Chapter 15

The influence of monetary and fiscal policy on aggregate demand

What is stabilisation policy?

- Deliberate, conscious effort of the government to intervene in the macroeconomy with an eye toward influencing the course of Equilibrium P or Q (real GDP)
- Fiscal policy is carried out by finance departments, and involves changing T and/or G
  - www.fin.gc.ca
  - www.fin.gov.on.ca

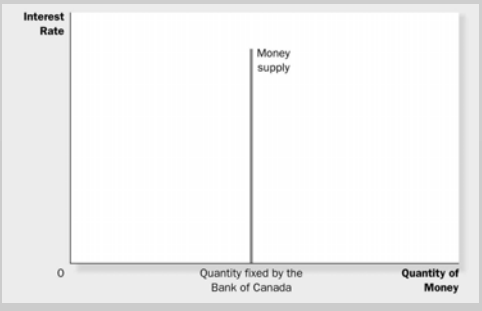
- Monetary policy is executed by the Bank of Canada
- Both of them operate through shifts in the AD curve

The money market revisited

- Back to the money market, with the supply and demand for money holdings
- The theory of liquidity preference is related to the money demand curve
- NOT to be confused with the market for loanable funds in chapter 8
  - there the central decision was how much of national income FLOWS go to saving and investment as opposed to consumption spending.

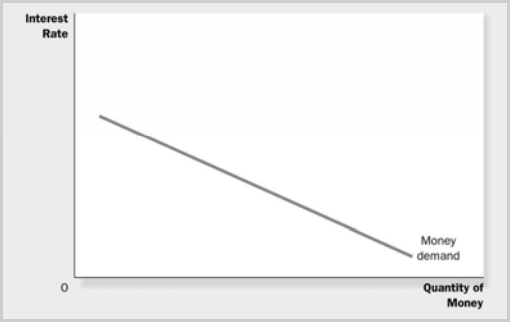
- Now the decision is in what form to hold the STOCK of wealth
  - In a liquid form (cash) or in an illiquid form (bonds)
- This is sort of like the depiction of the money market presented in chapter 11
  - There the equilibrating variable is the composite price level P
- This time we are after the equilibrium rate of interest

Figure 15.1 The Supply of Money



- The money supply is determined entirely by the Bank of Canada, and its magnitude depends on its monetary policy and not the interest rate
- Since there is no relationship between the interest rate and the supply of money, the money supply curve is vertical in interest rate-quantity of money space

Figure 15.2 The Demand for Money

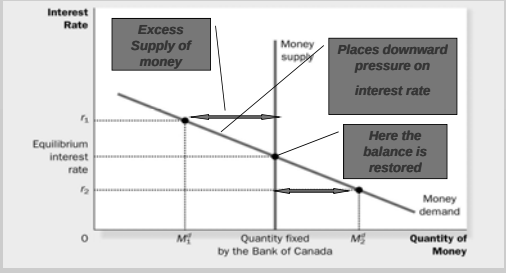


- The demand for money is thought to depend on the interest rate more than anything else
- There is a negative relationship, so the slope of money demand is negative
  - The opportunity cost of holding money is the interest that you could have earned by placing it in an illiquid asset. Holding cash pays nothing
  - As this cost (which is the interest rate) increases, the quantity demanded of money decreases, and vice versa

  - In other words, when interest rates are very low, you do not lose much by holding most of your portfolio in cash
  - when interest rates are high, you do lose a lot by holding most of your portfolio in cash, and you are tempted to place as much of it in interest bearing assets as possible

- The money demand curve shifts to the right if there is either an increase in P or an increase in real GDP
  - Either of these changes means that people want to hold more money in liquid form at each possible interest rate because they need to finance a higher level of purchases than before
- If shifts to the left given a decrease in P or a decrease in real GDP

Figure 15.3 Equilibrium in the Money Market

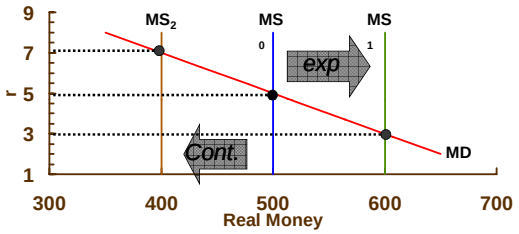


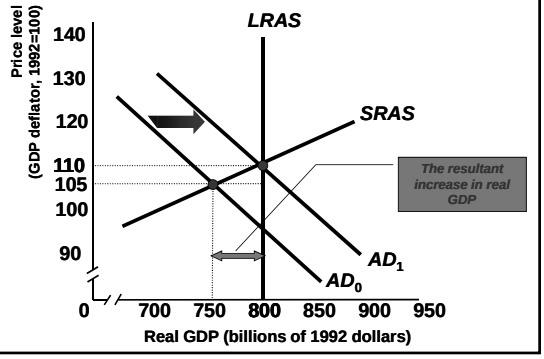
- Equilibrium occurs at the interest rate where the quantity demanded = quantity supplied
- If the interest rate is higher (like r_1), then there is excess supply of money, downward pressure on interest rates, causing the quantity demanded of money to rise, moving it back toward equilibrium quantity supplied

- If the interest rate is lower (like r_2), then there is excess demand for money, upward pressure on interest rates, causing the quantity demanded of money to fall, moving it back toward equilibrium quantity supplied

Impact of monetary policy on the macroeconomy

- Like figure 15.6
- If the goal is to stimulate the macroeconomy:
  - buy bonds, expand quantity of money which circulates, MS shifts right, equilibrium rate of interest falls
    - all in the money market
  - Now the transmission to the G & S market: I and C spending increase, AD shifts right, equilibrium P and GDP increase





- This is "loose money" in action (popular)

- If the central bank deems that inflation is a risk, it will implement a restrictive monetary policy
  - Sell bonds, contract quantity of money which circulates, MS shifts left, equilibrium rate of interest rises

– Now the transmission to the G & S market: I and C spending decrease, AD shifts left, equilibrium P and GDP decrease
– This is "tight money" in action, which is very unpopular

Monetary policy in the open economy

- HARD
- Figure 15.7
  - The textbook's treatment is more complicated than necessary
- If M_S ⇑, interest rate r ⇓
- Due to the lower interest rate, financial capital flows out
- Canadian dollar depreciates
- NX ⇑

- AD ⇒
- So AD expands for two reasons
  - Lower interest rates cause I and C to rise
  - Lower interest rates cause a weaker Canadian dollar, which in turn causes NX to rise

History of monetary policy

- 1988-1992; early 1980's very tight money
  - Contraction in money supply
  - High interest rates (expensive credit)
  - Lower I and C spending, high unemployment
  - Disinflation (a lower rate of inflation)
  - Extremely unpopular
    - People were hanging effigies of John Crow

- Late 1960s, early 1970s, first half of 2000s easy money, 2009 until now
  - Expand money supply
  - Low interest rates (cheap credit)
  - Now coined "quantitative easing"
  - Higher I and C spending, low unemployment
  - Possible breeding ground for inflation
  - Extremely popular
    - extended political life of Nixon

Recap of how policy works

- The interest rate is the link between activity in the money market and activity in the market for goods and services
- What happens on Bay Street (the money market) affects what happens on Main Street (the G & S market)
- 2 channels which you should know
  - From the money market to I and C to AD
  - From the money market to the XR to NX to AD

- Money supply ⇒ r ⇓ I ⇑ AD ⇒ Y ⇑ P ⇑
  - Monetary expansion causes...
  - Positive AD shock
- Money supply ⇐ r ⇑ I ⇓ AD ⇐ Y ⇓ P ⇓
  - Monetary contraction causes.....
  - Negative AD shock

- r ⇑ demand for financial assets denominated in CN$ ⇒ , the loonie appreciates, X ⇓ IM ⇑ AD ⇐
- r ⇓ demand for financial assets denominated in CN$ ⇐ , the loonie depreciates, X ⇑ IM ⇓ AD ⇒

- The two transmission mechanisms always work in the same direction
  - A fall in the interest rate is always expansionary
  - An increase in the interest rate is always contractionary
- For both transmission mechanisms, do ***synthesize, do conceptualize, don't memorize***

Fiscal policy

- To stimulate AD, the government either increases G and/or cuts taxes
  - Causes AD ⇒
- TO contract AD, the government either decreases G and/or raises taxes
  - Causes AD ⇐

Multiplier effect

- Analogous to the money multiplier in chapter 10
- The basic idea is that if the government increases spending (which it is most definitely doing now), this increase in spending has an effect on AD that causes it to expand again and again
  - Ultimately by much more than the initial expansion of AD

- Formula to the multiplier: $1 / [1 - (MPC - MPI)] > 1$
  - It is a scalar
  - By mathematical derivation: the sum of an infinite geometric progression
  - MPC = marginal propensity to consume = fraction of each additional $ of income that goes to consumption spending as opposed to saving
  - MPI = marginal propensity to import = fraction of each additional $ earned that goes to import spending

- Interpretation: the change in total spending (C + I + G + NX) which results from a $1 change in government spending.
  - Analogous to an elasticity
  - The higher (lower) the multiplier, the greater (lesser) the response

Numerical Illustration of multiplier

- Suppose MPC = 0.8, no imports, taxes, and that G increases by $100 million
- spending increases immediately by $100 million in round #1
- In round #2, induced C increases by 0.8*100 = 80, S increases by 0.2*100 = 20, spending increases by 80

- In round #3, induced C increases by 0.8*80 = 64, S increases by 0.2*80 = 16, spending increases by 64
- In round #4, induced C increases by 0.8*64 = 51.2, S increases by 0.2*64 = 12.8, spending increases by 51.2

- The initial impetus of Δ G triggers a RIPPLE effect of successive rounds of changes in induced spending
- Each *induced* increase to spending gets smaller and smaller
- Therefore, the cumulative sum of the changes in spending approach a limit, and AD will stop shifting

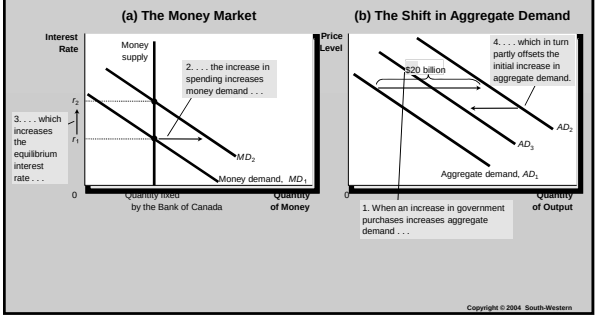
- The higher the value of the MPC, the higher the value of the multiplier, as less income leaks out of the circular flow in the form of savings
- The lower the value of the MPI, the higher the value of the multiplier, as less income leaks out of the circular flow

Crowding out effect

- A lot like what we did in chapter 8, although this time we are not talking about deficit spending but rather any increase in government spending
- Figure 15.8 in textbook
- In the goods and services market, G ↑, AD →, real GDP ↑
- In the money market, money demand →, interest rate ↑

- Back in the goods and services market, I and C spending ⇓
- AD ⇐ , although it is still higher than it used to be
- There is thus a partial offset of the initial increase in AD

Figure 15.9 The Crowding-Out Effect on Investment



Open economy considerations

- ..have no place in an introductory course
- Don't worry about the stuff on fixed exchange rates
- Assume flexible exchange rates
- End result: there can be a strong appreciation of the currency following a fiscal expansion, which reduces NX and causes AD to shift back to the left

- The offset of the initial expansion can be complete, such that fiscal policy has no lasting impact on equilibrium real GDP
- That is what the authors call the crowding out effect on net exports
- See the first two panels of table 15.2, and do not get too uptight

Debates over stabilization policy

- The YES camp
  - Can be effective means to remedy the negative AS and AD shocks that constantly occur by getting AD to expand
  - Based on theory of Keynes
  - This view, which was once discredited, is currently dominant

- The NO camp
  - Argue that the implementation lags are long (the time between the occurrence of the negative shock and the intervention)
  - By that time, the intervention might no longer be appropriate
  - Tend not to have faith in the efficacy of government

- **Automatic stabilizer is fiscal policy that is built into the government's tax and expenditure apparatus that automatically activates**
  - **When in a recession, UI payments increase and total tax revenue decreases**
  - **This causes AD** 
  - **But not sufficient to bring about an end to the recession**