ITRN 503: Macroeconomic Policy in the Global Economy, Study Guide

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Introduction

Preliminary observations on macroeconomics
Macroeconomic variables
Gross domestic product (GDP)
GDP deflator
Gross national income (GNI)
Types of financial flows
    Foreign direct investment
    Equity portfolio investment
    Bond finance
    Commercial bank lending

Open Economy Accounts

Circular flow diagram
    Simple closed economy
    Open economy with government, savings and investment
Fundamental accounting equations
    Intuition of these
Accounting matrices
Accounting identity equations
Fundamental accounting equations

$$I-\left(S_H+S_G\right)=S_F=Z-E$$

Domestic Investment – Domestic Savings = Foreign Savings = Trade Deficit

$$\left(S_H+S_G\right)-I=-S_F=E-Z$$

Domestic Savings – Domestic Investment = Foreign Investment = Trade Surplus

Open economy model

Balance of Payments Accounts

Major parts/balances
    Current account
    Capital/financial account
    Official reserve transactions
    Errors and omissions
    Overall balance (=0)
Balance of payments table
    Items 1 through 16
Analyzing the balance of payments
    Current account + capital/financial account + official reserve transactions = 0
Global balances
Production possibilities frontier (PPF) in terms of traded and non-traded goods
    Trade surplus and trade deficit in this diagram

Classical Model

The assumptions of the classical mode (A1 to A9)
The aggregate production function and marginal product of labor
    MP_N as demand for labor graph and $\frac{W}{P} = MP_N$
Labor supply graph and $N^S = g\left({}^{W}/_{P}\right)$
Supply-side determination of output and the aggregate supply curve
Aggregate demand and the equation of exchange: $MV = Py$
    Aggregate demand curve
The four equations of the classical model

$$y = F(N, K) \quad \text{(E1)}$$

$$MP_N(N, K) = \frac{W}{P} \quad \text{(E2)}$$

$$N = g\left(\frac{W}{P}\right) \quad \text{(E3)}$$

$$MV = Py \quad \text{(E4)}$$

    M,K exogenous
    N, *y*, *W/P*, and *P* endogenous
    4 equations and 4 endogenous variables
The four graphs of the classical model
    Aggregate production function
    Labor market
    Aggregate supply/aggregate demand
    Loanable funds market
Why the classical theory of the interest rate (loanable funds market) means that the modern components of aggregate demand do not affect total aggregate demand
Unemployment in the classical model

Exchange Rates

Definition of nominal exchange rate and effective exchange rate

$$e = \frac{pesos}{dollar}$$

$$e = \frac{\text{hom}\,e\ currency}{foreign\ currency}$$

$$e^{eff} = a_{US} e_{dollar} + a_{EU} e_{euro}$$

Value of home country scale ($1/e$)

Definition of real exchange rate and real effective exchange rate (REER)

$$re = e \times \frac{P^{US}}{P^{M}}$$

$$re = e \times \frac{P^{foreign}}{P^{\text{home}}}$$

$$re^{eff} = a_{US} re_{dollar} + a_{EU} re_{euro}$$

Sources of changes in real exchange rate

Purchasing power parity model and hypothesis

$$e = \frac{P^{M}}{P^{US}}$$

$$e = \frac{P^{\text{home}}}{P^{foreign}}$$

Exchange rates and trade flows

$$P_Z^M = e \times P_Z^W$$

$$P_E^M = e \times P_E^W$$

Monetary approach to exchange rate determination

$$e = \frac{\dfrac{M^M V^M}{y^M}}{\dfrac{M^{US} V^{US}}{y^{US}}} = \left(\frac{M^M}{M^{US}}\right)\left(\frac{y^{US}}{y^M}\right)\left(\frac{V^M}{V^{US}}\right)$$

The Keynesian Model

Multiplier model horizontal y^S curve
Keynesian consumption function

$C = a + b(Y - T)$ or $C = a + bY_D$

$a > 0$

$0 < b < 1$

Keynesian savings function

$S_H = Y_D - (a + bY_D)$ or $S_H = -a + (1 - b)Y_D$

The multiplier diagram
Multipliers

$$\frac{\Delta Y}{\Delta I} = \frac{1}{(1-b)}$$

$$\frac{\Delta Y}{\Delta G} = \frac{1}{(1-b)}$$

$$\frac{\Delta Y}{\Delta T} = \frac{-b}{(1-b)}$$

$$\frac{\Delta Y}{\Delta G} + \frac{\Delta Y}{\Delta T} = \frac{1}{(1-b)} - \frac{b}{(1-b)} = 1$$

Open economy multipliers:

$\frac{1}{(1-b)}$ versus $\frac{1}{(1-b+v)}$

The Keynesian money demand function

$M^D = L(Y, r)$

$$\frac{\Delta M^D}{\Delta Y} > 0$$

$$\frac{\Delta M^D}{\Delta r} < 0$$

The money market diagram
The LM diagram (upward sloping) and its intuition

As *Y* increases, money demand increases. In order for equilibrium to be maintained in the Keynesian money market, *r* needs to increase to reduced money demand back to the given supply.

As *r* increases, money demand decreases. In order for equilibrium to be maintained in the Keynesian money market, *Y* must increase to increase money demand back up to the given supply.

The IS diagram (downward sloping) and its intuition

As Y increases, S_H will increase. For a given G and T (and therefore S_G), I must increase. This occurs through a reduction in r.

As r increases, I will decrease. For a given G and T (and therefore S_G), S_H must decrease. This occurs through a reduction in Y.

The IS/LM diagram

Effect of changes in G (fiscal policy)

Effect of changes in M (monetary policy)

For both of these, the contrast with the Keynesian multiplier

The real version of the IS/LM diagram and its use to derive the Keynesian aggregate demand curve (when the price level rises, real money supply decrease, and aggregate demand falls).

The reasons why the aggregate supply curve is upward sloping in the Keynesian model.

The analysis of changes in G (fiscal policy) in the IS/LM model with aggregate demand and aggregate supply.

The analysis of changes in M (monetary policy) in the IS/LM model with aggregate demand and aggregate supply.

Exchange Rate Determination

Terminology

Depreciation, appreciation

Flexible exchange rates

The trade-based model derived from $S_F = (Z - E)$

The S_F graph is vertical

Using this model to analyze capital inflows and outflows

The assets-based model derived from $S_F = (Z - E)$ and the interest rate parity condition

$$r_H = r_F + \frac{(e^e - e)}{e}$$

The S_F graph is upward sloping

How interest rates and expectations affect the position of the S_F graph

Adding in the money market diagram to show how monetary policies in the home and foreign countries affect the equilibrium exchange rate.

Fixed exchange rates

Terminology

Devaluation, revaluation

The menu of alternative exchange rate regimes

Overvaluation and undervaluation in the peso market diagram

Using the interest rate to try to maintain an *equilibrium* fixed rate

Using monetary policy to influence the interest rate to maintain an equilibrium fixed rate

The impossible trinity