Money + Credit — M+B 19

* 3 Motives for high $\frac{\Delta M}{M}$, π:
  - Inflationary Finance
  - Reduce U
  - Low i and/or r $(i = r + \pi^a)$

Can M policy permanently reduce i, r?

* 2 M Policy Instruments
  - M via B, $M = kB$
  - i
    Fed Funds rate via Loans ("L")
    and/or
    Bond Yields via OMO's ("S")

Can Fed control π via i?

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Senators put heat on Fed to push down interest rates

Greenspan's panel will meet Tuesday to discuss the issue

By Ron Kampeas
Associated Press

WASHINGTON — Democratic and Republican lawmakers ratcheted up the pressure on the Federal Reserve to lower interest rates to stimulate the lagging economy.

"People's confidence is shaken. Their ability to plan housing and automobiles, their savings, their retirements, are altered," Sen. Robert Torricelli, D-N.J., said yesterday, after a week in which the Dow Jones industrial average declined 821.21 points.

"It would be inconceivable to me if the Federal Reserve did not respond this week by lowering interest rates," he said on *Fox News Sunday*. "It would be outrageous. And I trust the Fed has that message."

The Fed's policy-making Open Market Committee meets Tuesday. Analysts are suggesting a reduction of at least one-half of a percentage point.

Torricelli said he expects a half point cut. Sen. Don Nickles, R-Okla., told Fox he wanted a minimum three-quarters of a

A falling stock market has put pressure on Chairman Alan Greenspan to cut interest rates when the Federal Reserve's Open Market Committee meets

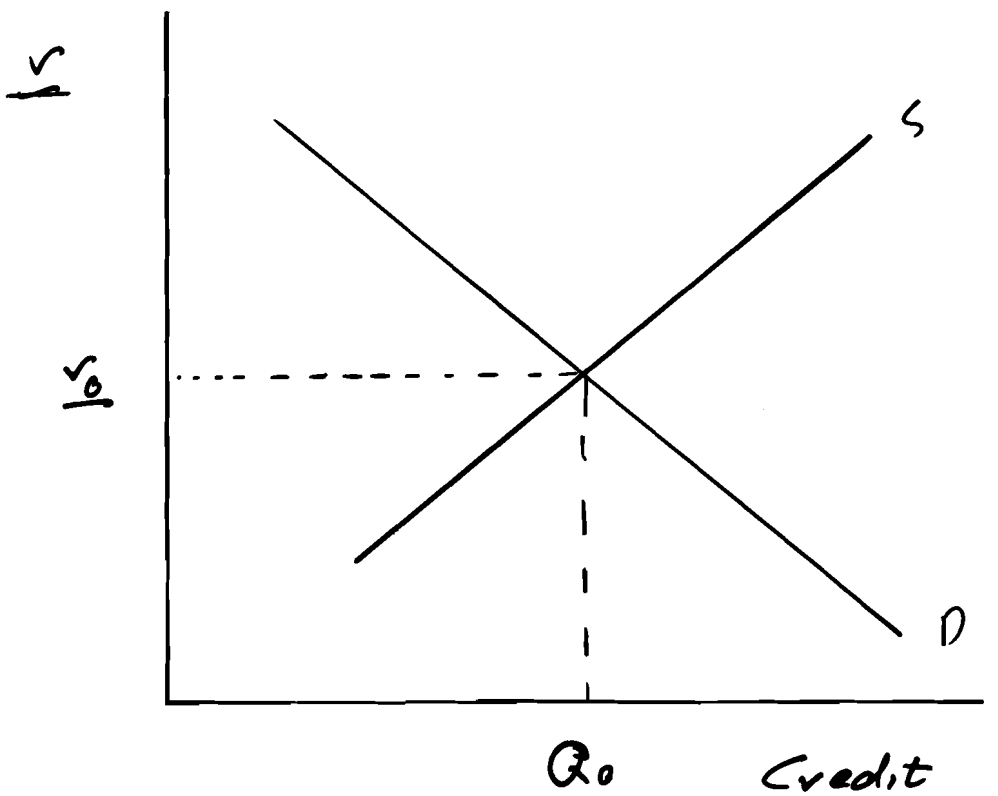
3 Building Blocks

- **Loanable Funds Model**
  - Non-Monetary D, S for Credit
  - Equilibrium r_0
- **Demand for Money**
  - $m^D(i)$ (y constant)
  - Additional D for Credit
- **Banking System**
  - Fed, Banks change B, M by making loans.
  - Additional S of Credit.

Recall

Loanable Funds Model

- Credit Market Equilibrium
  - (Non-M Economy)



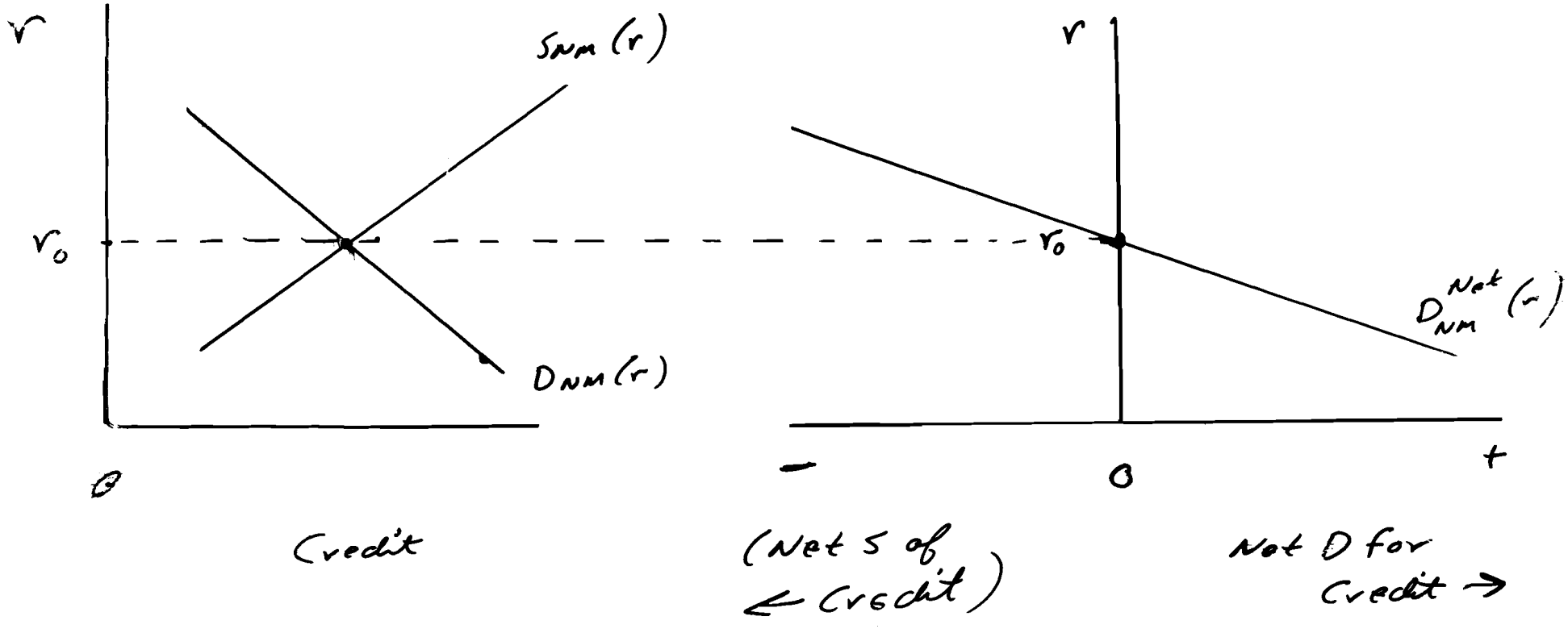
r_0 = Non-Monetary Equilibrium real interest rate.

= Wicksell's "Natural rate of interest."

Loanable Funds Model Simplified

to Net Non-Monetary D for Credit Schedule:

$$D_{NM}^{Net}(r) = D_{NM}(r) - S_{NM}(r)$$



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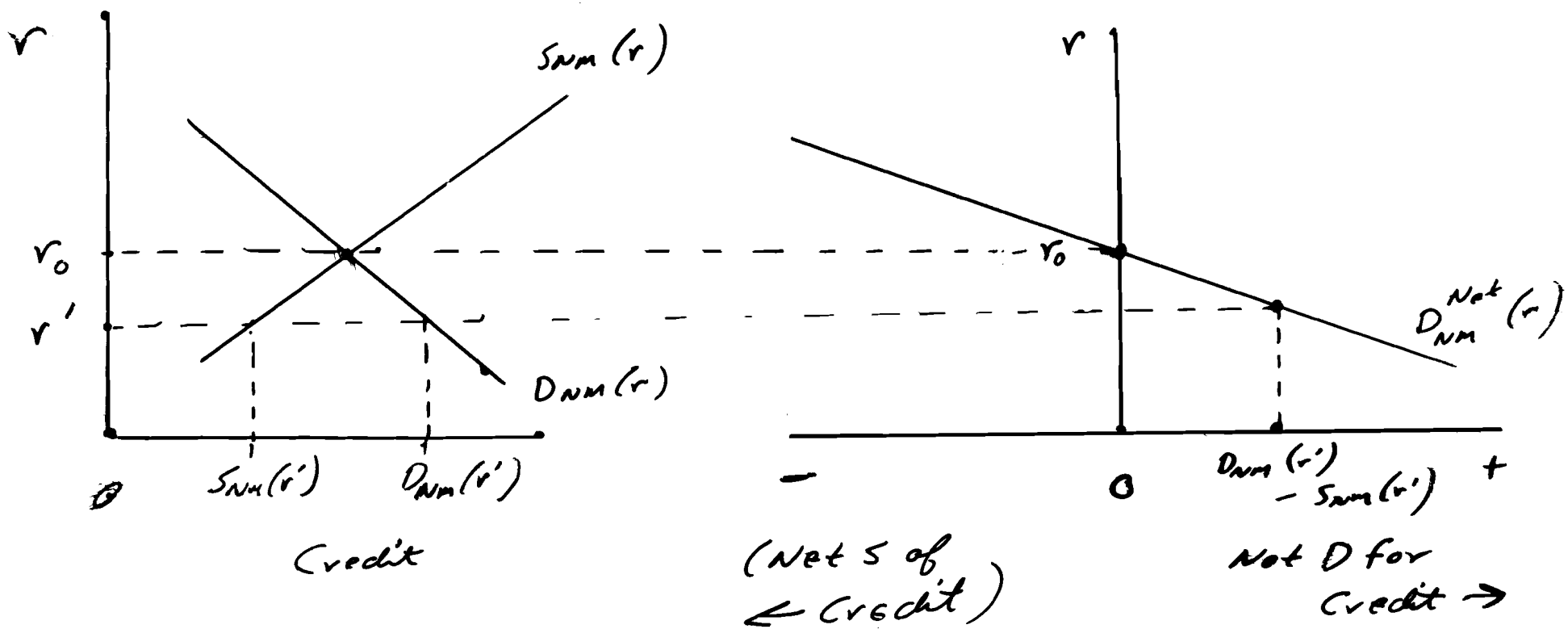

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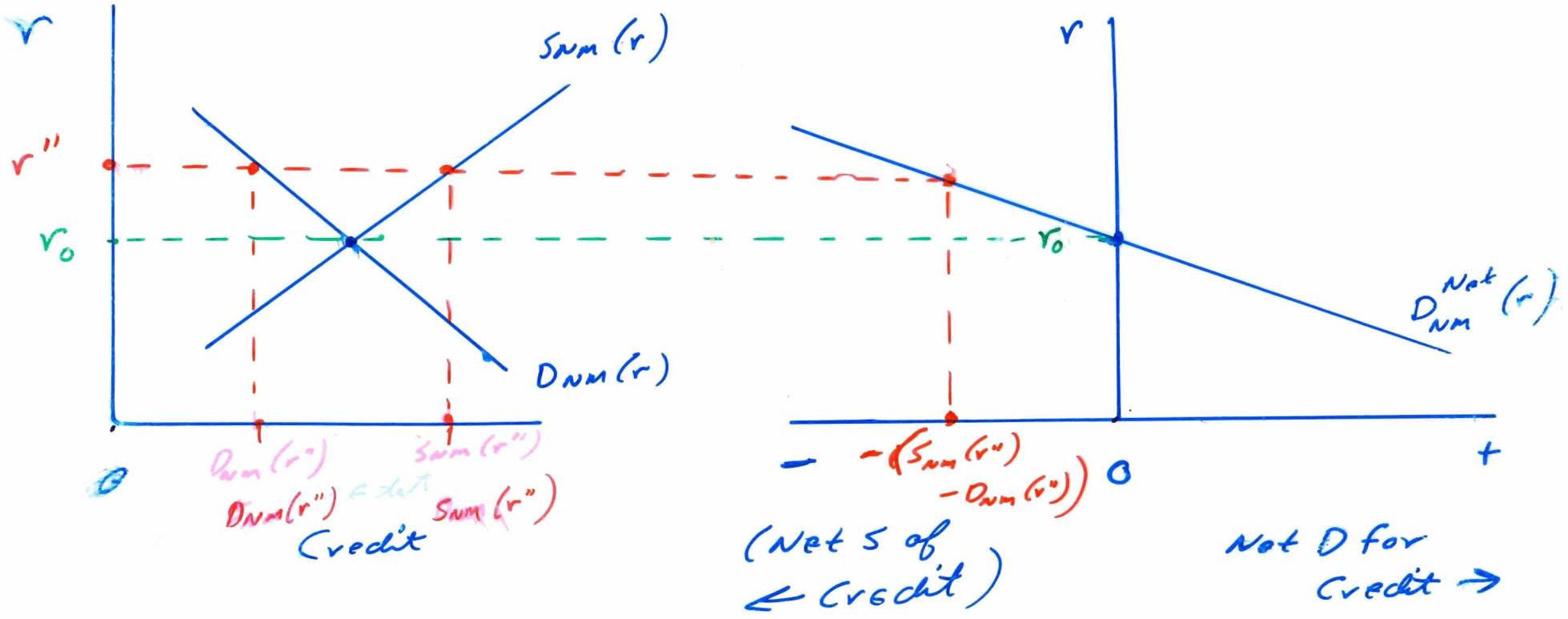
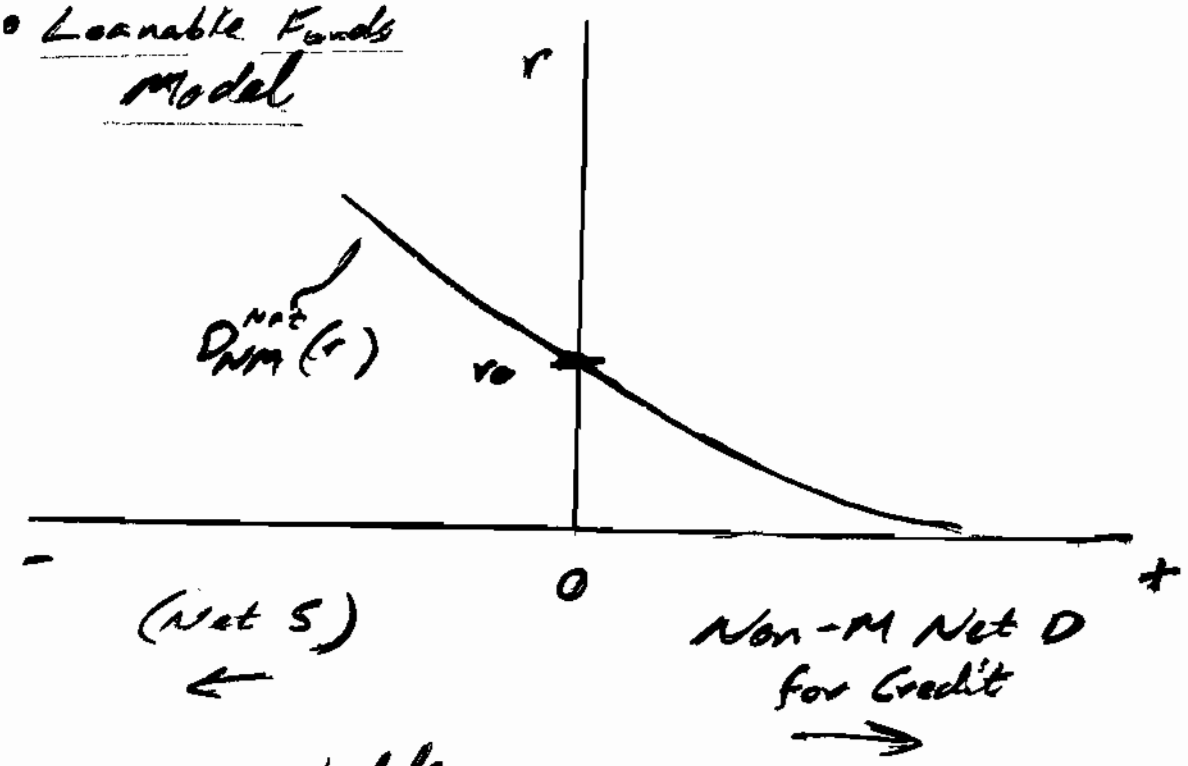
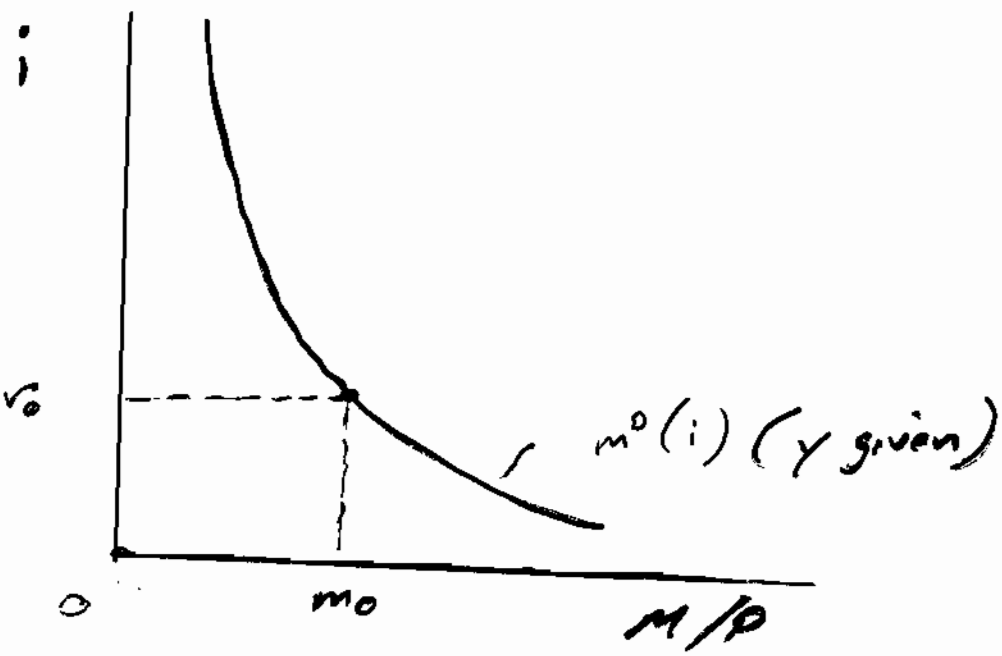


Total D for Credit

- Loanable Funds Model



- D for M schedule



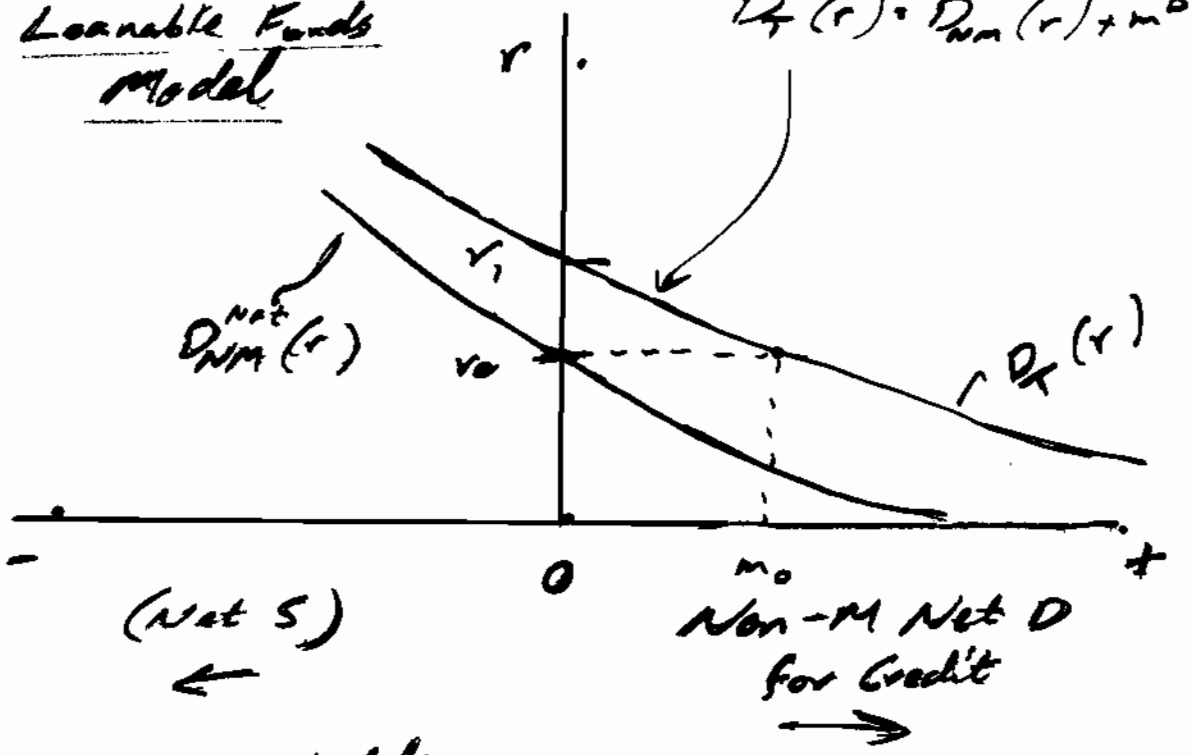
m^D is additional D for Credit.

Total D for Credit

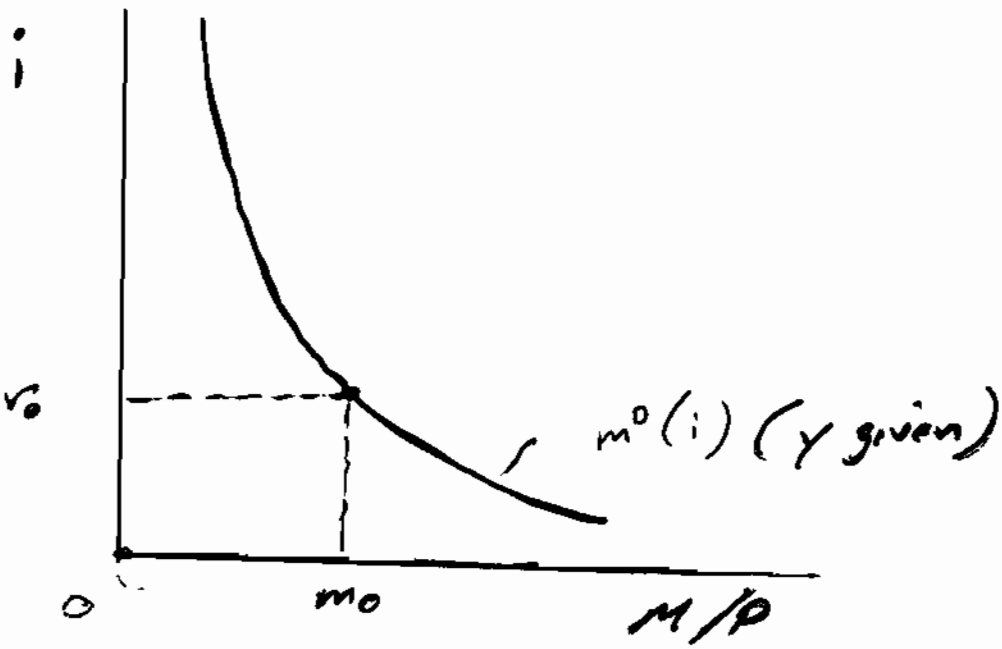
Total D for Credit
(Assume $\pi^e = 0$, so $i = r$)

$D_K(r) + D_{NM}^{net}(r) + m^D(r)$

- Loanable Funds Model



- D for M schedule



m^D is additional D for Credit.

Banking System = Banks + Fed

Can permanently supply
real credit,
to extent public holds $m = M/P$,
and it does not have
to hold commodity reserves.

Fiat M
$\Rightarrow$ Equilibrium Bank Supply of Credit

$$= S_B(R) = m^D(i)$$

(taking y = const.)

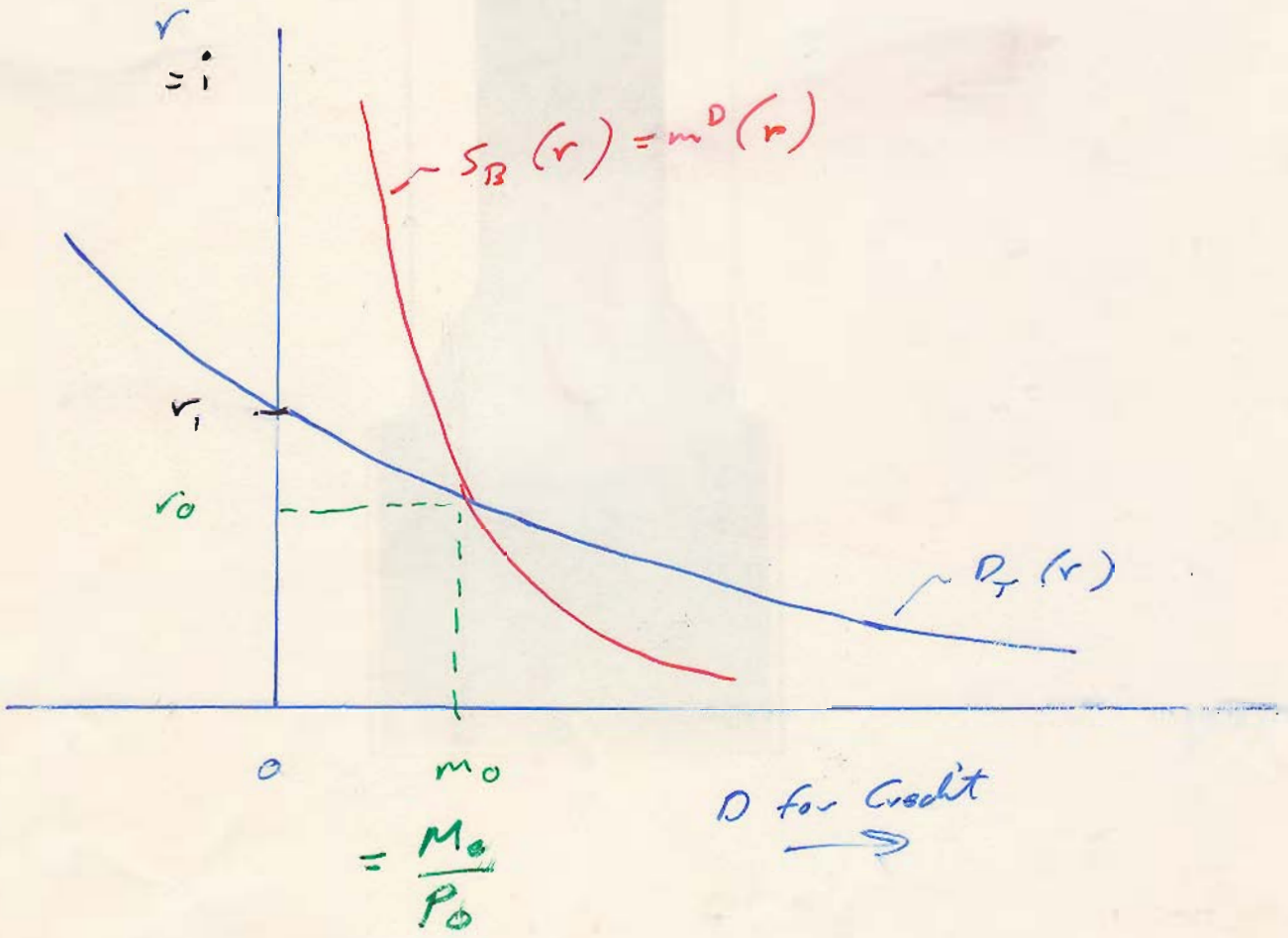
- May be compared to $D_T(r)$
  if $\pi^a = 0$ so $i = r$,

$$S_B(r) = m^D(r)$$

Credit Mkt Equilibrium with M.

- Commodity M, 100% reserves
  $\Rightarrow \underline{S_B(r) = 0, \quad r = r_1}$

- Fiat M, $\pi^a = 0$ so $r = i$,
  $\Rightarrow \underline{S_B(r) = m^D(r), \quad r = r_0}$

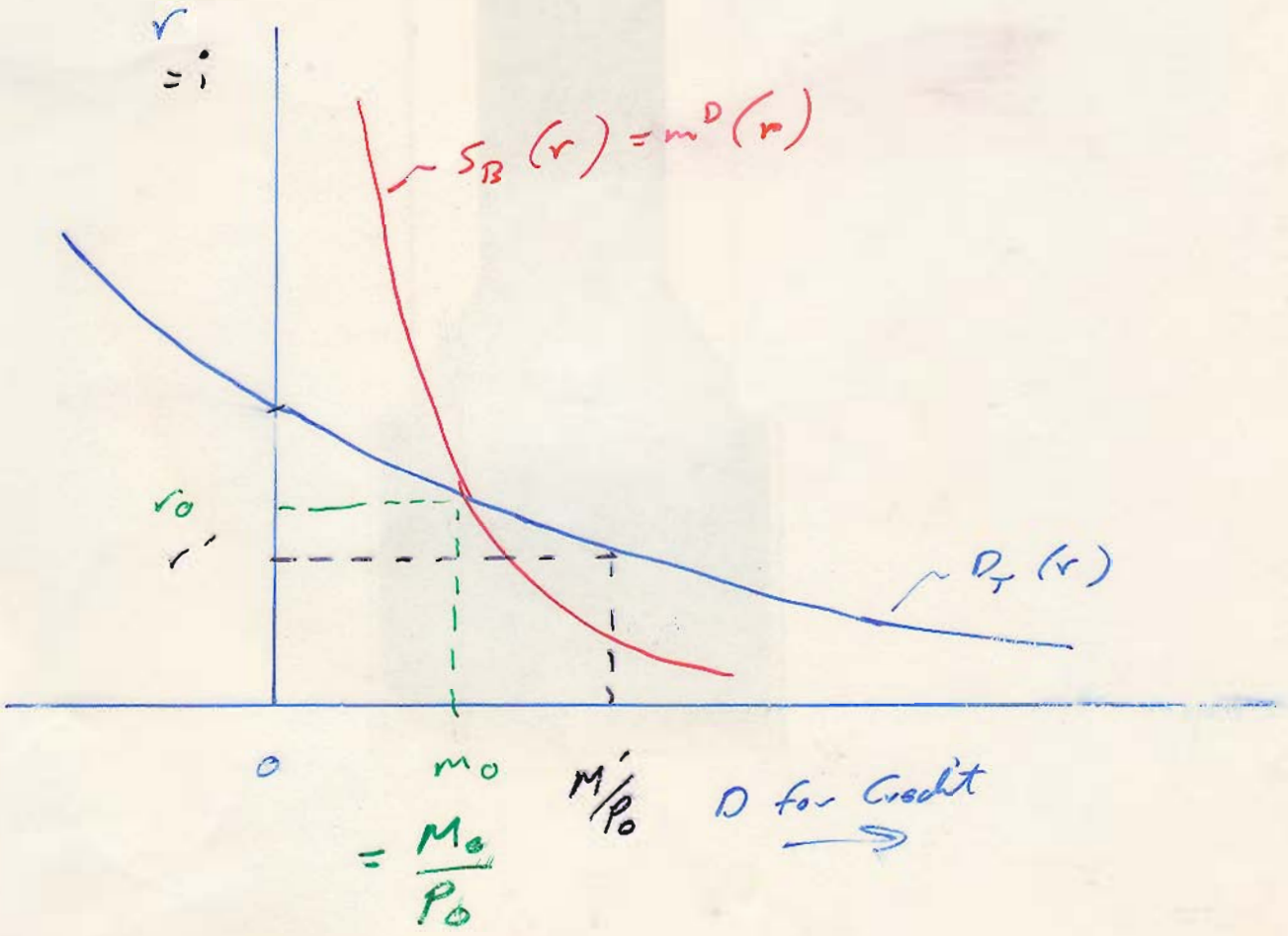


Banks would like to expand loans, D, M to M';
but C/D would then be ↑c.
Cutflows would force banks to contract
loans to obtain reserves.

$\Rightarrow M \to M_0 = kB$

- B set by Fed.
- k mostly set by c, f_R

$\Rightarrow M = M_0$, $P = P_0 = M_0 / m^D(r_0)$



M expansion by Fed

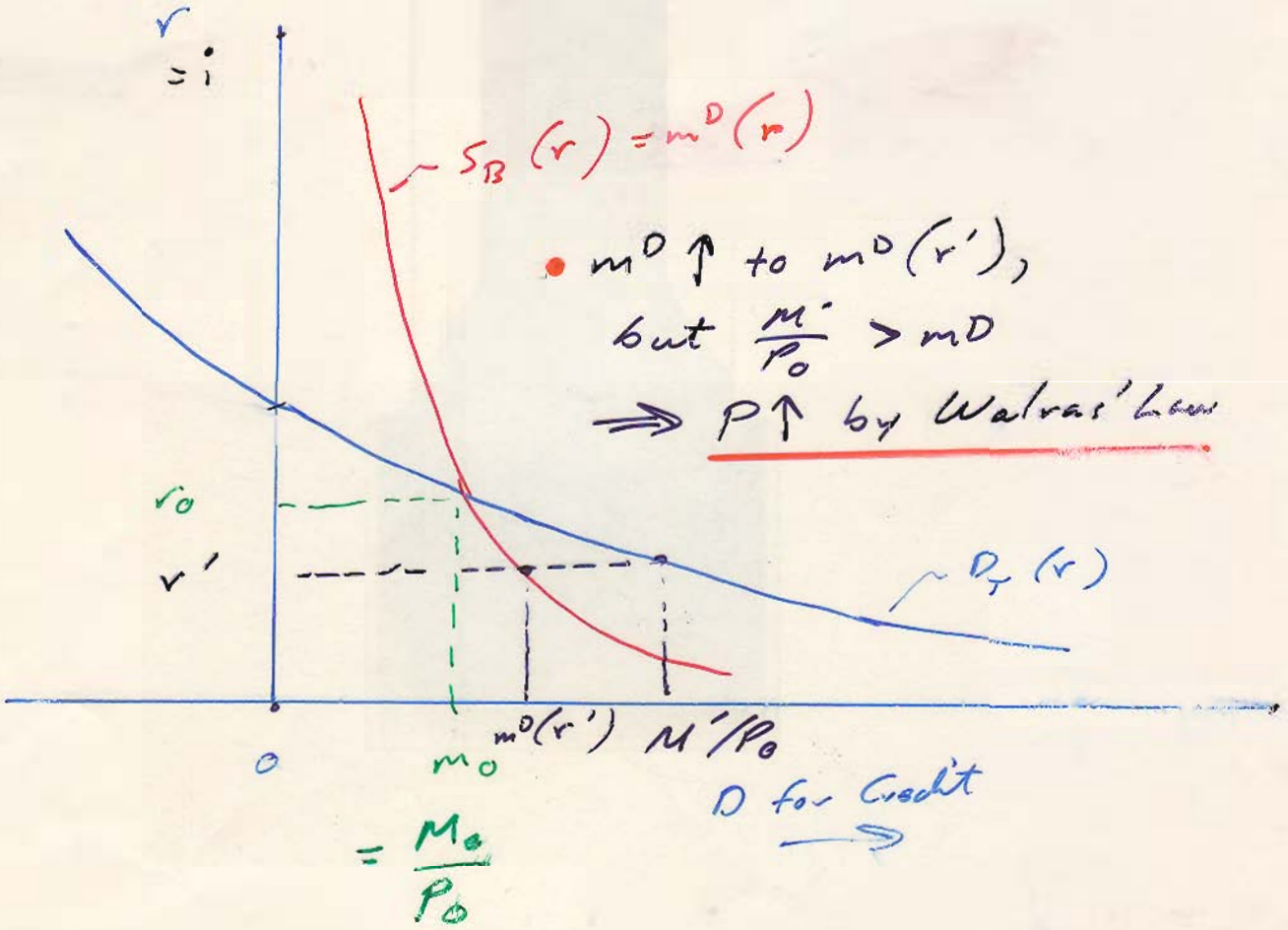
B ↑ (or f_R ↓), so M ↑

from M_0 to $M' > M_0$

⇒ r ↓ to r'

until P ↑ to $\frac{M'}{M_0} \cdot P_0$,

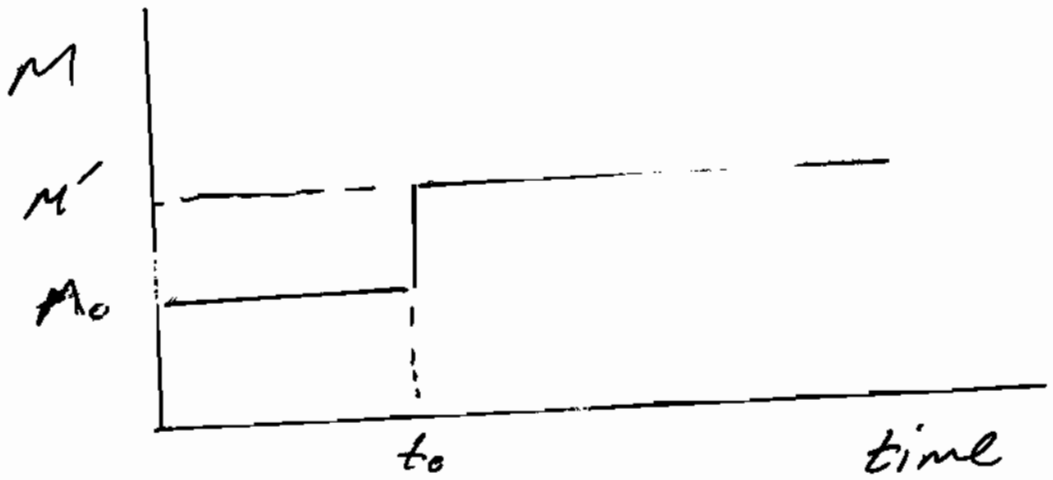
M/P ↓ to m_0

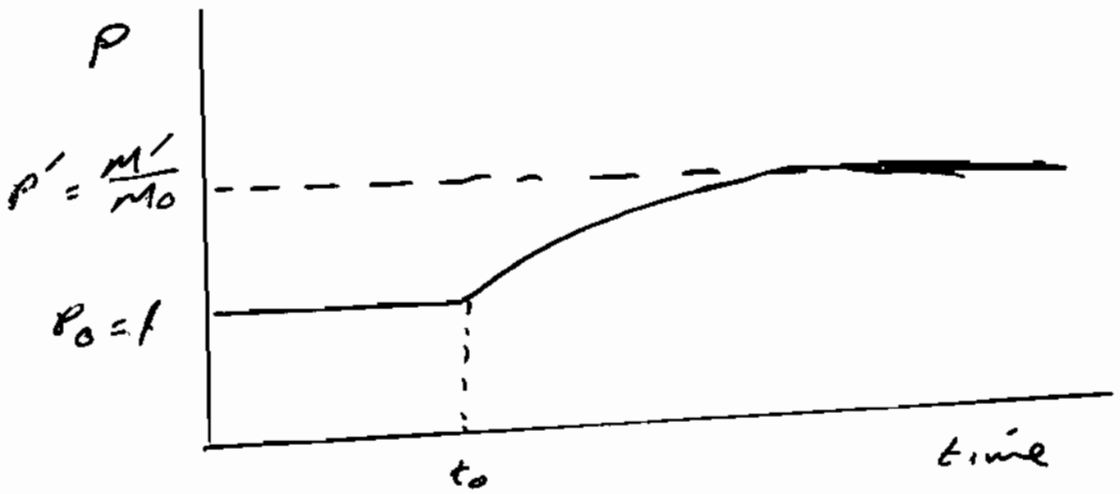


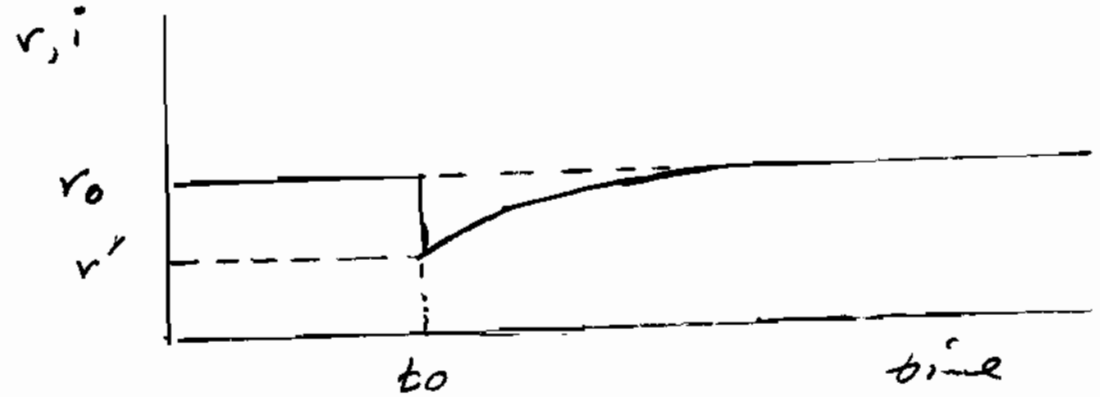
Liquidity Effect of M ↑ is move down $D_T(r)$, not $m^D(r)$!

1-Time increase in M ($\pi^e = 0$)

$Y = \text{constant}$







SR: r ↓ to r'

LR: P ↑ to $\frac{M'}{M_0}$, $\frac{M}{P}$ ↓ to m_0, r ↑ to r_0

Vice-Versa for ↓ time ↓ in M

- $M \downarrow \rightarrow P \downarrow$ eventually
- but $r \uparrow$ in S.R.
- In LR, r back ↓ to r_0.

$m^D \downarrow$ similar to $M^S \uparrow$ (holding M const)

- $P \uparrow$ eventually
- $r \downarrow$ in SR
- $r \uparrow$ to r_0 in LR.

Vice-Versa for $m^D \uparrow$

What if Fed tries to permanently reduce r?

Repeated ΔM → repeated π

$\Rightarrow \pi^e$ sets in → $i \neq r$

$D_{NM}^{Net}(r)$ depends on r

$m^D(i)$ depends on $i = r + \pi^e$

$D_T(r, i) = D_{NM}^{Net}(r) + m^D(i)$

depends on both

But excess Supply of Money

$\frac{M}{P} - m^D = m^x(r) = D_T(r, i)$ ← $5 bn by bank sys.

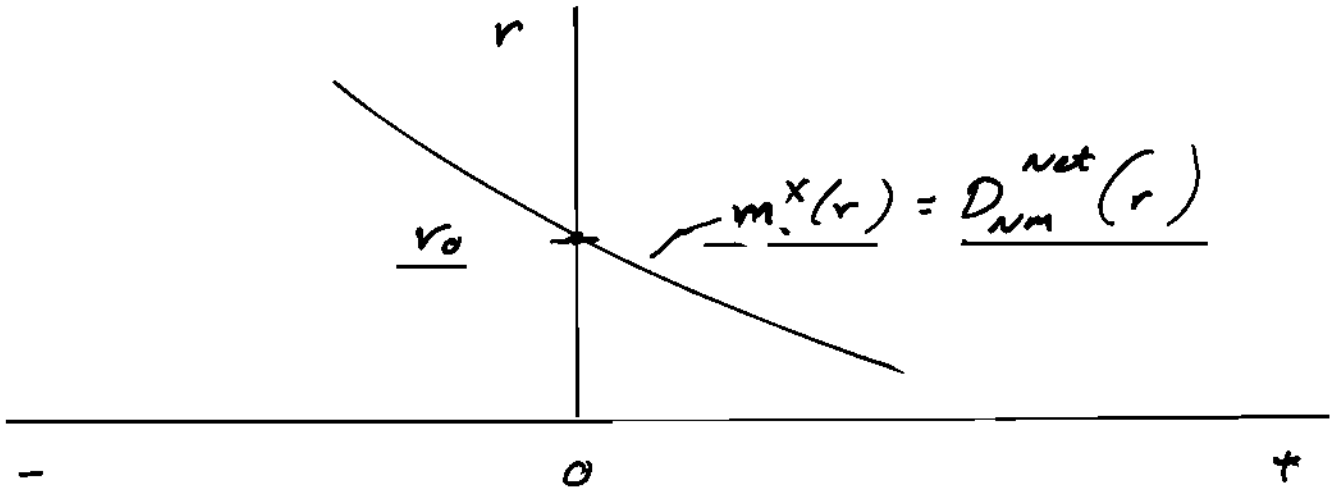
$- m^D(i)$ ← $0 for m by public

$= D_{NM}^{Net}(r)$

depends only on r

Excess S of M

$$m^x(r) = M/P - m^D(i) = D^{Net}_{NM}(r)$$



- $r < r_0 \Rightarrow m^x(r) > 0$

  $\Rightarrow D_{Goods} > S_{Goods}$,

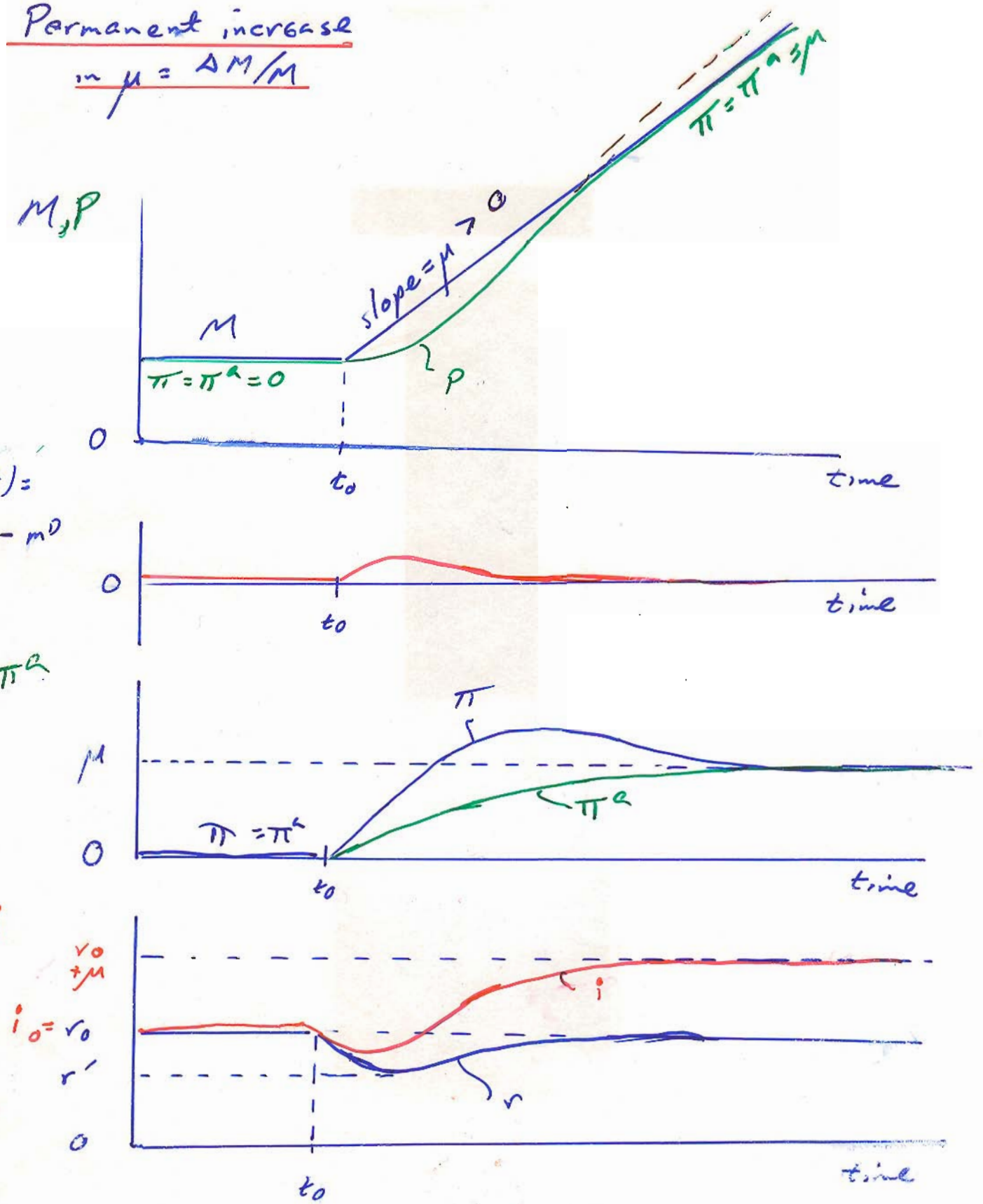
  $\Rightarrow \pi > \pi^a$, P ↑

- $r > r_0 \Rightarrow m^x(r) < 0$

  $\Rightarrow S_{Goods} > D_{Goods}$,

  $\Rightarrow \pi < \pi^a$, P ↓

Permanent increase in $\mu = \Delta M / M$

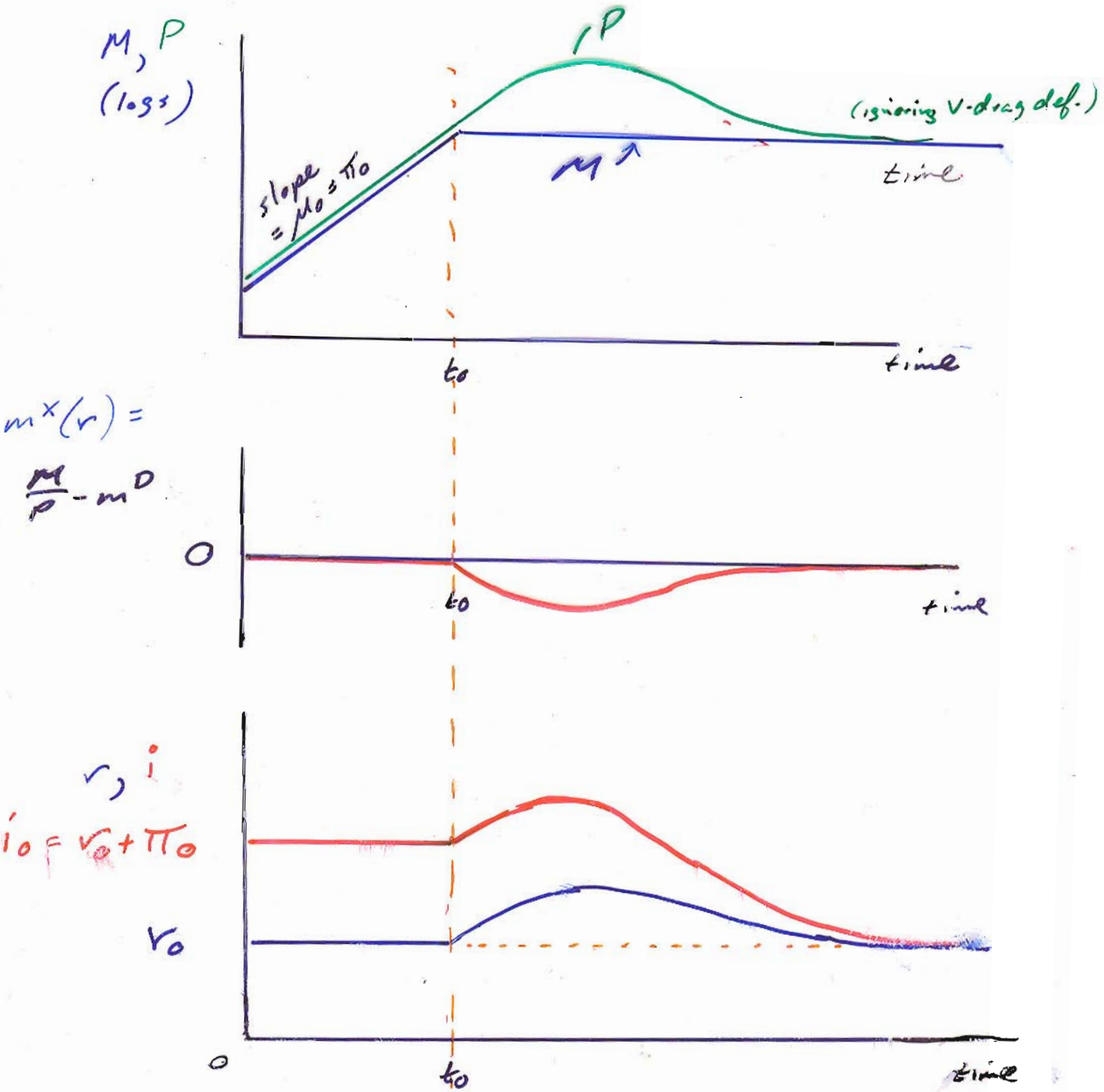


S.R. : $r \downarrow$, $i \downarrow$

L.R. : $r \to r_0$, $i \uparrow$ to $r_0 + \mu$

Credit Crunch (eg 1979-84 Volcker Crunch)

$\mu_0 = \pi^a = \pi_0 > 0$. Then $\mu \downarrow$



SR: $r \uparrow$, $i \uparrow$

LR: $r \to r_0$, $i \downarrow$ below $r_0 + \pi_0 = i_0$

$r < r_0$ permanently

$\rightarrow \frac{M}{\rho} > mD$ permanently, $m^x(r) > 0$

$\rightarrow \pi > \pi^a$ permanently

$\rightarrow$ unbounded π

$i < r_0$ permanently: (initial $\pi^a = 0$)

$\rightarrow r \downarrow$ as $\pi^a \uparrow$, $m^x(r) \uparrow\uparrow\uparrow$

$\rightarrow$ even faster runaway π.

New vs Old Monetarism

✡ "Old Monetarism" (M+I)

- m^D predictable

  varies with $i = r + \pi^e$, but only weakly

- Use $\frac{\Delta M}{M}$ to control π

✡ "New Monetarism" (M+B '9, 21)

- If Fed knows more about r_0 and π^e than m^D, it can use i to control π in place of $\frac{\Delta M}{M}$

- $i > r_0 + \pi^e \Rightarrow r > r_0$,

  $m^x(r) < 0$, $\pi < \pi^e \Rightarrow \pi^e, \pi \downarrow$

- $i < r_0 + \pi^e \Rightarrow r < r_0$,

  $m^x(r) > 0$, $\pi > \pi^e \Rightarrow \pi^e, \pi \uparrow$