paper rate (blue solid)
 BA: New York banker's acceptance rate (red dash-dotted)
 March 1933: exchange control (black vertical dashed line)
 April 1933: official suspension of gold standard and devaluation

E Dating departures for New Zealand and Group C

In Australia and New Zealand private banks managed the exchange rate, which was quoted as a premium or a discount vis à vis sterling; Drummond (1981, p. 100) comments that people in the two countries tended to assume that a pound was a pound wherever it had been issued, and that while prior to 1925 “the premiums and discounts had sometimes been sizable”, “this had appeared unnatural.” Faced with chronic balance of payments problems, in December 1929 the Australian government introduced legislation allowing it, operating in conjunction with the Commonwealth Bank, to require that other banks disclose their gold holdings; to require that gold be exchanged for Australian notes; and to ban the export of gold. The League of Nations (1937, p. 16) regarded this as an official suspension of the gold standard, but that was not how the government viewed it. The following month, faced with further gold losses, the Bank exercised its right to requisition gold holdings, and Schedvin (1988, p. 125) writes that “There is little doubt that the gold standard was, in fact, abandoned” then – but the authorities had chosen this option, rather than the alternative of banning gold exports, precisely because the latter would have been seen as unequivocally abandoning the gold peg. Schedvin argues that trying to keep the “myth” of gold standard adherence alive made sense, and that the myth persisted until mid-1930 (p. 126).

The Australian pound had been slipping in value relative to sterling since October 1929 but as mentioned earlier there was nothing unusual about this. By April 1930 it was 6% below par and there was a further modest devaluation in October to 9% below par. But it was the abrupt movement to 30% below par in January 1931 (Figure E.1) that in the eyes of most commentators marked the real devaluation (Eichengreen, 1992, pp. 235-6; Schedvin, 1988, pp. 164-8). Writing on January 10, *The Economist* commented approvingly that “now that a more nearly “true” exchange rate has been established, the normal economic forces should come into play.”⁶ It seems reasonable to date Australia’s departure to this date, although it should be noted that the exchange rate remained pegged against sterling at a new lower rate for the best part of a year. Indeed, in February the newly elected Premier of New South Wales urged “the abandonment of the gold standard”, a course of action that was opposed by the Chairman of the Commonwealth Bank in the following month (Brown, 1940, pp. 877-8). One could therefore also argue that it was sterling’s departure from gold in September that marked the real rupture in the Australian case: Table 1 lists both January and September 1931 as potential departure dates.

⁶“Australian Exchange Developments.” *Economist*, 10 Jan. 1931, p. 59+.

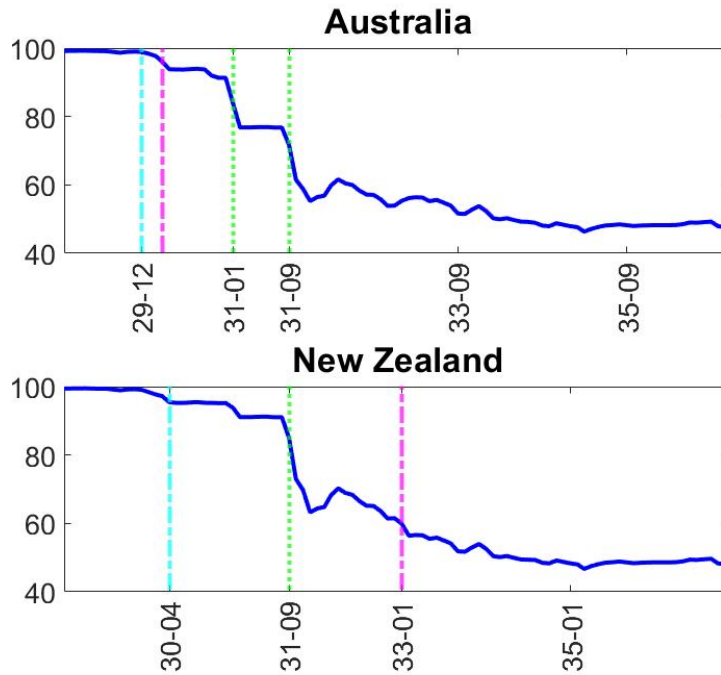


Figure E.1: Currencies' gold value (percentage of parity)

Turning to New Zealand, the country's pound gradually slipped against sterling in the early years of the depression, reaching a rate of £NZ110 to £stg100 by early 1931. The League of Nations lists a devaluation or depreciation as occurring in April 1930, and both Brown, and Obstfeld and Taylor, date New Zealand's departure to that month. But the depreciation was viewed by the banks as undesirable and, hopefully, temporary: it was also relatively minor as Figure E.1 indicates. During 1932 there were growing calls for devaluation against sterling, however, and the government finally acceded to these calls in January 1933 (Fleming, 1997; Singleton, 2003). By that time, however, sterling itself had abandoned gold: we therefore favour dating New Zealand's departure to September 1931, when the UK left, and Figure E.1 strongly suggests that this did indeed mark the real break with gold.⁷

When Austria imposed exchange controls in October 1931 the schilling was trading at a 10-15% discount on informal markets; by November the discount had risen to over 34%, a dramatic shift. By this stage, according to the official history of the Austrian Central Bank, "Policy makers did not, in actual fact, truly consider reinstating the gold parity of the schilling." When in March 1933 the government decreed that "all liabilities in gold or foreign exchange had to be settled at the intrinsic value prevailing at the contract date," this was merely an acknowledgment "that the schilling had been devalued" (Jobst and Kernbauer, 2016, pp. 180, 183; Eichengreen, 1992, p. 269). It thus seems reasonable to date Austria's

⁷September 1931 is also when the League of Nations considered New Zealand to have officially suspended the link with gold, and Kemmerer (1954) also favours a 1931 departure.

departure to October 1931, as do both Brown, and Obstfeld and Taylor, although a case could also be made for the September 1931 date favoured by Wolf (2008), by which time black market rates were already diverging from parity.

On the other hand, at the end of October 1931 the *Economist* was reporting that the Austrian government regarded the schilling as being “perfectly stable” and that it was therefore refusing to prohibit “gold clauses” in commercial invoicing (specifying that payments be made in terms of gold) since in any event such clauses were “of purely theoretical significance.”⁸ In April 1933, however, the Central Bank permitted the sale in private clearing of “all incoming foreign currencies (not only those derived from the export trade, as heretofore)”. The *Economist* commented that “The foreign exchange regulations, in fact, in so far as they apply to the compulsory exchange rate of the schilling, have been withdrawn, and it is now publicly known that the schilling has dropped by 30 to 32 per cent.” The Austrian public, it noted, was following these developments “with anxiety.”⁹ The League of Nations (1937) dated Austria’s official suspension of the gold standard to this month, and it seems that the official recognition of what had become de facto reality, combined with the abandonment of the remaining legislative props to the gold standard, may have mattered for expectations. We therefore consider two potential departure dates for Austria: October 1931 and April 1933.

Czechoslovakia imposed exchange controls in October 1931, and then devalued against gold in both February 1934 and October 1936. We consider both of these dates, although Eichengreen notes that the first devaluation “was not used as an occasion to expand domestic credit” (Eichengreen, 1992, p. 365). Finally, Italy is listed by the League of Nations as having depreciated or devalued in March 1934, and two months later exchange controls were introduced. In May 1935 the *Sovrintendenza allo scambio delle valute* was created, for the purpose of managing foreign exchange.¹⁰ A greater turning point, in terms of what matters to us, arguably came in July 1935 when the 40% reserve requirement regarding paper money was abolished, allowing the government to monetise a greater portion of its budget deficits. In Luigi Einaudi’s view the shift meant that the future of the lira would no longer be determined by gold reserves, since these could now be replaced by government paper, but by the supply of and demand for the currency. The lira remained overvalued, however, and the gold standard was definitively abandoned in October 1936 (Toniolo, 1980, pp. 290, 293–5; Fratianni and Spinelli, 1997, pp. 153–4). We consider both July 1935 and October 1936 as candidate dates.

⁸“Austria.” *Economist*, 31 Oct. 1931, p. 807+.

⁹“Austria.” *Economist*, 22 Apr. 1933, p. 862+.

¹⁰We are grateful to Gianni Toniolo for pointing this out to us.

F Yield curve evidence from the US and UK

The travails of President Roosevelt in 1933 place the United States in our Group B of countries that abandoned the gold standard in stages.¹¹ Our estimated dynamic factor model nevertheless identifies a clear takeoff in expected inflation in early 1933.¹² In this appendix we fact-check this result against evidence from US bond markets. It is well-known that bond term premia have predictive power for future economic activity, so if expectations of future inflation were really revised upwards in 1933 then we would expect to see that also reflected in bond term premia.¹³ The results are shown in Figure F.1. We measure the bond term premium as the difference between the yield to maturity on 10 and 3-year zero coupon government bonds, as estimated for the US by Hall and Sargent (2011).

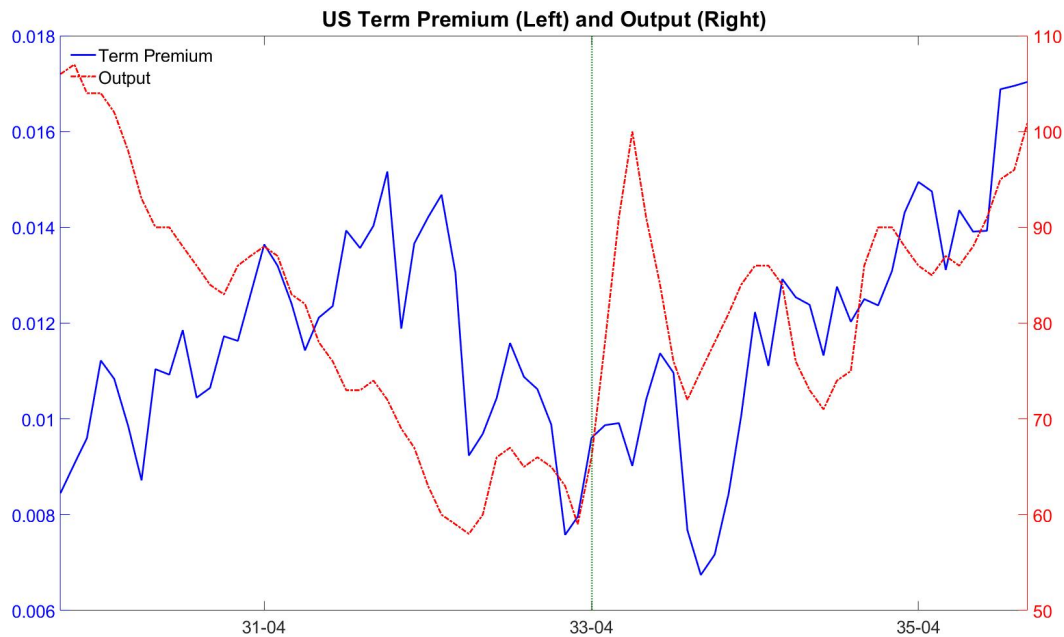


Figure F.1: Term premium and output in the US

The trends in the US bond term premium in Figure F.1 are consistent with our dynamic factor model estimates and our narrative that leaving the gold standard was instrumental in shifting expectations. The term premium narrowed with the deflationary expectations of 1932 and early 1933, only starting to widen from April 1933 onwards as bond markets priced

¹¹Edwards (2018) provides an entertaining narrative account of events at this time.

¹²See Figure 8.

¹³Bond term premia have predictive power for future economic activity under the expectations hypothesis of the term structure of interest rates, where long rates are a function of current and future expected short rates. If expectations of future inflation and output are revised upwards then the term premia on long bonds should increase, as bond market participants expect that the yield on short bonds will rise in the future as the monetary authority responds to inflationary pressures. See Estrella and Mishkin (1997) for more.

in increased expectations of future inflation. There is a temporary reversal in the bond term premium at the beginning of 1934, but the broad picture that emerges is one of a V-shaped evolution in both the bond term premium and output, with the bottom of the V occurring around the time the US left the gold standard.

The corresponding analysis for the UK is in Figure F.2, which plots the term premium implied by estimates of the yields on 3 and 10-year zero coupon government bonds from Ellison and Scott (2020). The bond term premium narrowed in the run up to the UK leaving the gold standard in September 1931, as it did in the US before their departure in April 1933. However, the post-departure experience of the UK was notably different. The term premium remained relatively compressed until the Lausanne Conference in July 1932 and the cancellation of the Young Plan in August 1932, at which point it widened dramatically.¹⁴ The evidence from the term premium therefore departs from our dynamic factor model estimates in Figure 3, which describe a pronounced increase in expected inflation late in 1931. Our dynamic factor model suggests that leaving the gold standard had a more immediate and unambiguous impact on UK expectations than appears to be the case from bond market evidence.

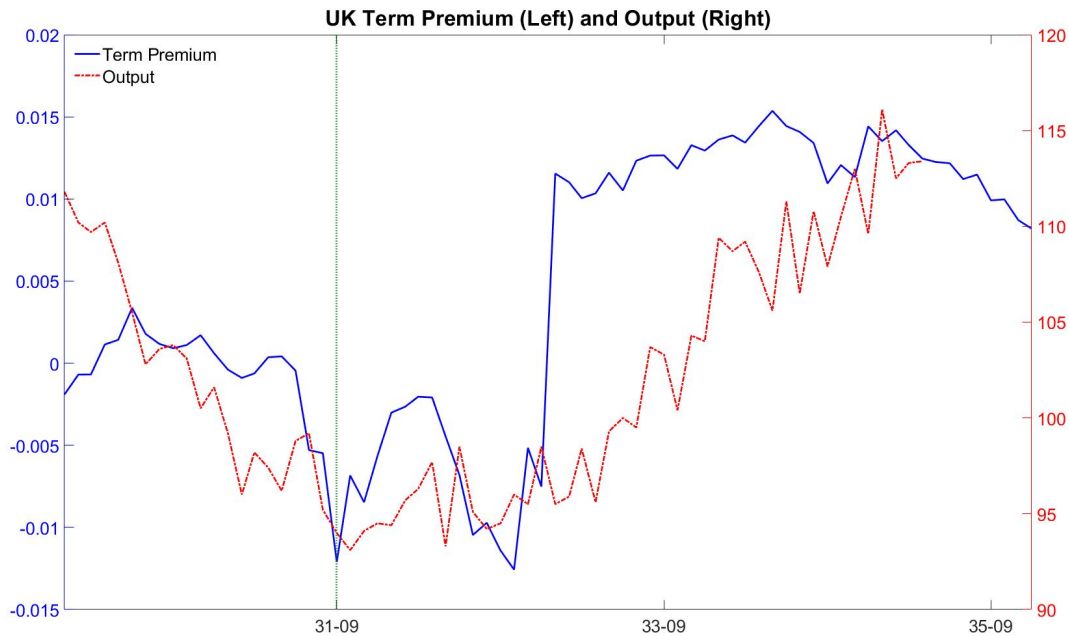


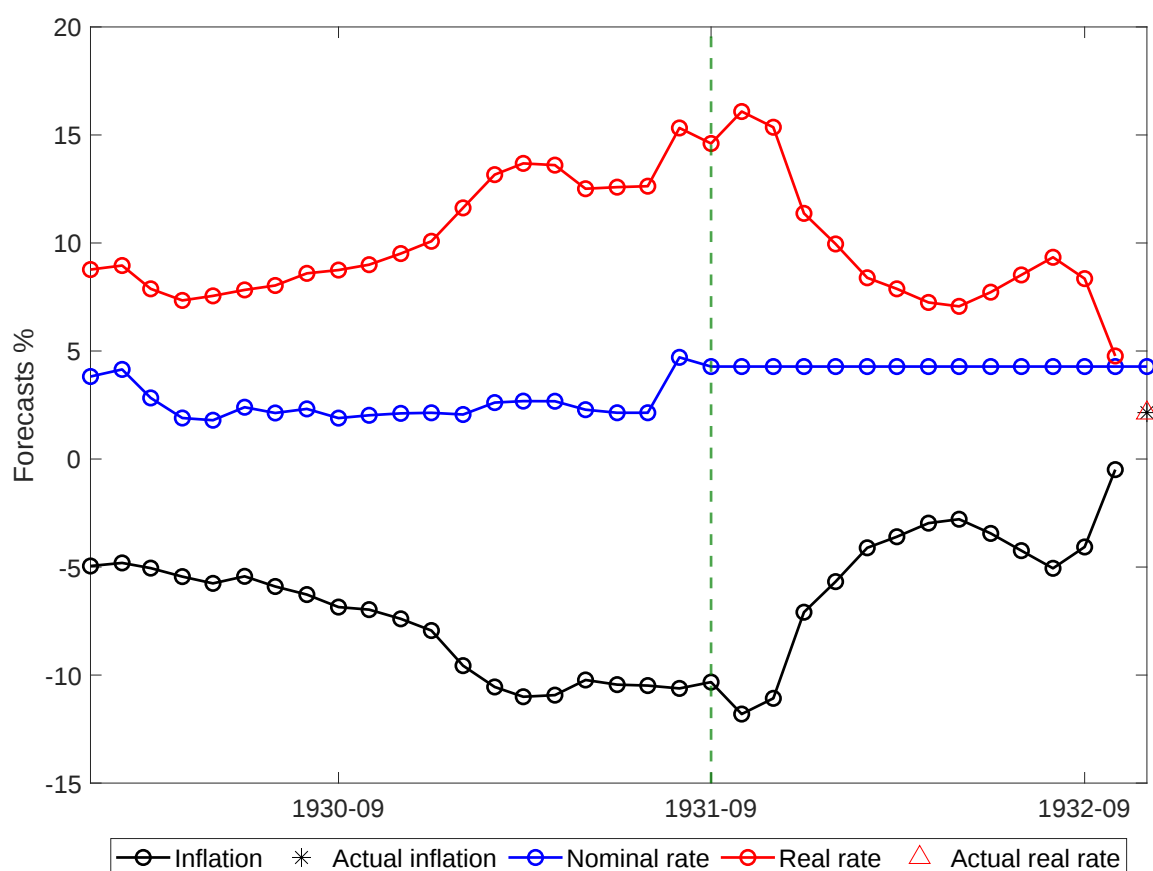
Figure F.2: Term premium and output in the UK

¹⁴Ellison et al. (2019) discuss the Lausanne Conference and the Young Plan from a UK perspective.

G Further results by country

G.1 UK

The fixed target date is September 1932, one year after leaving the gold standard. The nominal interest rate in the 12 months to September 1932 is known as of September 1931, so there is no distinction between the forecast and realised values of the nominal rate from September 1931 onward. The expected inflation in the 12 months to September 1932, hence real interest rate, continues to evolve until November 1932 due to the two-month delay in the price data release.



G.2 US

The fixed target date is April 1934, one year after leaving the gold standard. The nominal interest rate in the 12 months to April 1934 is known as of April 1933, so there is no distinction between the forecast and realised values of the nominal rate from April 1933 onward. The expected inflation in the 12 months to April 1934, hence real interest rate, continues to evolve until June 1934 due to the two-month delay in the price data release.

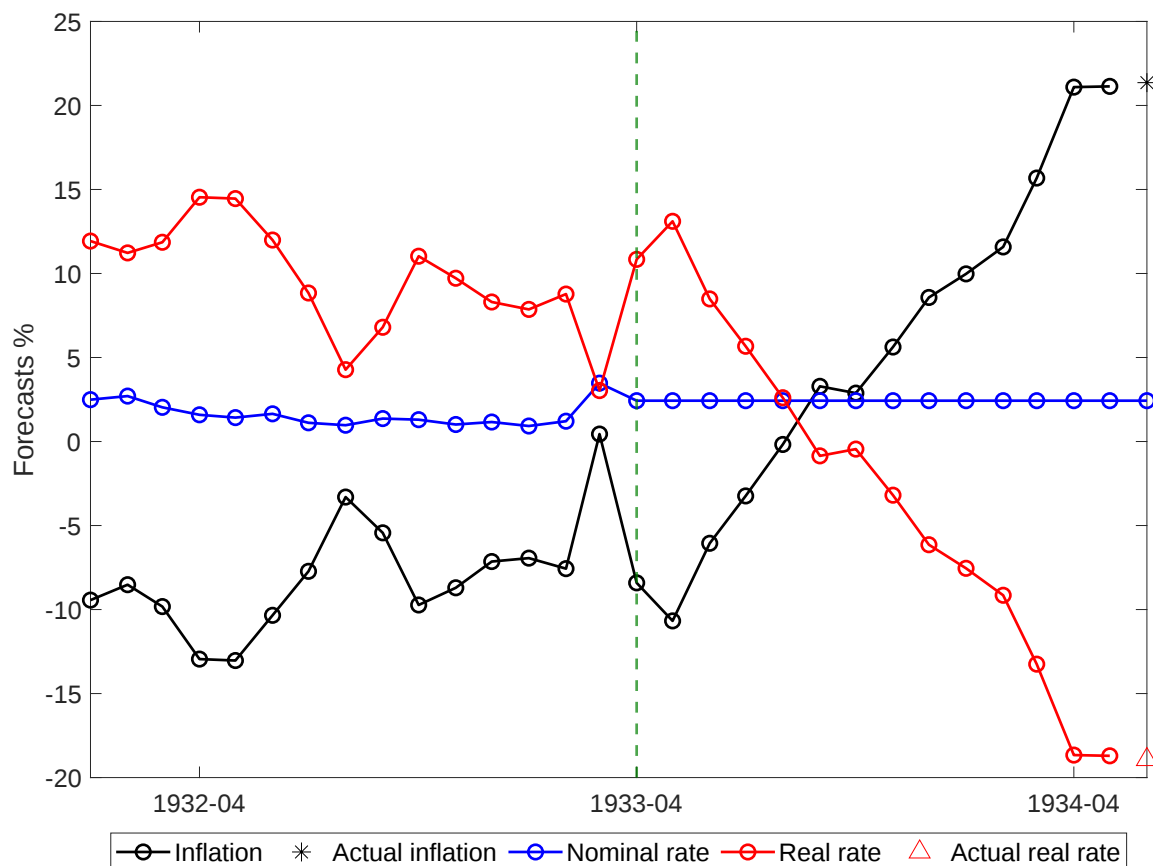


Figure G.2: Real-time forecasts of US inflation, nominal interest rate and real interest rate in the 12 months to April 1934.

G.3 Germany

The fixed target date is January 1934, one year after Hitler's accession to power. The nominal interest rate in the 12 months to January 1934 is known as of January 1933, so there is no distinction between the forecast and realised values of the nominal rate from January 1933 onward. The expected inflation in the 12 months to January 1934, hence real interest rate, continues to evolve until March 1934 due to the two-month delay in the price data release.

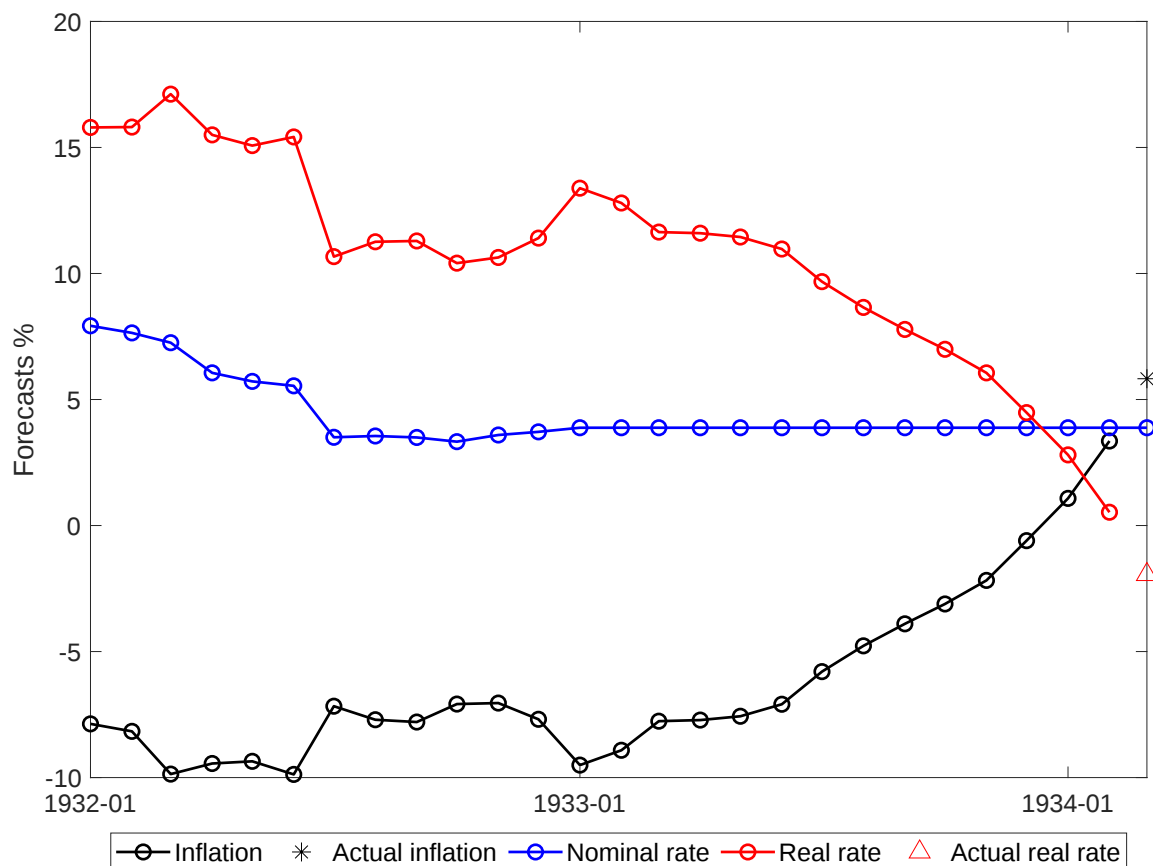


Figure G.3: Real-time forecasts of Germany inflation, nominal interest rate and real interest rate in the 12 months to January 1934.

H Further cross-country comparisons

H.1 Simple tests

The simple tests ask whether the change in a variable after a country left gold is significantly different from zero. For a cross-section of countries, we conduct hypothesis tests at different horizons under the null hypothesis of no change in a variable relative to its average in the three months prior to leaving. The results are in Table [H.1](#), where each row reports a separate test for n months after leaving, with n varying from 6 months before to 12 months after. The columns of each row report the mean change in 12-month ahead expected inflation $\Delta\pi^e$, nominal interest rate Δi , real interest rate $\Delta(i - \pi^e)$, prices $100\Delta\log P$ and output $100\Delta\log Y$ relative to their average values in the three months before departure, with p-values derived from the appropriate student's t-distribution. The final row gives the number of countries for which data are available for each variable. For example, expected inflation after three months was on average 2.53 percentage points higher than it was over the three months before leaving in the 12 countries for which data are available, with a p-value of 0.01.

The text in Section VII highlights a significant rise in the real interest rate on departure and after one month (1.62 and 1.72 respectively in Table [H.1](#), both with p-values less than 0.05) but a significant fall after three months all the way out to 12 months (-2.07 at three months and even more negative in all subsequent rows, all with p-values less than 0.01).

Months after	$\Delta\pi^e$		Δi		$\Delta(i - \pi^e)$		$100\Delta\log P$		$100\Delta\log Y$	
departure	<i>mean</i>	<i>p</i>	<i>mean</i>	<i>p</i>	<i>mean</i>	<i>p</i>	<i>mean</i>	<i>p</i>	<i>mean</i>	<i>p</i>
-6	-1.29	0.20	-0.14	0.24	1.01	0.32	3.47	0.00	3.02	0.28
-5	-0.75	0.37	-0.17	0.20	0.35	0.66	3.11	0.00	2.73	0.06
-4	-0.20	0.76	-0.19	0.18	-0.18	0.77	1.94	0.00	3.30	0.12
-3	0.42	0.40	-0.21	0.17	-0.62	0.24	0.65	0.00	0.41	0.75
-2	-0.42	0.19	-0.14	0.15	0.28	0.37	0.01	0.94	0.62	0.53
-1	0.00	0.99	0.35	0.09	0.34	0.52	-0.66	0.00	-1.03	0.32
0	-0.52	0.29	0.97	0.07	1.62	0.02	-0.46	0.28	1.79	0.18
+1	-0.93	0.13	0.84	0.07	1.72	0.03	4.08	0.02	3.43	0.37
+2	0.21	0.67	0.68	0.18	0.49	0.46	6.28	0.00	7.06	0.24
+3	2.53	0.01	0.67	0.19	-2.07	0.05	6.90	0.00	9.60	0.21
+4	4.29	0.00	0.56	0.24	-3.88	0.00	6.27	0.01	5.79	0.35
+5	5.10	0.00	0.39	0.40	-4.81	0.00	6.10	0.01	7.30	0.16
+6	5.04	0.00	-0.05	0.87	-5.14	0.00	5.62	0.02	8.26	0.12
+7	5.24	0.00	-0.09	0.77	-5.54	0.00	4.99	0.05	4.00	0.52
+8	5.84	0.00	-0.31	0.24	-6.31	0.00	5.14	0.05	6.94	0.25
+9	6.24	0.00	-0.45	0.10	-6.82	0.00	5.48	0.06	5.83	0.34
+10	7.11	0.00	-0.46	0.10	-7.57	0.00	6.04	0.04	4.76	0.53
+11	7.99	0.00	-0.53	0.08	-8.56	0.00	6.98	0.03	6.77	0.36
+12	8.77	0.00	-0.65	0.03	-9.53	0.00	7.53	0.02	7.64	0.32
<i>N</i>	12		11		11		12		7	

Table H.1: The average change after leaving the gold standard for a cross-section of countries, at different horizons. *mean* and *p* are average change and p-value (two-sided), respectively.

H.2 Nonparametric tests

The simple tests may be susceptible to outliers, for example according to Romer (1993) the US recovery was exceptional. To address this, we abstract from the magnitude of changes and take a nonparametric approach that instead tests whether variables rise or fall before and after a country leaves the gold standard. To perform the test, we simply count the number of countries for which a variable is higher n months after leaving. Under the null hypothesis that a variable is independently and equally likely to rise or fall in each country, the count statistic has a binomial distribution with the success probability of 0.5, and we can calculate its p-value. The results are in Table H.2, with each row as before presenting results for n months after departure. Reading across the +3 row for the change after two months relative to the average in the three months before leaving, in 11 out of 12 countries expected inflation was higher, in 5 out of 11 the nominal interest rate was higher, in 2 out of 11 the real interest rate was higher, in 10 out of 12 prices were higher and in 5 out of 7 output was higher. The associated p-values are 0.00, 0.23, 0.03, 0.02 and 0.16.

Section VII notes that it is highly unlikely to see the real interest rate falling after leaving in all 11 countries, if rising and falling are independently equally likely. It is based on the counts $\#$ in the $\Delta(i - \pi^e)$ column of Table H.2 being zero from +4 onward, with p-values < 0.01 .

Months after	$\Delta\pi^e$		Δi		$\Delta(i - \pi^e)$		$100\Delta\log P$		$100\Delta\log Y$	
departure	#	p	#	p	#	p	#	p	#	p
-6	4	0.12	1	0.01	8	0.08	12	0.00	4	0.27
-5	5	0.19	1	0.01	7	0.16	11	0.00	5	0.16
-4	5	0.19	1	0.01	6	0.23	11	0.00	5	0.16
-3	8	0.12	2	0.03	3	0.08	9	0.05	5	0.16
-2	5	0.19	1	0.01	5	0.23	7	0.19	5	0.16
-1	4	0.12	4	0.16	8	0.08	0	0.00	2	0.16
0	5	0.19	6	0.23	7	0.16	4	0.12	6	0.05
+1	3	0.05	5	0.23	7	0.16	9	0.05	4	0.27
+2	6	0.23	5	0.23	6	0.23	10	0.02	4	0.27
+3	11	0.00	5	0.23	2	0.03	10	0.02	5	0.16
+4	11	0.00	5	0.23	0	0.00	9	0.05	4	0.27
+5	11	0.00	5	0.23	0	0.00	10	0.02	5	0.16
+6	12	0.00	4	0.16	0	0.00	7	0.19	5	0.16
+7	11	0.00	4	0.16	0	0.00	7	0.19	4	0.27
+8	12	0.00	4	0.16	0	0.00	7	0.19	4	0.27
+9	12	0.00	3	0.08	0	0.00	7	0.19	5	0.16
+10	12	0.00	3	0.08	0	0.00	8	0.12	4	0.27
+11	12	0.00	3	0.08	0	0.00	8	0.12	4	0.27
+12	12	0.00	2	0.03	0	0.00	10	0.02	4	0.27
N	12		11		11		12		7	

Table H.2: Number of countries $\#$ with inflation expectations, nominal interest rate, real interest rate, prices or output higher than average of three months before leaving the gold standard, at different horizons. p is probability of observing each outcome under the null that higher or lower values are independently equally likely.

H.3 Placebo tests

The simple and nonparametric tests are potentially sensitive to the presence of aggregate trends and/or shocks. If variables are rising throughout the sample period, then it is not surprising to find significant effects when comparing variables before and after leaving the gold standard. That would be true of changes after n months starting in any month, not just the months after leaving. Placebo tests speak to this by asking whether the dates on which countries left the gold standard are in some way special. We do this by (i) assigning random departure dates to each country, (ii) counting for how many countries each variable rises after their assigned departure date, and (iii) comparing the distribution of counts with the random dates to the counts with the actual dates (i.e., our dating in Table 1).

The results for the real interest rate are in Figure H.1, where the random departure dates are independently drawn from a uniform distribution with support from January 1930 to December 1935, the sample period considered in Section VIII.A. The histograms show the distribution of counts using the random dates; the red dots the counts with the actual dates from the $\Delta(i - \pi^e)$ column in Table H.2. The figure strongly suggests there is something special about the actual departure dates for the behaviour of the real interest rate, as many of the red dots are deep in the tails of the distributions. There are virtually no random draws of departure dates that see the real interest rate falling in all 11 countries +4 months and more after leaving, which happened after the actual departure dates.

The corresponding placebo test for prices is in Figure H.2, the red dots being counts with actual dates from the $100\Delta\log P$ column in Table H.2. The evidence for the actual dates being special is not as definitive as for the real interest rate, but the dots are still often well in the right tails of the distributions before and after departure (especially at -6, -5, -4, and +1 to +5 months). Furthermore, we can use the random placebo draws to calculate how likely it is that we would by chance observe prices falling then rising around the time of leaving gold, as they do in 8 of our 12 countries. If we interpret such a turnaround as prices at both -4 and +4 months being higher than the three-month average prior to departure (so prices fall and rise), then in only 3 of the 10,000 random draws did 8 or more countries exhibit a pattern turnaround in prices on leaving. This strengthens the claim that the actual departure dates are special also for price behaviour.

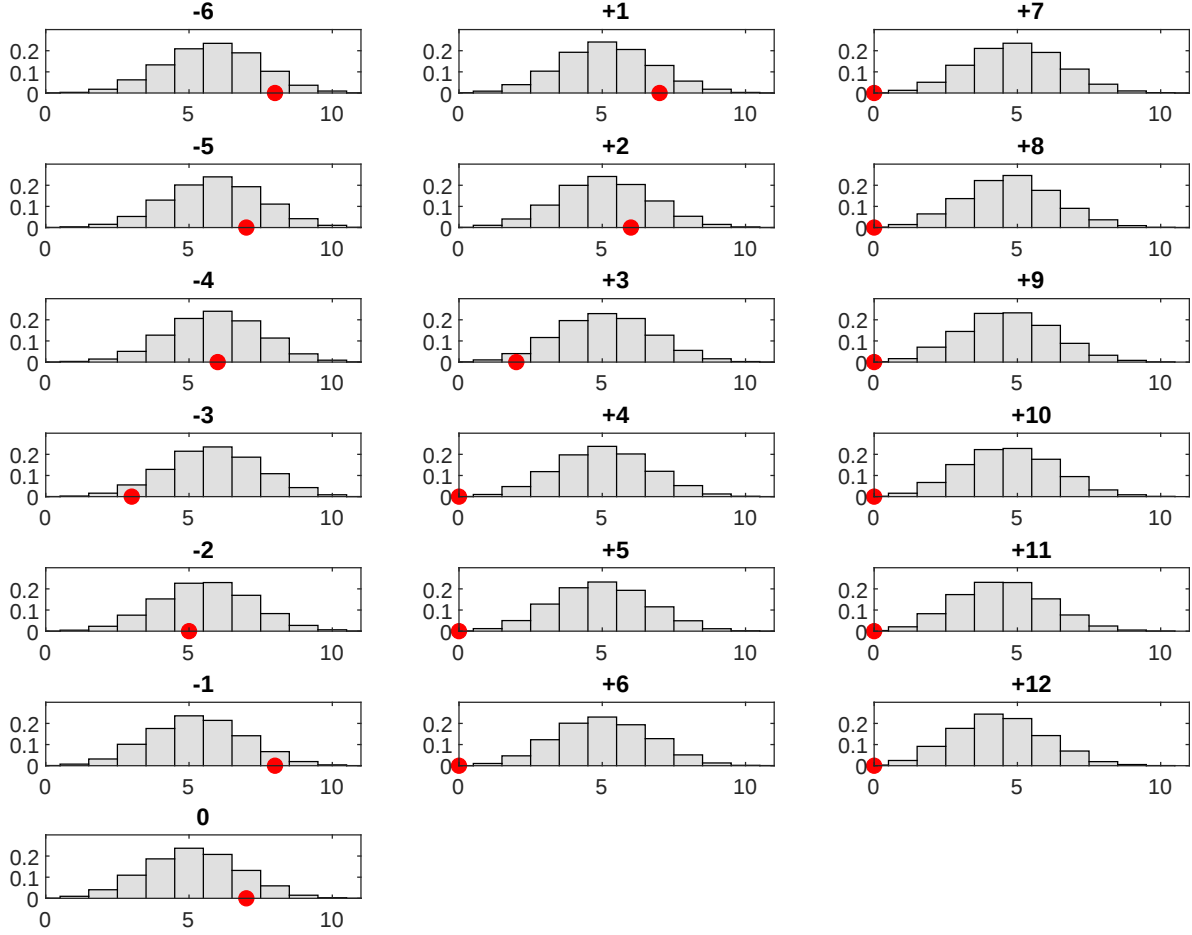


Figure H.1: Placebo test results for the real interest rate, at different horizons. Histograms are the distribution of counts of the real interest rate rising using the random departure dates; red dots are counts with the actual dates.

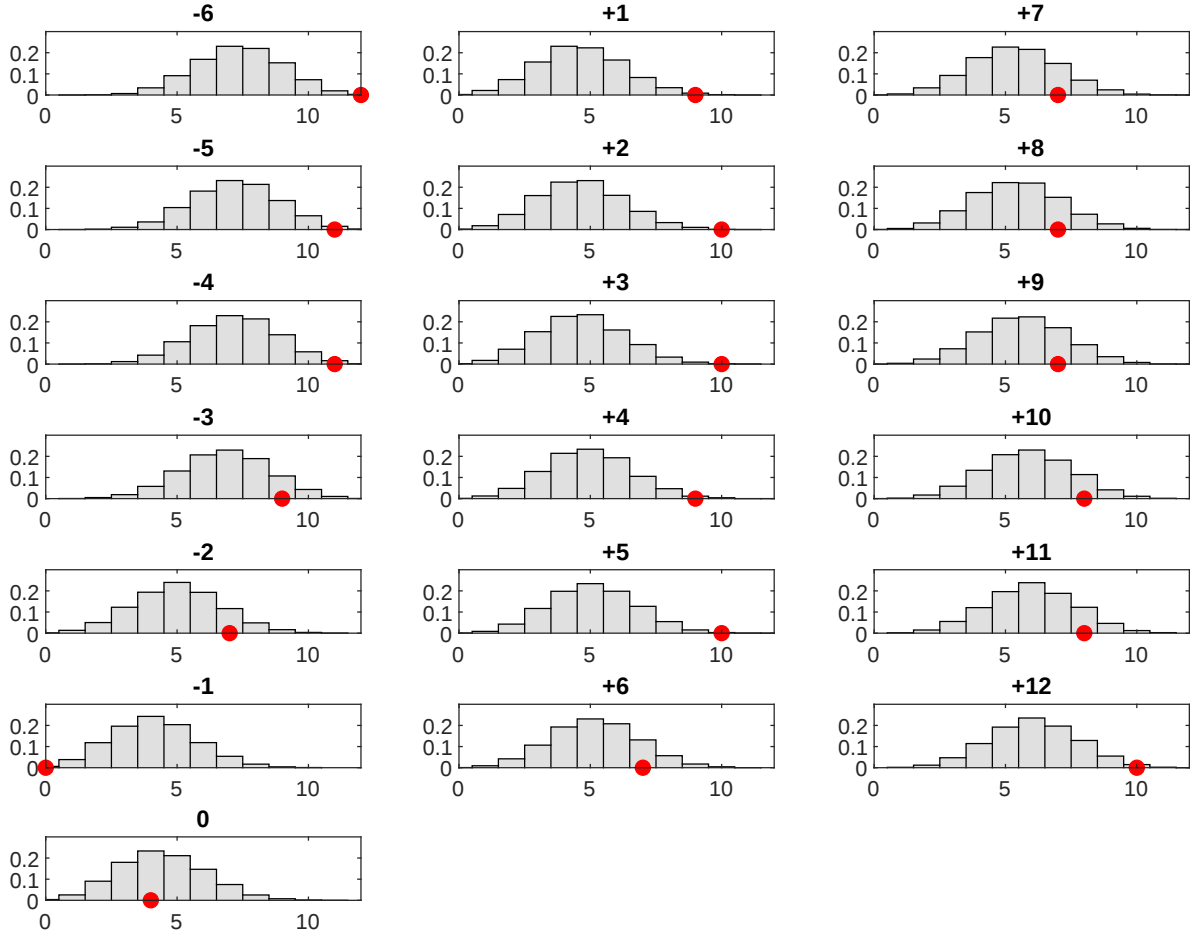


Figure H.2: Placebo test results for prices, at different horizons. Histograms are the distribution of counts of the price level rising using the random departure dates; red dots are counts with the actual dates.

I Further results on causality

I.1 Pre-departure trends

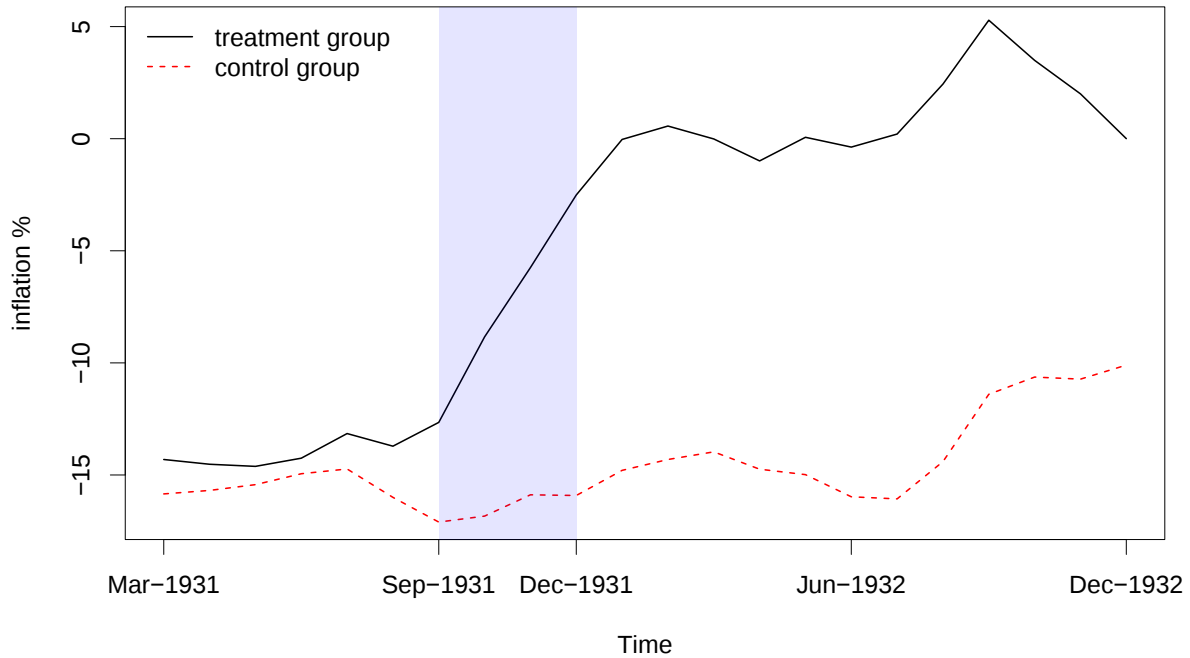


Figure I.1: Average inflation in treatment and control groups. Treatment group unambiguously left the gold standard between September 1931 and December 1931 (British India, Denmark, Finland, Japan, New Zealand, Sweden, UK). Control group unambiguously left after March 1933 (Belgium, Czechoslovakia, Dutch East Indies, Estonia, France, Italy, the Netherlands, Poland, Switzerland, US). Inflation is 12-month change in price level.

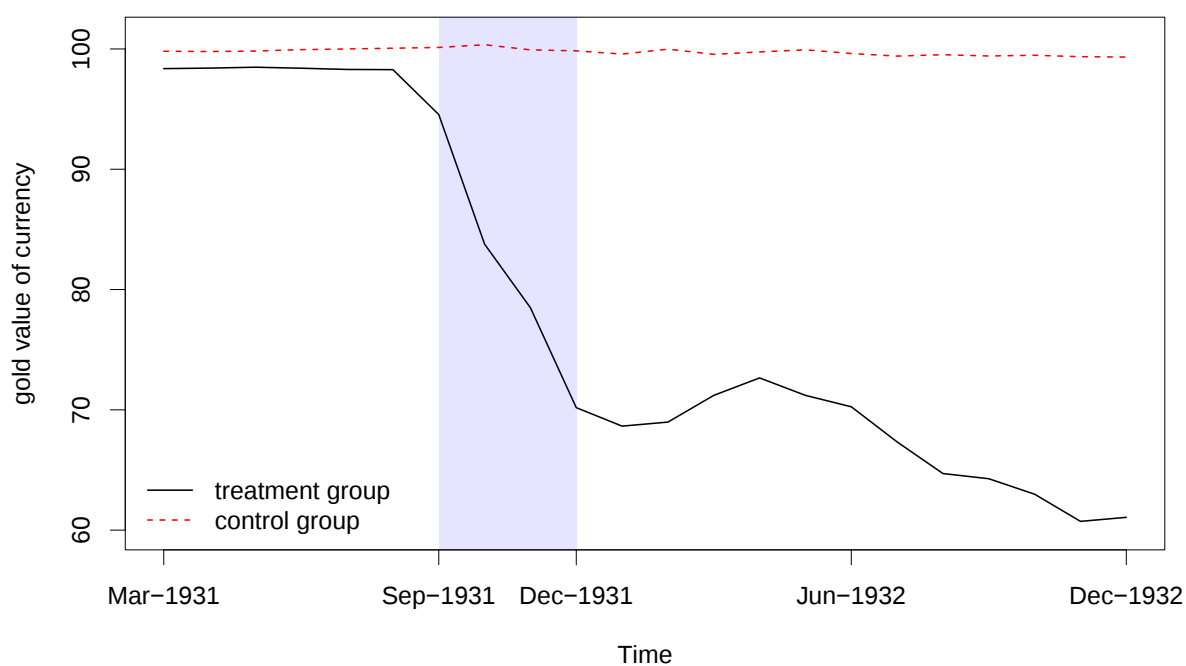


Figure I.2: Average gold price of currency in treatment and control groups. Treatment group unambiguously left the gold standard between September 1931 and December 1931 (British India, Denmark, Finland, Japan, New Zealand, Sweden, UK). Control group unambiguously left after March 1933 (Belgium, Czechoslovakia, Dutch East Indies, Estonia, France, Italy, the Netherlands, Poland, Switzerland, US). Gold value of currency is normalised to 100 for each country at its level when the country went back on gold after World War I.

I.2 Specification for estimation of synthetic controls

As explained in Section VIII.C, the synthetic control estimate of the counterfactual treatment country is based on

$$W^*(V) = \underset{W}{\operatorname{argmin}} (X_1 - X_0 W)' V (X_1 - X_0 W),$$

where the weights $W^*(V) = (w_1^*, \dots, w_J^*)'$ are such that $w_j^* \geq 0 \forall j$ and $\sum w_j^* = 1$. The treatment is the departure from the gold standard in 1931. X_1 is a $K \times 1$ vector of economic conditions in the treated country before leaving the gold standard, to be matched by a weighted average of the columns in X_0 , a $K \times J$ matrix of corresponding economic conditions in J control countries. As shown in the tables in this section and Appendix I.5, we use log population size, log GDP per capita in 1930, and four pre-departure values of the outcome variable, *ex-ante* real interest rate or realised inflation, as the economic conditions to be matched. Therefore, $K = 6$. Because we employ only the countries that were still unambiguously on the gold standard in March 1933 as control countries, $J = 9$. As the optimisation problem above indicates, W^* depends on V which reflects the relative importance of the variables in X_1 and X_0 . We follow the standard practice and select the diagonal matrix V that solves

$$V^* = \underset{V}{\operatorname{argmin}} (Z_1 - Z_0 W^*(V))' (Z_1 - Z_0 W^*(V)),$$

where Z_1 is a vector of the outcome variable for the treatment country up until the departure from the gold standard and Z_0 is a matrix that contains the same outcome variables for the J control countries. V is restricted to be a non-negative diagonal matrix. Iterating on the optimisation problem for V , conditional on W satisfying its own optimisation problem, gives V^* and W^* . Abadie (2021, p. 396-397) provides a detailed exposition on the selection procedures for V . They result in two sets of weights: W^* , applied to the control countries to construct the synthetic counterpart to the treatment country that serves as the counterfactual without the treatment (hence being our main concern); and V^* , that determines the relative importance of the economic conditions being matched for predicting the outcome variable in the period before the treatment. Because only the pre-departure values of the economic conditions and the outcome variable are used for matching, it is possible to identify the effect of the departure from gold on the outcome variable.

With $W^* = W^*(V^*)$ that solves the optimisation problems above, the synthetic counterpart that reproduces X_1 is constructed as $X_1^* = X_0 W^*$. Applying W^* to the columns of Y_0 containing the outcome variables for the control countries for the entire sample period (i.e., both pre- and post-departure periods), the synthetic outcome variable for the treatment country is constructed as $Y_1^* = Y_0 W^*$, to be compared to the actual outcome variable for the treated country Y_1 also spanning the entire sample period.

W^* for real interest rates is reported in Table 5, and W^* for inflation is reported in Appendix Table 5. X_1 and X_1^* are given under “Actual” and “Synthetic” in Appendix Tables I.2 and I.5. Y_1 and Y_1^* are plotted in Figure 13 using the same legends.

Denmark			Finland		
Control	Actual	Synthetic	Control	Actual	Synthetic
Log pop 1930	6.55	7.03	Log pop 1930	6.54	7.40
Log GDP 1930	3.73	3.65	Log GDP 1930	3.43	3.46
Real rate 03-29	11.99	10.27	Real rate 01-30	8.96	10.12
Real rate 06-30	8.99	10.82	Real rate 08-30	16.99	13.21
Real rate 12-30	13.20	13.15	Real rate 12-30	18.44	13.76
Real rate 06-31	14.46	13.91	Real rate 06-31	13.82	14.04

New Zealand			Sweden		
Control	Actual	Synthetic	Control	Actual	Synthetic
Log pop 1930	6.17	7.31	Log pop 1930	6.79	7.22
Log GDP 1930	3.70	3.38	Log GDP 1930	3.63	3.62
Real rate 02-29	8.05	7.27	Real rate 01-30	11.83	11.45
Real rate 01-30	8.98	9.04	Real rate 05-30	15.87	13.81
Real rate 01-31	10.27	11.75	Real rate 09-30	16.26	14.20
Real rate 07-31	18.79	17.86	Real rate 07-31	13.81	14.40

UK		
Control	Actual	Synthetic
Log pop 1930	7.66	6.88
Log GDP 1930	3.74	3.72
Real rate 06-29	9.23	9.65
Real rate 06-30	8.66	9.33
Real rate 12-30	12.23	11.78
Real rate 06-31	13.16	13.78

Table I.2: Match of synthetic counterparts for real interest rate.

I.3 Goodness of fit of synthetic counterparts for real interest rate

Denmark	RMSE	R^2	Finland	RMSE	R^2
Before leaving	1.27	0.68	Before leaving	1.89	0.76
After leaving	5.24	0.54	After leaving	7.13	0.46
After/before ratio	4.11		After/before ratio	3.78	
New Zealand	RMSE	R^2	Sweden	RMSE	R^2
Before leaving	0.87	0.89	Before leaving	1.62	0.64
After leaving	3.35	0.84	After leaving	6.19	0.49
After/before ratio	3.87		After/before ratio	3.81	
UK	RMSE	R^2			
Before leaving	0.66	0.91			
After leaving	7.74	0.24			
After/before ratio	11.75				

I.4 Weights used in synthetic counterparts for inflation

	Denmark	Finland	Sweden	UK
Belgium	0.47			
Czechoslovakia		0.75	0.65	
France	0.24			
Netherlands	0.29		0.23	0.29
Poland				0.26
Switzerland		0.25	0.12	
US				0.45

I.5 Match of synthetic counterparts for inflation

Denmark			Finland		
Control	Actual	Synthetic	Control	Actual	Synthetic
Log pop 1930	6.55	7.07	Log pop 1930	6.54	7.03
Log GDP 1930	3.73	3.70	Log GDP 1930	3.43	3.55
Inflation 02-29	4.61	1.34	Inflation 03-29	-2.91	-1.58
Inflation 10-29	-0.67	-2.08	Inflation 10-29	-4.95	-6.45
Inflation 02-30	-11.95	-10.78	Inflation 03-30	-8.00	-11.57
Inflation 02-31	-16.43	-16.47	Inflation 02-31	-7.53	-12.65

Sweden			UK		
Control	Actual	Synthetic	Control	Actual	Synthetic
Log pop 1930	6.79	7.04	Log pop 1930	7.66	7.57
Log GDP 1930	3.63	3.57	Log GDP 1930	3.74	3.65
Inflation 05-29	-7.89	-5.05	Inflation 06-29	-4.89	-4.59
Inflation 10-29	-4.83	-6.37	Inflation 06-30	-11.03	-11.80
Inflation 03-30	-13.19	-13.20	Inflation 12-30	-17.73	-16.31
Inflation 10-30	-14.49	-14.49	Inflation 06-31	-14.45	-14.72

I.6 Goodness of fit of synthetic counterparts for inflation

Denmark	RMSE	R^2	Finland	RMSE	R^2
Before leaving	1.74	0.94	Before leaving	2.66	0.80
After leaving	17.04	0.10	After leaving	14.84	0.01
After/before ratio	9.77		After/before ratio	5.58	

Sweden	RMSE	R^2	UK	RMSE	R^2
Before leaving	1.49	0.85	Before leaving	0.89	0.98
After leaving	8.35	0.07	After leaving	10.98	0.13
After/before ratio	5.59		After/before ratio	12.29	

I.7 Backdated synthetic counterparts

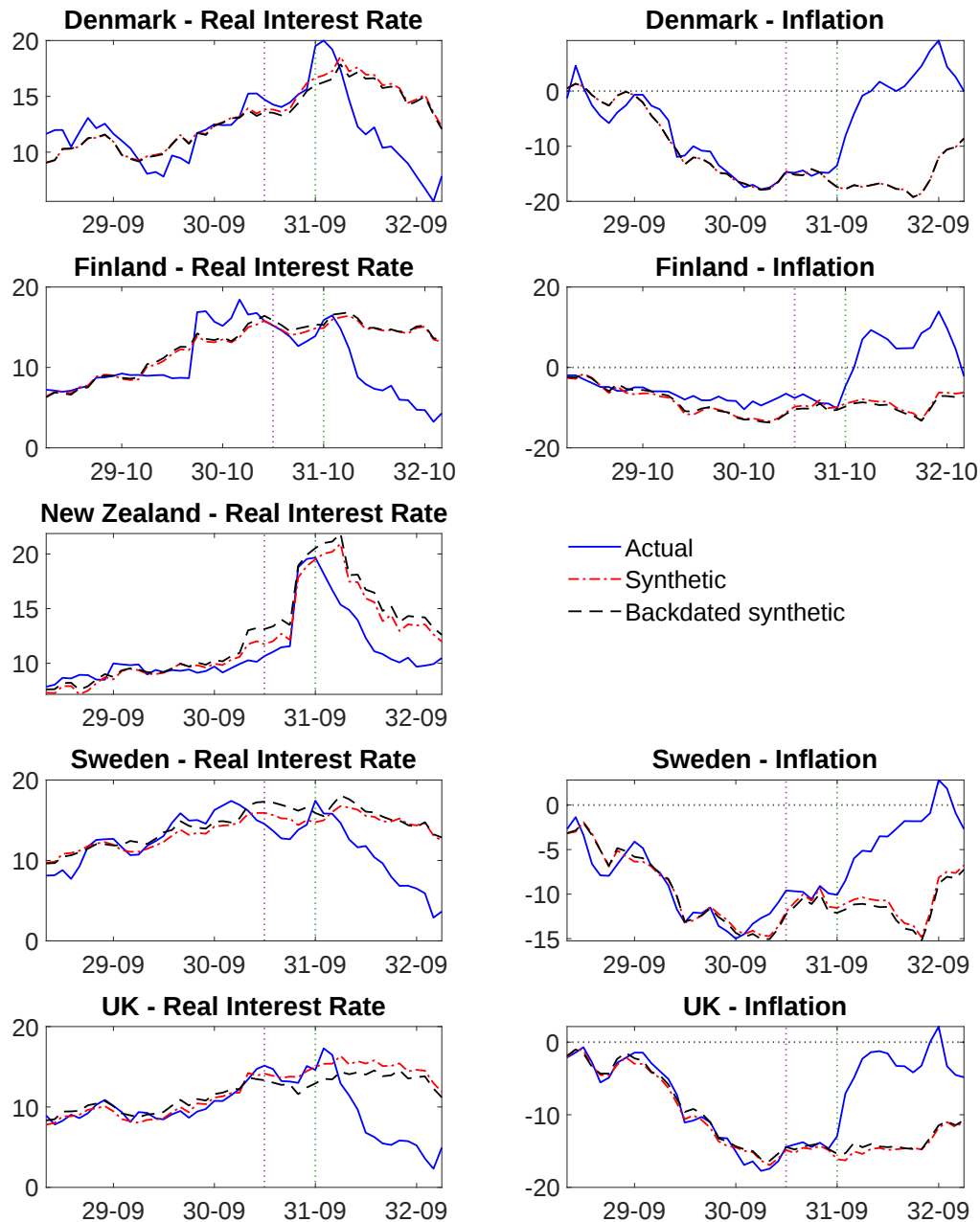


Figure I.3: Actual and counterfactual (synthetic) real interest rates and inflation in five early leavers. Synthetic counterparts for backdated counterfactuals constructed using data only available at least 6 months before leaving gold.

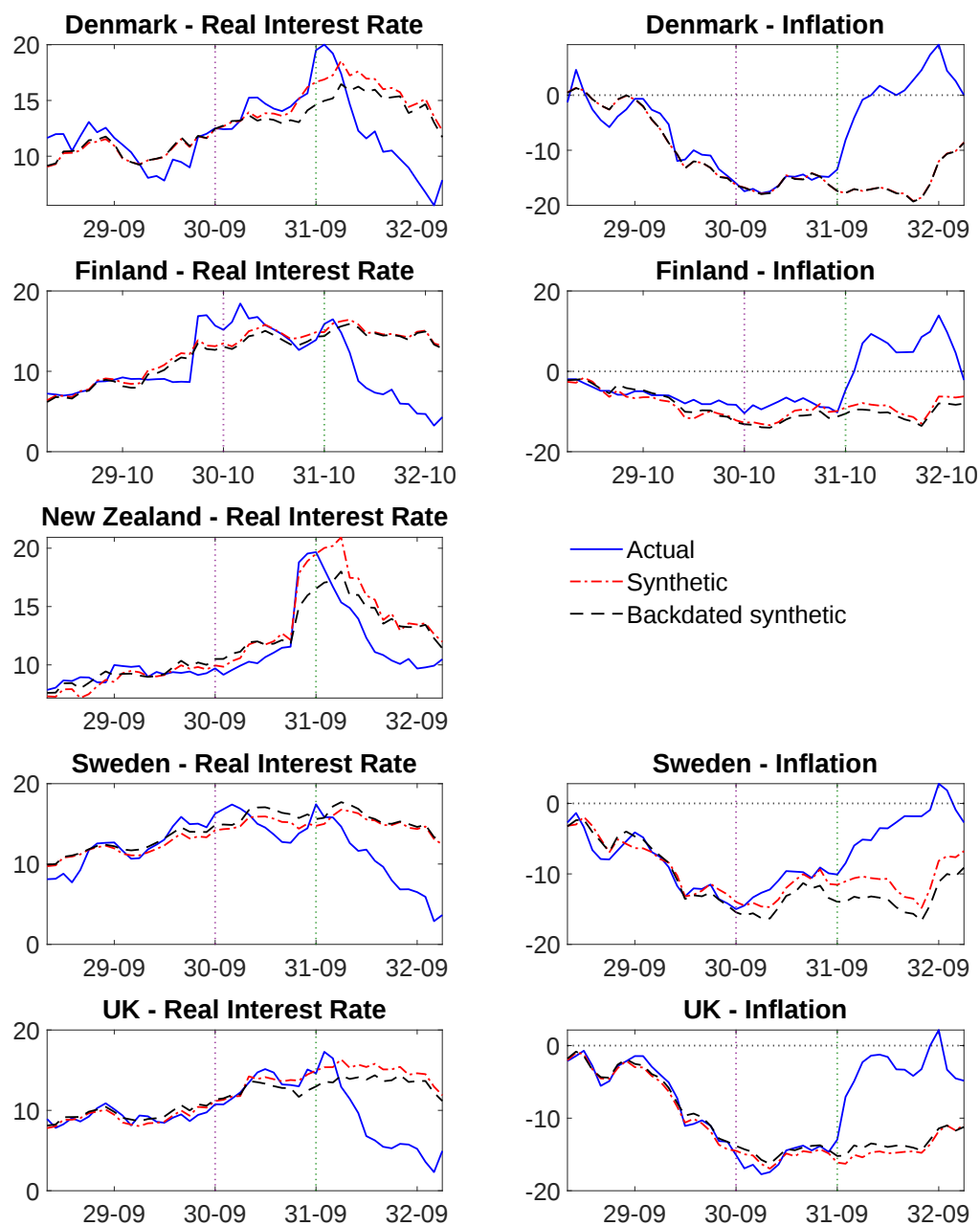


Figure I.4: Actual and counterfactual (synthetic) real interest rates and inflation in five early leavers. Synthetic counterparts for backdated counterfactuals constructed using data only available at least 12 months before leaving gold.

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