Topics for Today

1.) Monetary + Fiscal Policy with Fixed Exchange Rates

2.) Devaluations

3.) Expected Devaluations and Capital Flight

4.) "Liquidity Traps" and Ex. Rate Policy

Monetary Policy

Suppose the ex. rate is (credibly) fixed at E°

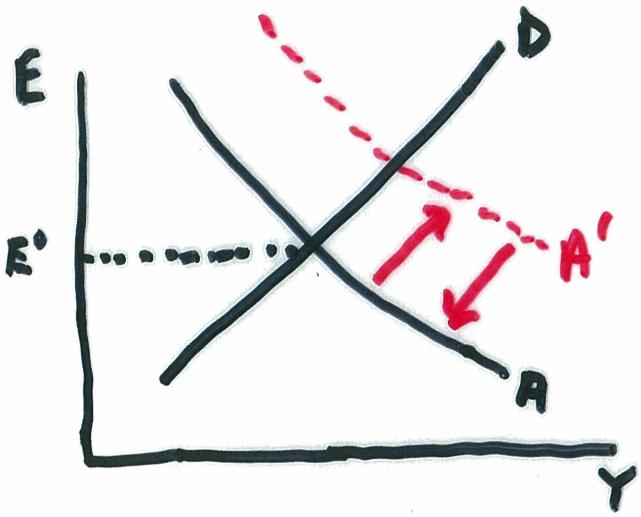
Next, suppose the Central Bank attempts to stimulate the economy by increasing the money supply

CB purchases domestic assets $\Longrightarrow$ Pressure for $R\downarrow$, $Y\uparrow$

$\Longrightarrow$ Pressure for $E\uparrow$

$\Longrightarrow$ CB must sell fx reserves to support domestic currency

$\Longrightarrow$ Money supply falls back down



Conclusion: With fixed ex. rate, monetary policy is unable to influence the money supply, interest rate, or output. It only affects the currency composition of the Central Bank's Balance Sheet.

Note, this is true when even a single exchange rate is targeted. That is, your currency might be floating against other currencies, if the country you peg to floats against them.

Caveats:

1.) Domestic + Foreign assets might be imperfect substitutes. Monetary policy might affect the risk premium (Sterilized Intervention).

2.) Large reserve-currency countries can influence world money supply + world interest rates (e.g., Britain during Gold Standard and U.S. during Bretton Woods).

3.) Persistent attempts to increase the money supply may deplete fx reserves. Then what?!

Fiscal Policy

Again suppose the exchange rate is fixed at E^0.

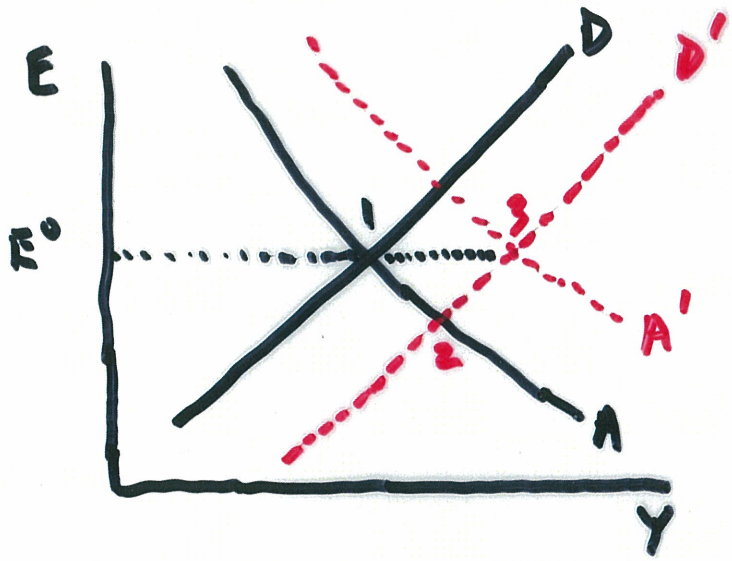
Now suppose the govt. cuts taxes or increases spending

$G\uparrow$ or $T\downarrow$ $\Longrightarrow$ Pressure for $Y\uparrow$, $R\uparrow$

$\Longrightarrow$ Pressure for $E\downarrow$

$\Longrightarrow$ CB must now purchase fx to prevent domestic currency from appreciating

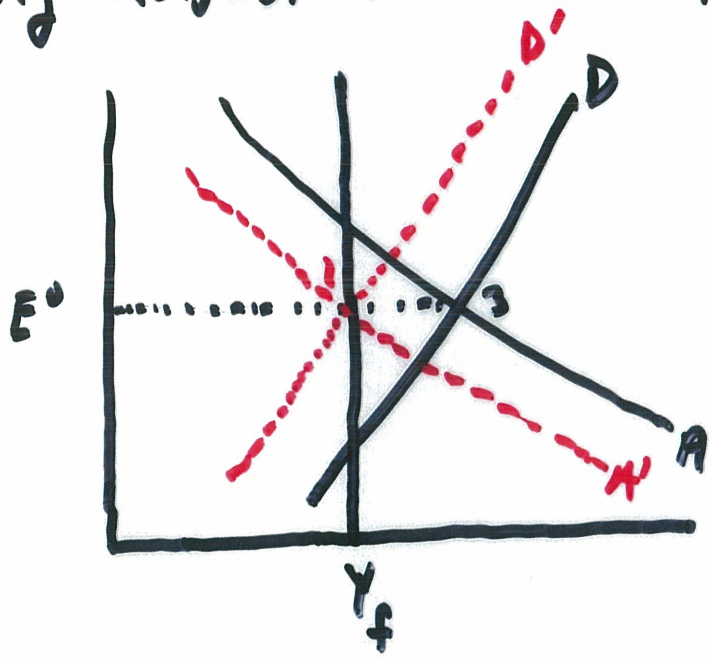
$\Longrightarrow$ Money Supply increases / AA shifts out



Conclusion: Fiscal policy is more effective under fixed ex. rates! It does not crowd out NX. Instead, it forces an accommodating change in monetary policy.

Long-Run Adjustment to Permanent Fiscal Policy

Suppose the fiscal expansion is permanent, and at the short-run equilibrium, the economy is above full-employment output. How does the economy adjust over time?



$Y > Y_f \Rightarrow$ Pressure for prices + wages to rise

$\Rightarrow \frac{E^* P^*}{P}$ falls, domestic goods more expensive

$\Rightarrow NX \downarrow$, DD shifts up

At the same time,

$\Rightarrow M^s/P \downarrow$

$\Rightarrow$ AA shifts down

In the end, you return to pt. 1. Note, real ex. rate appreciates just like with flex. rates, but now its because PP

Devaluation (Unexpected)

Although the Central Bank cannot influence the money supply with a fixed ex. rate, it obtains a new policy tool, the ex. rate itself!

What happens when the CB suddenly announces a new (higher) value of E? Note, to implement this policy it just needs to announce that it is trading at the new price. Trades will no longer take place at the previous price, since sellers of fx would rather sell to the CB.

E↑ to E' ⟹ Domestic goods cheaper
⟹ NX↑
⟹ Move up along DD curve
⟹ Y↑
⟹ M^d↑
⟹ M^s↑ (P + R don't change)
⟹ AA shifts out.

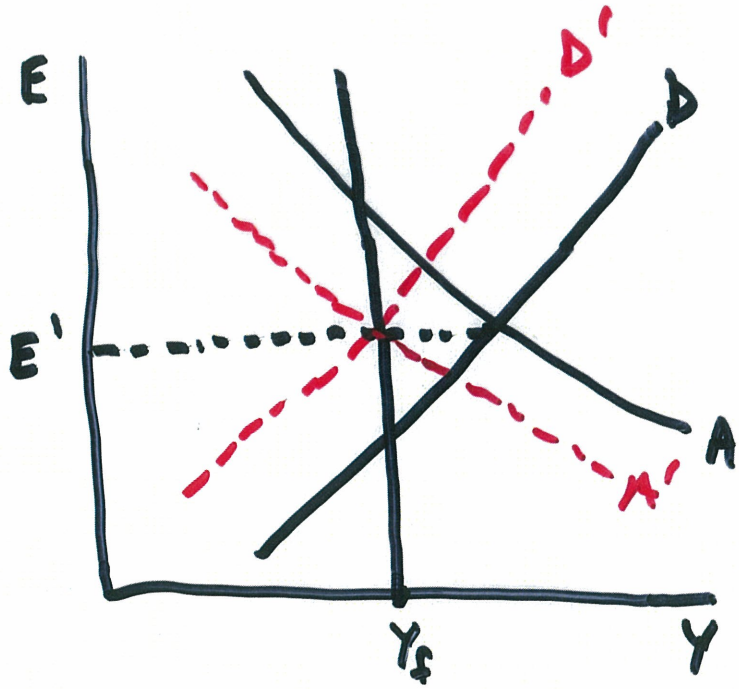
Long-Run Adjustment to Devaluation

Suppose the devaluation pushes the economy beyond full employment. How does the economy adjust over time?

$Y > Y_f \implies P\uparrow$

$\implies$ DD shifts left, AA shifts left

$\implies$ Return to Y_f with no long-run change in the real ex. rate (E and P rise proportionately).



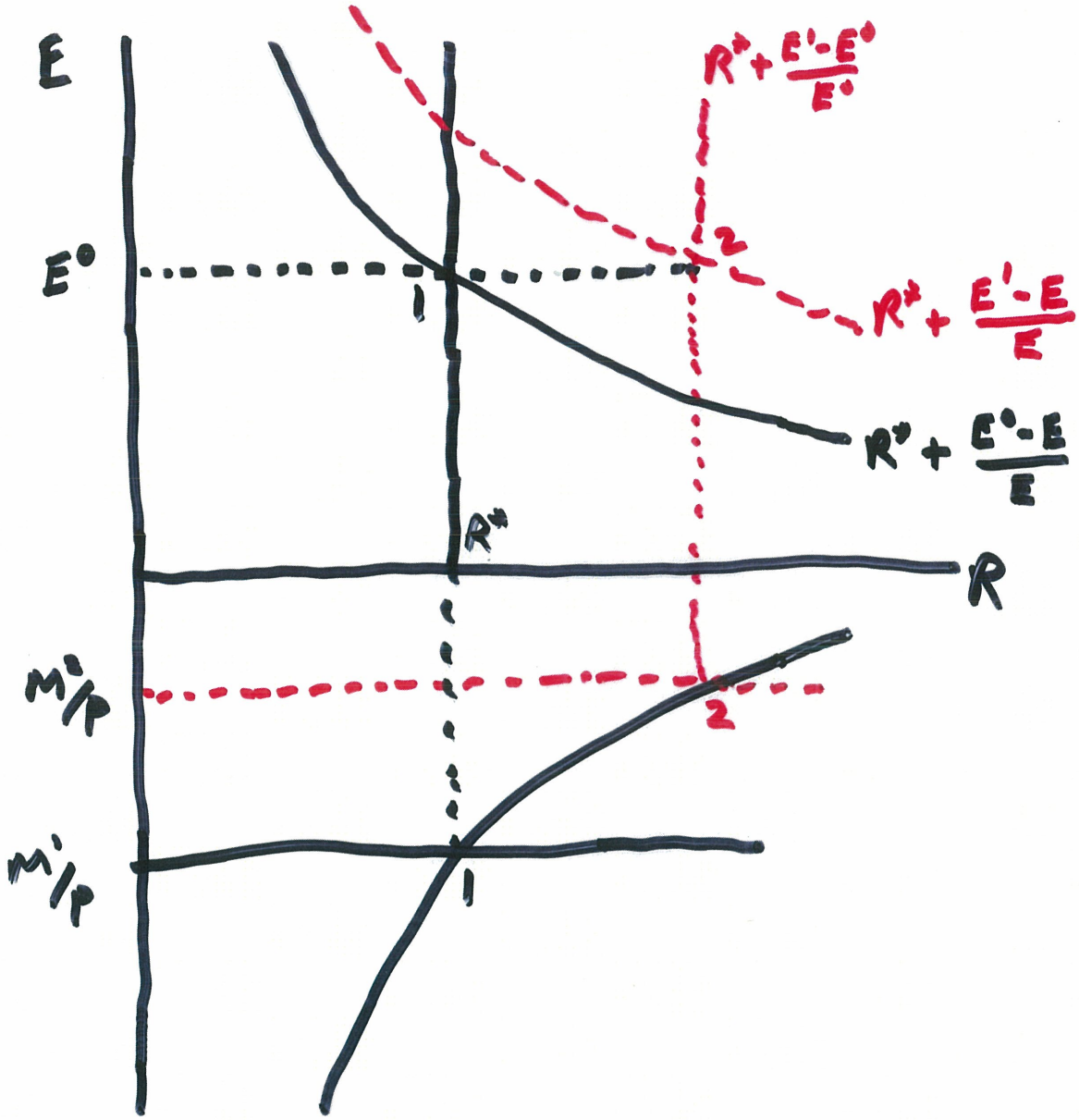
Expected Devaluation + Capital Flight

What happens if market participants come to expect a future devaluation? Usually this occurs when the CB is running low on fx reserves.

Suppose $E^e \uparrow$ from E^0 to E'

At E^0, there is an expected capital loss on domestic assets and an expected capital gain on foreign assets. With flexible exchange rates, this causes an immediate depreciation. However, with fixed rates, the CB cannot let this happen. Instead, it must intervene by selling the fx that investors demand and buying up the domestic currency that people want to get rid of.

This selling of fx reserves in exchange for domestic assets reduces the money supply. The money supply reduction raises domestic interest rates to match the expected rate of devaluation, i.e., $R = R^* + \frac{E' - E^0}{E^0}$



The process of selling domestic currency to the CB in return for fx assets is called <u>capital flight</u>. Note that capital flight reduces the CB's fx reserves. Hence, expectations of a devaluation can become <u>self-fulfilling prophecies</u>!

Liquidity Traps + Ex. Rate Policy

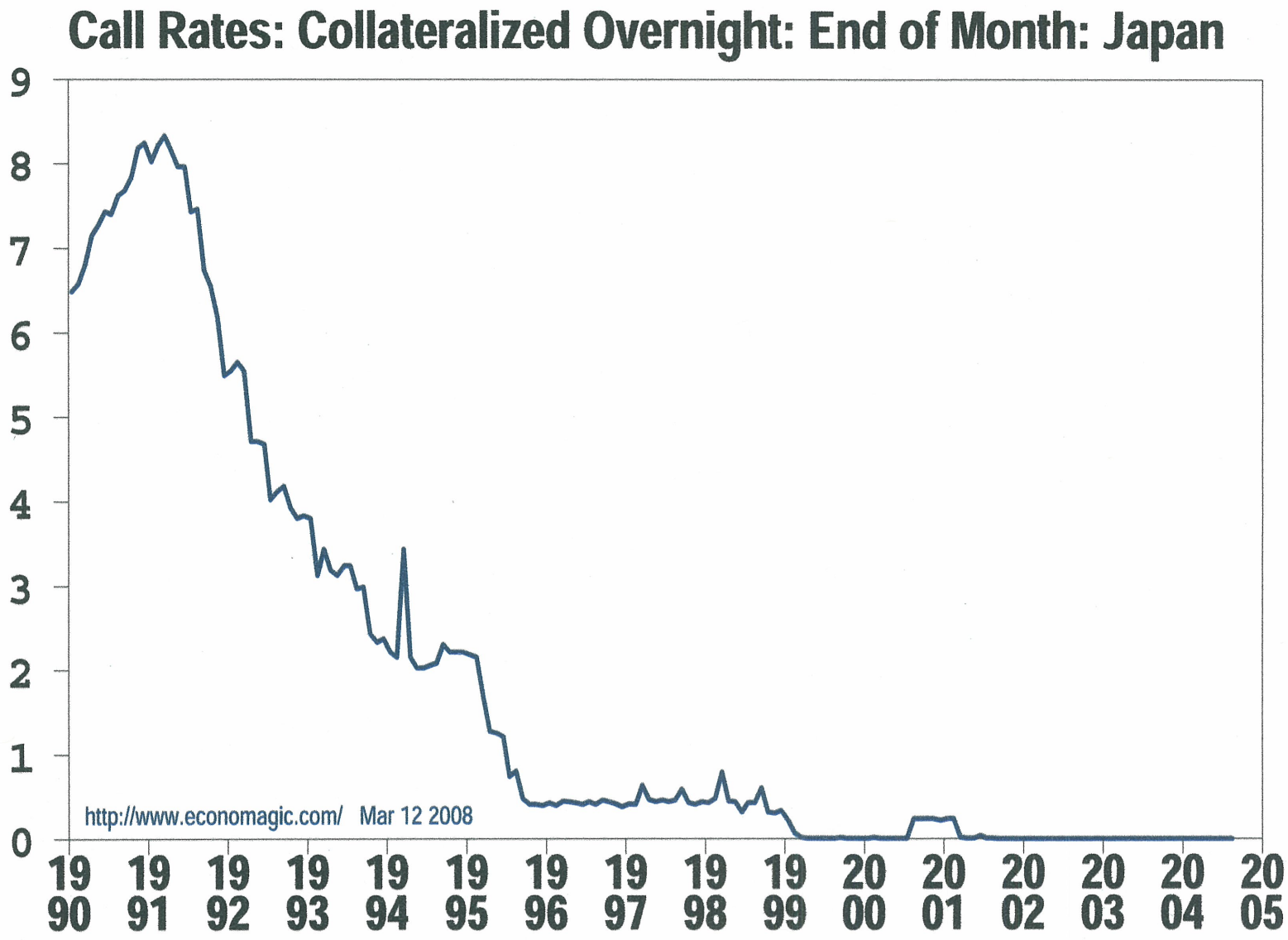
Interestingly, announcements of devaluation can even be useful under flexible ex. rates. This can occur when the economy is in a "liquidity trap".

Liquidity traps occur when nominal interest rates fall to zero. At this point, money and bonds become perfect substitutes, and the CB can no longer attempt to stimulate the economy by cutting interest rates. Nominal interest rates cannot be negative, since people can always hold money instead (which offers a nominal rate of zero).

From UIP, a lower bound of 0 for R implies an upper bound of $\frac{E^e}{1-R^*}$ for the exchange rate (for given expectations).

To see this, just solve the following eq. for E

$$0 = R = R^* + \frac{E^e - E}{E}$$


Call Rates: Collateralized Overnight: End of Month: Japan
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http://www.economagic.com/ Mar 12 2008
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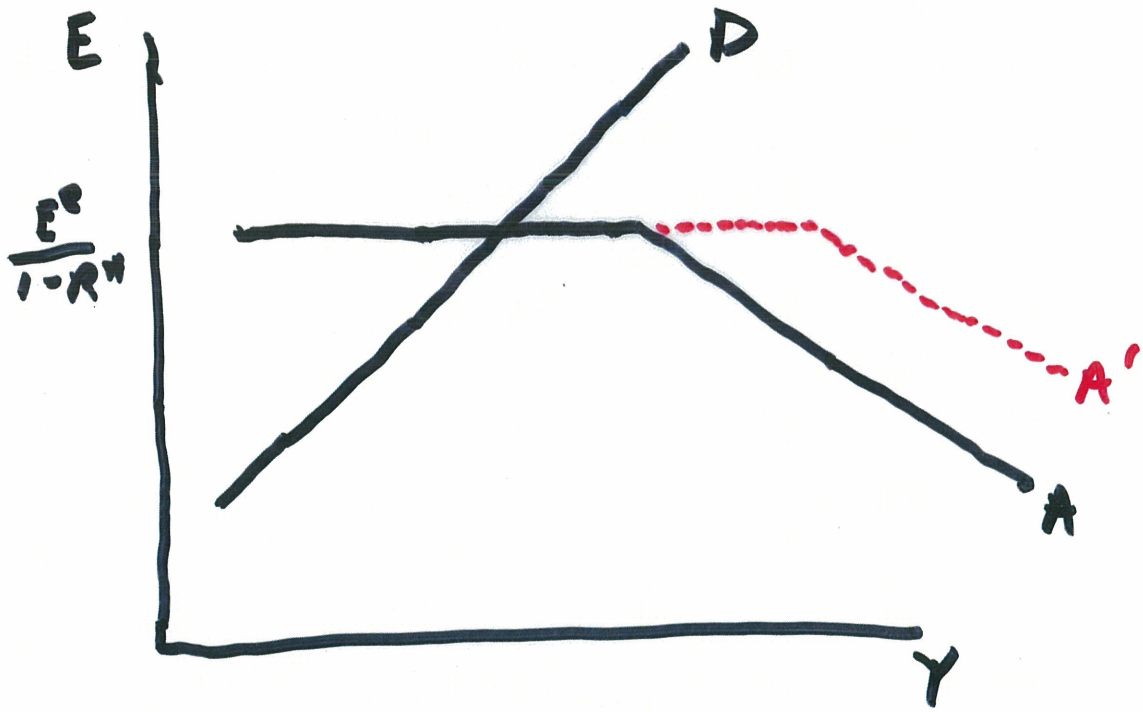
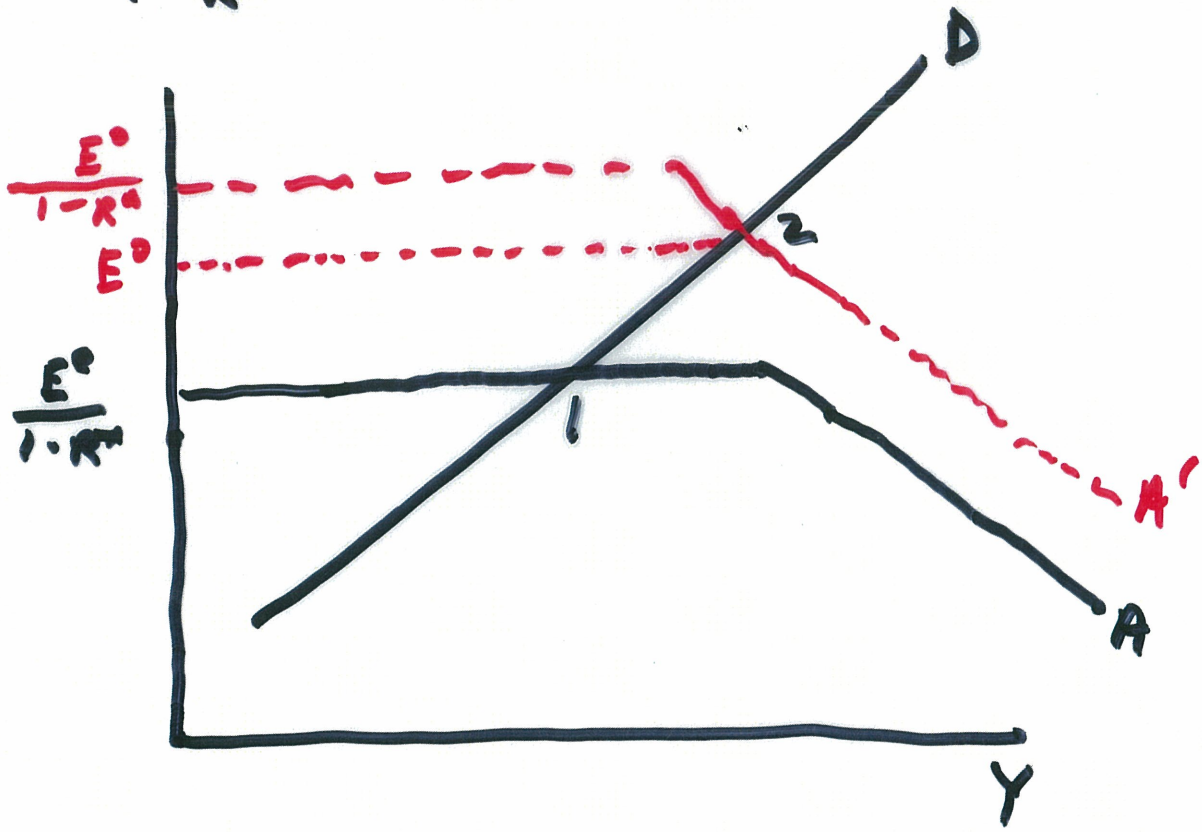
The upper bound on E produces a flat segment in the AA curve. It is possible that the DD curve intersects the AA curve on the flat part of AA, where $Y < Y_f$. If this happens, monetary policy is powerless, even with flexible ex. rates!



Increasing M^s here just lengthens the horizontal segment of AA, by increasing the level of Y that is consistent with a zero nominal interest rate. (Eventually, high enough Y will cause M^d to rise enough so that R increases + E decreases).

What can the Central Bank do?

It needs to shift up the upper bound by announcing a (credible) ex. rate devaluation!

Suppose the CB pegs the rate at

$E^0 > \frac{E^e}{1-R^*}$