Chapter 27
Money and Inflation
Money and Inflation: The Evidence

“Inflation is Always and Everywhere a Monetary Phenomenon” (M. Friedman)

Evidence
In every case when $\pi$ high for sustained period, $M$ growth is high

Examples:
1. Latin American inflations
2. German Hyperinflation, 1921–23

Controlled experiment, particularly after 1923 invasion of Ruhr—government prints money to pay strikers, $\pi > 1$ million %

Meaning of “inflation”
Friedman’s statement uses definition of $\pi$ as continuing, rapidly rising price level: Only then does evidence support it
German Hyperinflation: 1921–23
Response to Continually Rising $M^s$

Monetarist and Keynesian View
1. $M \uparrow$ continually, shifts $AD$ to right from $AD_1$ to $AD_2$ to $AD_3$, etc.
2. $Y > Y_n$, wages $\uparrow$, $AS$ shifts to left from $AS_1$ to $AS_2$ to $AS_3$, etc.
3. $P$ continually rises from $P_1$ to $P_2$ to $P_3$, etc.: i.e., have inflation
Monetarist and Keynesian Views of $\pi$

Monetarist View
Only source of $AD$ shifts and $\pi$ in Figure 2 can be $M^s$ growth

Keynesian View
Allows for other sources of $AD$ shifts, but comes to same conclusion that only source of sustained high $\pi$ is $M^s$ growth

1. Figure 3 shows that fiscal policy without $M^s$ growth only causes $P \uparrow$, but not sustained $\pi$
2. Figure 4 shows that supply shock does not lead to sustained $\pi$
Response to One-Shot Increase in $G$

$G \uparrow$ permanently
1. $AD$ shifts right to $AD_2$
2. $Y > Y_n$, $AS$ shifts in to $AS_2$
3. $P \uparrow$ to $P_2$, but doesn’t keep rising
Response to Supply Shock

1. AS shifts in to $AS_2$
2. $Y < Y_n$, wages ↓, $AS$ shifts back to $AS_1$
3. $P$ unchanged, no $\pi$
Cost-Push Inflation

High Employment Target at $Y_n$
1. Workers raise wages because either: want higher real wages or $\pi^e$ high
2. AS shifts in
3. $Y < Y_n$, government shifts $AD$ out
4. Workers raise wages again, and go through steps 2, 3, and 4, etc.
5. $P \uparrow$ continually: i.e., get $\pi$
Demand-Pull Inflation

High Employment Target, $Y_T > Y_n$
1. $Y = Y_n < Y_T$, government shifts $AD$ out
2. $Y = Y_T > Y_n$, $AS$ shifts in
3. $Y = Y_n < Y_T$, government shifts $AD$ out, and repeat steps 2 and 3, etc.
4. $P \uparrow$ continually: i.e., get $\pi$
Budget Deficits and $\pi$

**Government Budget Constraint**

$$DEF = G - T = \Delta MB + \Delta B$$

1. Deficit financed by bonds, no effect on $MB$ and $M^s$
2. Deficit not financed by bonds, $MB$ and $M^s \uparrow$

**Financing persistent budget deficit by money creation leads to sustained $\pi$**

1. Deficit financed by $M^s \uparrow$ leads to $AD$ shifts out, as in Fig 27.2
2. If deficit persists, $M^s \uparrow$ continually and get $P \uparrow$ continually, i.e., $\pi$ as in Fig 27.2

**Conclusion:** Deficit $\Rightarrow \pi$, only if it is

1. Persistent
2. Financed by money creation rather than by bonds
Budget Deficits and $\pi$

Budget deficits in other countries
1. Bond finance hard
2. Deficit likely to lead to money creation and $\pi$

Budget deficits in U.S.
1. Large capital market, so can bond finance
2. Fed has choice whether to monetize deficit, but may be pressured to do so
3. Ricardian equivalence may mean no effect of budget deficits on interest rates

Conclusion: Deficits do not necessarily $\Rightarrow \pi$
Budget Deficits and Interest Rates

Price of Bonds, $P$
($P$ increases $\uparrow$)

Interest rate, $i$
($i$ increases $\downarrow$)

Quantity of Bonds, $B$

$B^s_1$
$B^d_1$

$B^s_2$
$B^d_R$

$P_1$
$P_2$

$i_1$
$i_2$
1. Money and inflation relationship close until 1980
2. After 1980 relationship breaks down
Government Debt to GDP

1. Debt/GDP falls 1960–80
2. Deficits can’t be source of money creation and \( \pi \)
High employment targets source of $\pi \uparrow$ 1960-80
1. $U < U_n$ 1965-73 suggests demand-pull $\pi$, with $Y_T > Y_n$
2. $U > U_n$ 1974-80 suggests cost-push $\pi$
3. $U > U_n$ and $\pi \downarrow$ after 1980 result of Volcker deflation
Activist/Nonactivist Debate

Lags in Shifting $AD$
1. Data lag
2. Recognition lag
3. Legislative lag
4. Implementation lag
5. Effectiveness lag

Case for Activist Policy:
If self-correcting mechanism is slow, $U > U_n$ for long time
1. Doing nothing has high cost
2. AS shift little, even after long lags in shifting $AD$

Conclusion: Should shift $AD$ to $AD_2$ to get to point 2 in Figure 11

Case for Nonactivist Policy
If self-correcting mechanism is fast
1. Doing nothing has low cost
2. AS shifts to $AS_2$ before $AD$ shifts to $AD_2$
3. Sequence: 1', 1, 2', 2 in Figure 11
4. Undesirable effect: $Y$ and $P$ fluctuate
Activist/Nonactivist Debate

Case for nonactivist policy stronger if expectations of policy matter
1. Economy won’t stop at point 2
2. Wages ↑, AS shifts in, Y < Yn, AD shifted out, etc.: π ↑
3. Also less likely for wage push that gets us to 1'

Quite plausible that expectations of policy matter to wage setting

Rules vs Discretion
1. Nonactivists advocate policy rule to keep AD from fluctuating:
   Example: Monetarist constant-money-growth-rate-rule
2. Credibility of nonaccommodating policy helps avoid wage push and helps prevent π and unemployment
   Example:
   1. 1979 Fed had low credibility and anti-π policy was costly
   2. Credibility earned by 1983
   3. When money growth ↑ 1983, little rise in wages and π
Choice Between Activist and Nonactivist Policy

![Diagram showing the choice between activist and nonactivist policy](Image)