

Topic 1- National Income Accounting & BOP

National Income Identity

gross domestic product is given by consumption expenditures, plus investment expenditures, plus government expenditures, plus exports, minus imports

$Y=C+I+G+CA$

National Savings

the amount of output that is not devoted to private consumption and government spending

$S= Y-C(Y-T)-G$ or $S= Sp+Sg$ or $S=I+CA$

Balance of Payments

records a country's international transactions with the rest of the world in a given time period- records its payments and receipts from foreigners and shows demand and supply of a country's currency in FEM

*every international transaction enters the BOP accounts twice, once as a credit and once as debit

Topic 1- National Income Accounting & BOP (cont)

Credit Entry

any transaction resulting in receiving payments from foreigners

exports of goods, services, assets

Debit Entry

any transaction resulting in making payments

imports of goods, services, assets

Components of BOP Accounts

Current Account, Financial Account, Capital Account

$CA+KANon+CapitalAcc= -ORT$

Current Account

shows the difference b/w exports and imports of goods and services plus net unilateral transfer

$CA= EX-IM+ Net Unilateral Transfer$

Financial Account

difference b/w sales & purchases of assets to foreigners

$KA= KANon-res+ORT$

Non-reserve Portion

the purchases & sales of assets by the private sector

Reserve Portion

the purchases & sales of foreign assets by the country's monetary authority

foreign-currency denominated assets held by central banks

Topic 4- Price Levels & Exchange Rate in LR

Purchasing Power Parity

explains movements in the exchange rate between two countries' currencies by changes in the countries' price levels

Absolute PPP

identical basket of goods should be sold for same amount of money in diff countries when expressed in same currency

$E= P/P^*$

Relative PPP

% Δ in exchange rate between 2 currencies over many period equals to the inflation rate differentials between 2 countries

$E^e-E/E= \pi-\pi^*$

Monetary Approach to Exchange Rate

shows factors that affect MS and MD will play a role in determining exchange rate

PPP holds, LR Model, shocks are permanent

Equilibrium exchange rate

$E= (MS/MS^*) / (L(Y,R)/L(R,Y))$



Topic 4- Price Levels & Exchange Rate in LR (cont)

Domestic MS Increases	Exchange rate increases	DC depreciates
Foreign MS Increases	Exchange rate decreases	DC appreciates
Domestic Interest Rate increases	Exchange rate increases	DC depreciates
Foreign Interest Rate increases	Exchange rate decreases	DC appreciates
Domestic Output increases	Exchange rate decreases	DC appreciates
Foreign Output Increases	Exchange rate increases	DC depreciates

Topic 2- Asset Approach to Exchange Rate

Exchange Rate: the price of one currency in terms of another (D-C/FC)

$E^{DC/FC} = 1/E^{DC/FC}$

Forward exchange rates: the exchange rate that is contracted today for the exchange of currencies at a specified date in the future

$R = R^* + E^e - E/E$

Interest Parity Condition: the condition that the expected returns on deposits of any two currencies are equal when measured in the same currency

Topic 2- Asset Approach to Exchange Rate (cont)

Covered interest Rate Parity: agents can lock in the future exchange rate by getting a forward contract & eliminating uncertainty

$R = R^* + F - E/E$

Real Rate of Return: the rate at which its value expressed in terms of a representative output basket is expected to rise

Expected rate of return: the rate at which the value of an investment in the asset is expected to rise over time

Arbitrage: the process of buying a currency cheap and selling it dear

Asset Approach: IPR holds & deals with financial capitals

Focused on money mkt shocks and impacts on exchange rate (SR & LR)

R, domestic interest rate: return on DC deposits

Topic 2- Asset Approach to Exchange Rate (cont)

$E^e - E/E$: annualized percentage change in the DC/FC exchange rate

$R^* + E^e - E/E$: expecting DC return on FC deposits

Increase in Domestic Interest: R curve shifts right, invest in DC Deposit. Capital **inflows & DC appreciates**

Increase in Foreign Interest: R* curve shifts right, invest in FC deposit. Capital **outflows & DC depreciates**

Expected Depreciation of DC: R* curve shifts right, invest in FC deposit. Capital **outflows & DC depreciates**

Forward Trading: parties agree to exchange currencies on some future date at a pre-negotiated exchange rate

Spot Trading: trades are settled immediately

Generalized Approach (real exchange rate, q)

Real exchange rate, q: measures the purchasing power of a country's currency relative to another country's currency. Shows how many baskets of domestic goods are needed to exchange one basket of foreign goods. $q = E(P/P^*)$

If q increases: real **depreciation** of DC

If q decreases: real **appreciation** of DC

Generalized Approach (real exchange rate, q) (cont)

q=1	Absolute PPP	$q = E(P/P^*)$
q=0	Relative PPP	$q^e - q = 0$
If AD increases-domestic	domestic goods are more valuable	PPP of DC increases and real appreciation of DC
If AD* increases-foreign	domestic goods are less valuable	PPP of DC decreases and real depreciation of DC
Generalized Approach	considers how changes in both monetary and real sides of the economy affect LR exchange rate	in the LR changes in q, changes in P and P* lead to a change in E

Topic 3- Money, Interest Rate & Exchange Rate

Money Supply	the total amount of currency and checking deposits held by households and firms	Currency in circulation+- Demand Deposit
Aggregate Money Demand	the total demand for money by all households and firms in the economy	$M^d = L(R, Y)$
L(R, Y)	liquidity function	
R	nominal interest rate	opportunity cost of holding money

Topic 3- Money, Interest Rate & Exchange Rate (cont)

Y	real income= real GDP	when income increases, consumption increases, volume of transaction increases
	Interest rate-fisher	$R = r + \pi$
Money market equilibrium	$MS/P = L(R, Y)$	R adjusts to ensure the money market is in equilibrium in SR
If MS increases		Pressure for R to fall to initial level
If real income Y increases	Consumption increases and we hold more money	$L(R, Y)$ increases and R increases
In the long run	$P = MS/L(R, Y)$	$P = MS^L / (R, Y^*)$
	Quantity Theory of Money	$\% \Delta MS + \% \Delta V = \% \Delta P + \% \Delta Y$
	Level change in MS	no change in MS means no change in π
	doesn't impact $\% \Delta$ in MS	
Exchange Rate Overshooting		immediate response to a disturbance is greater than its long-run response

Topic 3- Money, Interest Rate & Exchange Rate (cont)

Exchange Rate	the immediate depreciation of a currency to a shock is greater than its long run response
Undershooting	