Lecture 17: Mundell-Fleming model with *perfect* capital mobility

- Fiscal policy
  - fixed vs. floating rates.

- Monetary policy
  - fixed vs. floating rates.

- The Impossible Trinity
  - Application to European monetary integration.
  - Appendix: application to EM crisis response.
As $\kappa$ goes to $\infty$, the interpretation of $BP$ line changes.

- $BP$ line becomes flat $\leq$ slope $m/\kappa = 0$.
- It’s no longer “$KA > 0$ above $BP=0$ line,” but rather “$KA = +\infty$ above $BP$ line,” or more precisely: “arbitrage forces $i = i^*$.”
- If domestic country is small in world financial markets, $i^*$ is exogenous at $\bar{i^*}$.
- So $BP$ line says that $i$ is tied down to $\bar{i^*}$.
With perfect capital mobility \((K=\infty)\), consider again fiscal & monetary policy.

Under fixed exchange rate and floating exchange rate.
If $E$ is fixed, money inflow (instantaneous & immune to sterilization) brings $i$ back down => full multiplier effect on $Y$: no crowding out.

If $E$ floats, instantaneous appreciation brings $i$ back down => effect on $Y = 0$: 100% crowding out.

If $E$ is fixed, money outflow (instantaneous & immune to sterilization) brings $i$ back up => effect on $Y = 0$.

If $E$ floats, instantaneous depreciation brings $i$ back up => maximum effect on $Y$. 
Thus $\kappa=\infty$ is the limiting case of the results we got in the sequence $\kappa = 0, >0, >>0$.

- **Fiscal expansion**
  - loses power under floating. $\Leftarrow$ crowds out $TB$ (via $\$ \uparrow$), supplementing traditional crowding out of $I$ (via $i \uparrow$);
  - gains power under fixed rates. $\Leftarrow$ no crowding out
    $\Leftarrow$ automatic monetary accommodation via reserve inflow.

- **Monetary expansion**
  - gains power under floating. $\Leftarrow$ stimulus to $TB$ (via $\$ \downarrow$)
    supplements the stimulus to $I$ (via $i \downarrow$);
  - loses power under fixed rates $\Leftarrow$ money flows out via BoP.
The results of the Mundell-Fleming model under perfect capital mobility seem too stark to be true.

• Later in the course we will introduce some factors that moderate the results.

• But one implication does not need much modification:
  – the conditions for a country to be able to run an independent monetary policy.
The “Impossible Trinity,” a trilemma

We can attain any two of three desirable attributes, but not all three:

• Perfect capital mobility (Financial integration)

• Truly fixed exchange rates (Currency integration)

• Monetary independence (Full national sovereignty)
The “Impossible Trinity”

At each corner of the triangle, it is possible to obtain fully 2 attributes. But not 3.
Application of Impossible Trinity to European monetary integration

• In the 1992 crisis of the European exchange rate mechanism (ERM),
  – Spain & Portugal temporarily gave up their new financial openness (reinstating controls).
  – Britain gave up its new link to the other European currencies, dropping out of the ERM.
  – Austria & the Netherlands continued to cling to the DM.

• By 1999, however, 11 countries had given up capital controls and their own currencies;
  – as a result, interest rates converged
  – and they lost all monetary independence.
Interest rate convergence in the € zone, 1995-2001

10-year government bond yields in the euro area

Member countries fully converged in time for 1999 launch of euro.

Consequences for euro periphery countries of the loss of ability after 1999 to set their own interest rates

• In the years 2004-08, their economies needed \( i \) higher than the \( i^* \) set in Frankfurt –
  • e.g., Ireland, which had an unsustainably strong boom
    • initially based fully on fundamentals (“Celtic tiger”),
    • but then turning to bubble (via bank loans & housing prices).

• In the years after 2008, they needed \( i \) lower than the \( i^* \) set in Frankfurt –
  • worsening the recessions in the periphery
    • the Baltics, 2009;
    • Greece, Ireland, Portugal, Spain, 2010-14.
End of Lecture 17: Mundell-Fleming model with perfect capital mobility
Appendix 1: Application of Impossible Trinity to emerging market crises of 1994-2001

- A few crisis victims reinstated capital controls (Malaysia, 1998), while some major spectators resolved to keep theirs (China & India).

- Many crisis victims chose to give up their exchange rate targets:

- Some economies re-affirmed their institutionally-fixed exchange rates (Hong Kong),
  - while others dollarized for the first time (Ecuador, El Salvador).

- Fewer countries changed regimes in response to the 2008-09 crisis,
  - in part because exchange rate flexibility was already greater.
  - Brazil did adopt controls on capital inflows.
Appendix 2:
Why does \( i \) not equal \( i^* \) for most countries?

- **Country factors**, as measured by \( i - i^* - fd \) (c.i.d.),
or by sovereign spread (or other measures that omit currency factor)
  - Capital controls
  - Taxes on financial transactions
  - Transaction costs (e.g., bid-ask spread)
  - Imperfect information (e.g., mortgages)
  - Default risk
  - Risk of future capital controls.

- **Currency factors**, as measured by \( fd \) (currency premium)
  - Expected depreciation of currency
  - Exchange risk premium.