Lecture 16: Mundell-Fleming model with a floating exchange rate

- Rule: if result at a *given* exchange rate would be a BoP deficit, then result under *floating* is currency *depreciation*.

- Implications of capital mobility
  - Monetary expansion: high $\kappa$ => extra stimulus via net exports => more effect on $Y$.
  - Fiscal expansion: high $\kappa$ => crowding out of net exports => less effect on $Y$.

- Examples:
  - Fiscal expansions (e.g., US National Saving in early 1980s)
A monetary expansion shifts the LM curve out to $LM'$, lowering $i$ and raising $Y$. (a) Even without capital mobility, the trade deficit at $A$ requires a depreciation, which further raises $Y$ at $B$. (b) With some capital mobility, the balance of payments deficit is larger at $A$; this requires a larger depreciation, which raises $Y$ even further at $B$. (c) With high capital mobility, the deficit at $A$, depreciation, and stimulus at $B$ are all larger still.

\[ \kappa = 0 \quad \kappa > 0 \quad \kappa >> 0 \]

\[ i \downarrow \rightarrow \text{capital outflow} \rightarrow \text{more depreciation} \rightarrow \text{higher net exports} \]
A fiscal expansion shifts the IS curve to IS', raising Y and i to A. (a) Without capital mobility, the trade deficit at A requires a depreciation, which stimulates net exports and thus further raises Y to B. (b) With low capital mobility, the balance of payments deficit is smaller at A, so the required depreciation and the further stimulus to Y at B are smaller. (c) With high capital mobility, the balance of payments is in surplus at A, so a small appreciation is required, which discourages net exports; thus the increase in Y at B is smaller than in the earlier cases.

\[
\kappa = 0 \quad \kappa > 0 \quad \kappa >> 0
\]

(a) Zero Capital Mobility

(b) Low Capital Mobility

(c) High Capital Mobility

\[ i \uparrow \Rightarrow \text{capital inflow} \Rightarrow \text{less depreciation} \Rightarrow \text{lower net exports} \]
Example of monetary expansion (1): Abenomics depreciated the yen, 2012-2013

House of Representatives dissolved, Nov. 2012 => “Abenomics”

Example of monetary expansion (2):
When ECB chief Mario Draghi announced QE Jan.22, 2015, => the euro depreciated.
Examples of monetary contractions under modern conditions of high $\kappa$ and floating exchange rates

- Thatcher monetary contraction of 1979-82
- Volcker monetary contraction of 1981-82
- Japanese monetary contraction of 1990-92

In each case, $i \uparrow$, $r \uparrow$ (at $A$) => currency appreciated => net exports fell ($B$) => recession was more severe than in traditional monetary tightenings.
Examples of monetary/fiscal mix:

1) Reaganomics, 1981-84;
2) German union 1991-92.

The US shift in monetary-fiscal mix:
from low real interest rate & low $ in the late 1970s, to high real interest rate & high $ in the mid-1980s.

GDP composition shifts to G & C, away from I & X-M.
We now have a causal interpretation of the NS identity


Trend: Gap widened, as NS fell relative to I
Appendix: Japanese monetary expansion and yen depreciation 2012-15

“Abenomics”

Kuroda in Apr. 2013 announced BoJ would double over 2 years.

Japan’s monetary easing (QQE) raised the exchange rate (Yen/$) and stock market.

HR dissolved, Nov. 2012 => “Abenomics”
Abenomics seemed to boost growth, at first.

But Japan went back into recession in 2014 Q2, perhaps because of a big increase in the consumption tax.