War and Peace

M+B 25, 26

Wartime seigniorage, inflation

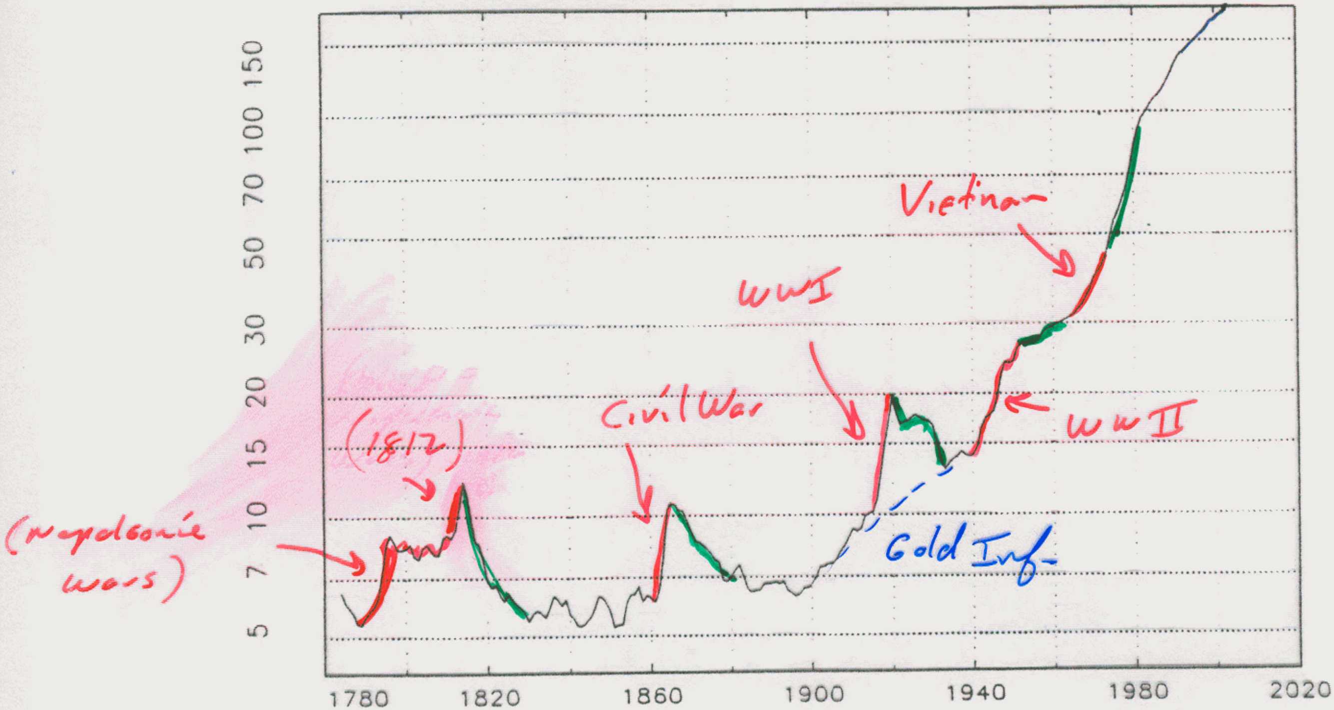
- Civil War
- WW I
- WW II
- Vietnam

Mechanisms differed, influenced banking policy

Multiple postwar options

- Deflate to prewar P
- Stop Inflating
- Continue, accelerate inflation

US Price Level, 1784–~~1992~~ 2003 (1982–4 = 100, Ratio Scale)



Wartime Inflation

Postwar Resolution

Postwar Options after wartime π.

- Deflate, restore prewar std, P level.

  → Postwar depression
  $\pi^a > 0$, but $\pi < 0$
  → Negative seigniorage
  Civil War, WW I

- Stop inflation, stabilize P at new level

  → devaluation, recession
  $\pi^a > 0$, but $\pi = 0$.
  → seignorage terminates
  WW II

- Continue inflation → • delays recession
  → • continues seigniorage.

  → • permanent π or postponed recession.

  → • permanent fiat M.

  Vietnam

  Until Volcker Credit Crunch
  - 1979–82
  - Dramatically slowed π.

Options restricted by gold (or silver) standard
— M+B Ch. 3.

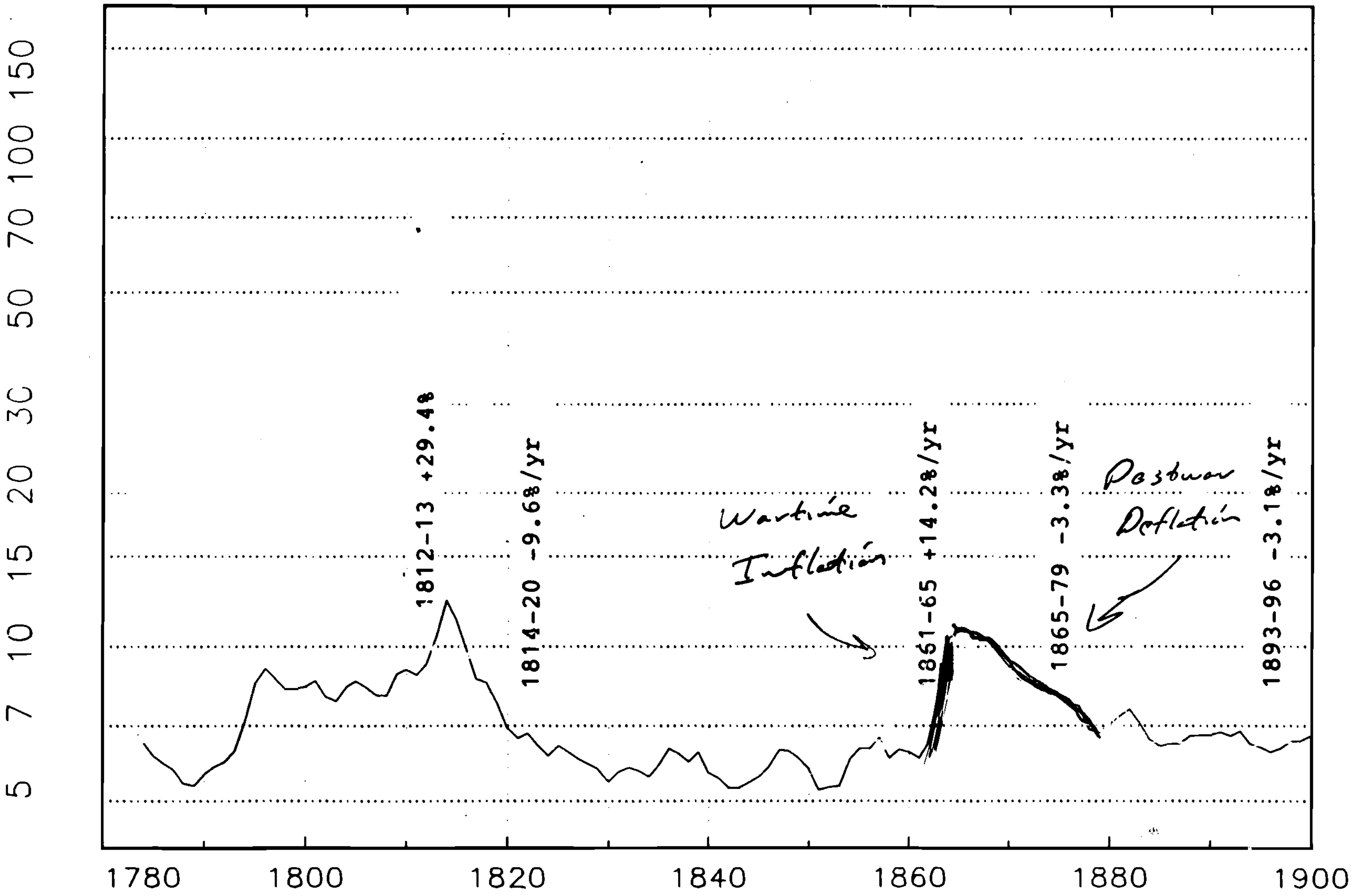
1834–1933, US mostly on gold
@ $20.67/oz, de facto or legally.
except Greenback Std,
1862–1879.

Going into Civil War (1861–65),

Much of Currency was Private Bank Notes
- Demand obligations payable in specie (gold or silver coin)
- Kept only fractional reserves
- All State Chartered, restricted to home state.
- ⇒ Notes circulated at a discount in other states, cities.

Civil War Era, 1861-1879

US Price Level, 1784-1992 (1982-4 = 100, Ratio Scale) **(page1)**



Civil War 1861-65

- US Treasury pays expenses with US Notes (Greenbacks)
  - 1861 – Redeemable for Gold at Treasury
    like Bank Notes
  - 1862 – Redemption Suspended, made Legal Tender for debts.
    - Suspension continued to Resumption of 1879
      → Greenback Std, 1862-1879.
  - Direct Inflationary Finance by Treasury
    → P ↑ 14.2 %/yr, 1861-65.

- But – Much of C was still State Bank Notes.
  - Backed by State, not Federal bonds
  - Reduced D for Greenbacks

Federal gov't wanted private bank notes to be backed by US bonds instead.

National Banking Act 1863

Created National Banks (NB)

- Federal Charters
- Free Banking
- Unit Banking
  - No interstate (or intrastate) branching despite Fed. charter.
  - (Intrastate later allowed per state rules)
- Could issue National Bank Notes
  - Liability of individual banks
  - Uniform design, except for bank name.
  - Obtained from Comptroller of Currency in US Treasury Dept
    Regulated NBs.
  - Par redemption required at any NB, if solvent.
  - ⇒ "Uniform National Currency"

Nat'l Bank Notes cont'd

- NBs req'd to hold $100 in US Treasury bonds per $90 of NB Notes issued.
  $\Rightarrow$ lower i for Treasury.

- Bonds kept by "Comptroller of Currency" for NB until notes redeemed,
  - to prevent sale, secure notes.

- Interest on bonds → NB → Shareholders
  less 0.5% tax → Treasury

- Provided Supplemental Seigniorage
  - low i for US Treas.
  - 0.5% tax
  - But less efficient than Greenbacks or FR Notes = interest-free loan.
  - Had to compete w/ state notes initially

- Prohibitive 10% Tax on State Bank Notes
  - Passed 1865, implemented 1866.
  - Stamped out state bank notes
  - (Repealed 1976)

Postwar Deflation Required to Restore Prewar Std.

Contraction Act of 1866 –

- Retired Greenbacks @ up to $4 M/mo
  - ⇒ rapid deflation, negative seigniorage
- Repealed 1868
  - ⇒ slow deflation as economy grows, M deficit.
  - −3.3 %/yr, 1865-1879.
  - Greenbacks frozen @ $347 M after peak of over $400 M.
  - Circulated into 1950s.
- Resumption 1879
  - Gold Stays $20.67/oz
  - Prewar standard restored, even strengthened (by elimination of silver)

NB Notes 1863 - 1935

Large portion of C

- "Uniform National Currency"
  - Par Redemption at any NB.
  - Notes very safe
- But tied to declining National Debt.
  - "Inelastic Currency"
  - Pyramided reserves.
  - Suspensions of deposits
    1873, 1884, 1890, 1893, 1907

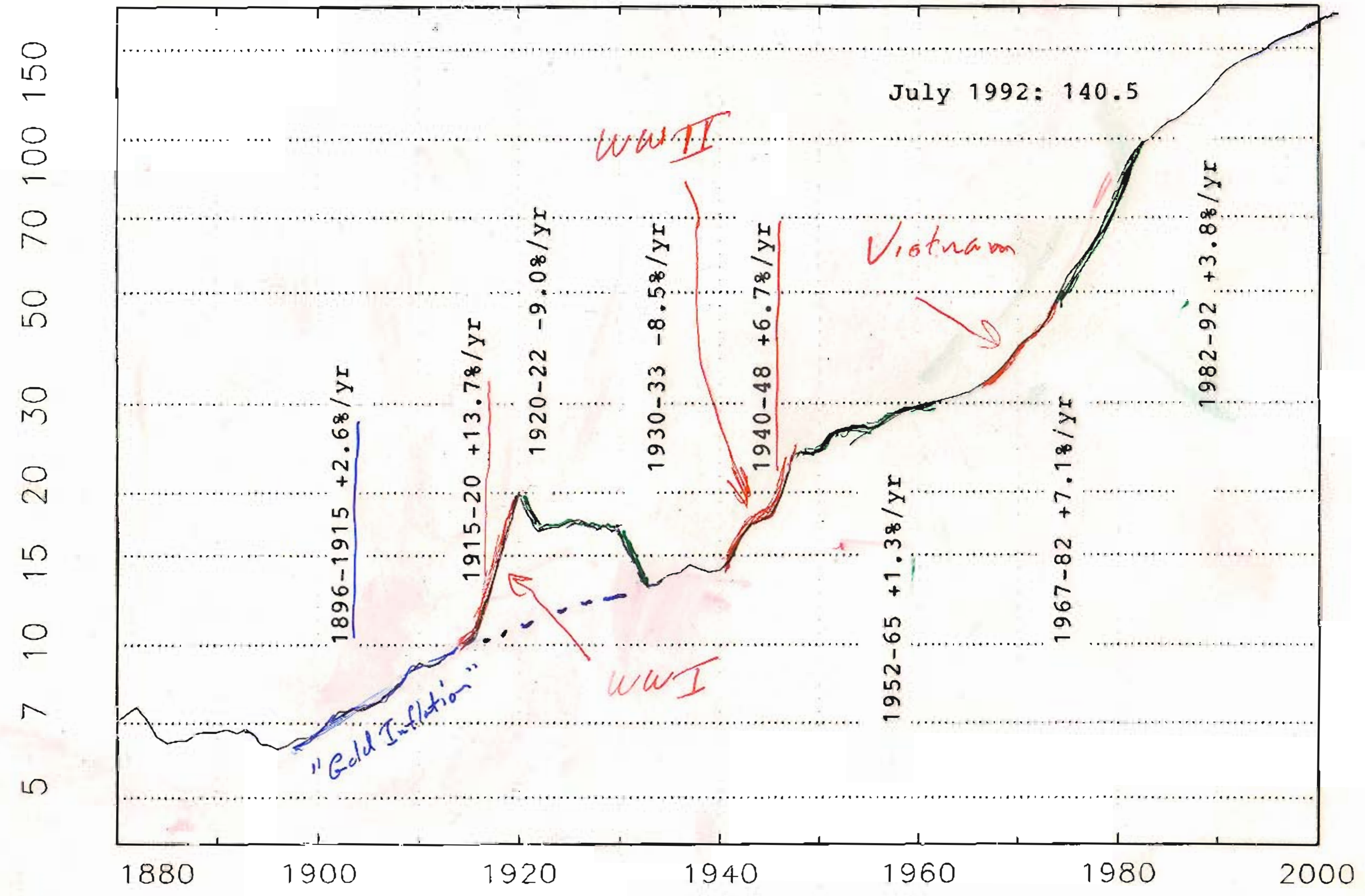
Federal Reserve System (1913 –)

- To provide "Elastic Currency"
- Mostly thru Discount Window (L), originally.
- Rediscounting Commercial + Ag Loans. Treasuries ineligible at first.
- NB Notes replaced by FR Notes, 1935.
- 40 % gold reserve requirement originally.

  Rest in gold obligations.
  - of commerce, Ag, via banks.
  - later US gov't.

20th Century

US Price Level, 1784–1992 (1982-4 = 100, Ratio Scale) (page2)



Gold Inflation

1896–1915, P ↗ 2.6%/yr under Gold Std.

- New gold discoveries
  - S. Africa
  - Alaska
  - etc

- New cyanide process for extracting gold from low-grade ores.

P above trend, 1915–1932

Back on trend, 1933–39.

World War I era, 1914–1933

- War in Europe 1914–1918
  Printed M, Suspended as US had in Civil War.
  → Gold → US, $P_{US} \uparrow$

  $$I\uparrow \rightarrow B\uparrow \rightarrow M\uparrow \rightarrow P\uparrow$$

- US in War 1917–1918

  - War Bonds made eligible at favorable Discount Rate

  $$L\uparrow \rightarrow B\uparrow \rightarrow M\uparrow, P\uparrow\uparrow$$

  - More efficient Inf. Finance than NB Notes —
    Fed gets interest on L, but banks keep spread.
    Less efficient than Greenbacks, OMO's.

- 1915–1920
  13.5% π /yr.

After WWI –

- Staying on Gold @ $20.67/oz with

  Europe back on Gold required deflating to prewar level

  - as after Civil War
  - (adj for ~2.6%/yr gold inflation)

- 2 Postwar Deflations
  - 1920-22
  - 1929-33

1920-22 Postwar Deflation -9%/yr

- 1919 Discount Rate on War Bonds ↑

  → L↓, B↓, M↓, P↓

  Sharp but brief recession, 1920-22

- Price Plateau 1922-29

  Europe mostly still off gold

  Gold @ $20.67/oz in US, yet $P_{US} >> P_{1914}$

  Int'l "Gold Exchange Std" — Ch. 34

- Europe tries to get back on gold, 1924-30

  Built up gold reserves.

  ⇒ ↓ pressure on prices in terms of gold, $ Prices.

1929–33 Second Postwar Deflation

- $P \downarrow\downarrow$ towards P_{1914} −8.5%/yr
- Belated Post WW I Deflation as Eur tries to return to gold.

→ Great Depression of 1930s.

- U ↑ to 22.5% in 1932!
  - SRPC

- 1933 —
  - $P_{US} > P_{1914}$, but on pre-War trend.
    → Further Def or devaluation prob. unnecessary
  - NY Fed closes on eve of FDR inauguration, because gold reserves < 40% of FR Notes!

- Fed Gets OMO powers 1932, Starts Discouraging L.

x

"Hoover New Deal" 1929-32

— Lee Ohanian (2009), Murray Rothbard (1963)

- Hoover urged major employers to keep nominal wages up, in exchange for resisting unionization

  ⇒ Real wages ↑ as P↓

  → Higher U.

- Also encouraged Trade Associations to cut production, keep prices up, act as cartel.

  Relaxed anti-trust enforcement.

  ⇒ Output, employment ↓, P-adjustment delayed,

  ⇒ $S_{goods} > D_{goods}$;

  Suppressed Deflation

FDR New Deal 1933–WW II

- Mandatory Price Floors
  - Nat'l Indus. Recovery Act (NIRA)
    mandatory industrial cartels
    Output↓, P↑
  - Ag. Adjustment Act
    farm output ↓, P↑
  - Interstate Commerce Commission, Fed. Aviation Admin
    Set minimum rates, fares for trucks, trains, buses, planes
    Until Carter Admin deregulation.
  - Min. Wage
    blocked wage cuts
  - Wagner Act
    mandated unionization
    on majority vote of existing workers.
  - etc

⇒ Suppressed Deflation through '30's.
U > 9% to WW II.
- Draft removed 12 million men from labor force, U↓.

FDR Cont'd.

- Domestic Gold Std Abolished 1933
  - Illegal to own gold coin, bullion until 1975 (Ford)
  - P_{gold} ⇑ to \$35/oz in 1935
    from \$20.67 since Jackson
    for Int'l transactions, mining jewelry, dentistry etc
    until 1968-71.
  - Gold ⇉ US
    But bought by Treasury
    with tax proceeds,
    not by Fed.
    So $\Delta B = 0$, no "reflation"
    to 1920's level.
    But tax burden ⇑
    Gold parked in Ft. Knox, Ky.
  - FR Notes replace
    gold coin, certificates 1933
    Nat'l Bank Notes 1935

WW II Era 1939-51

- **War in Europe 1939-45**

  1939-48, Gold → US as in WW I. $I_{US}\uparrow$, $P_{US}\uparrow$

- **US in War 12/41-45**

  OMO Primary Tool of Inf Fin.

  $S\uparrow \rightarrow B\uparrow, M\uparrow, P\uparrow$

  More efficient than WW I

  Rates on T-Bills pegged at low rates to 1951

  → Fed held almost all T-Bills, Treasury controlled ΔB by maturity choice.

- **Price Controls** Office of Price Admin OPA

  $\bar{P} < M/m^D \rightarrow$ Shortages, rationing, black markets. "Suppressed Inf."

- **1940-48:**

  $\pi = 6.7\%/yr.$

Post WW II

- No Big Deflation
- Yet No Devaluation
  - $ already devalued in 1933-35, to $35/oz
  - World off gold, US off ~~internally~~

→ Only moderate gold drain until 1960s.

- Korea (1950-53)
  - No Inf. Finance
  - Accord of 1951 ends WW II interest peg policy.

→ Fed determines ΔB.

- 1952-65

$\pi = 1.3\%/yr$

Vietnam Era 1965–1982

- US in war, 1965–73
- Treasury borrows → $r_0 \uparrow$
  Fed tries to prevent $i \uparrow$
  $\Rightarrow S\uparrow, B\uparrow, M\uparrow, P\uparrow$
  Only weak π-feedback.
- Nixon Price Controls 1971–74
  - → Shortages, Suppressed π
  - No ration coupons
  - Gas shortages severe, Fall 73 – Spg 74.

- US off gold, even Internationally, 1968–71
  → Permanent Fiat M.

Postwar

- π Continued, accelerated to 1982

1967-82,

$\bar{\pi} = 7.1\%/yr$

More cumulative π

than WWII

Late 70s – $r < 0$!

- 1979 – Volker restricts $\Delta B, \Delta M$, lets $i \uparrow\uparrow\uparrow$.

$\Rightarrow$ Credit Crunch of 1979-82

$r \uparrow$ over 6% – early 80's

$U \uparrow$ over 10%

$\pi \downarrow$ after 1982

- 1982 – Fed switches to i instrument, but with Strong π Feedback.

- π gradually down to 2.5% (9/98 – 9/03)

But π target not explicit.

Why was Great Depression so Great? ☹

- 1929-33 deflation inevitable given
  - WWI π in Europe,
  - Europe's return to gold,
  - US @ \$20.67/oz.
- But didn't have to be so abrupt:
  - Europe could have frozen M,
    as US did after Civil War
    → gradual global, US deflation.
  - But US had no control over this.
- Debt-Deflation (Bernanke), bank failures,
  M contraction (Friedman) aggravated
  but didn't cause Depression.
- Hoover, FDR suppressed deflation
  aggravated, prolonged Depression.
- Devaluation to \$35/oz
  - Unnecessary by 1933
  - Created uncertainty over future P level.
  - Treasury gold purchases added tax burden.

No reason to recur.