Lecture 4: Financial Markets

• Goal: Determine equilibrium interest rate
• Short run
• Main cyclical instrument (Central Bank)
• Monetary policy (as opposed to fiscal policy) -- both are (primarily) aggregate demand policies
Financial Assets

• Money, bonds, stocks, mutual funds, derivatives...

• Reduce to two:
  – *Money*: transaction (liquidity) role.
  – *Bond*: investment -- pays an interest rate: $i$

• Key question: How much of each?
  – Tradeoff: transaction services vs return.
Money Demand

Fix (nominal) wealth at: \( P\text{Wealth} \)

\[ M^d + B^d = P\text{Wealth} \]

\[ M^d = P \ Y \ L(i) \]

=> determine only one of them
Money Demand Diagram

High U.S. nominal interest rates during late 70s - early 80s => sharp decline in $\frac{M}{PY}$
Equilibrium Interest rate

- Simple model:
  - Money supply is constant (i.e. it doesn’t depend on interest rate or P or Y)

- Equilibrium:
  - $M = P \cdot Y \cdot L(i)$

- Our interest is to determine the interest rate, so we fix P and Y.
Equilibrium

\[
\begin{align*}
\text{i} & \\
M^s & \\
M^d & \\
M^d' & \\
M & \\
\text{Money} & \\
\end{align*}
\]
Monetary Policy
Open Market Operation

• Central Bank buys bonds in the open market
• As a result, price of bonds rises

=> interest rate falls

$$i = \frac{\$100 - PB}{PB}$$
Equilibrium in M rather than Central Bank M

\[ M^s = \frac{H}{c + \theta(1-c)} \]

\[ M^s = M^d \implies \]

\[ \frac{H \ 1}{c + \theta(1-c)} = P \ Y \ L(i) \]

Examples: a) Y2k; b) Prudence; c) OMO with multiplier