

Mod 7: The Open Economy

Some additional material

$$Y = C + I + G + X - IM$$

$$Y = C + I + G + NX$$

$$NX = f(\text{exchange rate})$$

Nominal exchange rate = Dollars/Country Currency

Appreciation plus – higher number for real exchange rate means more appreciated (expensive) currency – exports less profitable, imports cheaper.

Higher nominal exchange rate => ALL ELSE EQUAL more appreciation

Discourages exports (less profitable)

Encourages imports (now cheaper)

Reduces net exports – *all else equal –INCLUDING INFLATION; see next slides.*

Real exchange rate = Nominal exchange rate times Domestic Price Level/Foreign (world) Price level

Appreciation plus – higher number for real exchange rate means more appreciated (expensive) currency – exports less profitable, imports cheaper.

What does this mean?

All we want to do is to compare two price levels – home and world – but IN THE SAME CURRENCY.

Domestic price level – is in PESOS

Foreign (world) price level – is in DOLLARS

We want to convert domestic price level to Dollars

Since exchange rate is Dollar per peso, we MULTIPLY Peso price level by Dollars per Peso to get domestic price level – expressed in dollars.

We then compare that to the FOREIGN (world) price level which is expressed in dollars also.

That is the real exchange rate.

$$Y = C + I + G + X - IM$$

$$Y = C + I + G + NX$$

$$NX = f(\text{REAL exchange rate})$$

Why real? Suppose that nominal depreciated (fell) by 5% but domestic price level rose by 5%.

NO CHANGE in real exchange rate => no impact on net exports!!

Appreciation plus – higher number for real exchange rate means more appreciated (expensive) currency – exports less profitable, imports cheaper.

Real exchange rate = Nominal exchange rate times Domestic Price Level/Foreign (world) Price level

What does this mean?

All we want to do is to compare two price levels – home and world – but IN THE SAME CURRENCY.

Domestic price level – is in PESOS

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That is the real exchange rate.

We sometimes express exchange rate the 'other way around' – i.e. flipped.

Nominal exchange rate = Country Currency/Dollar

Appreciation minus – LOWER number for real exchange rate means more appreciated (expensive) currency – exports less profitable, imports cheaper.

i.e. PESOS/Dollar, Yuan/Dollar.

Nothing really changes here –we just 'flip' or 'invert' everything.

REAL LIFE: Learn both.

Lower nominal exchange rate => ALL ELSE EQUAL more appreciation


Discourages exports (less profitable)

Encourages imports (now cheaper)

EITHER WAY, MORE APPRECIATED CURRENCY reduces net exports – *all else equal* –
INCLUDING INFLATION

Generally, tighter money means more appreciated real exchange rate, lower net exports, lower output!

Tighter money works through two channels in an open economy (hence more powerful than in closed):

$$Y = C + I + G + NX$$


The diagram shows the equation $Y = C + I + G + NX$ in a serif font. Below the variable I , there is a large blue arrow pointing downwards. Below the variable NX , there is a large red arrow pointing downwards. These arrows indicate that tighter money leads to a decrease in investment (I) and net exports (NX), which in turn leads to a decrease in total output (Y).

Net Exports correspond to Net Capital Inflows

Deficit on Net Exports – Net Capital Inflows are positive country is receiving financing – financing willingly supplied by foreigners.

Surplus on Net Exports – Net Capital Inflows are negative (“Net Capital Outflows) country is providing financing – to deficit countries.

Net Exports correspond to Net Capital Inflows (non-reserve) and accumulation of international reserves by central bank.

Net Exports + Net Capital Inflows (non-reserve) = Change in International Reserves

Net Exports \approx -1^* Net Capital Inflows

Good for US, industrial countries.

Note to be more exact, we should have:

Current Account = Net Exports + Other Income \approx -1^* Net Capital Inflows

$(Y - C - T) = \text{Private Saving}$

$T - G = \text{Public Saving}$

$S = \text{Total Saving} = \text{Private Saving} + \text{Public Saving}$

$$NX = S - I$$

Savings / Investment interpretation:

Net Exports export deficit – our investment is greater than our saving; foreigners are providing extra saving.