

Navigating Constraints: The Evolution of Federal Reserve Monetary Policy, 1935-59

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Introduction

- The Fed and the global economy, 1933-59:
 - After 1933, the Fed’s role in international policymaking was greatly reduced (“In the Backseat”).
 - With important exceptions (gold inflows in the ‘30s; WWII), international considerations had relatively little influence on the Fed’s decision making, especially during 1946-59.
- The reduced role and limited influence of global forces was perhaps not a bad thing – The 1950s are now widely regarded as one of the Fed’s best decades.
- An older literature (before the Great Inflation) had given the Fed’s policy in the 1950s mixed reviews:
 - Keynesians criticized the Fed as too tight
 - Monetarists criticized the Fed for procyclical money growth
- Meltzer (2009) is still doubtful.
- Romer & Romer (2002) conclude that the Fed ran a “sophisticated” policy in the 1950s that abided by the Taylor principle, similar to the Great Moderation and unlike the Great Inflation era.

Our Paper

- We also study the policy of the 1950s, but look backward in time to discern how policy evolved from the disaster of the Great Depression to the apparent success of the 1950s.
- Whereas others consider whether Fed officials had a good understanding of how to implement policy (Romer/Romer vs. Meltzer), we focus on the constraints the Fed faced in executing policy. Both are important: Successful outcomes require both the right approach and the freedom to execute.
- We begin in the mid-1930s, after significant reforms to the financial system and the Fed, especially the Gold Reserve Act of 1934 and Banking Act of 1935.

Game Changing Legislation

- Gold Reserve Act of 1934:
 - Required the Fed to transfer its gold to the U.S. Treasury
 - Fixed the price of gold at \$35/oz
 - Established the Exchange Stabilization Fund using \$2 billion “profit” on the Treasury’s newly acquired gold. The Treasury could now “assume complete control of general credit conditions and negate any credit policies that the Federal Reserve might adopt.”
- Banking Act of 1935:
 - Restructured the Fed in favor of the Board of Governors (increased political influence, public accountability)
 - Allowed the Board to adjust required reserve ratios

Outline

- First, we describe policy empirically: To what extent did the Fed respond to expected inflation and output gaps during 1935-59? (RR, reserves, interest rates)
- We then investigate the responsiveness of reserves and interest rates to specific Fed actions (RR, OMOs, Discount Rate), which could indicate something about the constraints on the Fed's ability to conduct monetary policy.
- We also draw on Fed reports, records of policy deliberations, and other sources to study how policy evolved over time.

Three Eras

- 1935-41: The Fed was constrained by both international conditions (gold flows) and political pressures (Treasury dominance).
 - The Fed responded to expected inflation and output.
 - But was limited in how it could respond. By mid-1936, the Fed's SOMA was too small to soak up excess reserves; discount rate hikes were pointless because banks weren't borrowing from the Fed.
 - Fed doubled required reserve ratios, but backed off under pressure from the Treasury.
- 1941-51: The Fed pegged interest rates during the war. After the war, the Fed sought to both control inflation and maintain low interest rates. Reserve requirements again important. Strong political constraint.
- 1951-59: A period unusually free of external pressures on the Fed. The Fed could "lean against the wind," and it did. RR less important than OMO's and discount rate. Approach similar to 1920s.

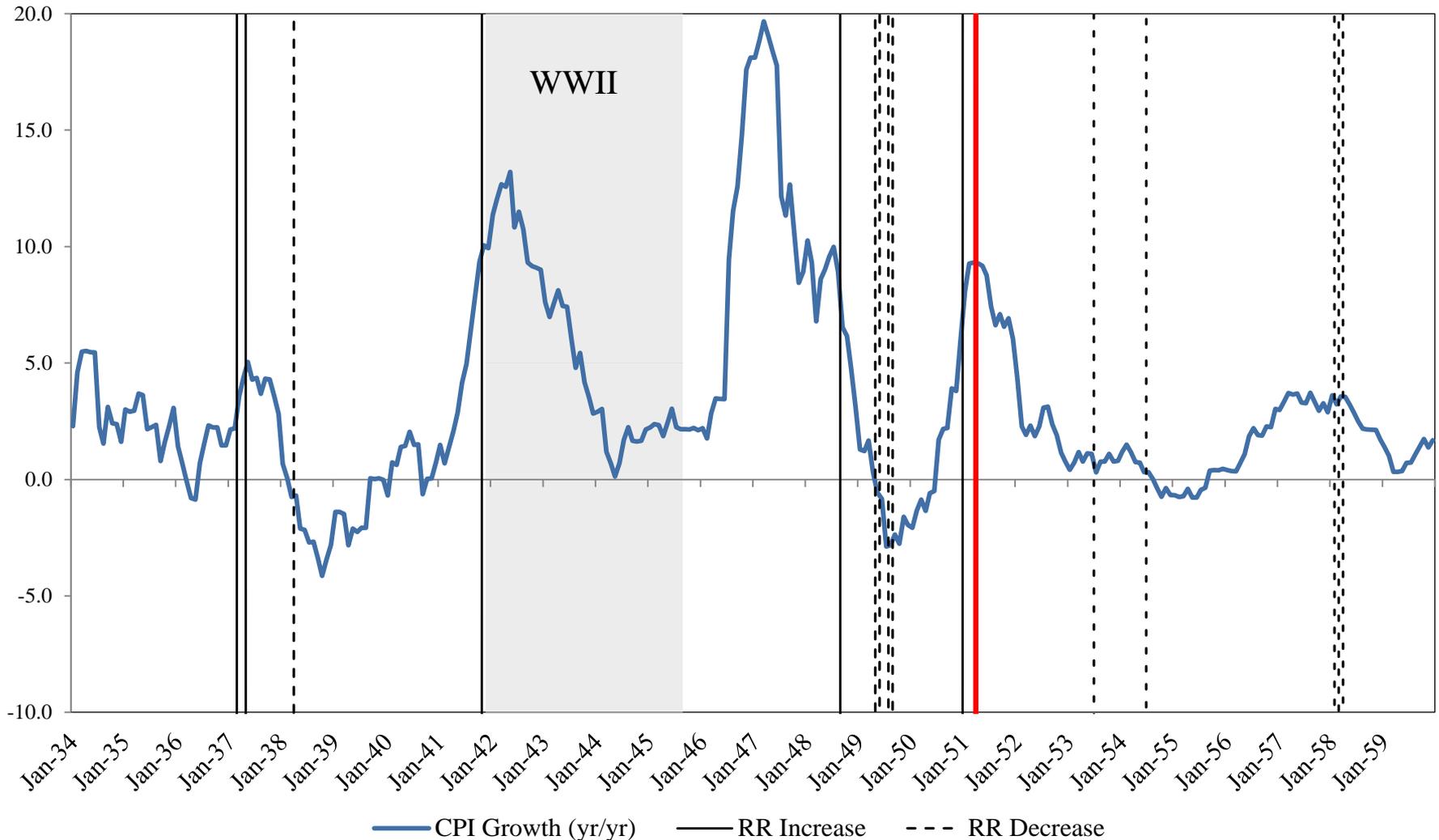
Reserve Requirements were a key part of policy

- By 1932, Fed recognized that reserve requirements (RR) could be an integral part of monetary policy, rather than a means of assuring bank liquidity.
- Banking Act of 1935 allowed the Fed to set RR within a range up to twice the level of 1935.
- RR became important when Fed's traditional tools (OMOs and d-rate) were either impotent or devoted to other objectives.
- Fed did not change RR lightly—deliberations are revealing about policy goals and strategy.

Required Reserve Ratios, 1919-59

Effective Date ¹	Net Demand Deposits			Time Deposits (all bank classes)
	Central Reserve City banks	Reserve City banks	Country banks	
1913—Dec. 23	18	15	12	5
1917—June 21	13	10	7	3
1936—Aug. 16	19.5	15	10.5	4.5
1937—Mar. 1	22.75	17.5	12.25	5.25
1937—May 1	26	20	14	6
1938—Apr. 16	22.75	17.5	12	5
1941—Nov. 1	26	20	14	6
1942—Aug. 20	24	20	14	6
1942—Sept. 14	22	20	14	6
1942—Oct. 3	20	20	14	6
1948—Feb. 27	22	20	14	6
1948—June 11	24	20	14	6
1948—Sept. 24, 16	26	22	16	7.5
1949—May 5, 1	24	21	15	7
1949—June 30, July 1	24	20	14	6
1949—Aug. 1	24	20	13	6
1949—Aug. 11, 16	23.5	19.5	12	5
1949—Aug. 18	23	19	12	5
1949—Aug. 25	22.5	18.5	12	5
1949—Sept. 1	22	18	12	5
1951—Jan. 11, 16	23	19	13	6
1951—Jan. 25, Feb. 1	24	20	14	6
1953—July 9, 1	22	19	13	6
1954—June 24, 16	21	19	13	5
1954—July 29, Aug. 1	20	18	12	5
1958—Feb. 27, Mar. 1	19.5	17.5	11.5	5
1958—Mar. 20, Apr. 1	19	17	11	5
1958—Apr. 17	18.5	17	11	5
1958—Apr. 24	18	16.5	11	5

Inflation and changes in RR, 1934-59

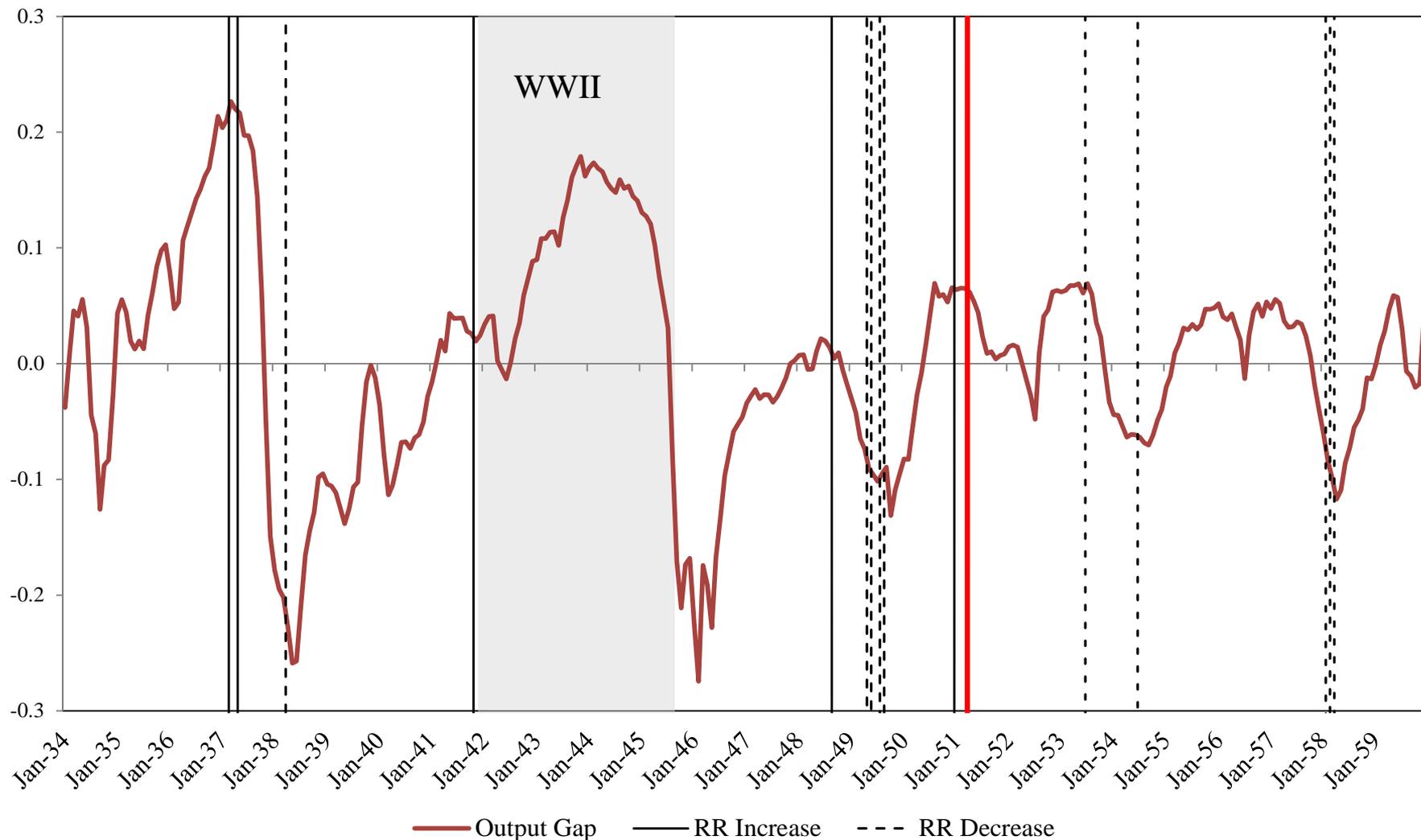


— CPI Growth (yr/yr) — RR Increase - - - RR Decrease

Sources: Bureau of Labor Statistics & Haver Analytics

Last Observation: December 1959

Output Gap and Changes in RR Ratios, 1934-59



— Output Gap — RR Increase - - - RR Decrease

Sources: Board of Governors & Haver Analytics

Last Observation: December 1959

“Taylor rule” Model of ΔRR
(ordered logit)

	1935-1959
Predicted output gap	18.15*** (3.34)
Predicted rate of inflation	0.56*** (3.12)
Constant1	-1.34*** (2.73)
Constant2	4.32*** (5.02)
Observations	78
LR χ^2	43.69
Pseudo R ²	.34

Monetary Policy Targets

- The Fed adjusted RR in response to inflation and output, but did that show up in broader measures of policy?
- Romer-Romer (2002) assert that the Fed targeted the Fed funds rate in the 1950s, similar to 1989-present.
- History suggests that the Fed was more eclectic, using its policy tools to vary free reserves ($FR=ER-BR$) to influence bank lending and short-term interest rates. In the 1950s, the Fed wanted to avoid the appearance of pegging rates (Muelendyke, 1998; Meltzer, 2009).
- Did Fed actions impact free reserves or interest rates?
- Did free reserves or interest rates respond systematically to expected inflation or output?

Policy Action Impact on Free Reserves

	Period 1 1935m1- 1941m9	Period 2 1947m1- 1951m12	Period 3 1952m1- 1959m9
Holdings of US Government securities	1.31** (0.55)	-0.02 (0.01)	0.12** (0.05)
Reserve requirements	-230.9*** (35.9)	-42.1*** (15.2)	35.1 (61.9)
Discount rate	231.7 (437.9)	-52.8 (68.7)	-267.10** (104.19)
Constant	3953.6 (2492.4)	1924.0 (275.3)	-3057.5 (1973.7)
Observations	81	60	93
F-statistic	14.5	8.3	3.7
Adjusted R ²	.33	.27	.08

Observations

- Changes in reserve requirements had a significant impact on free reserves (and interest rates) in Periods 1 and 2, but not in Period 3. After the Accord, reserve requirements were less important for policy as the Fed reverted to using traditional tools.
- OMO's and discount rate changes had significant impacts on free reserves (and interest rates) after the Accord.
- OMO's had a marginal impact in Period 1, but not in Period 2.
- Did the Fed vary free reserves (or interest rates) systematically in response to expected inflation or output?
 - Only after the Accord.

Free Reserves Reaction Functions

	Period 1 1935q1-1941q3	Period 2 1947q1-1951q4	Period 3 1952q1-1959q3
Predicted output gap	-1246.2 (2687.4)	506.7 (1041.3)	-4641.9** (2027.9)
Predicated rate of inflation	25.9 (97.7)	-5.2 (19.9)	-194.2* (108.2)
Constant	3519.4** (1627.6)	620.5*** (103.5)	280.3* (154.5)
Observations	27	20	31
F-statistic	0	0.28	11.4
Adjusted R²	-	-0.08	.41

Interest Rate Reaction Functions

	Period 1 1935q1-1941q3	Period 2 1947q1-1951q4	Period 3 1952q1-1959q3
Predicted output gap	0.04 (0.34)	0.19 (1.56)	6.39** (2.99)
Predicated rate of inflation	-0.01 (0.01)	-0.00 (0.03)	0.18 (0.14)
Constant	0.74*** (0.10)	1.58*** (0.45)	2.38*** (0.40)
Observations	27	20	31
F-statistic	9.78	0	6.12
Adjusted R ²	.40	-	.26

Constraints on the Fed

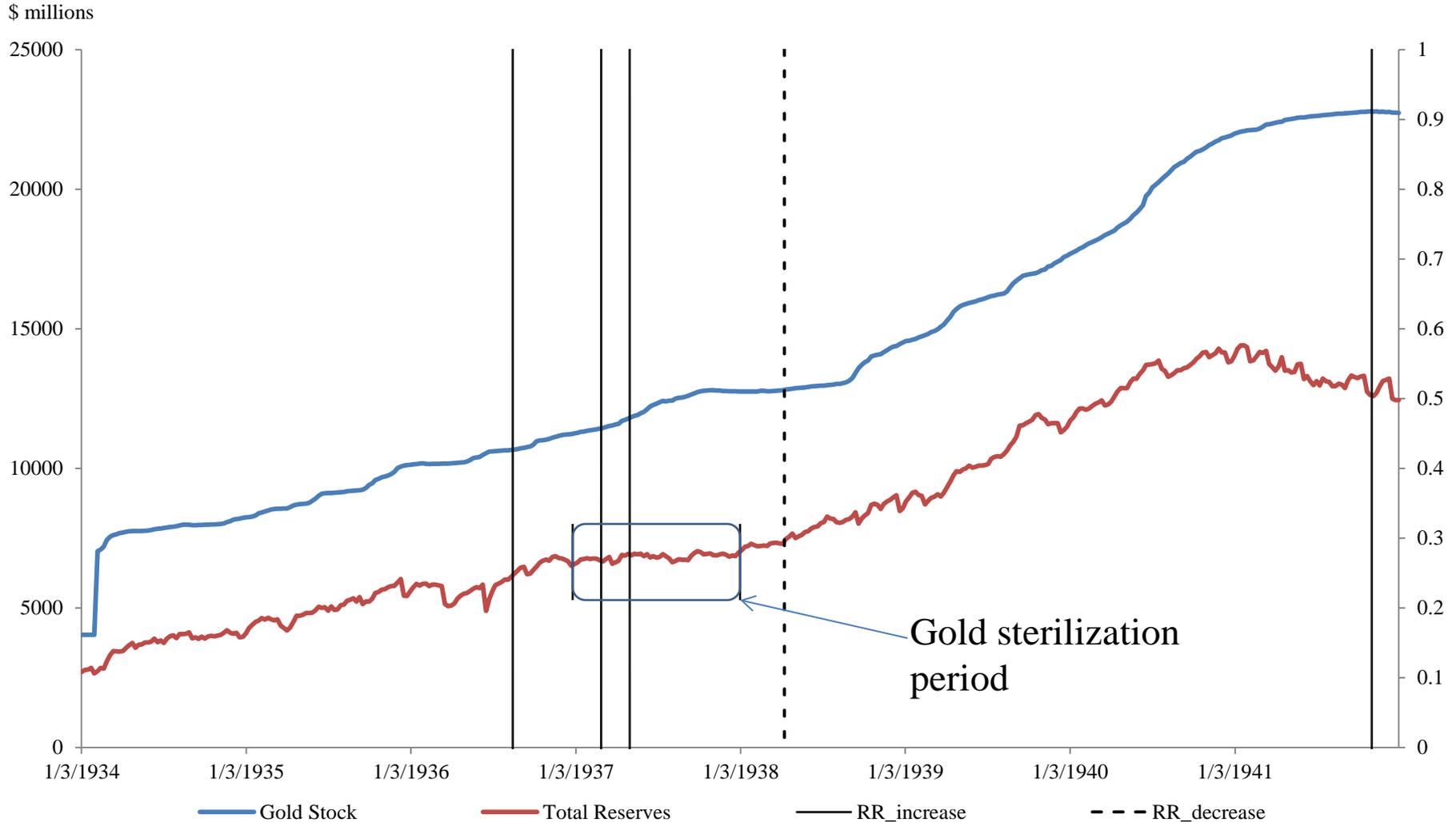
(why the Fed couldn't use free reserves for policy)

- 1935-41:
 - International: gold inflows drove bank reserves and money stock
 - Political: pressure from Tr. Sect. Morgenthau
- 1942-51:
 - Political: goal of low borrowing rates for the Treasury
 - International: some concern with gold (minimal)
- 1952-59: Neither international nor political constraints were binding.

1930s: Gold Flows and Monetary Policy

- Gold inflows were the primary source of reserves. The Fed worried that growth of reserves could spark inflation but was unable to sterilize inflows systematically (unlike the 1920s).
- The Fed doubled reserve requirements in 1936-37 to convert *excess* reserves into *required* reserves.
- The Treasury sterilized gold inflows from Dec. 1936 to early 1938.
- Fed cut RR and Treasury ended sterilization in 1938. Gold inflows continued to drive reserves until 1941 (little or no impact from 1942-59).

The Gold Stock and Bank Reserves, 1934-41



Sources: Board of Governors, *Banking and Monetary Statistics*
Last Observation: December 31, 1941

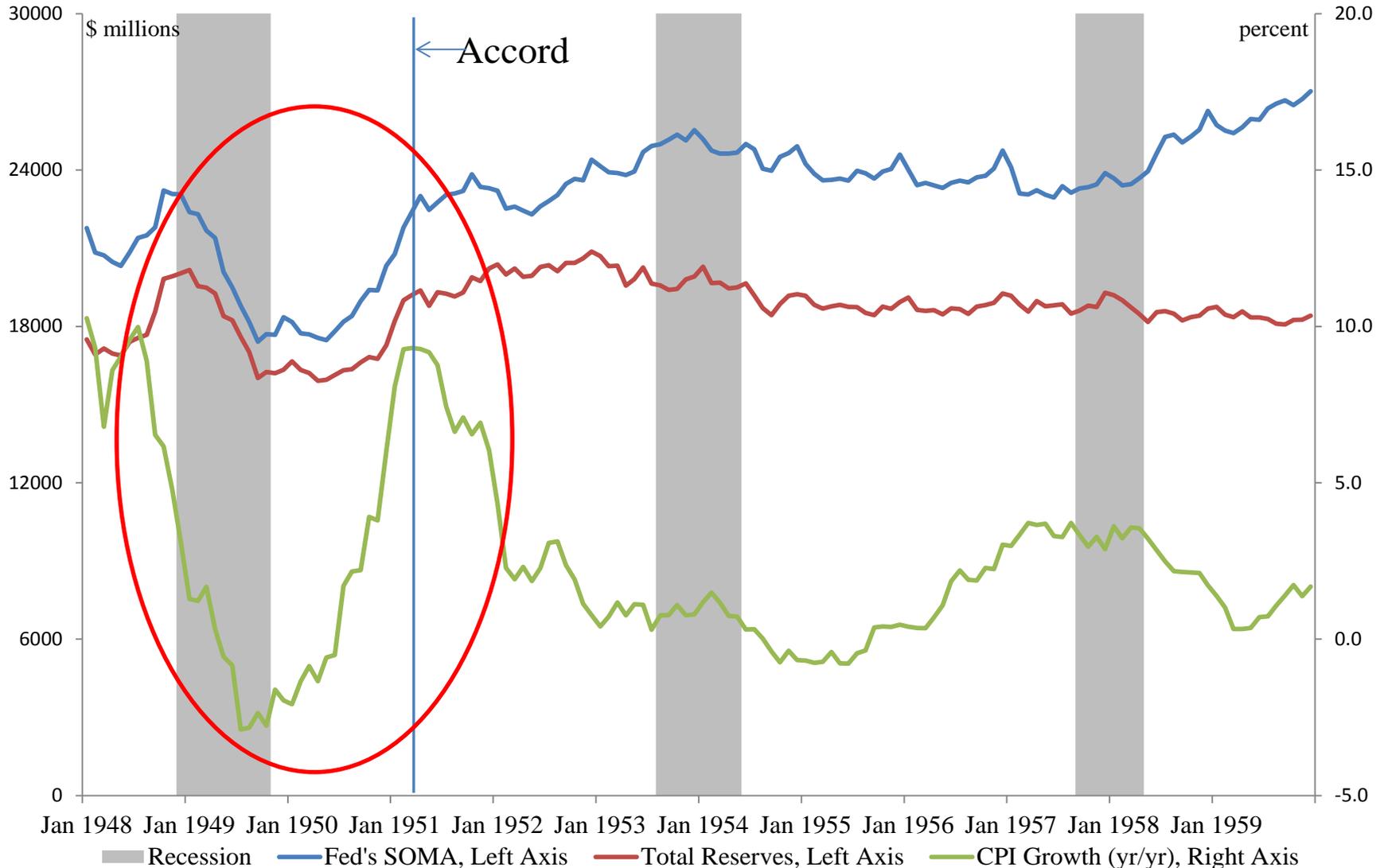
Gold Flows Drove Free Reserves in the 1930s (but not later)

	Period 1 1935Q1-1941Q3	Period 2 1947Q1-1951Q4	Period 3 1952Q1-1959Q3
Holdings of US government securities	1.48*** (0.50)	0.01 (0.03)	0.15** (0.06)
Reserve requirements	-245.3*** (32.2)	-69.3** (28.3)	-29.1 (82.4)
Discount rate	328.9 (394.2)	-41.6 (69.9)	-256.1** (104.2)
Gold stock	0.41*** (0.07)	0.04 (0.04)	0.16 (0.16)
Constant	-2400.8 (1869.8)	980.8 (876.3)	-6133.9 (3707.9)
Observations	81	60	93
F-statistic	19.8	6.4	3.2
Adjusted R²	.49	.27	.09

Postwar Policy, 1946-51

- Fed did not react to the immediate postwar inflation burst when wage/price controls came off. Considered hike in RR, but opposed by NY Fed.
- Fed began to make the case for letting the yields on short-term Govt. securities rise. Treasury acquiesced to some increase, but held the line on others, esp. on long-term bond yield.
- Fed had two goals—1) inflation and 2) low i-rates—and tried to fashion two independent instruments. RR not independent of OMOs, however, which frustrated the Fed.
- Fed requested additional authority to regulate credit, increase RR, impose a secondary RR, and subject nonmember banks to Fed's RR.
- Fed's "target zones" for inflation and i-rates broke down in 1950-51 when Fed had to buy govts to keep rates low when inflation was rising sharply (Eichengreen and Garber, 1991).

Collapsing Postwar Regime



Post-Accord Policy

- The Fed used OMOs and discount rate to move free reserves and interest rates in response to expected inflation and output gaps. Changes in RR less important than before the Accord, but cut RR during recessions in 1954 and 1958.
- The Fed refrained from policy actions during periods when the Treasury was issuing debt (“even keel”), but that effect was temporary (Humpage, 2013).
- Occasionally the Fed bought securities to prevent the failure of a new issue, but generally followed a “bills only” policy.
- Government budget deficits were small and the Fed was subjected to little political pressure to hold down rates.

Conclusion

- Minimal external constraints enabled the Fed to pursue a “lean against the wind” policy in the 1950s.
- Unlike the 1930s, the Fed could use OMOs to “fine tune” reserves to smooth the response to expected inflation.
- Unlike the 1940s, the Fed could focus primarily on expected inflation and output.
- Gold flows and the balance of payments emerged as concerns in 1958. *Fed Annual Report* stated that gold outflows had run counter to the Fed’s efforts to stimulate the economy, and noted a decline in the Fed’s own gold reserve ratio. These concerns escalated in the early 1960s (Bordo and Eichengreen, 2013).
- Political pressures also reemerged in the 1960s.
- Successful policy requires both enlightened policymakers and a conducive environment. The 1950s had both.