Economic Forces in American History

The Great Depression

The Great Depression: Outline

- Contours of the Decline
- Explaining the Downturn
- Explaining the Severity
  - Some old explanations
  - Some recent explanations

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A Bit of Macro

- **KEY: Businesses hire people if it's profitable**
  - Must reasonably expect to sell what you produce
- Unemployment depends on output
  - When less output is produced, fewer people have jobs
- Output per year = gross domestic product, GDP
- GDP depends on Aggregate Demand (AD)

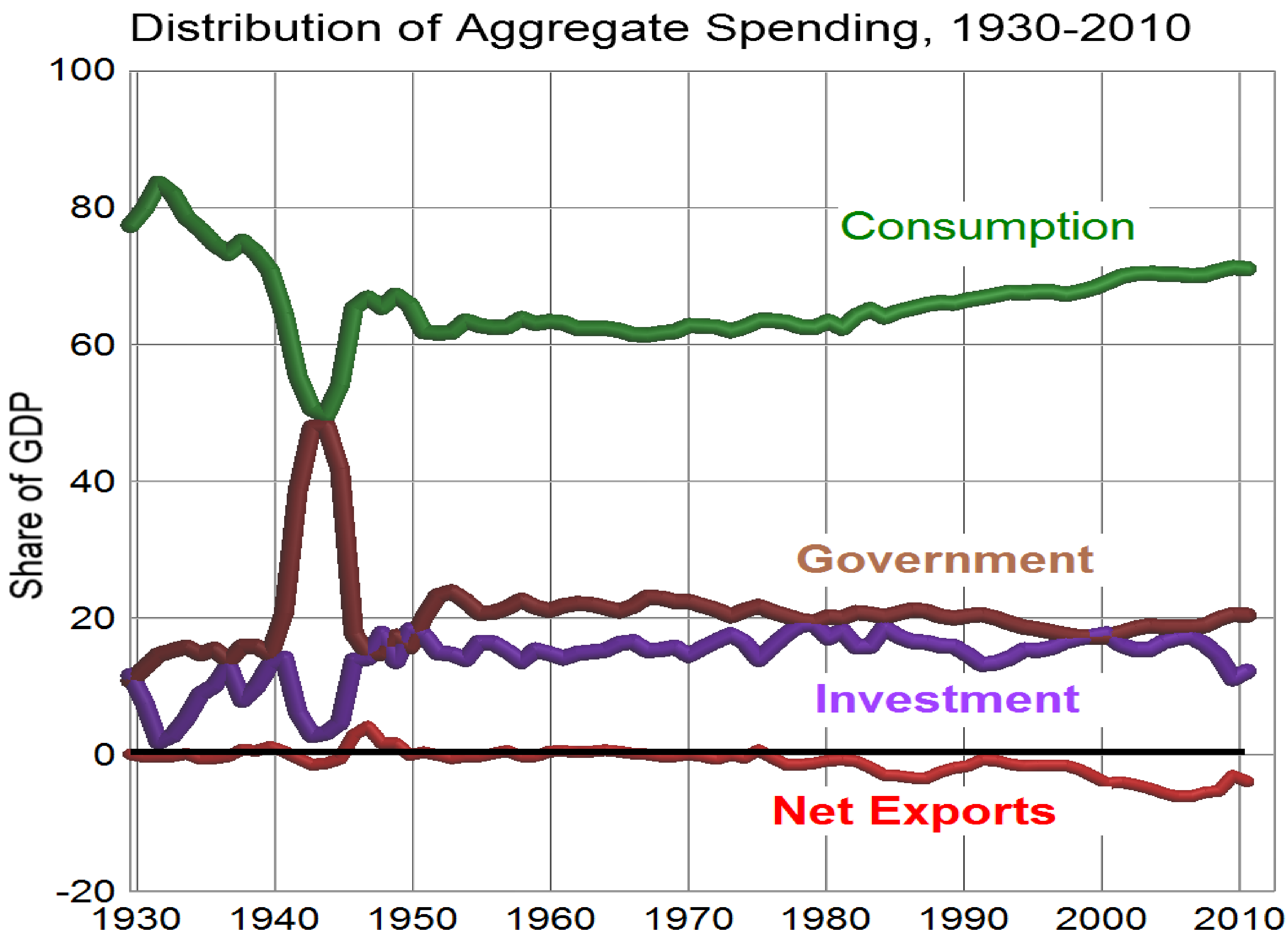
$$AD = C + I + G + (EX - IM)$$

AD = C + I + G + (EX – IM)

- C
- I
- G
- EX - IM

Determinants of AD

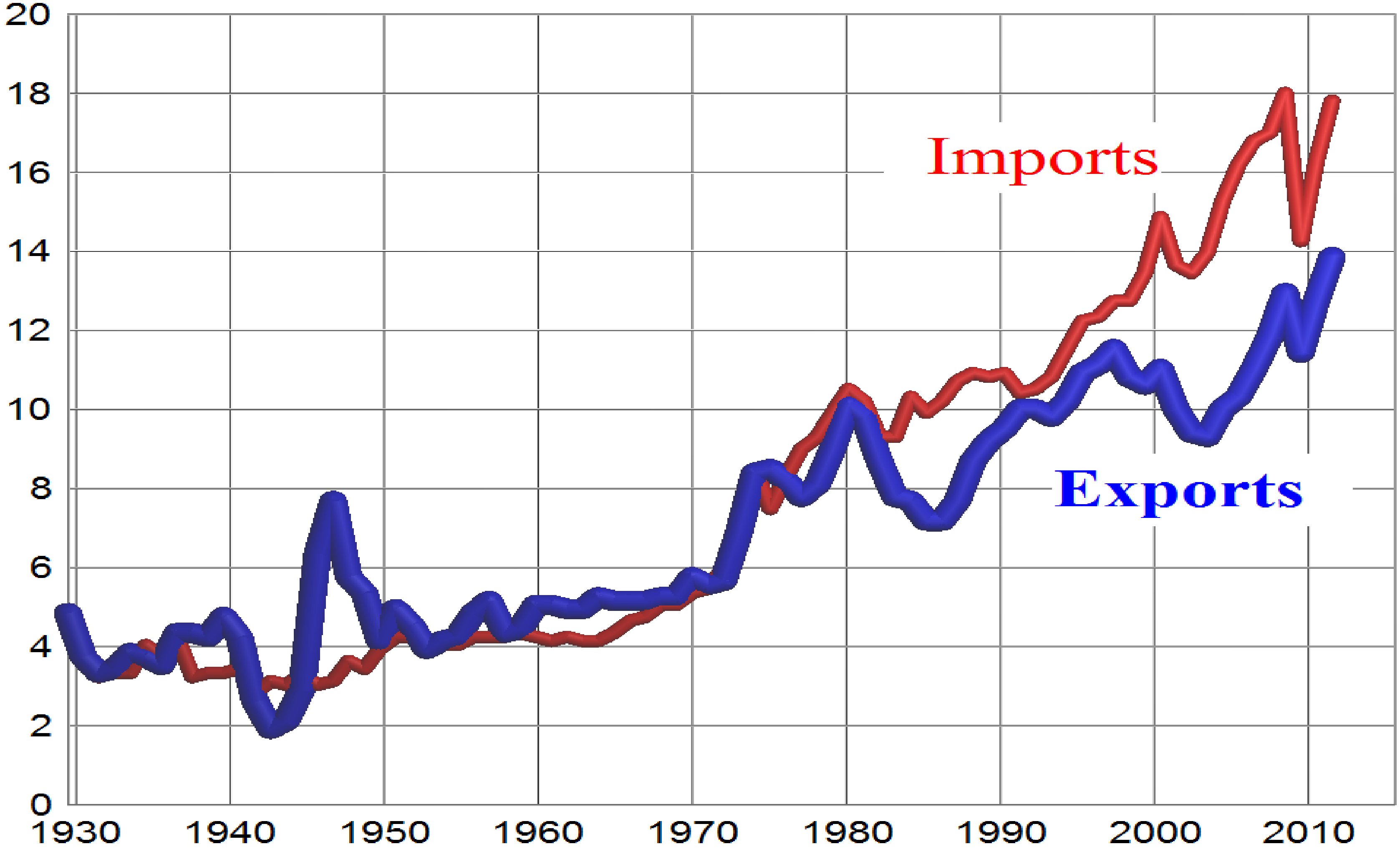
- Consumption (C) depends upon
  - Disposable income (“take-home pay”)
  - Wealth
  - Maybe interest rates, maybe not
  - Confidence & expectations for future
- Investment (I) depends upon
  - Interest rates
  - Availability of funds
  - Expected profitability of project



Source: National Income & Product Accounts, Table 1.1.10

Imports & Exports as a share of U.S. GDP

1930 - 2011



Source: U.S. BEA (bea.gov), National Income & Product Accounts, Table 1.1.10

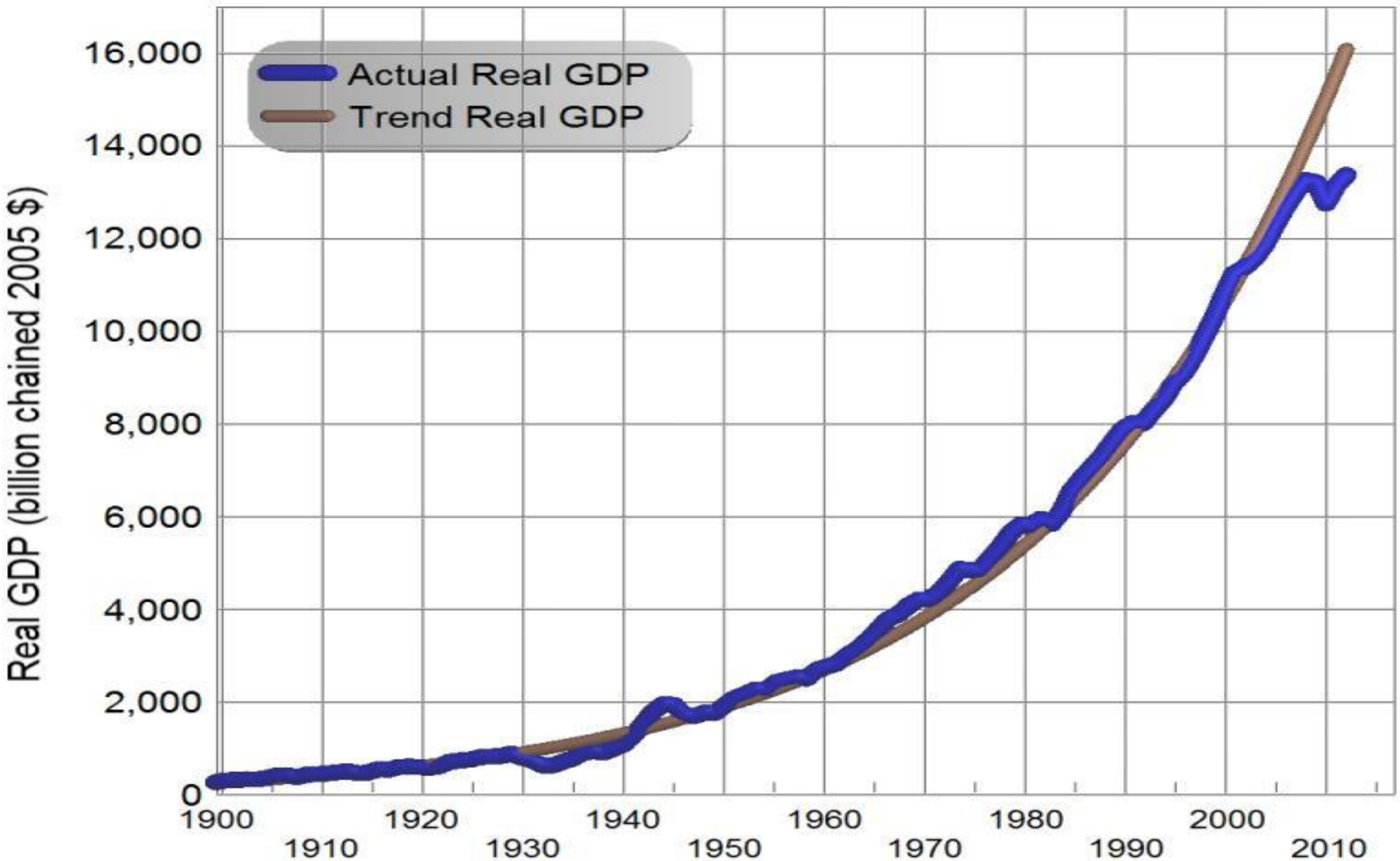
The Great Depression of the 1930s

- August 1929-March 1933: recession
- March 1933-May 1937: recovery
- May 1937-June 1938: recession
- June 1938-Dec 1941: recovery

- 1929-1933, Real GDP fell 30 %

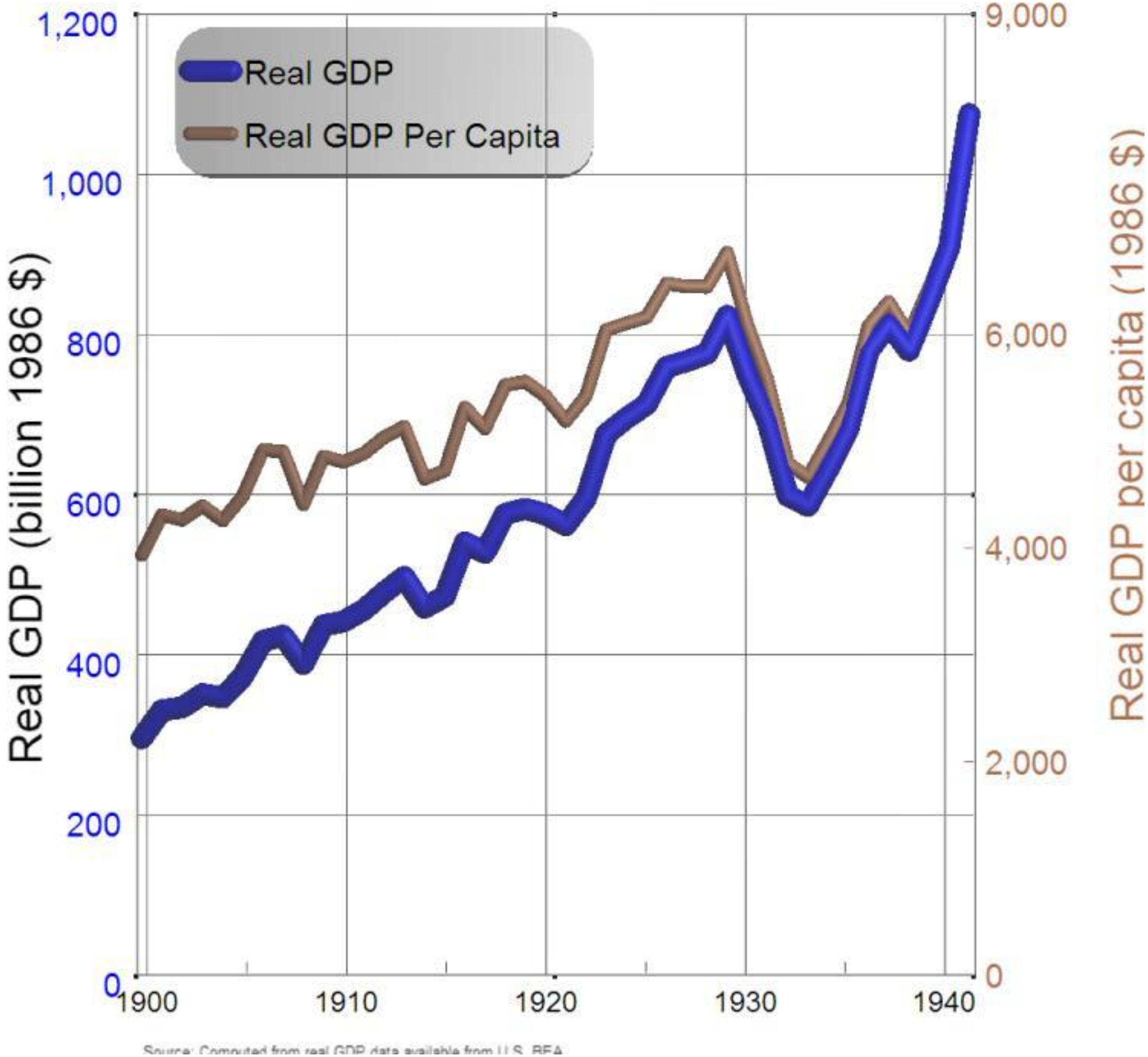
Real GDP, 1900 - 2011

Actual versus Trend



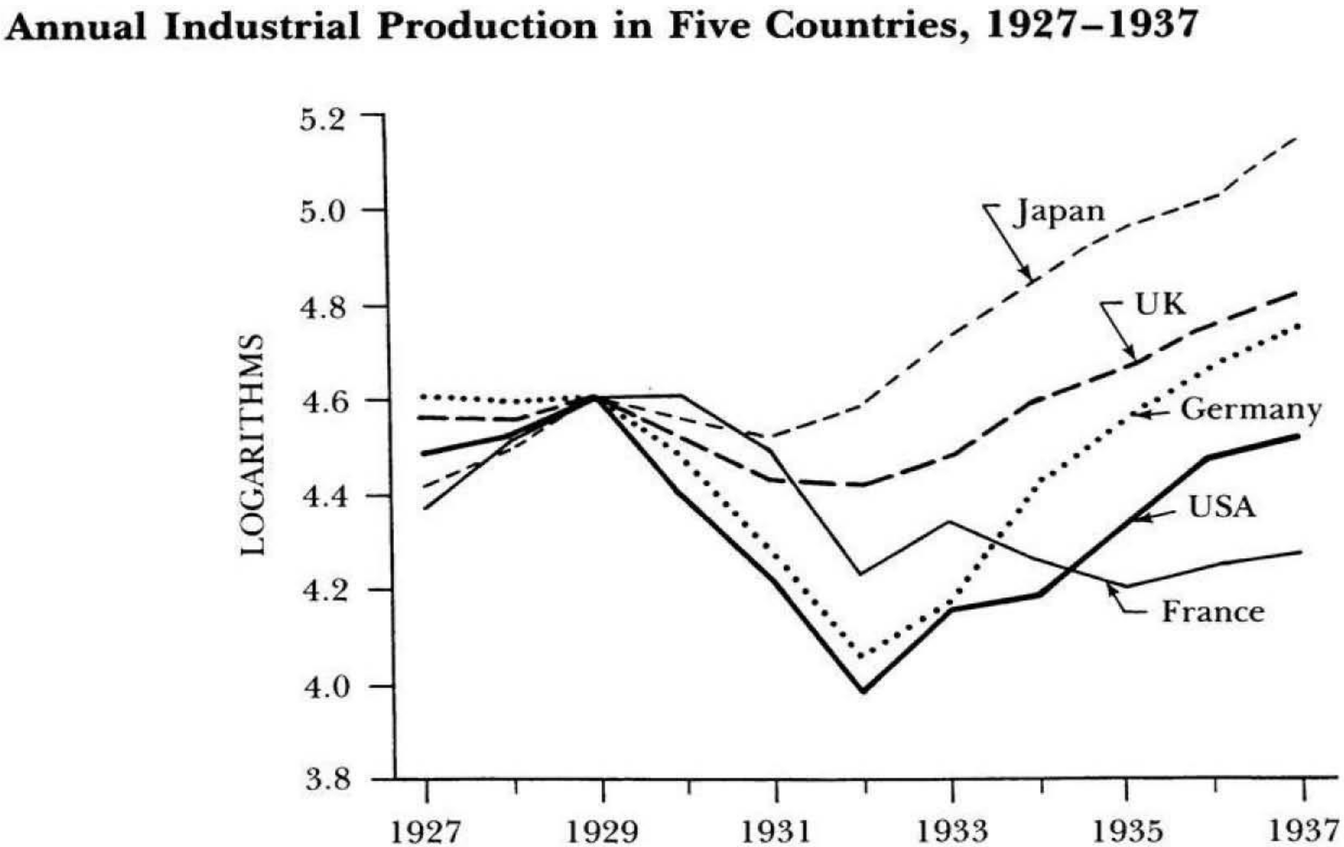
Source: Computed from real GDP data available from U.S. BEA

Real GDP, 1900 - 1941



International Comparison

- US depression earlier & more severe



Sources: The data on industrial production for 24 countries are from the League of Nations (1936, Appendix II, Table 2, p. 142 and 1938, Table 1, p. 44).

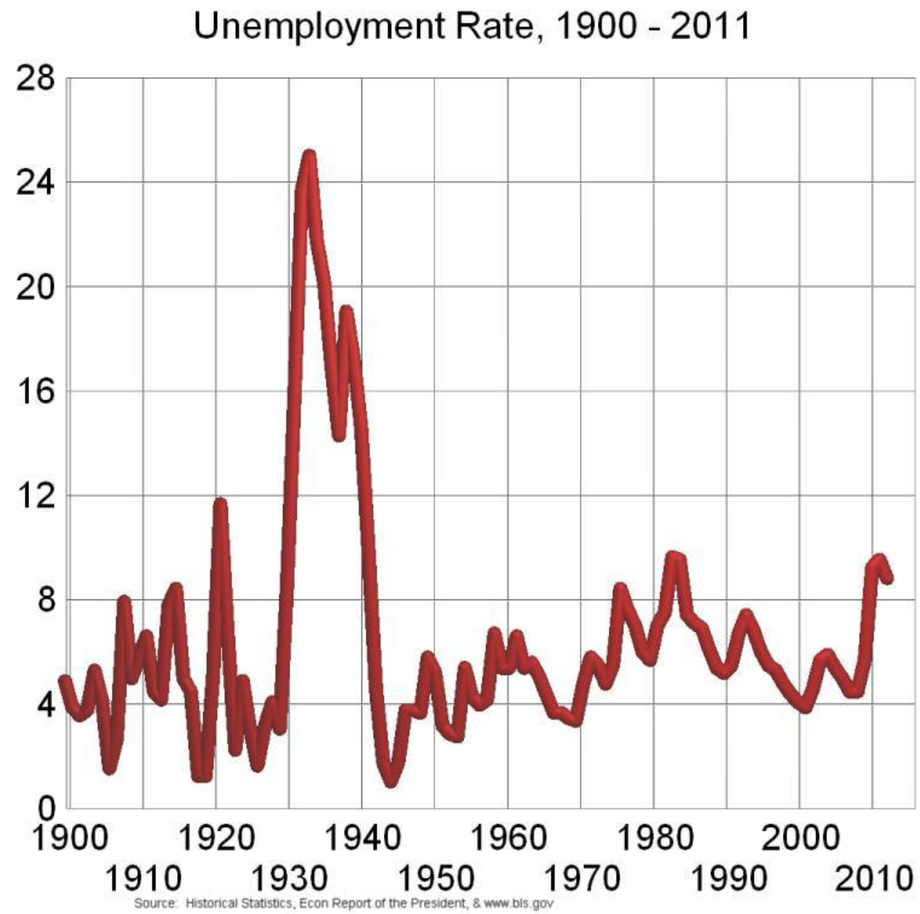
Source: Romer, JEP Spring 1993, Figure 1

Unemployment Soars

- Rate peaks at over 25 percent

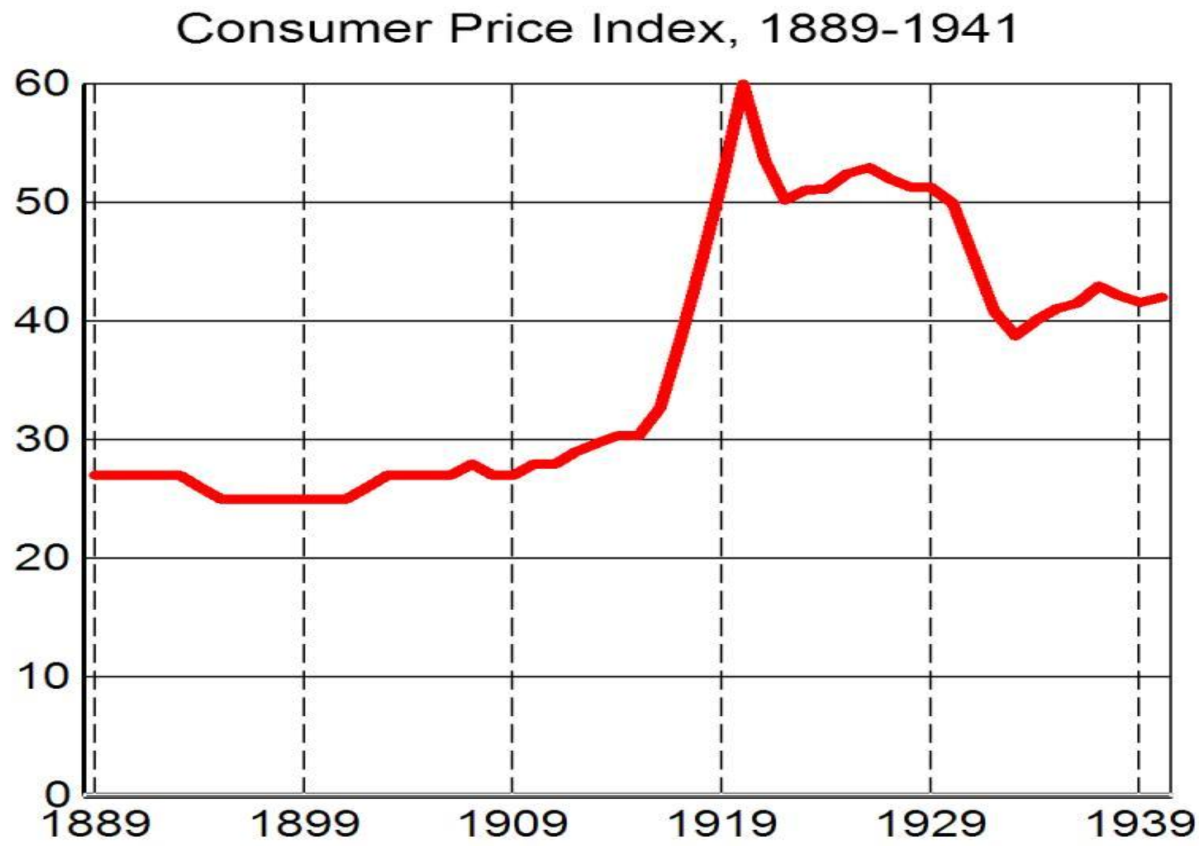
Table 1. Unemployment Rate

1920	5.2	1931	16.3
1921	11.7	1932	24.1
1922	6.7	1933	25.2
1923	2.4	1934	22.0
1924	5.0	1935	20.3
1925	3.2	1936	17.0
1926	1.8	1937	14.3
1927	3.3	1938	19.1
1928	4.2	1939	17.2
1929	3.2	1940	14.6
1930	8.9	1941	9.9



Prices Fall

- Prices fall about 1/3 between 1929 & 1933



Financial Sector Hard Hit

- Stock Market
  - Peaks in September 1929
  - Crashes October 24 & October 29, 1929
  - Doesn't get back to 1929 peak until 1951

S&P Stock Prices (1941-43=10)

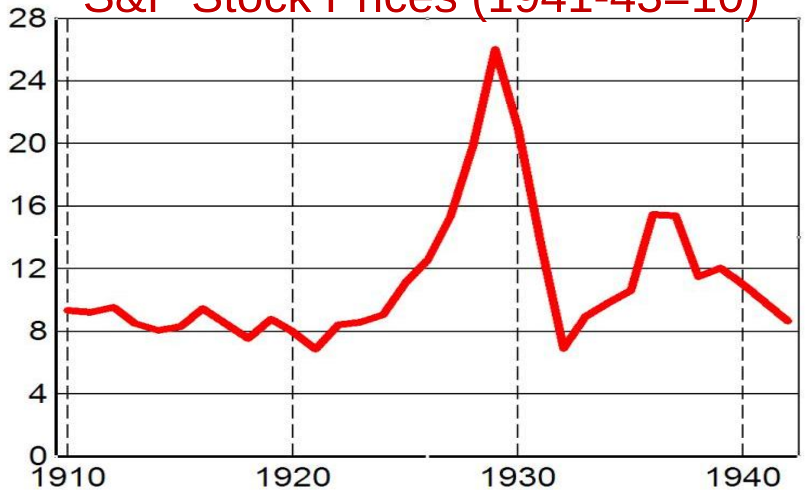


Table 2. Stock Market, 1921-1940

	Shares sold on NYSE (million shares per year)	Standard & Poor's Common Stock index (1941-43=100)
1921	173	69
1922	259	84
1923	236	86
1924	282	90
1925	454	111
1926	451	126
1927	577	153
1928	920	199
1929	1,125	260
1930	810	210
1931	577	137
1932	425	69
1933	655	90
1934	324	98
1935	382	106
1936	496	155
1937	409	154
1938	297	115
1939	262	121
1940	208	110

Bad Mortgage Debt

- Non farm foreclosures up, peak in 1933
- Farm foreclosures up as well
  - high farm mortgage debt
  - low farm earnings
  - too much WWI expansion

Table 3. Foreclosures

	Nonfarm (thousands of foreclosures)	Farm (rate per 1,000 farms)
1926	68	17.4
1927	91	18.2
1928	116	17.6
1929	135	14.7
1930	150	15.7
1931	194	18.7
1932	249	28.4
1933	252	38.8
1934	230	28.0
1935	229	21.0
1936	185	20.3
1937	151	18.1
1938	118	14.3
1939	100	13.5
1940	76	12.6

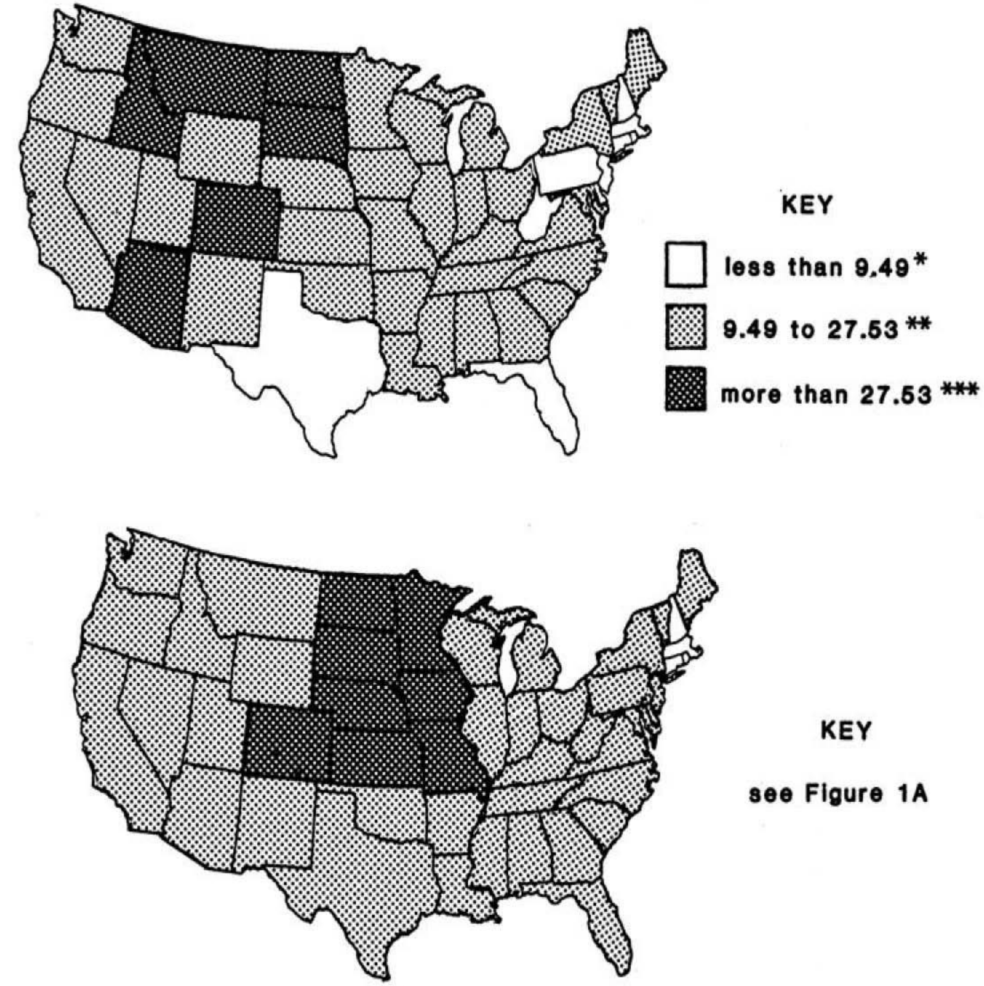


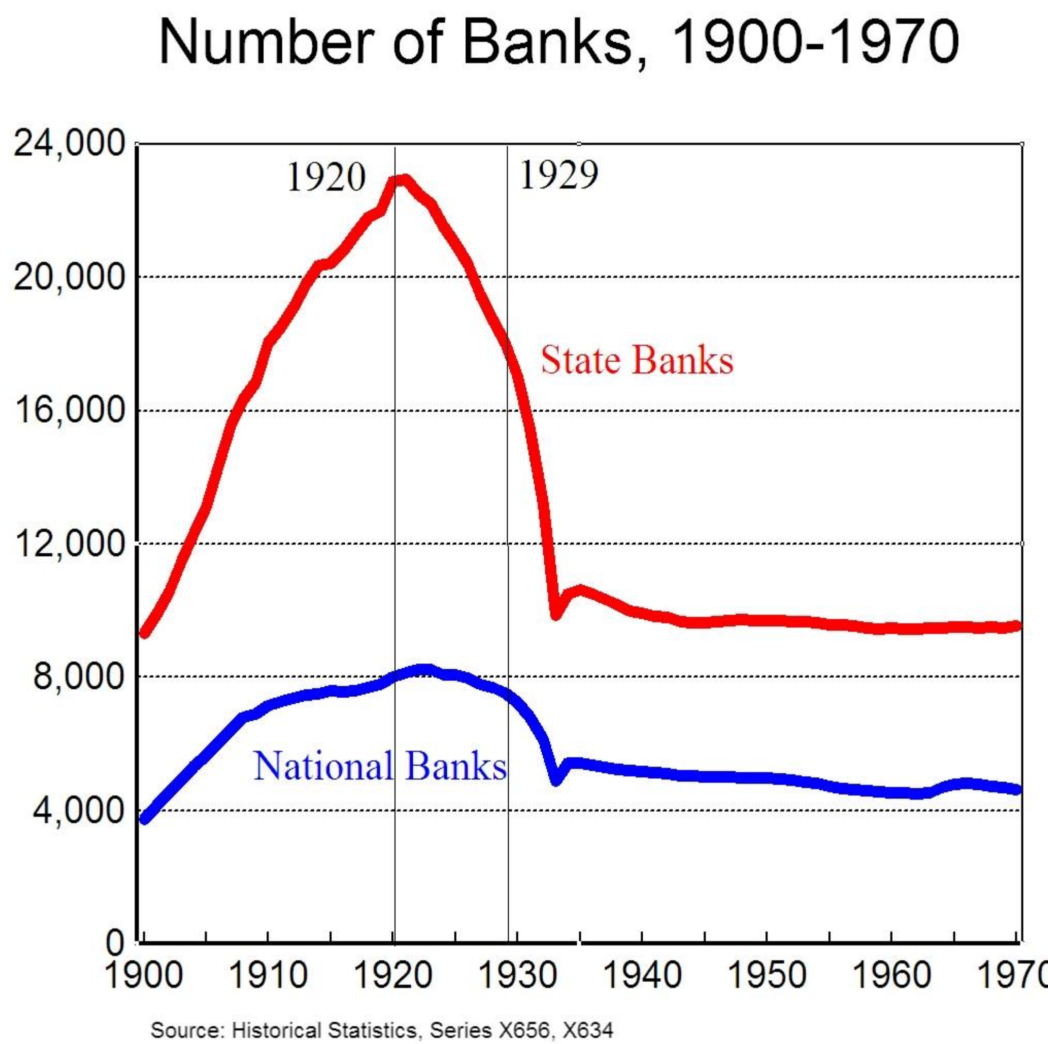
FIGURE 1
AVERAGE NUMBER OF FARM FORECLOSURES PER THOUSAND FARMS
(A. 1926–1930 AND B. 1931–1940)

Notes: * one standard deviation below mean
** within one standard deviation of mean
*** one standard deviation above mean
For descriptive statistics and sources, see Table 2.

Source: Alston, JEH 1983, Figure 1

Banks

- Bank runs occurred
  - October 1930
  - Spring 1931
  - January 1933



Rates move every which way

- Nominal rates on government bonds: STABLE
  - Fed began tightening, January 1928

- Nominal rates on prime commercial paper: DOWN
  - From 5.8 to 1.7 percent

- Nominal Rates on BAA bonds (not in table): UP
  - From 6 to 11.5 percent

Interest Rates

- Nominal rates moved in both directions!

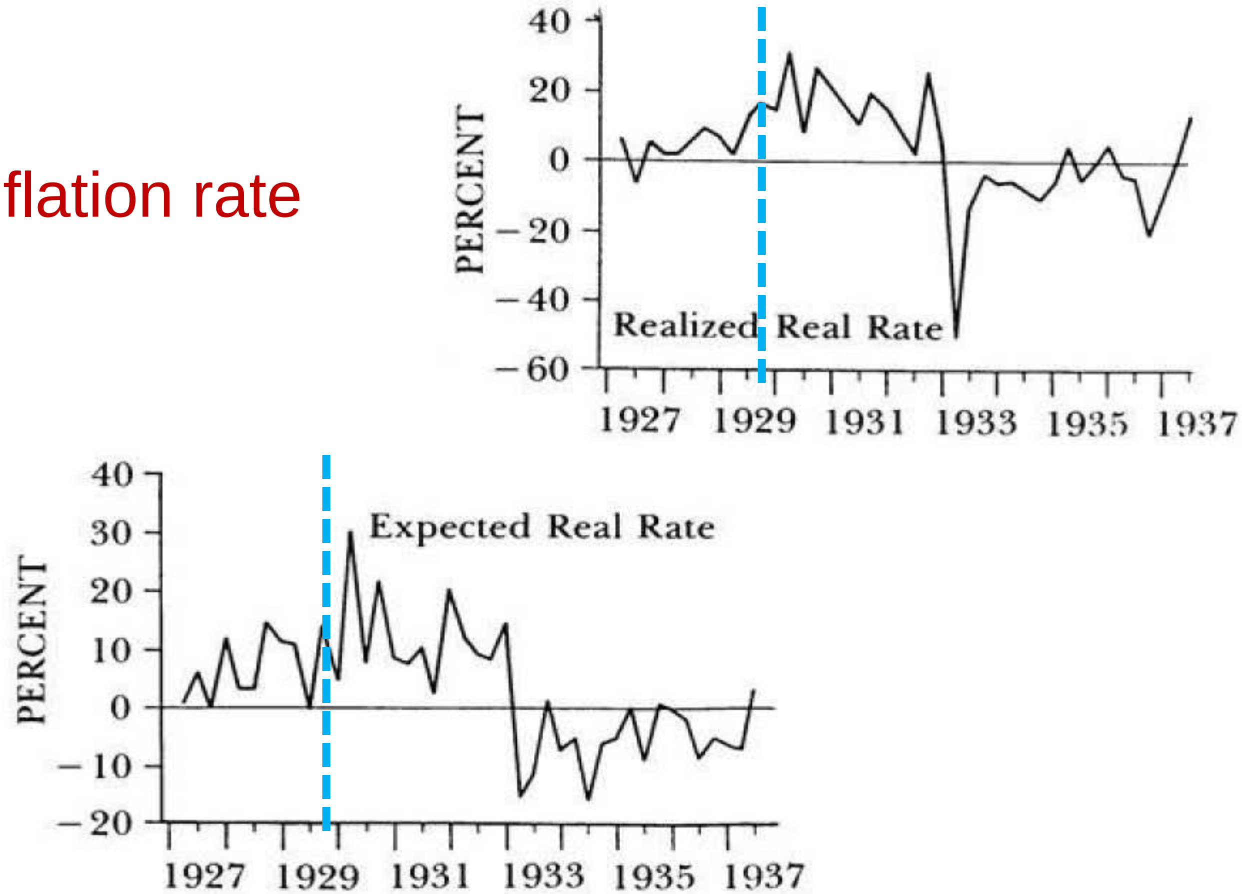
Table 5. Nominal Interest Rates and Yields

	FRB-NY Discount Rate	Banks' Business Loan Rate	Prime Commercial Paper Rate	Yield on Federal Government Bonds	Yield on Corporate Aaa Bonds
1928	3.5-5.0	5.2	4.8	3.3	4.6
1929	4.5-6.0	5.8	5.8	3.6	4.7
1930	2.0-4.5	4.9	3.6	3.3	4.6
1931	1.5-3.5	4.3	2.6	3.3	4.6
1932	2.5-3.5	4.7	2.7	3.7	5.0
1933	2.0-3.5	4.3	1.7	3.3	4.5

But real rates were rising

Quarterly Commercial Paper Rates in the United States, 1927–1937

Real rate =
nominal rate – inflation rate



Components of GNP

- $GNP = C + I + G + NX$
- C & I contribute the most to drop in real GNP

Table 6. Sources of Drop in Real GNP

	% Δ Real GNP	Share of Drop in GNP Due to:				
		Consump-tion	Inventory Investment	Fixed Investment	Net Exports	Government Purchases
1921	-2.4	-195	256	51	43	-56
1930	-9.3	46	24	38	2	-10
1931	-6.2	38	3	62	6	-9
1932	-15.8	50	20	26	1	4
1933	-3.0	66	4	19	9	3
1938	-5.5	22	94	38	-26	-28

- Consumption collapses in 1930
- Nearly all categories of C decline

Table 7. Real Consumption Spending, 1929-1930

	% change	Contribution to change in total C
Total Consumption	*-6.2 %*	*100.0 %*
Food & tobacco	-2.2	9.6
Clothing & shoes	-9.8	15.1
Personal care	-4.6	1.2
Housing	-1.2	1.7
Household operation	-7.1	15.7
Medical care	-0.9	0.9
Personal business	-15.3	33.0
Transportation	-14.5	23.5
Recreation	-3.9	3.2
Education & research	4.0	-0.9
Religion & welfare	5.9	-1.7

Negative Net Investment

Table 8. Investment as a share of GNP

	Gross Investment / GNP	Net Investment / GNP
1929	15.7	8.7
1930	11.4	3.1
1931	7.4	-1.7
1932	1.7	-8.8
1933	2.5	-7.7
1934	5.1	-3.8
1935	8.9	0.8
1936	10.3	3.2
1937	13.1	5.9
1938	7.7	-0.1
1939	10.3	3.1

Table 9. Capacity Utilization Rate

1929	83
1930	66
1931	53
1932	42
1933	52
1934	58
1935	68
1936	80
1937	83
1938	60
1939	72

Government Spending

Table 10. Budget Surplus or Deficit
(billions of $)

	Federal	State & Local	TOTAL
1929	1.2	-0.2	1.0
1930	0.3	-0.6	-0.3
1931	-2.1	-0.8	-2.9
1932	-1.5	-0.3	-1.8
1933	-1.3	-0.1	-1.4
1934	-2.9	0.5	-2.4

- It's the <u>change in deficit</u> (not existence of deficit) that matters
- Expansionary fiscal policy in 1930 & 1931
  - deficit growing
- Contractionary fiscal policy 1932 & 1933
  - deficit shrinking

Net Exports

Table 11. Tariff Rates

	Average Rate on all goods	Average Rate on dutiable goods only
1920	6	16
1921	11	29
1922	15	38
1928	13	39
1929	13	40
1930	15	45
1931	18	53
1932	20	59
1933	20	54

- Net Exports decline
  - maybe due to higher tariffs
- But unimportant
  - small share of GDP drop

Three Research Questions

1. Why did the downturn occur?

2. Why was the depression so severe?

3. Why was the depression so long?

- Important: Keynesian model not published until 1936

Explaining the Downturn

- Not a puzzle
- Due to Drop in Investment
  - Fed increased interest rates beginning January 1928
  - Fixed investment lower due to higher interest rates and to accelerator effect
    - ↓ in rate of growth of sales -> ↓ Investment
  - Residential investment lower due to higher interest rates and to 1920s overbuilding

Explaining the Severity

- Lots of Old Ideas
  - Classical labor market analysis
    - Labor Supply > Labor Demand . . . So drop wages
  - Business cycle theories
    - Natural boom & bust cycle . . . So wait it out
  - Insufficient aggregate demand
    - We'll come back to this. . .
  - Money hypothesis
    - Fed could have prevented drop in Money Supply

Insufficient Aggregate Demand (1940s)

- Based on Keynesian Model
  - Y = AD
  - Where AD = C + I + G + NX
- Investment fell
- Consumption fell due to multiplier
- Expansionary fiscal policy not tried

- Policy implication?
  - expansionary fiscal policy vital

Money Hypothesis (1960s)

- Milton Friedman & Anna Schwartz
- Based on Quantity Theory
  - M V = P Q
  - Money demand & Money supply determine M

Money hypothesis, continued

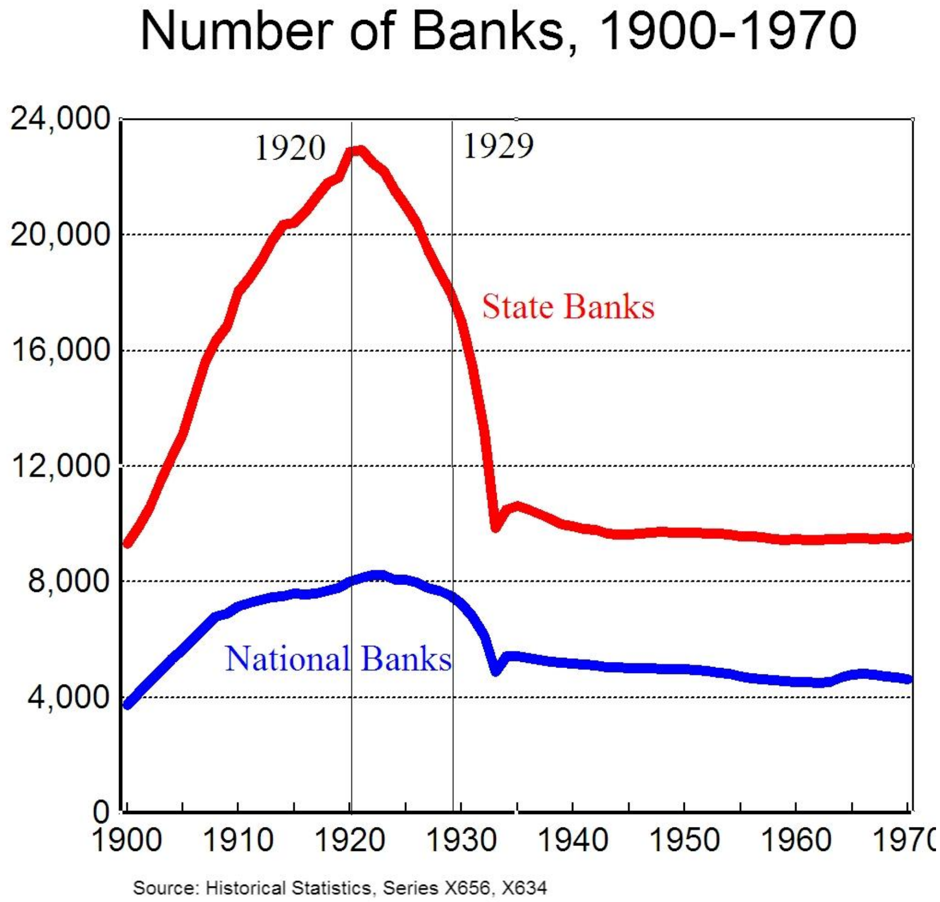
- Subtle argument
  - M fell because M supply fell
  - Fed *could* have prevented drop in M supply
  - Fed could have forced increased M by increasing reserves
- Policy implication?
  - Expansionary monetary policy vital

Critiques of money hypothesis

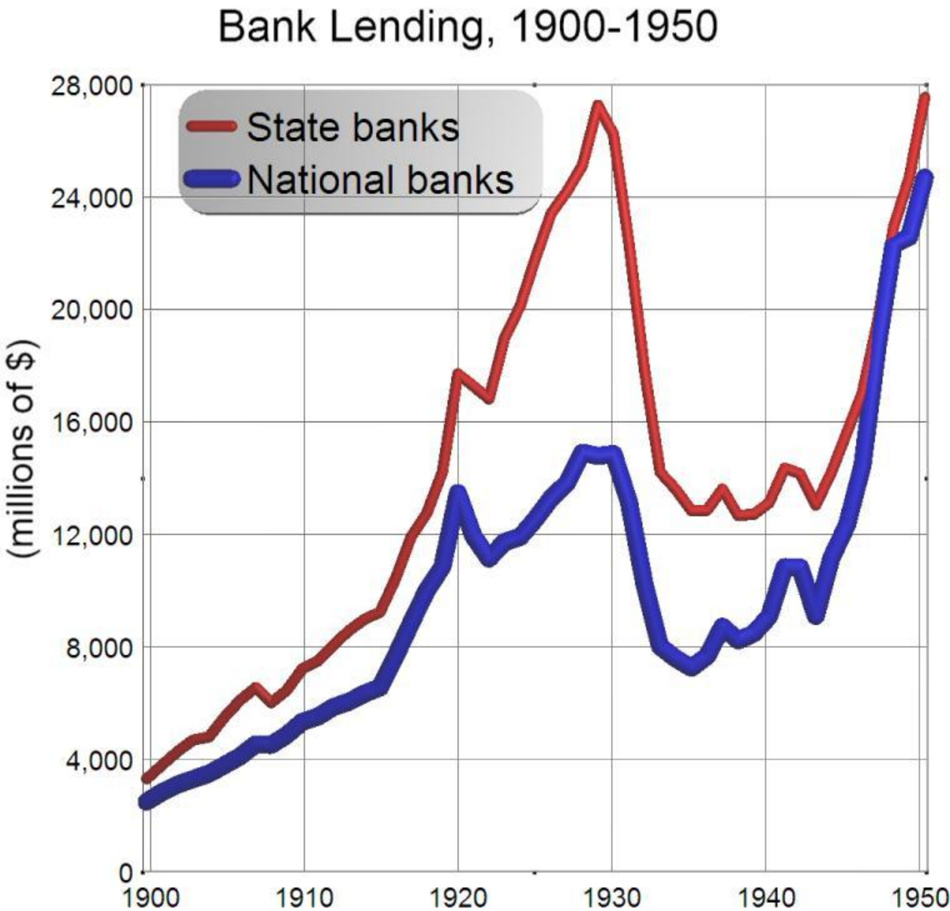
- Theoretical point
  - Fed can't <u>force</u> banks to lend
- Historical point
  - Fed policy goal: stability of *banking system*
    - <u>Not</u> stability of the *economy*

Investment Decline

- Credit Intermediation (1980s)
  - Ben Bernanke (now chair of the Fed)
- Bank failures → loss of credit intermediation for small businesses
- Less borrowing means less investment



Number of Banks, 1900-1970
24,000
20,000
16,000
12,000
8,000
4,000
0
1920
1929
State Banks
National Banks
1900
1910
1920
1930
1940
1950
1960
1970
Source: Historical Statistics, Series X656, X634



Bank Lending, 1900-1950
State banks
National banks
(millions of $)
28,000
24,000
20,000
16,000
12,000
8,000
4,000
0
1900
1910
1920
1930
1940
1950

Investment decline, continued

- Gold standard rigidity (1990s)
  - Barry Eichengreen
  - Convertibility of paper currency into gold
- Fixed exchange rates require central bank intervention
- Key date: September 1931
  - England suspends convertibility
  - Worldwide fear the U.S. will do so also
  - Fed prevents gold outflow by ↑ interest rates

Consumption Decline

- Avoid "distress sale" of durable goods
  - Frederic Mishkin (1980s)
- Loss of wealth if quickly sell durables
- Real debt up or wealth down?
  - Avoid buying durables
  - In order to avoid distress sale
- Implication?
  - Consumer durables bought for asset value

Consumption decline, cont'd

- Postpone irreversible durable & semi-durable good purchases
  - Christina Romer
- Wealth tied up ("distress sale" impossible)
- Increased uncertainty?
  - Postpone postpone-able purchases
  - Shift toward services, nondurables
- Implication?
  - Stock market crash affected almost everyone

Consumption decline, cont'd

- Avoid default on installment contracts
  - Martha Olney
- Durables purchased on installments
  - Default? Result is loss of wealth
- Loss of income (actual or expected)?
  - Cut back wherever possible so able to make payments
- Implication?
  - Financial institutions matter!