

# Climbing Out of the Great Depression

Barry Eichengreen

April 13, 2011

# Analytical distinctions

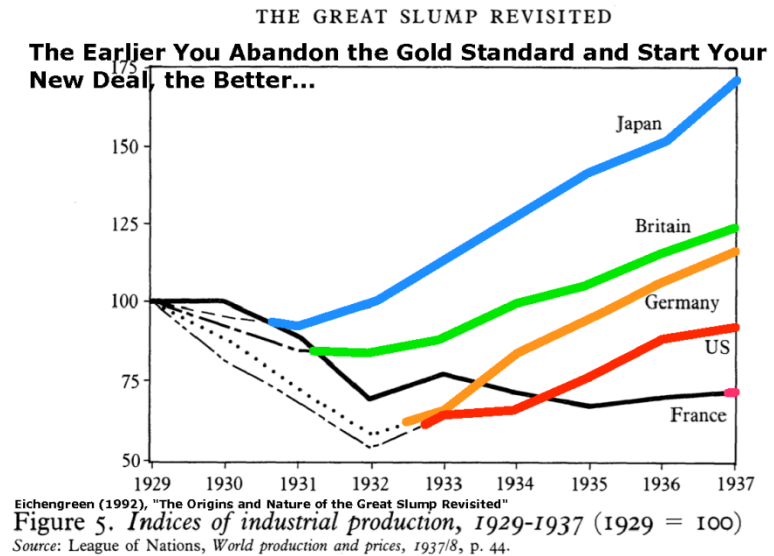
- Three phases of the Great Depression
  - Onset
  - Downward spiral (propagation)
  - Recovery
- US vs. global

# So what ended the Great Depression?

- A. Monetary stimulus/devaluation?
  - But could monetary stimulus work in liquidity-trap-like conditions? Could devaluation work in a big economy? And wasn't devaluation beggar-thy-neighbor?
  - Not surprisingly, there has been considerable debate about this for the last couple of years.
- B. Fiscal stimulus?
  - Understandably, there has also considerable debate in the last couple of years over its role in the 1930s.
    - “The only relevant evidence has been historical evidence....”
- C. The self-equilibrating tendencies of the market?
  - How powerful are they? Could we rely on them then? Can we rely on them now?

# Devaluation as the key to recovery

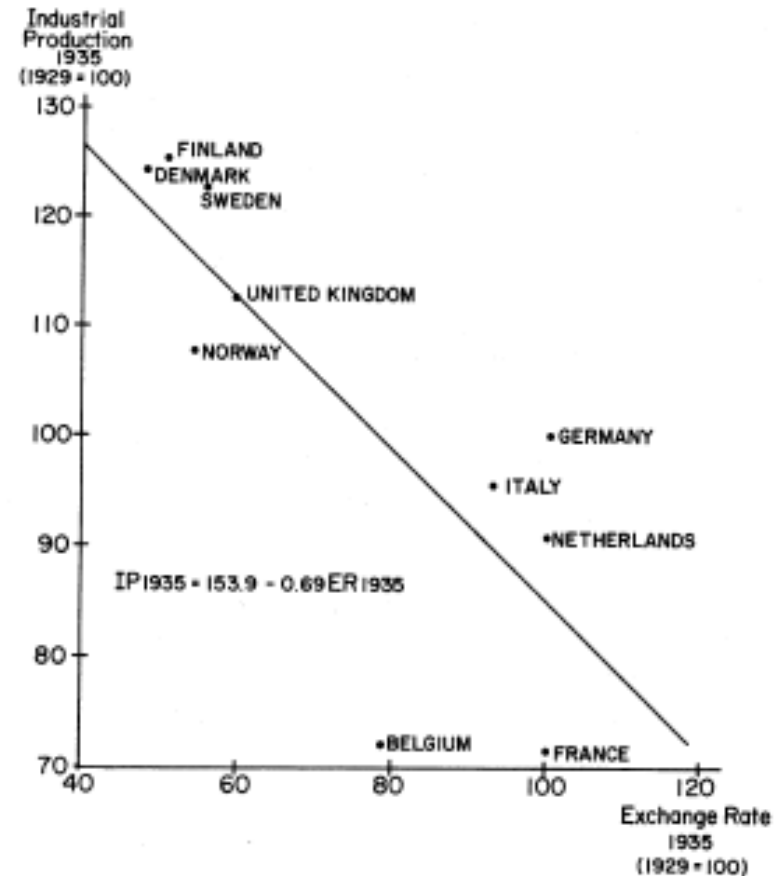
- The timing is there:
  - UK devalued in 1931, began recovering in 1932
  - US devalued in 1933, began recovering in 1934.
  - Czechoslovakia devalued in 1934, began recovering in 1935.
  - Belgium devalued in 1935, began recovering in 1936.
  - France devalued in 1936, began recovering in 1937.



# More on the cross-country evidence

- This figure\* shows the relationship for 10 European countries, comparing the change in output between 1929 and 1935 with the change in the exchange rate (if any).
- Why only these countries?
- So why should we think that this relationship is causal?
  - We can come back to this last question...

\* Barry Eichengreen and Jeffrey Sachs, "Exchange Rates and Economic Recovery in the 1930s," *Journal of Economic History* (1985).



# What about other regions?

- In the *Journal of Economic History* (1990), Jose Campa has extended these results to 10 Latin American countries – the story is essentially the same. So long as they remained on the gold standard, deflation prevailed; when they abandoned it and depreciated, recovery proceeded at the same pace as in Europe.

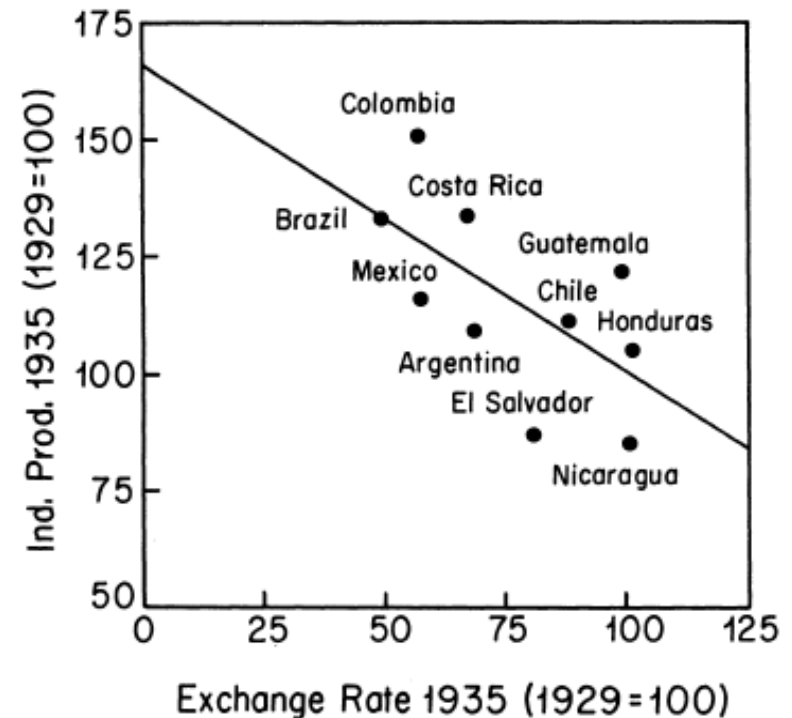


FIGURE 1

# What were the mechanisms linking devaluation to recovery?

- ....

# What were the mechanisms linking devaluation to recovery?

- Devaluation enhanced the competitiveness of exports (hence more external demand). Useful when domestic demand is collapsing.
- It raised final product prices (hence lower production costs). Useful in a deflationary environment.
- It allowed money and credit conditions to be relaxed (hence more investment and more internal demand).
- It gave central banks and governments more leeway to intervene and stabilize the banking system.



Going off gold was what made it possible to relax monetary conditions: again the correlation is there

*Table 10.1. Percentage Change in M1 Between Ends of Successive Years*

Bloc	1931-32	1932-33	1933-34
Gold standard countries	-8.58	-4.37	-0.90
Exchange control countries	-9.44	-2.26	0.44
Sterling area countries	-0.85	3.33	2.13
Other depreciators	13.95	8.13	8.82

# Liquidity trap critique

- The preceding suggests that monetary policy was the key to recovery in the 1930s.
- But the textbook story is that monetary policy was rendered ineffectual by the liquidity trap.
- A liquidity trap, to remind you, is a situation in which expectations of deflation become entrenched, causing interest rates to fall to very low levels.
- When interest rates are very low, banks have no incentive to lend (risks are high, returns are minimal).
- Expansionary open market operations mean that banks get more cash, which they simply hold as excess reserves, rather than lending it out. In this setting, monetary policy can do nothing.
- The phrase originates with Keynes in the *General Theory* (1936), who was writing about the immediately preceding period.
- This would suggest that the monetary expansion made possible by going off the gold standard did little if anything.

# Evidence on the liquidity trap

- Maybe what's needed is devaluation in conjunction with monetary expansion.
- This is Lars Svensson's "fool-proof" solution to the problem of deflation.
  - Svensson emphasized the need to combine two things: an explicit central bank commitment to a higher future price level and a concrete action demonstrating that commitment.
  - He pointed to currency depreciation as an example of such action.
  - Roosevelt's decisions about the dollar over eggs and orange juice....
- The cross-country evidence above suggests that devaluation could vanquish deflationary expectations. By transforming expectations of deflation it rendered monetary policy effective.
- Evidence for the US shows the same thing: when the currency was depreciated starting in April 1933, expectations were transformed, and production of steel, automobiles etc. jumped up.

\* Lars Svensson, "Escaping from a Liquidity Trap and Deflation: The Fool-Proof Way and Others," *Journal of Economic Perspectives* (2003).

# Look how price behavior changed

(dotted line the dollar exchange rate, solid line is the price of cotton)

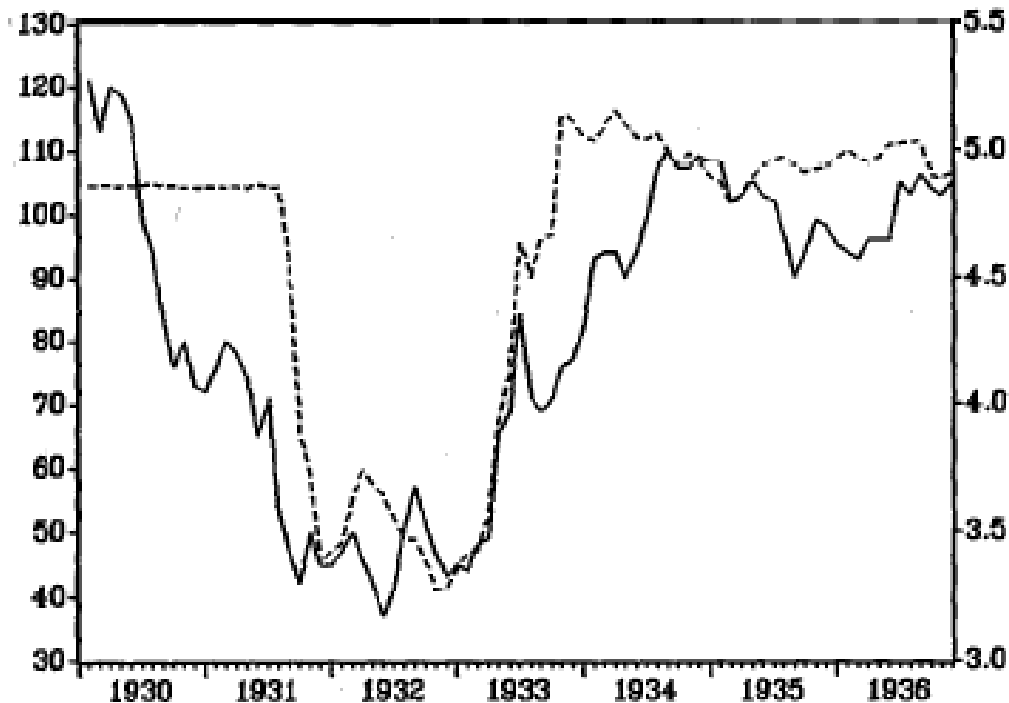


FIG. 3. The price of cotton and the exchange rate, 1930-1936. Solid line: cotton price; dotted line: value of the dollar in pounds.

Source. *Survey of Current Business*, Supplement, 1936, p. 15; Federal Reserve System, 1943, p. 681.

Look how investment spending (solid line) jumped immediately upon dollar devaluation

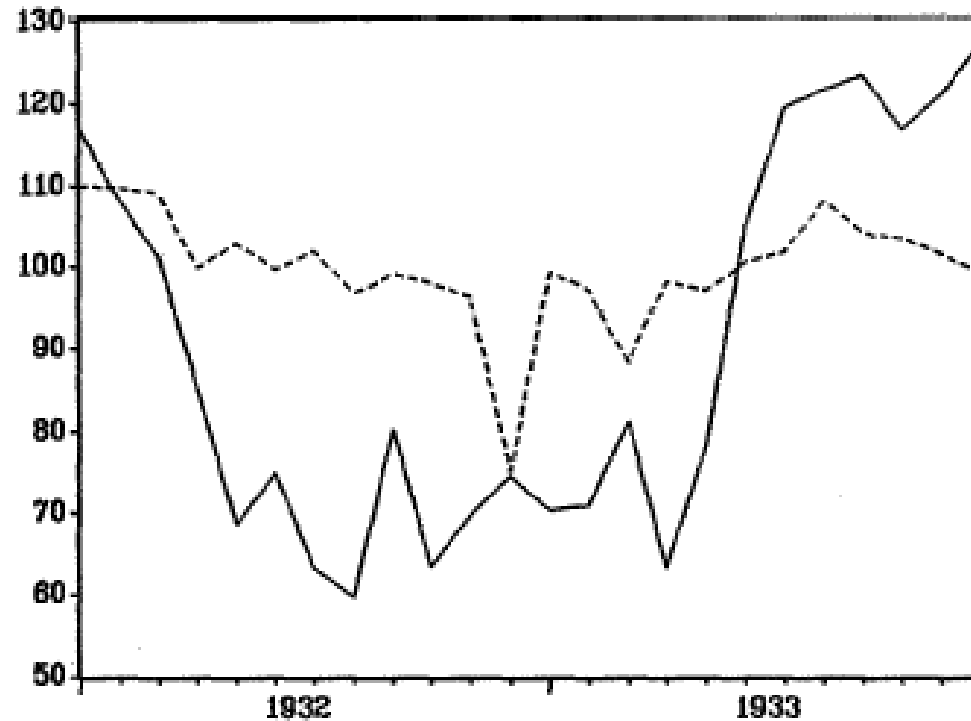


FIG. 2. Indexes of investment and consumption spending, 1932-1933. Solid line: investment spending; dotted line: consumer spending.

Source. Moody's, 1937, pp. a14, a20-21.

# Critiques

- Can everyone devalue at the same time?
- Devaluation is beggar thy neighbor.

# Critiques

- Can everyone devalue at the same time?
  - Maybe so. Maybe they can all credibly announce that they will push up the domestic-currency price of gold.
  - Is this the equivalent of quantitative easing?
- Devaluation is beggar thy neighbor.
  - Devaluation which makes domestic goods more competitive makes foreign goods less competitive. (Negative spillover.)
  - But lower interest rates here also mean lower interest rates there (through capital outflows, as now), boosting foreign demand. (Positive spillover.)
  - Net effect is uncertain. (In practice, countries could have done more to lower interest rates and reflate.)
  - But more depreciation and reflation still would have made all countries better off.

# To be sure, international cooperation offered another way out

- Lower interest rates here weaken our balance of payments, but lower interest rates there strengthen it. Had everyone cooperated in moving in the same direction, no exchange rate change would have been needed.
- This is what countries attempted and failed to arrange at the 1933 World Economic Conference in London.



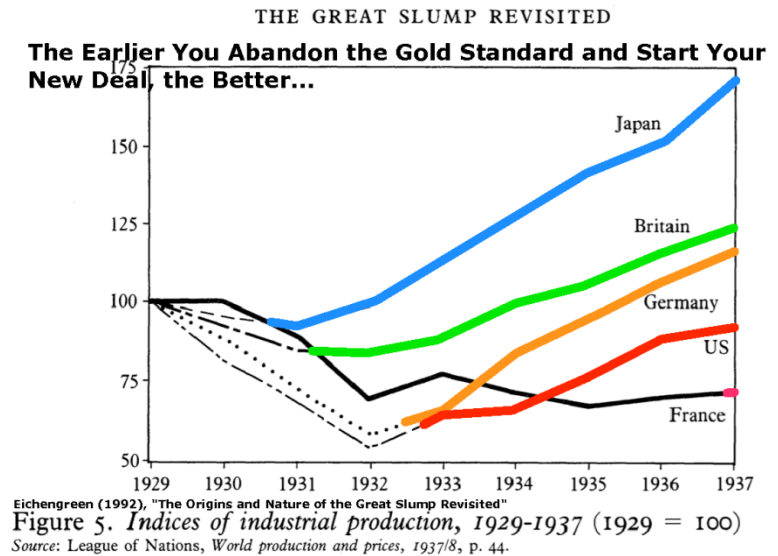


# Why did they fail? Why was international cooperation more generally so inadequate?

- International political conflicts
  - War debts and reparations; pocket battleships, Austro-German customs union.
- Domestic conflicts and constraints
  - Creditors opposed interest rate cuts
- Incompatible conceptual models
  - [Notice the analogy with obstacles to cooperating in bringing about an orderly correction of global imbalances today...]

# So there was no alternative to moving unilaterally

- But why, if the advantages of devaluation were so clear, did some countries fail to move?
- Did they fail to understand the case?
- Hardly, when figures almost exactly like these were published by the League of Nations in the 1930s.



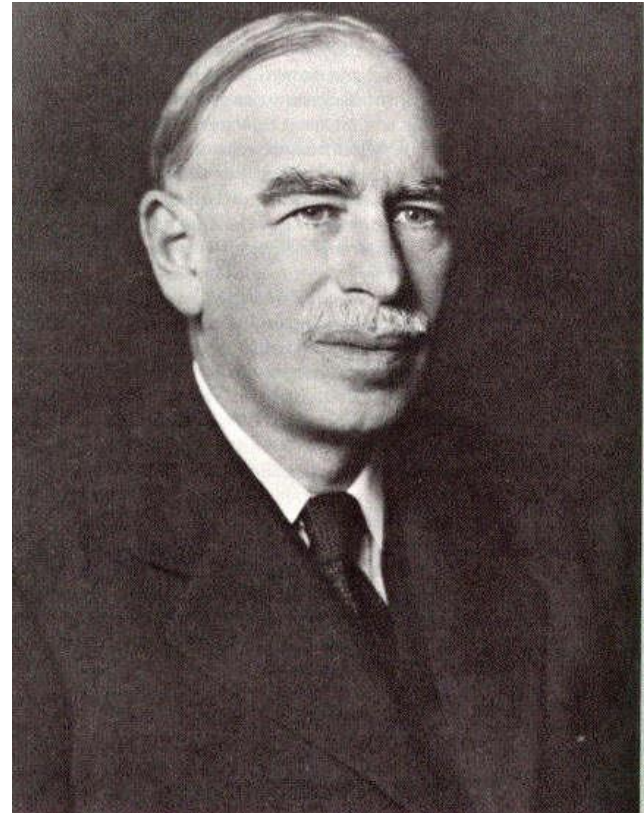
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# Maybe only where the right economic arguments made was the right action taken

- This is often argued – mostly by economists.
  - Keynes in Britain, Ohlin and Lindahl in Sweden, eventually Warren and Pearson in US.
- But aren't economists are naturally predisposed toward this explanation.
- But doesn't this impute too much influence to academic scribblers?
- And there were influential academic/professional voices for devaluation in France, Belgium and elsewhere, which did not provoke a response.

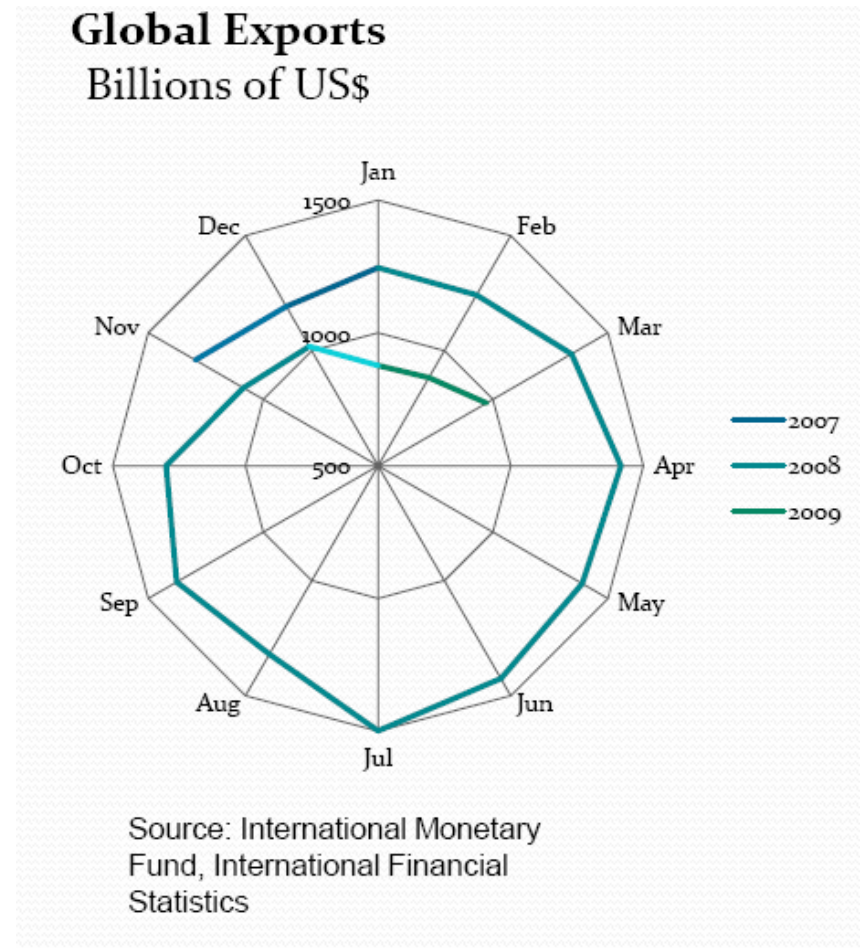
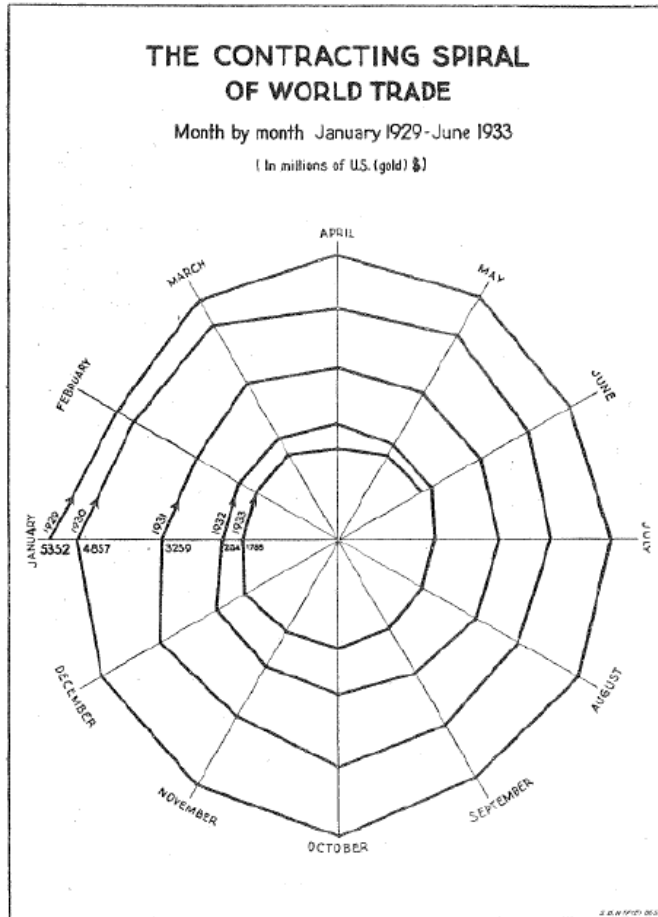


# Role of History

- Countries which clung to the gold standard for longest in the 1930s were those which had suffered high inflation in the 1920s.
- This reflected fears that abandoning gold would reignite high inflation and social conflict.
- If deficits could again be monetized, fiscal restraint might be lost.
- Agreement on need for mutual sacrifice in the interest of financial stability would dissolve.
- Hence, high inflation countries of 1920s (France, Belgium, Italy, Poland) clung to gold standard in 1930s.
- Some countries with severe crises (and totalitarian regimes) imposed exchange control, but they were still reluctant to abandon gold standard orthodoxy.
- How this speaks to the causality question with which we started....
  - Kirsten Wandschneider, "The Stability of the Interwar Gold Standard," *Journal of Economic History* (2008).
  - Nicolaus Wolf, "Scylla and Charybdis: Explaining Europe's Exit from the Gold Standard," *Explorations in Economic History* (2008).

Other things for which this perspective  
can account....

# Why the problem on the right was less serious than on the left



# Trade policy in the 1930s

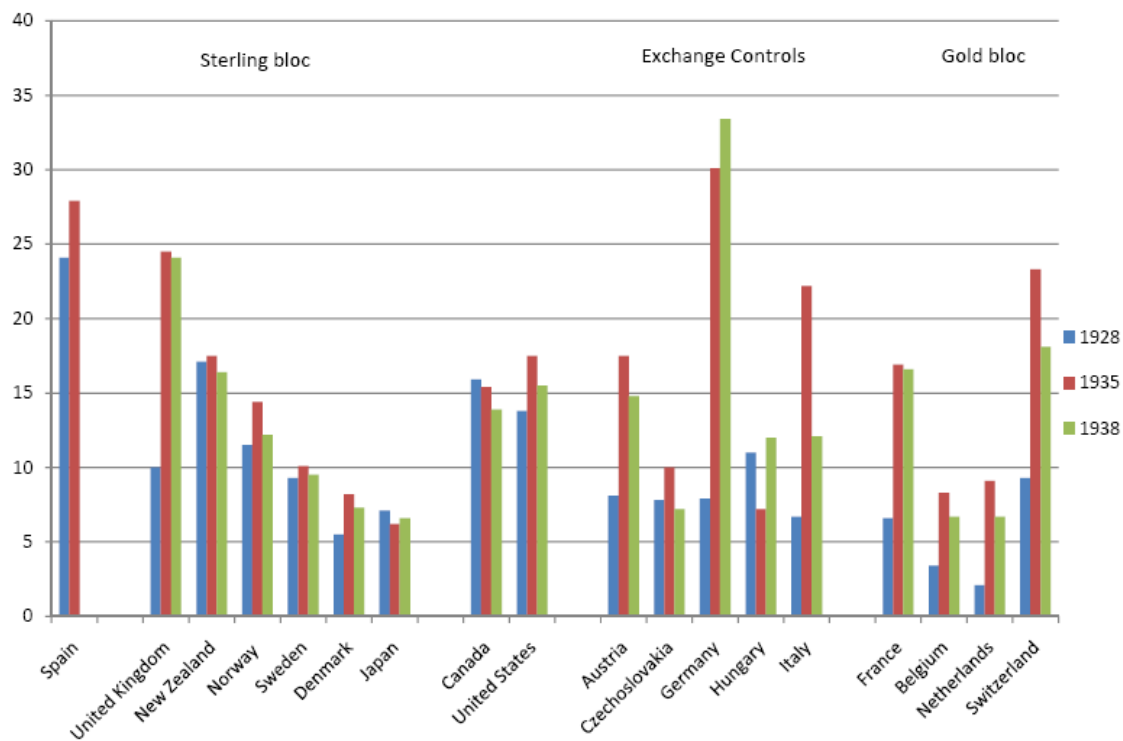
- Debate over Smoot Hawley.
  - Were macroeconomic effects really negative?
    - Inflationary effect in a deflationary world.
  - Certainly, not good for international comity.
- And why this reliance on protectionism?
  - While other aspects of the Depression continue to be debated, there is widespread agreement that trade protectionism was destructive and counterproductive.
  - But what caused it?
  - Existing accounts paint the trade policy response as complete and utter chaos, with every country scrambling to impose higher barriers.





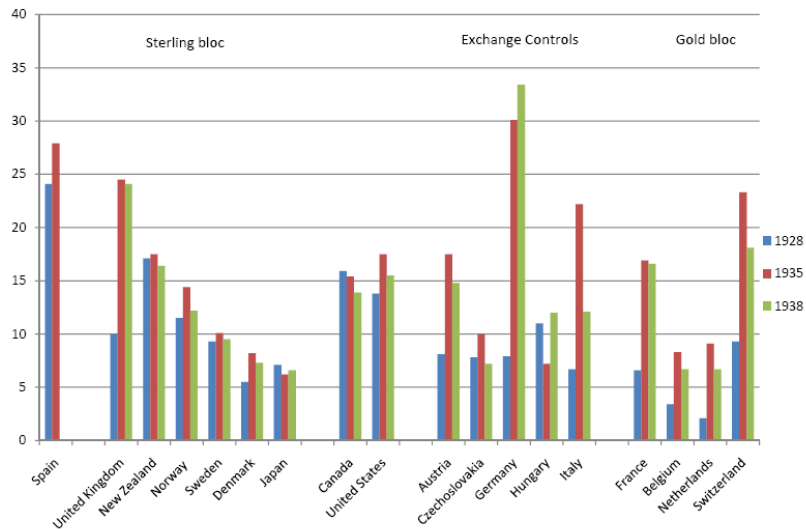
# In fact, the extent of the protectionist response varied widely across countries

## Average tariff rates



- Not everyone responded in the same fashion.
- Why didn't the others respond constructively in the manner of, say, Denmark, Sweden and Japan?

## Average tariff rates

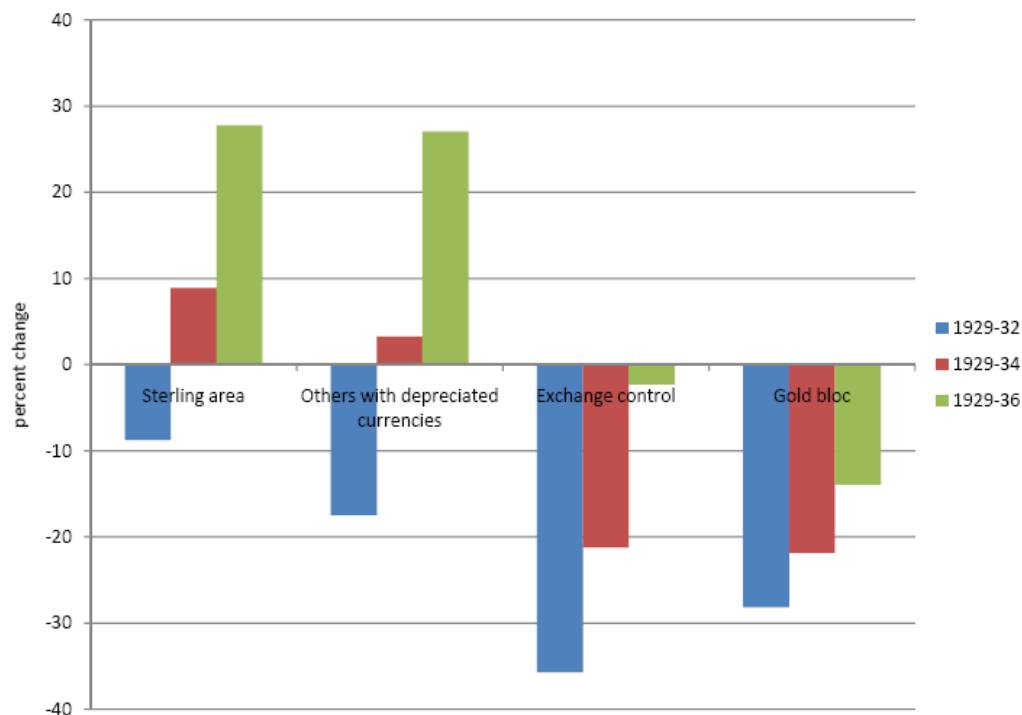


- The answer, as suggested by the way the figure is constructed, focuses on the exchange rate regime and the economic policies associated with it.
- Specifically, countries that remained on the gold standard, keeping their currencies fixed to gold, were more inclined to impose tight restrictions on their foreign trade.
- With other countries devaluing and gaining competitiveness at their expense, they adopted restrictive trade policies to strengthen their balance of payments.
- Perhaps even more importantly, lacking other policy instruments with which to address the deepening slump, they used tariffs and similar measures to shift demand toward domestic goods and thereby stem the rise in unemployment.

- In contrast, countries that abandoned the gold standard and allowed their currencies to depreciate saw their balances of payments strengthen.
- In addition, and at least as importantly, they had other instruments with which to address unemployment.
  - Abandoning gold freed up monetary policy.
  - Interest rates could be cut.
  - Central banks had more freedom to act as LLRs.
- Because these countries now possessed other tools with which to ameliorate the Depression, they were not forced, in desperation, to resort to trade protection as the only available instrument.

They didn't have to resort in desperation to trade restrictions because those alternative responses worked. We see this in the behavior of

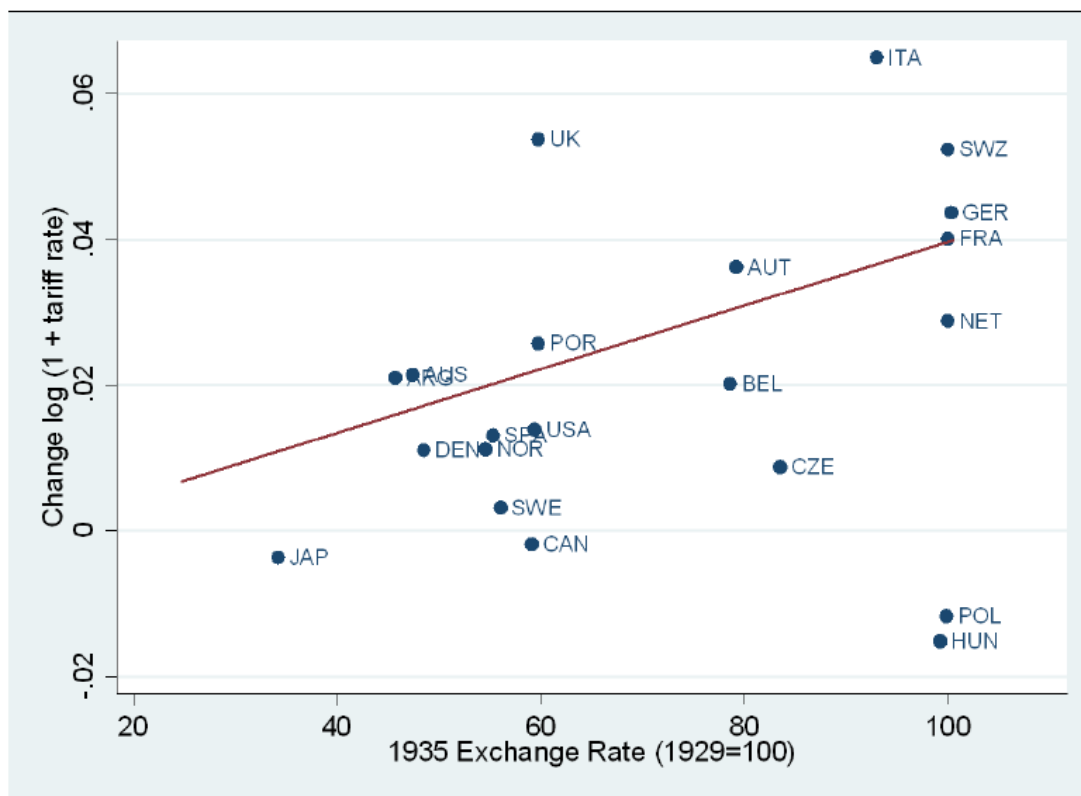
## Industrial production



Evidence: one can regress the change in the tariff rate  
on the change in the exchange rate against gold

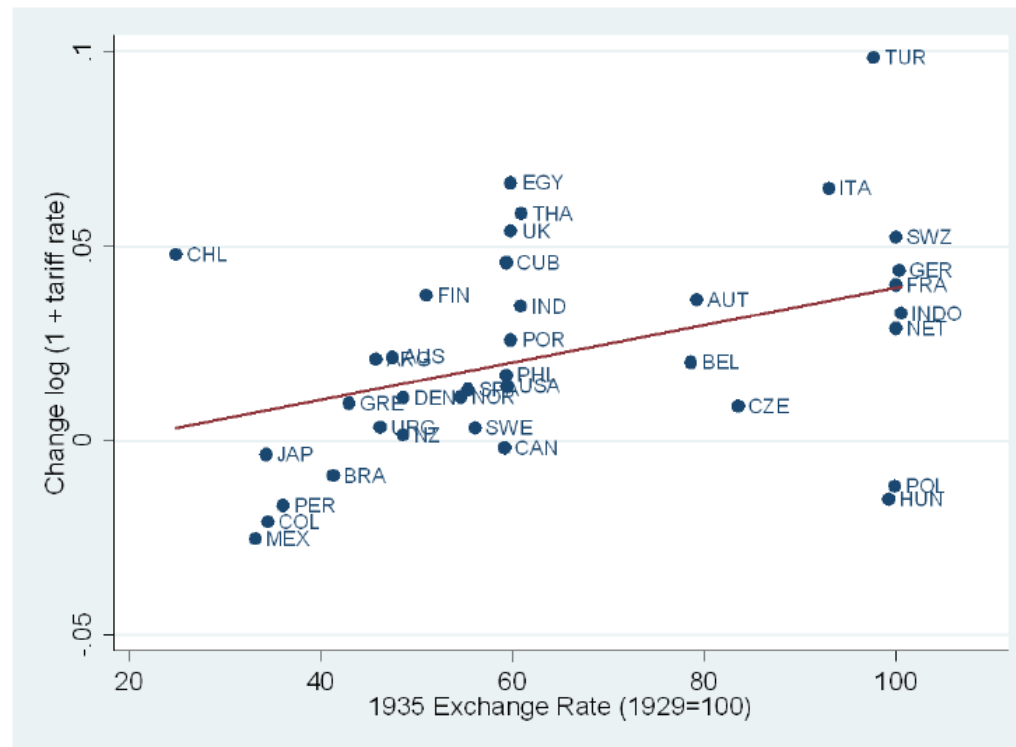
Evidence: one can regress the change in the tariff rate on the change in the exchange rate against gold

## Core countries



Evidence: one can regress the change in the tariff rate on the change in the exchange rate against gold

## Full sample



# Here in a panel of annual data, with controls

Table 2: Dependent Variable:  $\Delta \log(1+\tau)_{it}$

	(1)	(2)	(3)
Exchange Rate (Ratio of Gold Par)	0.21* (0.03)	0.21* (0.04)	0.18* (0.07)
Log of Wholesale Prices	--	0.04 (0.05)	0.23* (0.11)
Log of Industrial Production	--	--	-0.24* (0.10)
N	482	397	152
Countries	38	33	15
F	37.7	14.9	5.2
R <sup>2</sup>			

Estimates include country fixed-effects. Robust standard errors are reported.  
Constant term not reported.



- Can also be done instrumental variables regressions using an indicator of inflation in the 1920s and financial-center status as instruments for the decision of whether or not to stay on the gold standard. (And alternatively for both that decision and the decision to impose exchange controls.)
  - The argument being that this history shaped economic policy decisions in the 1930s. Being historical inheritances, both instruments are exogenous in the sense of being predetermined.
  - In addition, neither variable obviously influenced the decision to protect except insofar as it operated through the exchange rate regime (this being necessary to satisfy the exclusion assumption for a valid instrument), or so it can be plausibly argued.

# Here in cross section, covering 1929-35

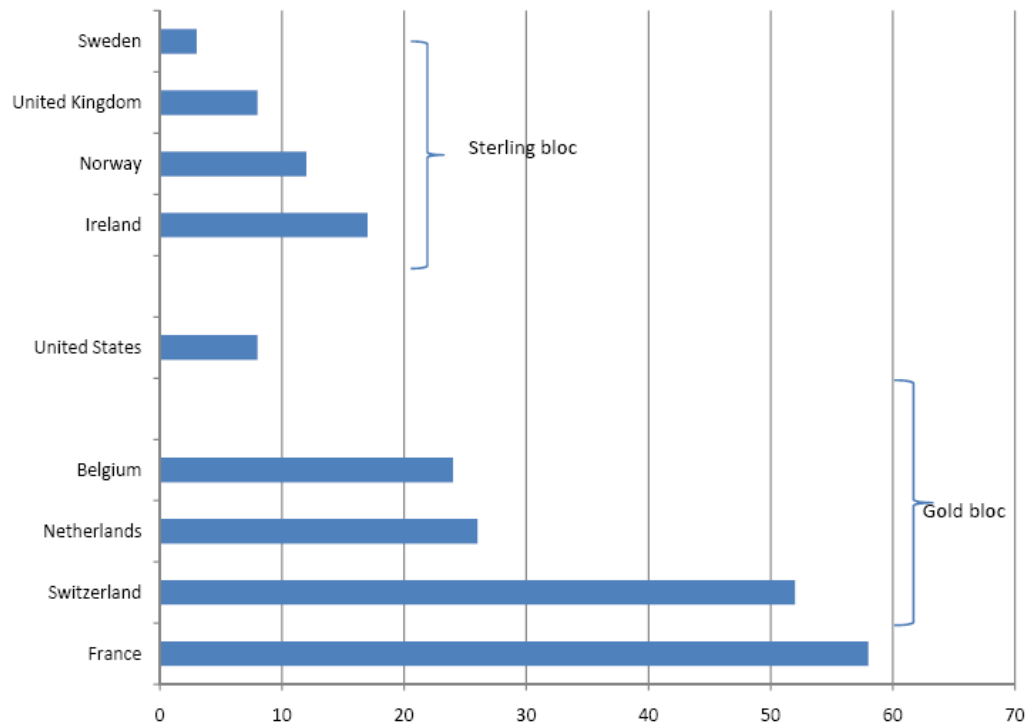
Dependent Variable:  $\Delta \log (1+\tau)_{it}$

	(1)		(2)		(3)	
	OLS	IV	OLS	IV	OLS	IV
Exchange Rate (Ratio of Gold Par)	0.09* (0.05)	0.21* (0.10)	0.10* (0.05)	0.13* (0.07)	0.18* (0.08)	0.35* (0.18)
Exchange Control indicator	--	--	-0.01 (0.03)	-0.06 (0.03)	-0.01 (0.02)	-0.09* (0.05)
Log of Wholesale Prices	--	--	--		0.10 (0.08)	0.27* (0.14)
N	40	40	40	29	35	29
F	3.5	-	2.3	--	3.3	--
R <sup>2</sup>	0.11		0.12	--	0.13	--
First-stage F	--	4.6	--	24.4, 49.8	--	27.1, 39.6

Note: Robust standard errors are reported. Constant term not reported. \* = significance at 10 percent level. Instrument in column (1) is an indicator for financial center country. Instruments for columns (2) and (3) are financial center indicator and log of price level in 1923.

# Nontariff barriers behave the same way

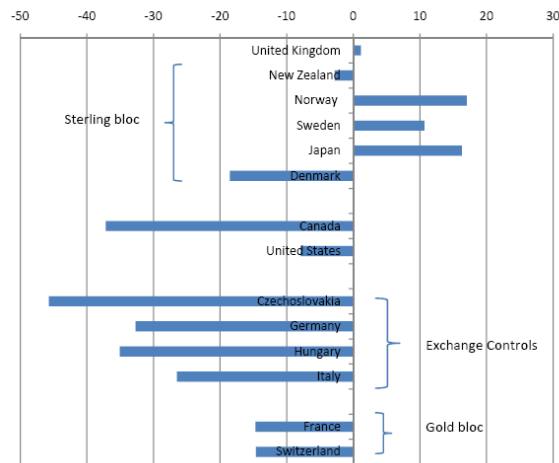
Share of imports subject to license or quota restriction  
(1937)



Exchange controls behave the same  
way

# Trade policy outputs confirm the story

Change in import volume, 1928-1935



- Normally one would expect imports to go down in depreciating countries, up in appreciating countries.
- Here we see the opposite, reflecting changes in the stance of trade policy.

# Implications for today

- Message for post-2008 policy makers would appear to be “to avoid protectionism, stimulate.”
- But the implications, in fact, are a bit more subtle.

- In the 1930s, stimulus meant monetary stimulus.
  - The case for fiscal stimulus had not been developed/was not widely understood.
- Monetary stimulus benefited the initiating country but had a negative effect on its trading partners.
  - The positive impact on its neighbors of the faster growth induced by the shift to “cheap money” was dominated by the negative impact of the tendency for its currency to depreciate when it cut interest rates.
- Thus, stimulus in one country increased the pressure for its neighbors to respond in protectionist fashion.

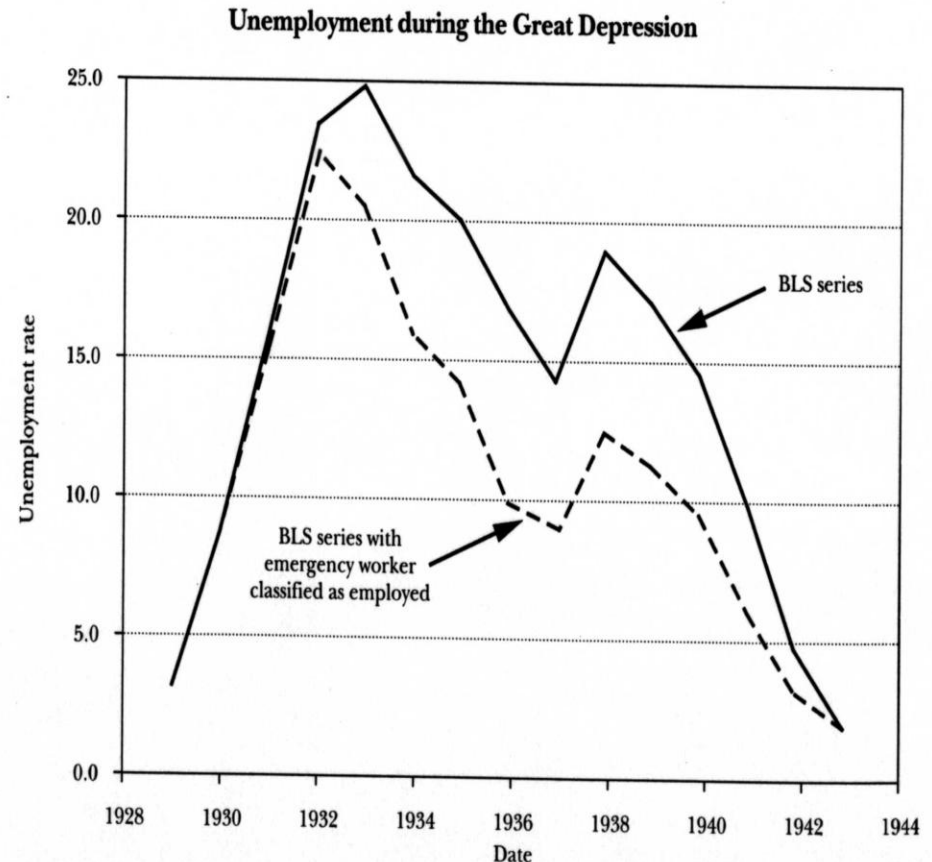
# Today the problem is different because the policy instruments are different

- In addition to monetary stimulus, countries have been applying fiscal stimulus.
- Fiscal stimulus in one country also benefits its neighbors.
  - The direct impact through faster growth and more import demand is positive, while the indirect impact via upward pressure on world interest rates that crowd out investment abroad as well as at home is negligible under current conditions.
- Other countries thus have no reason to respond in protectionist fashion.
- But the initiating country, seeing some of the benefits of its increased borrowing leak out to the neighbors, who are free riding, have an incentive to resort to “Buy America” provisions.
  - Now it is the active country, not the passive country as in the 1930s, that has an incentive to destroy trade.



# But if the US did right things starting in 1933 Then why was recovery so slow?

- Unemployment was still 17 % in 1939.
  - Is it right to regard this as slow recovery, given the 25% starting point?
  - Moreover, there are disputes about whether this number is accurate.
    - The Works Progress Administration had 3.4 million on its payroll in 1936, and was responsible for prominent public works. Should we count these relief workers as employed or unemployed?
- Does the figure on the right look like slow recovery to you?
- Be this as it may, “why was recovery so slow?” tends to be the way the question is framed. I will proceed in that tradition.



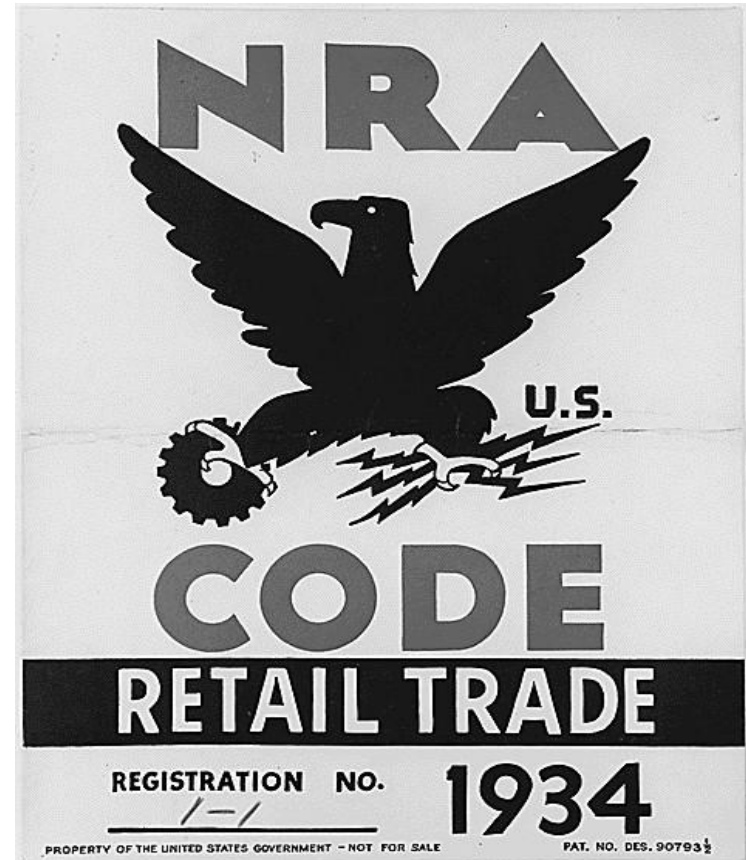
Michael Darby, “Three and a Half Million U.S. Employees Have Been Mislaid: Or, an Explanation of Unemployment, 1934–41,” *Journal of Political Economy* 84 (1976): 8.

# Potential Explanations for Slow Pace of U.S. Recovery

- Misguided industrial policy
- Misguided monetary policy
- Misguided fiscal policy

# FDR's New Deal

- New Deal era had many positive legacies:
  - Child labor outlawed
  - Minimum wage laws passed
  - Unemployment insurance instituted
  - Public relief (welfare) created
  - Social security act passed in 1935
  - Bank regulation tightened
  - Control of monetary policy rationalized and centralized at Federal Reserve Board (1935)
- Yet, at the same time:



- At the same time, the NIRA also entailed:
  - ❑ Codes of fair conduct, by industry
  - ❑ Hours limitations
  - ❑ Higher wages
  - ❑ Legalization of cartels

# Why Was This Approach Taken?

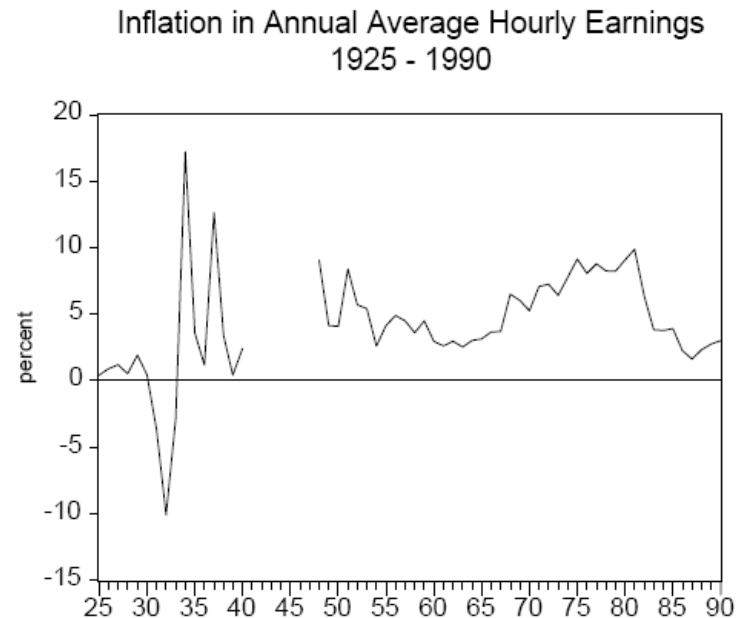
- View that output was too high to sustain profitability and “fair prices”
- Hence, cartels needed to restrict output
  - (Note the analogy with Agricultural Price Supports and taking farm land out of production. Source of Roosevelt’s economic advice – two Ag. Economists from Cornell -- is significant here.)
- But equity (and labor peace) meant sharing benefits with workers
- Hence, higher prices meant higher wages
- Fundamental misdiagnosis: problem was not that output was too high.

# Why This Misdiagnosis

- Analogy with agricultural overproduction (a chronic problem by the late 1920s)
- In addition, analogy with WWI: crisis akin to war.
  - Then the crisis had been dealt with by corporatist agreements.
  - So corporatist approach was again tried.
  - But then costs of production had been irrelevant
  - Now they were key

# Consequences

- Producers were encouraged to limit output to drive up prices, when the problem was too little output, not too much!
- Wages and hence costs of production rose in 1933 despite 20% unemployment (something that would be inconceivable absent these interventions).
- Facing higher costs, and under pressure to limit production, industrial production fell back starting in the final months of that same year.



# Misguided monetary policy

- Money supply expanded at 10% annual rate between 1933 and 1936.
- But between June 1936 and June 1937 the money supply stopped rising, precipitating another recession.
- Why? The Fed raised reserve requirements on banks. This was a major contractionary shock.
- Why? Because it was concerned about inflation and another bubble.
  - This was one of Friedman and Schwartz' (and Romer's) famous "exogenous" monetary shocks.
- We hear reminiscent rhetoric from market participants and regional reserve bank governors today. (Inflation is coming...)

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Romer

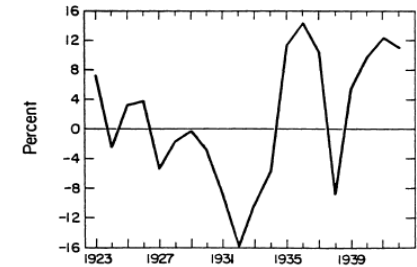


FIGURE 6

DEVIATIONS OF MONEY GROWTH RATE FROM NORMAL, 1923-1942

Notes: The normal money growth rate is defined as the average growth rate of M1 between 1923 and 1927. The deviations are shown lagged one year because this is the form in which they enter my calculation.

Source: The data on M1 are from Friedman and Schwartz, *Monetary History*, table A-1, column 7, pp. 704-34.

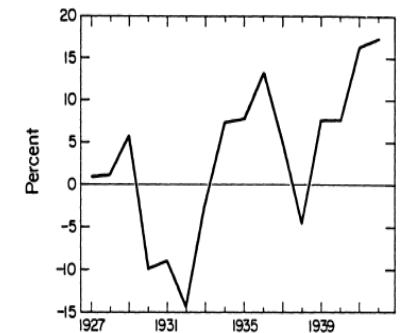
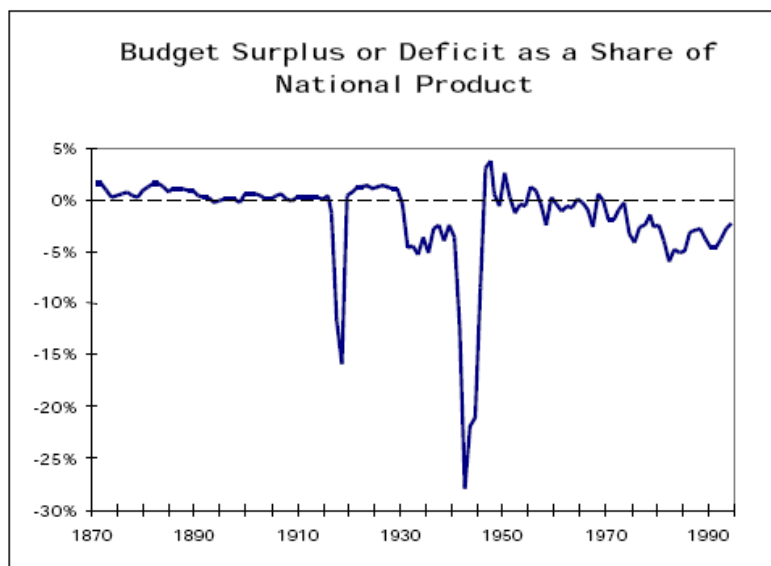


FIGURE 1

PERCENTAGE CHANGES IN REAL GROSS NATIONAL PRODUCT, 1927-1942



# Moreover, the fiscal policy response was timid



- A 18 percentage point rise in the unemployment rate implies a 36% fall in private spending (Okun's Law).
  - As we saw, real GDP fell by a bit less than this (25 per cent).
- With a multiplier of 2, fiscal stimulus of 20% of GDP would have been required – instead we see a swing of 6%.
  - And most of that swing was induced by the fall in revenues (the full employment deficit never exceeded 2%).
- Further proof is now the contractionary fiscal policy of 1937\* which coincided with the 1937 recession.

\* FDR had grown concerned with balancing the budget, so he pushed through cuts in public spending and increases in taxes. In addition, social security taxes were the collected for the first time. And there was no Veteran's bonus.

# Christina Romer uses a simple reduced form model to estimate the contribution of fiscal policy in the 1930s (look hard...)

*Ending of the Great Depression*

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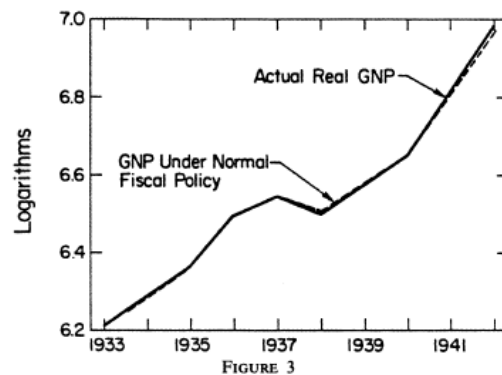


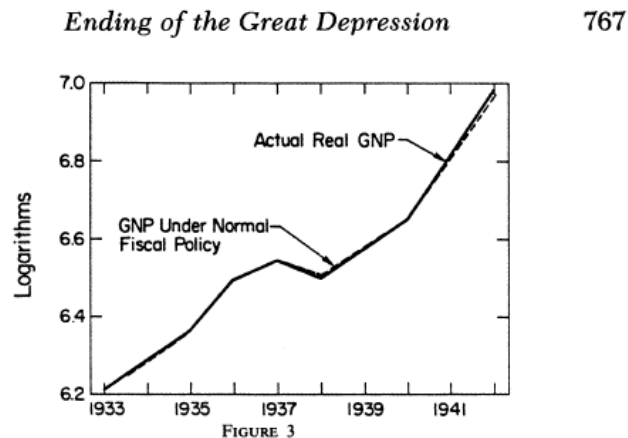
FIGURE 3

ACTUAL OUTPUT AND OUTPUT UNDER NORMAL FISCAL POLICY, 1933-1942

*Note:* The dashed line shows the path of the log-value of real GNP under the assumption that fiscal policy was at its normal level throughout the mid- and late 1930s; the solid line shows the path of actual real GNP.

*Sources:* The calculation of output under normal fiscal policy is described in the text. The source for real GNP is the same as in Figure 1.

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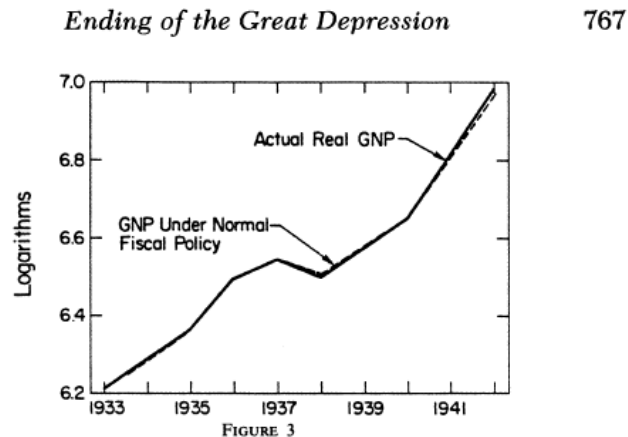
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- What is her methodology?
- What drives her conclusions?

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- What is her methodology?
  - Two recessions, 2 unknown multipliers.
  - 1920-1 and 1937-8 policy initiatives were exogenous to the economy.
- What drives her conclusions?
  - Arithmetically, output fall is bigger in 1937-8, and swing in monetary policy is also bigger (relative to swing in fiscal policy).
  - Hence the methodology assigns a big weight to monetary policy (large money multiplier).

# Can one do it differently?

- Miguel Almuna, in a paper for this course a couple of years ago, used defense spending as an instrument for fiscal policy, and found larger fiscal multipliers.
- What might the problems with this be?

Table 1: Panel Regressions. Dependent variable: change in log real GDP

	OLS				IV			
	FE	RE	FE	RE	FE	RE	FE	RE
DG	0.057** (0.016)	0.056** (0.016)	0.053** (0.015)	0.054** (0.014)	0.195** (0.068)	0.194** (0.065)	0.154 (0.127)	0.229** (0.067)
r	-0.008** (0.003)	-0.002 (0.002)	-0.003 (0.004)	0.003 (0.002)	-0.015** (0.005)	-0.015** (0.004)	-0.060 (0.105)	0.0142 (0.009)
Constant	0.060** (0.013)	0.031** (0.009)	0.049* (0.019)	0.028* (0.012)	0.085** (0.022)	0.086** (0.030)	0.241 (0.379)	-0.024 (0.035)
Year dummies	no	no	yes	yes	no	no	yes	yes
Observations	332	332	332	332	328	328	328	328
R-squared	0.024	0.040	0.261	0.288	0.031	0.033	0.024	0.176

Notes: Panel formed by 27 countries in the period 1925-1939. Standard errors are in parenthesis. The statistical significance is + significant at 10%; \* significant at 5%; \*\* significant at 1%. FE stands for fixed-effects estimation and RE stands for random-effects estimation. In the IV models, DG and r are instrumented with the change in defence spending and a gold standard dummy.

# Conclusion: Could “It” Happen Again?

- The typical answer (offered in lectures like this one) is “no, ‘it’ couldn’t.”
  - Now monetary policy makers know how to respond.
  - Now there are no fixed exchange rates to constrain their response.
  - We have automatic fiscal stabilizers and a larger public sector in which the level of demand is relatively stable.
  - We understand the case for fiscal stimulus.
  - We have deposit insurance, a financial safety net, and a lender of last resort to stabilize the banking and financial system.

- But if this reassuring answer is correct, then how do we explain the events like these?
- Did our monetary policy makers, viewing events through the lens of 1930, miss the shadow banking system and the importance of derivatives?
- Is it that we have been slow to get the fiscal stimulus underway?
- Are there more fundamental reasons to worry about the conventional wisdom?

## World industrial production then and now

