

Are Markets Stable?

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April 21, 2024

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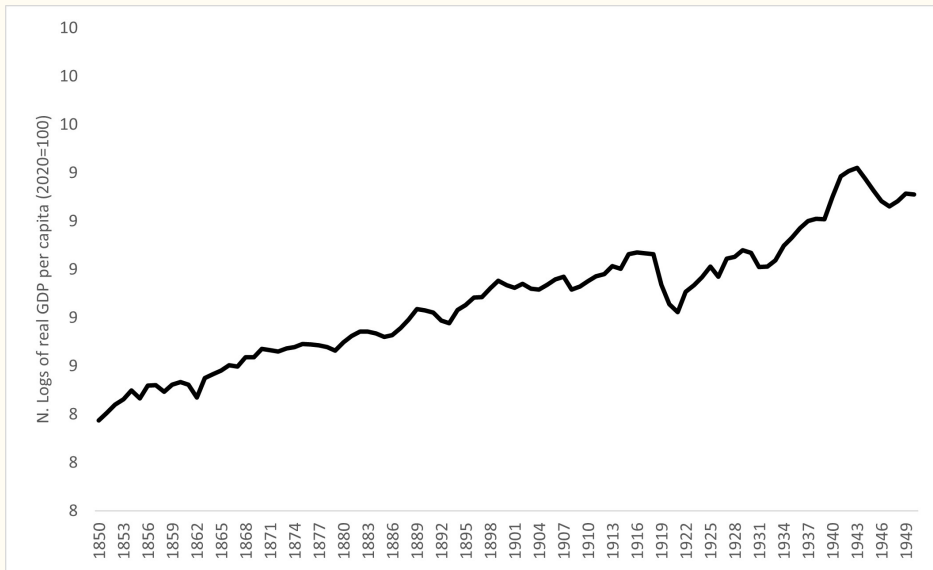
Irving Fisher, New York Times October 16, 1929

“Stock prices have reached what looks like a permanently high plateau”

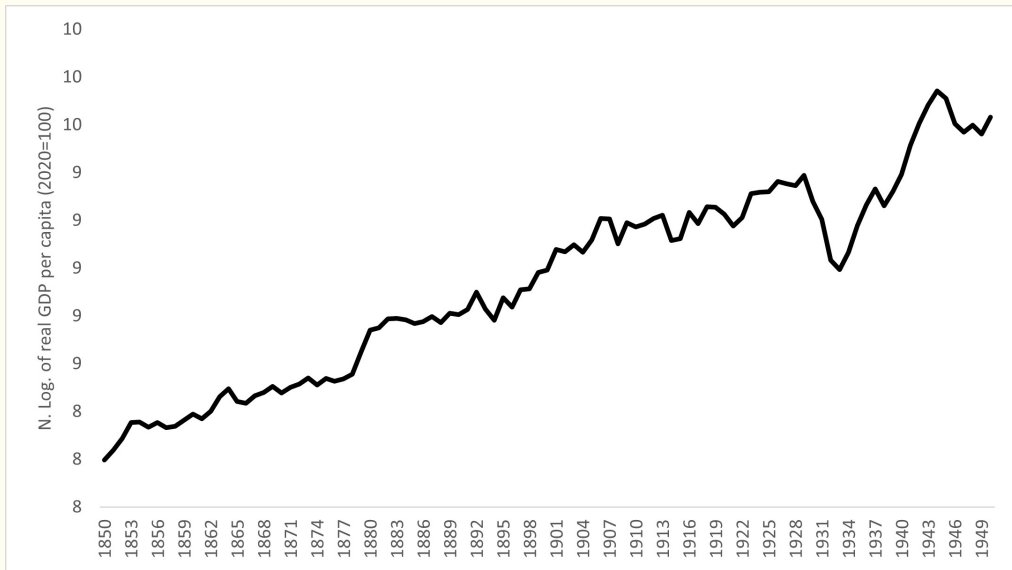
- Business Cycles.
- Financial Crises.
- “Real” Shocks and Technological Disruption.

Business Cycles

Log of real GDP per capita U.K., 1850-1950 (2020=100)



Log of real GDP per capita U.S., 1850-1950 (2020=100)



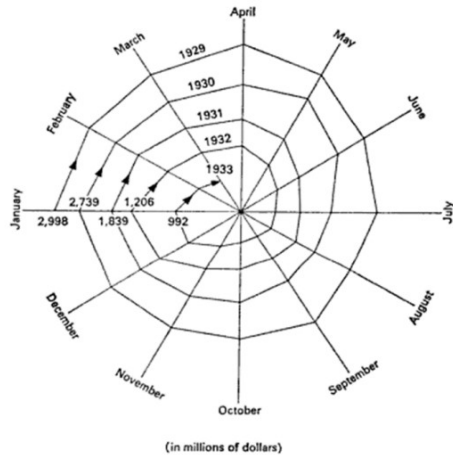
“A shock”

- Monetary.
- Real.

The interwar period, 1918-39

- Deglobalization.
- Rapid economic growth in the 1920s.
- The Great Depression in the 1930s.
- The collapse of the Interwar Gold Standard in the 1930s.

Global trade, 1929-1932



Source: Kindleberger (1973).



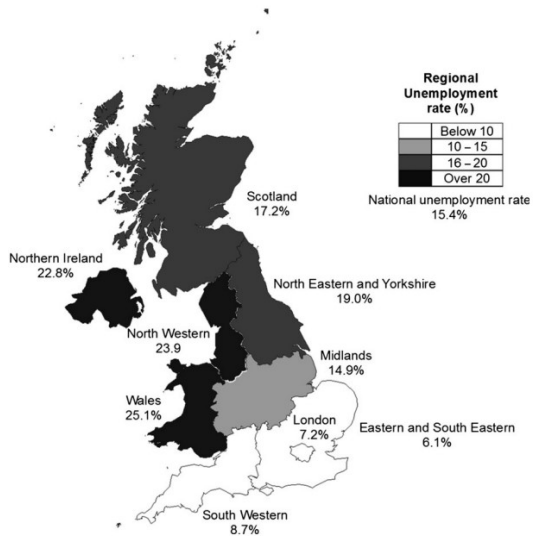
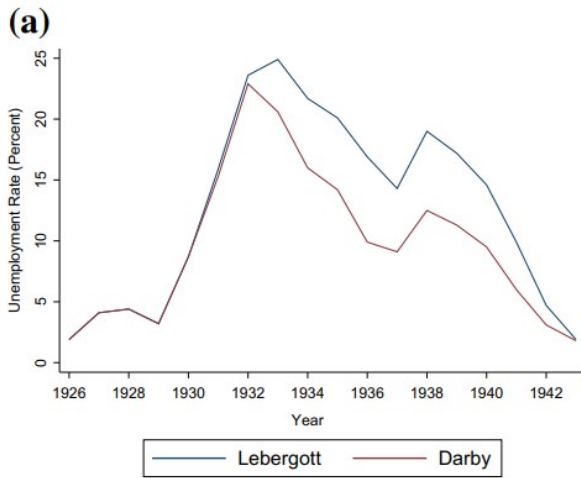


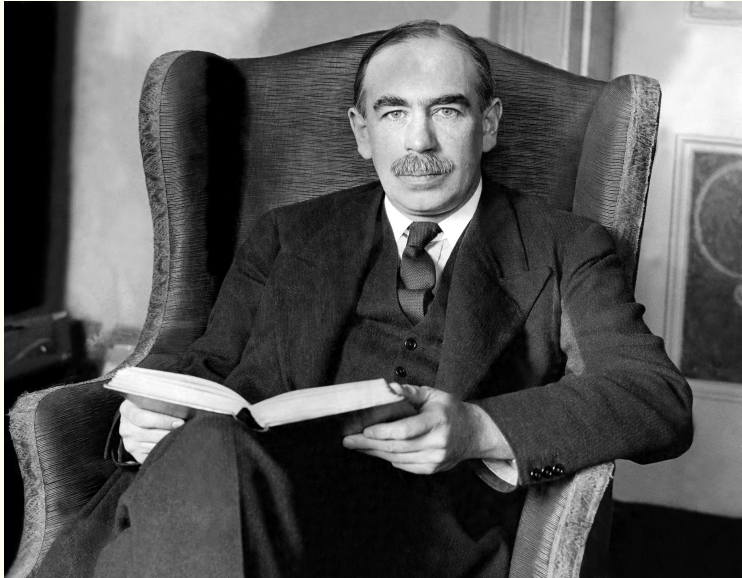
Figure 2. *Unemployment rate by district (insured workers) June, 1930.*
Sources: *20th Abstract of Labour Statistics.*

Monthly unemployment rate in the U.S., 1926-1942



Source: Mathy (2016).

John Maynard Keynes, 1883-1946



Keynes's argument, I

- Malthus' intuition of effective demand.
- The classical solution for recessions: self-correction .
- Contingent on flexible prices and wages.
- But, what if prices and wages are not flexible?

Keynes's argument, II

- The national income is equivalent to national expenditure.
- If there is unemployment, national income is below its potential.
- Solution for the Great Depression: Stimulate aggregate demand via public expenditure.

Critics of Keynesian economics

- Productivity.
- Stagflation: the simultaneous occurrence of high unemployment and high inflation.
- Government's ability to maintain credible commitments to surpluses or zero deficits during prosperous times.

FRED — Unemployment Rate



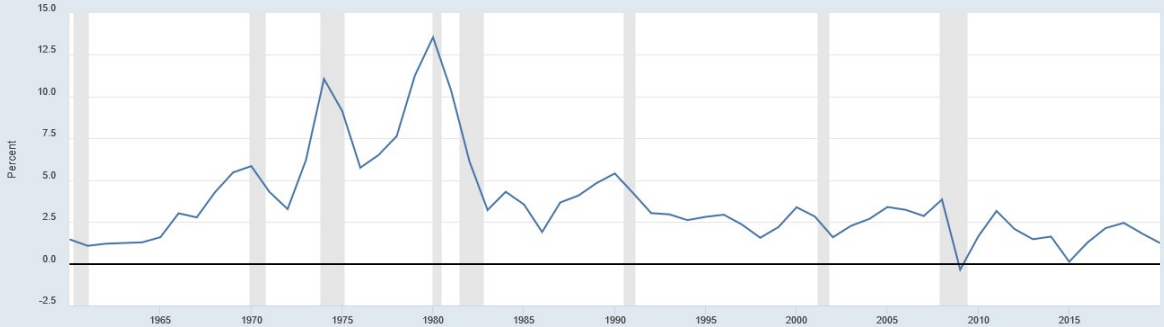
Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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— Inflation, consumer prices for the United States



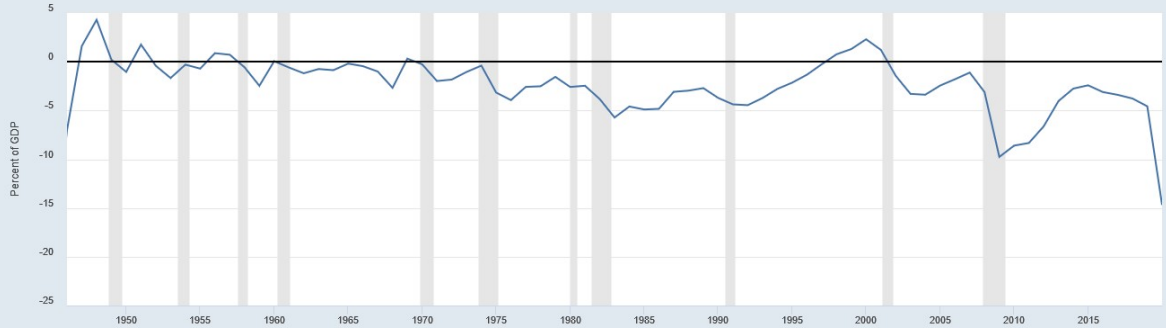
Shaded areas indicate U.S. recessions.

Source: World Bank

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Federal Surplus or Deficit [-] as Percent of Gross Domestic Product



Shaded areas indicate U.S. recessions.

Sources: OMB; St. Louis Fed

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William Beveridge, 1879-1963



James Harris

*Dec 3rd
1942*

17.



SOCIAL INSURANCE AND ALLIED SERVICES

Report by
SIR WILLIAM BEVERIDGE

*Presented to Parliament by Command of His Majesty
November 1942*

LONDON

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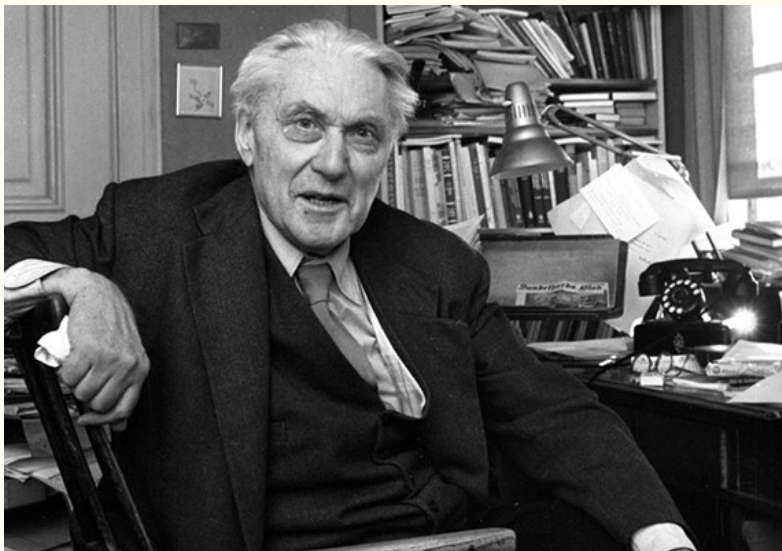
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Ragnar Frisch, 1895-1973, Nobel Prize in Economics in 1969

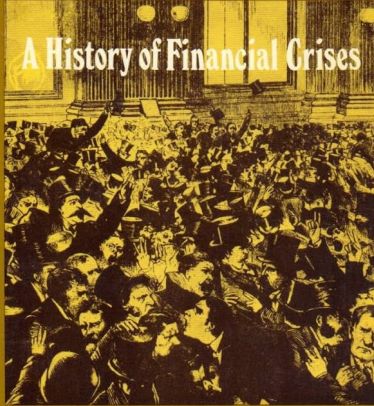


- An important development during the interwar period.
- Kuznets' work at the NBER on national income in the U.S. between 1919 and 1935.
- James Meade and Richard Stone estimated the first national accounts for the U.K. in 1941.


Financial crises

MANIAS, PANICS, and CRASHES

A History of Financial Crises



Charles P. Kindleberger

BASIC BOOKS, Inc. / HARPER  COLOPHON BOOKS / CN 5059 / \$5.95

Adam Smith, *The Wealth of Nations*, Book IV, Chapter 1

“This complaint, however, of the **scarcity of money** is not always confined to improvident spendthrifts. It is sometimes general through a whole mercantile town and the country in its neighborhood.

Overtrading is the common cause of it. Sober men, whose projects have been disproportioned to their capitals, are as likely to have neither wherewithal to buy money nor credit to borrow it, as prodigals whose expense has been disproportioned to their revenue. . .

... When the profits of trade happen to be greater than ordinary, overtrading becomes a general error both among great and small dealers.”

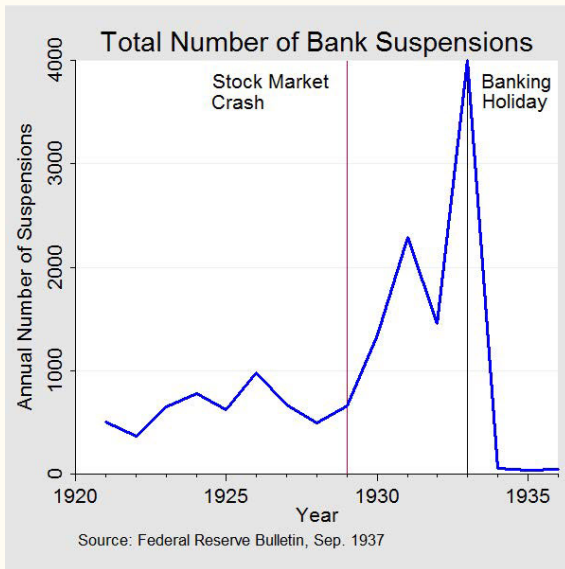
Stages of a financial crisis

- An opportunity to invest (e.g., railroads, commodities, sovereign bonds, real estate, or foreign currencies).
- An excessive reaction to that investment opportunity (extension of credit).
- Speculation: Investing without a connection to the fundamentals, leading to a further extension of credit and the creation of a bubble.
- Distress: Some investors realized the disconnect between asset pricing and the fundamentals.
- Burst: The general public becomes aware of the “bubble.”

Types of financial crises

- Stock market crashes.
- Banking crises.
- Sovereign debt crises.
- Currency crises.
- Twin crises.
- Systemic crises.

Banking panics of 1931-31 in the U.S.



The nature of a financial crisis

- Liquidity: an inability to meet financial obligation in the short term.
- Solvency: a structural crisis reflecting an inability to meet financial obligations in the long term.
- Fundamental causes vs. self-fulfilling crises.

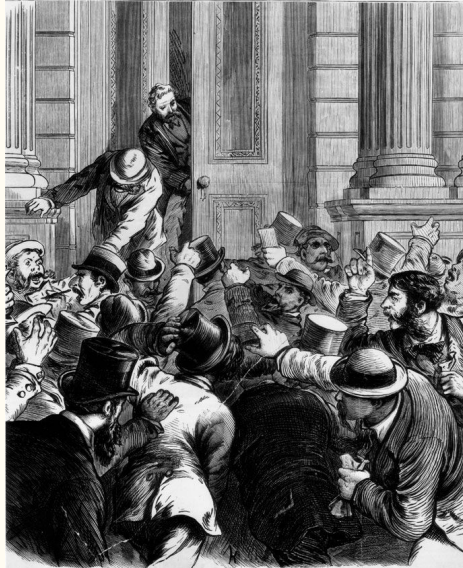
Banking panics and the origin of central banking

- Banking panics in the United States before the Federal Reserve System: 1837, 1839, 1857, 1861, 1873, 1893, 1907.
- Different banking systems:
 - First and Second Bank of the U.S. (1791-1836).
 - The Free Banking Era (1836-1862).
 - The National Banking Era (1863-1913).
- The Bank of England.

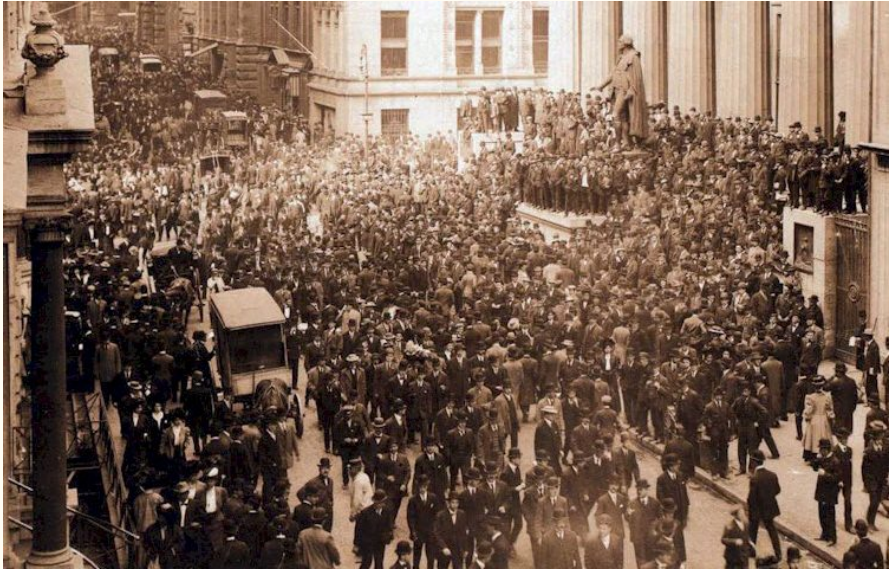
Panic of 1873 (The Long Depression)



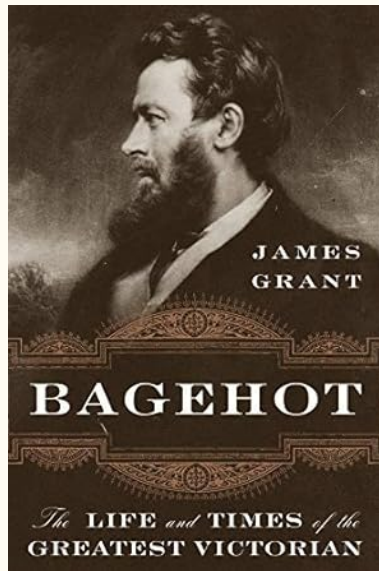
Panic of 1893



Panic of 1907



Walter Bagehot (1826-77)



WILEY INVESTMENT CLASSICS

"Walter Bagehot invented crisis management: after nearly 150 years, his wise words are still the prescription of choice for containing financial crises as well as a handbook for avoiding them."

—Peter L. Bernstein

Lombard Street

A Description of
the Money Market

.....
WALTER BAGEHOT

WITH A FOREWORD BY PETER L. BERNSTEIN

Interest rate of government bonds maturing in ten years, Jan 2000-Nov 2023

Long-term interest rates Total, % per annum, Dec 1999 – Nov 2023

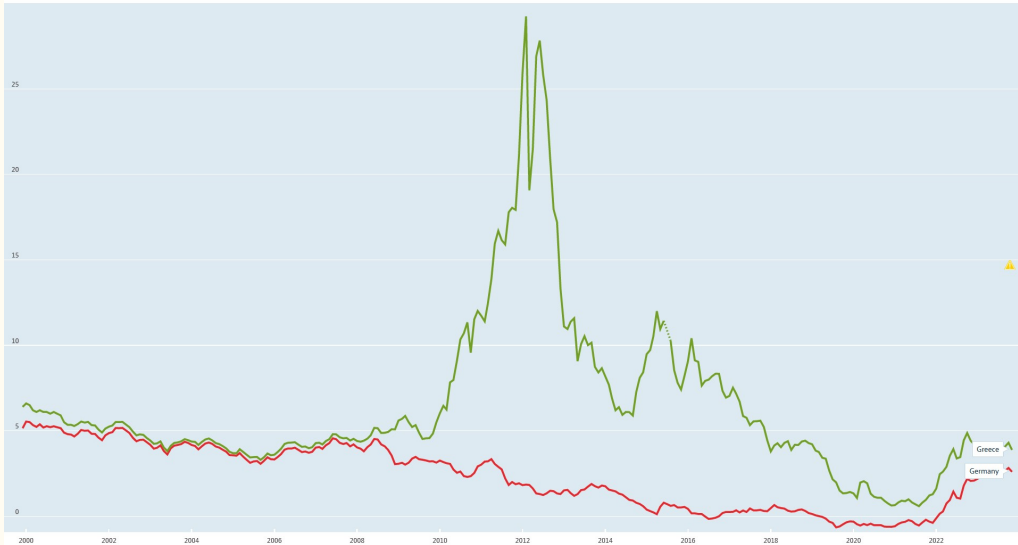
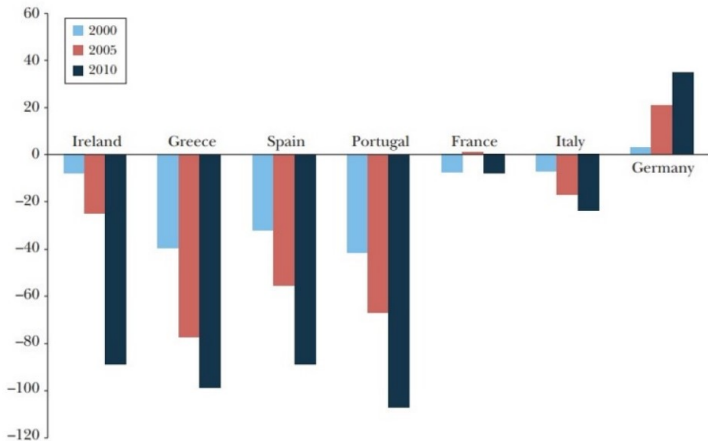


Figure 2

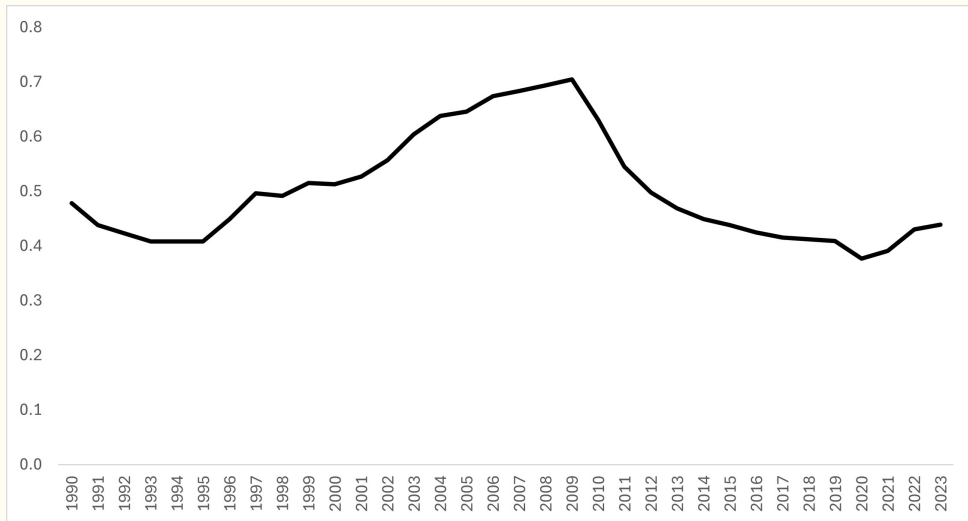
External Indebtedness

(net international investment position as a percentage of GDP)



Source: Fernández-Villaverde, Garicano, and Santos (2013).

Greece's GDP per capita (PPP) relative to that of Germany

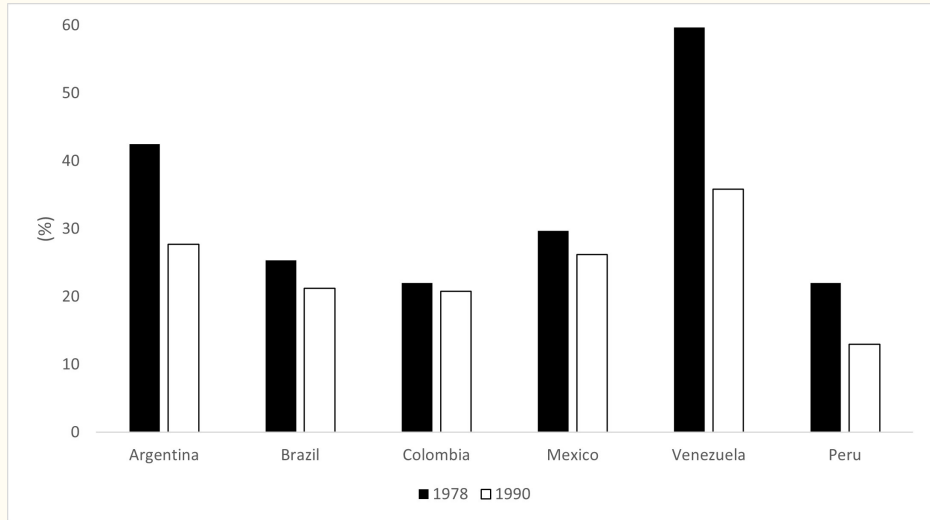


Source: IMF.

Latin American sovereign debt crisis of the 1980s

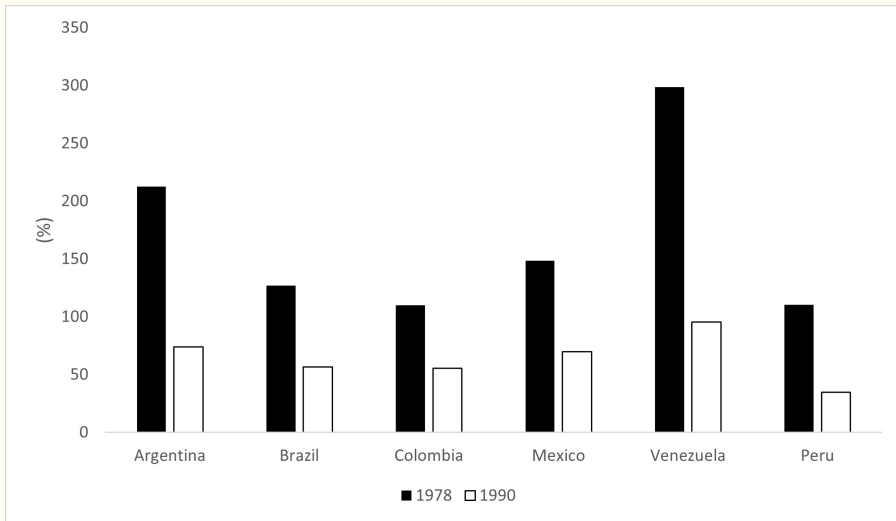
- A major economic crisis (depression).
- A systemic (banking, sovereign debt, and currency) crisis.
- Followed by hyperinflation in some countries (Bolivia, Brazil, or Peru).
- “The lost decade”.
- Structural reforms in the 1990s.

GDP per capita relative to that of the United States, 1978-1990



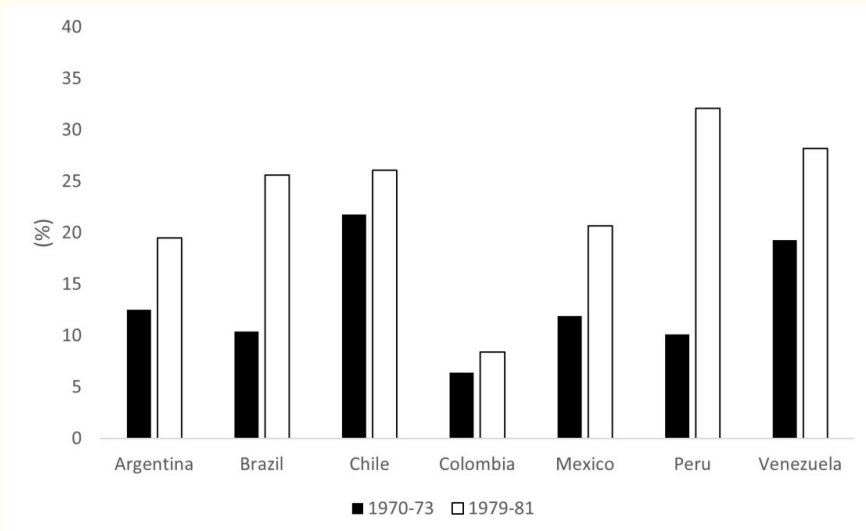
Source: World Bank.

GDP per capita relative to that of South Korea, 1978-1990



Source: World Bank.

Current and investment expenditure by state-owned enterprises (% of GDP)



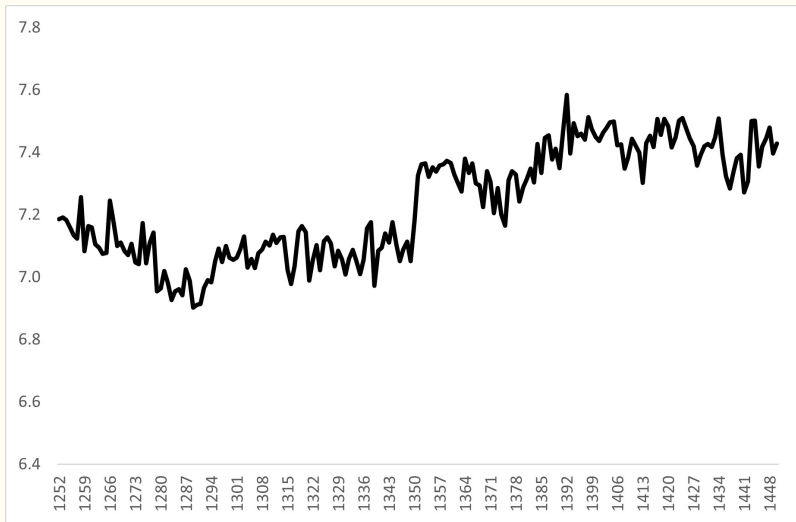
Source: Bulmer-Thomas (2014).

“Real” shocks and technological disruption

Some examples of “real” shocks

- The War of the Spanish Succession (1701-1714).
- The Spanish-American Wars of Independence.
- World War I and II.
- The 1973 oil crisis.

Log of GDP per capita for England, 1251-1450



Source: Maddison Project.



Edward Prescott and Finn Kydland, 2004 Nobel Prize in Economics



TIME TO BUILD AND AGGREGATE FLUCTUATIONS

BY FINN E. KYDLAND AND EDWARD C. PRESCOTT¹

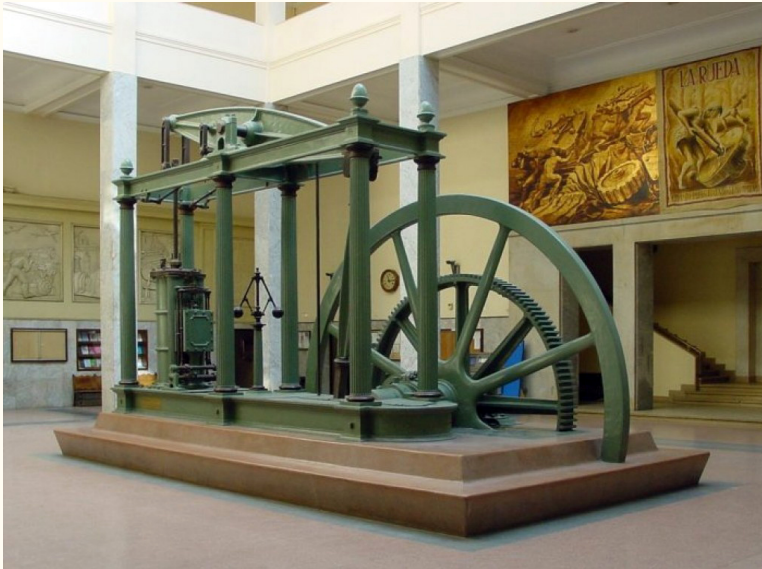
The equilibrium growth model is modified and used to explain the cyclical variances of a set of economic time series, the covariances between real output and the other series, and the autocovariance of output. The model is fitted to quarterly data for the post-war U.S. economy. Crucial features of the model are the assumption that more than one time period is required for the construction of new productive capital, and the non-time-separable utility function that admits greater intertemporal substitution of leisure. The fit is surprisingly good in light of the model's simplicity and the small number of free parameters.

I. INTRODUCTION

THAT WINE IS NOT MADE in a day has long been recognized by economists (e.g., Böhm-Bawerk [6]). But, neither are ships nor factories built in a day. A thesis of this essay is that the assumption of multiple-period construction is crucial for explaining aggregate fluctuations. A general equilibrium model is developed and fitted to U.S. quarterly data for the post-war period. The co-movements of the fluctuations for the fitted model are quantitatively consistent with the corresponding co-movements for U.S. data. In addition, the serial correlations of cyclical output for the model match well with those observed.

Our approach integrates growth and business cycle theory. Like standard growth theory, a representative infinitely-lived household is assumed. As fluctuations in employment are central to the business cycle, the stand-in consumer values not only consumption but also leisure. One very important modification to the standard growth model is that multiple periods are required to build new capital goods and only finished capital goods are part of the productive capital stock. Each stage of production requires a period and utilizes resources. Half-

Watt steam engine



New York Central Railroad



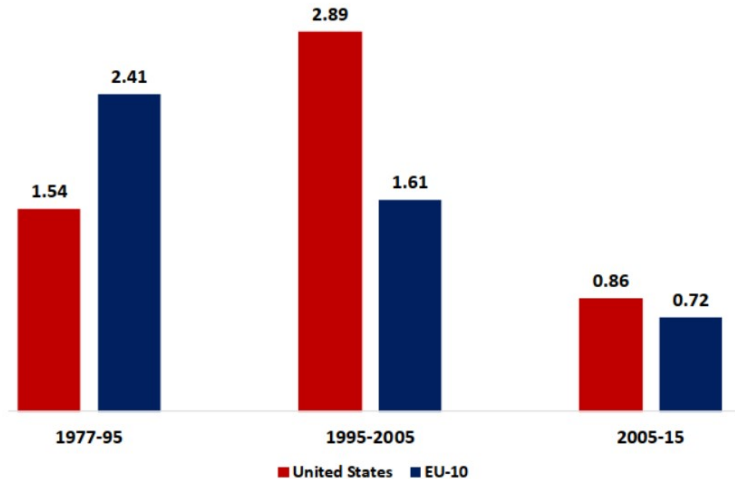
Macintosh Classic



General-purpose technologies (GPTs) and economic growth

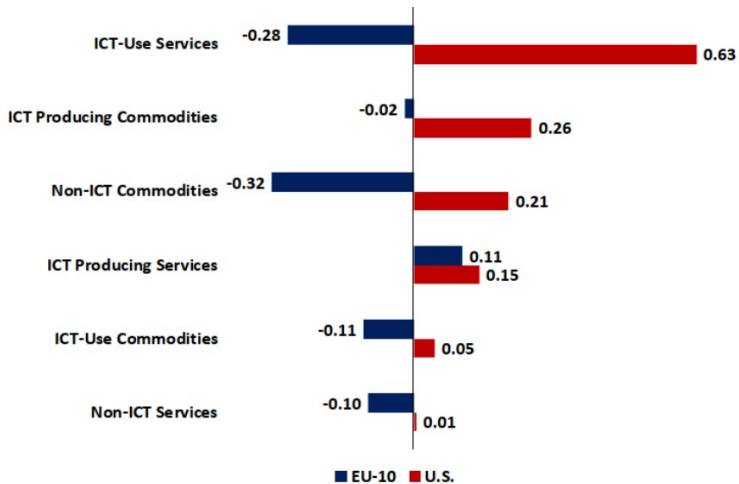
- Steam engine.
- Electricity.
- Mass production.
- ICTs.

Figure 1 Market sector productivity growth, US vs EU10, 1977-2015



Source: Gordon and Sayed (2020).

Figure 2 Contribution to post-1995 changes in productivity growth, US vs EU10



Source: Gordon and Sayed (2020).

