Ch. 7 The Asset Market, Money and Prices

- Asset Market: third market in our model of the macroeconomy
- Money as an asset: why do we hold money?
- 7.1 What is Money?
- 7.2 Portfolio Allocation and the Demand for Assets
- 7.3 The Demand for Money
- 7.4 Asset Market Equilibrium
- 7.5 Money Growth and Inflation

7.1 What is Money?

- Money: assets widely use and accepted as payment
- Examples: gold, silver, beads, cigarettes, currency
- Functions of money:
    - Medium of exchange
    - Unit of account
    - Store of value

7.1 What is Money?

- *Monetary Aggregates* - official measures of the money stock
- M1: currency in circulation and chequing balances
- M2: M1 plus personal savings and notice deposits
- M2+: M2 plus accounts at non-bank financial institutions (eg. trust cos, credit unions)
- M3: M2 plus other bank deposits (eg.business term deposits, foreign currency deposits) - these assets are liquid

7.1 What is Money?

- The Money Supply: amount of money available in the economy
- ‘Control’: central banks - Bank of Canada, Federal Reserve System
- Central banks can control the money supply through open-market operations or by purchasing new gov’t bonds

7.2 Portfolio Allocation and the Demand for Assets

- What determines our money holdings?
- Portfolio allocation decision: determines the distribution of wealth amongst various assets
- Asset characteristics:
  - Expected return
  - Risk
  - Liquidity

7.3 The Demand for Money

- Demand for money: quantity of monetary assets people choose to hold
    - Expected return: low
    - Risk: low
    - Liquidity: high
- What affects the demand for money?
    - Price level
    - Real income
    - Interest Rates
    - Other

7.3 The Demand for Money

- The Nominal Money Demand Function:

  $M^d = P\ L(Y, i)$

  $M^d = P\ L(Y, r + \pi^e)$

- The Real Money Demand Function:

  $M^d/P = L(Y, r + \pi^e)$

- Other Determinants:

  Wealth

  Risk

  Liquidity of alternative assets

  Payment technologies

7.3 The Demand for Money

- Elasticities: measure how strong are relationships between a variable and its determinants
- ε = % change in the variable per 1% change in one of its determinants, all else equal
- Income elasticity of money demand ~ 0.6 to 1
- Interest elasticity of money demand ~ -0.3
- Price elasticity of nominal money demand ~ 1

7.3 The Demand for Money

- Money ‘turn over’in a period: velocity

  $V = P\,Y / M$

  (nominal output divided by nominal money stock)
- Quantity theory of money: real money demand is proportional to real income

  $M^d / P = k\,Y \qquad V = 1/k$

  => Assumption: V is constant, doesn’t depend on income or interest rates

7.4 Asset Market Equilibrium

- Assumption: assets grouped into monetary and non-monetary categories
- Monetary assets:
  assets used in payment
  yield - i^m
  supply - M
- Non-monetary assets:
  yield $i = r + \pi^e$
  supply - NM

7.4 Asset Market Equilibrium

- With only two types of assets, we need only look at one market for equilibrium - we choose the money market
- Demand: $M^d + NM^d$ = aggregate nom. Wealth
- Supply: M + NM = aggregate nom. Wealth
- $(M^d - M) + (NM^d - NM) = 0$
- excess D for M + excess D for NM = 0
- So, if one market clears, so does the other

7.4 Asset Market Equilibrium

- Equilibrium Condition:
  $M / P = L(Y, r + \pi^e)$
- Assumption: Full Employment
- Y determined in the Labour market
- r determined in the Goods market
- P determined in the asset market:
  $P = M / (L(Y, r + \pi^e))$

7.5 Money Growth and Inflation

- From asset market eq'm, P is proportional to the nominal money supply
- Inflation: $\Delta P/P = \Delta M/M - \Delta L/L$
- $\Delta P/P = \pi$
- $\Delta L/L = \eta_y \Delta Y/Y$
- $\pi = \Delta M/M - \eta_y \Delta Y/Y$