Practice Problems: Open Economy IS/LM Model

Econ520. Fall 2022. Prof. Lutz Hendricks. September 12, 2022

Also see the exercises in Ch. 20 of Blanchard / Johnson, Macroeconomics, 6th ed.

1 Floating Exchange Rate

1. You should be able to derive how a fiscal expansion affects Y, i, E, NX. (Answer in the slides)

2. Derive the effect of a higher foreign interest rate on Y, i, E, NX.

   A: Higher i^* leads to a depreciation which shifts IS up/right. So Y and i rise. E depreciates by UIP. NX must rise (this is the only reason why aggregate demand increases).

3. How could monetary and fiscal policy be used to manipulate output without affecting the trade balance?

   A: $G \uparrow \implies NX \downarrow$. $M \uparrow \implies NX \uparrow$. Combining both: $Y \uparrow$ without changing the trade balance.

   Note: This assumes that higher M improves NX which is not so clear.

2 Fixed Exchange Rate

1. Explain why the central bank loses control over the money supply. (Answer in the slides)

2. Derive the effect of a devaluation on Y, i, NX.

   A: IS shifts right, so $Y \uparrow$. i must of course continue to equal i^*. $NX \uparrow$ – this is the reason why IS shifts in the first place.

3 Miscellaneous

1. Explain how the exchange rate affects aggregate demand.

    (a) Why is the effect ambiguous?

2. Why is the open economy IS curve downward-sloping?

    A: It works through UIP. Lower $i \implies$ lower E which changes NX.
