MACROECONOMICS IN THE OPEN ECONOMY

Let X be exports of domestic goods, Q imports of foreign goods

The trade balance measured in terms of domestic goods is

\[ NX = X - \varepsilon Q \]

(why \( \varepsilon \)? Quantity of foreign goods \( \times \) price = value in terms of foreign currency; \( \times \) exchange rate = value in domestic currency; divided by price of domestic goods to get it in \( \text{real terms} \). So \( Q \times P^* \times E / P = \varepsilon Q \))

Real demand for domestic goods is

\[ Z = C + I + G + NX = C + I + G + X - \varepsilon Q = Y \text{ in equilibrium} \]
DETERMINATION OF Y IN THE OPEN ECONOMY:

We suppose \( C = C(Y-T) \)

\( I = I(Y, r) \)

\( X = X(Y^*, \varepsilon) \)

\( Q = Q(Y, \varepsilon) \)

Hold \( r \) and \( \varepsilon \) fixed for the moment; then

\[ Y = C(Y-T) + I(Y, r) + G + X(Y^*, \varepsilon) - \varepsilon Q(Y, \varepsilon) \]

Rewrite as

\[ Y - C(.) - G - I(.) = X(.) - \varepsilon Q(.) \]

or

\[ Y - T - C(.) + T - G(.) - I(.) = X(.) - \varepsilon Q(.) \]

or

\[ S(Y-T) + (T-G) - I(.) = X(.) - \varepsilon Q(.) \]

Private saving + Government saving - Investment = Net exports
fiscal expansion: $S-I$ shifts down => $Y$ up, $NX$ down
Increase in $Y^*$: NX shifts up $\Rightarrow$ Y up, NX up
The logic of policy coordination: my country would like to pursue expansionary policy, but are afraid of the adverse impact on trade balance. Your country has the same problem. So we get together someplace nice and agree that both of us will expand, each one's expansion raising the other's exports. Hence the AGs:

G7: 7 rich countries that supposedly cooperate on macro policy

G10: 10 rich countries that cooperate on macro policy

G24: 24 not so rich countries that complain about G7 policies

G77: 77 poor countries that complain about rich countries

G30: 30 guys (gov't officials, bankers, and a couple of pet academics) who pontificate about the other Gs
EFFECTS OF EXCHANGE RATE CHANGES

Higher $\varepsilon$ leads to higher $X$, lower $Q$; hence $NX$ increases - or does it

$$NX = X(Y^*, \varepsilon) - \varepsilon Q(Y, \varepsilon)$$

*Volume effects* work in the *right* direction - but *value effect* works in the *wrong* direction.

Are *volume effects* *strong enough*? This is the *Marshall-Lerner condition* (turns out to be that sum of elasticities of export and import demand exceed one) Evidence suggests yes, and it is usually assumed.

Effect of real depreciation: $NX$ shifts up, just like increase in $Y^*$; $Y$ increases, so do net exports.

An example: Brazil
THE J-CURVE (an important practical point)

Remember \( NX = X - \varepsilon Q \)

given time, \( X \) and \( Q \) respond enough to \( \varepsilon \) to make \( dNX/d\varepsilon > 0 \).

But in the short run \( X \) and \( Q \) are slow to respond

Result: \( NX \) usually falls initially when \( \varepsilon \) increases

Typical estimate: negative for first 6 months, roughly zero for 1st year, full impact not until 3rd year.