Macroeconomics A; EI060

Quiz

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1 Transmission with bond markets

Question: If economies are financially integrated only through bond markets, how do temporary productivity shocks affect physical capital allocation?

Answer: A productivity increase in Home makes it more efficient to use capital by firms (financed by investors) than savers (using their own technology).

Productivity also raises the price of Home capital, which relaxes the investors' ability to borrow. Higher borrowing raises the interest rate, and attracts Foreign capital.

The higher interest rate reduces borrowing by Foreign firms, who have an unchanged productivity, and their use of capital.

We therefore have capital use by firms going in opposite directions in the two countries.

2 Transmission with equity markets

Question: If economies are financially integrated only through equity markets, how do temporary productivity shocks affect physical capital allocation?

Contrast the situation where borrowing constraints are not binding and the situation where they are.

Answer: A productivity increase in Home again shifts Home capital from savers to investors.

Consider that there are no borrowing constraints. The higher productivity leads to a temporary increase in consumption, with a gradual decrease. The Euler condition then requires a low interest rate.

As there the Foreign productivity has not changed, there is no reason to reallocate capital between the firms and households technologies (as bond markets are not integrated, Foreign savers do not redirect to Home firms).

We therefore have no correlation of capital use by firms between Home (increase) and Foreign (no changes).

If the borrowing constraints are binding, the increase in capital prices relax the borrowing constraints of both Home and Foreign investors. They can borrow more form their local savers, and capital is redirected towards firms in both countries. We therefore have capital use by firms going in the same direction in the two countries.

3 Co-existence of capital use by different sectors

Question: Financial constraints can lead to a reallocation of capital between savers and investors. As both use capital to produce goods, is this reallocation benign?

Answer: The reallocation can be costly, because the production functions of firms and savers are different.

In the absence of borrowing constraints, the reallocation is benign as the frictionless flow of funds ensures that the marginal product of capital is equal in the two countries.

With borrowing constraints, an increase in the capital price raises collateral and leads to capital moving from savers to firms, even in the country where there is no shocks. This is useful. With the constraint, the initial allocation of capital was inefficiently tilted towards savers. The productivity increase leads to a reallocation towards firms, and thus pushes the countries towards a better allocation. By symmetry, a fall of productivity is costly as it pushes the countries further away from the efficient allocation.

4 Trilemma

Question: Explain what the trilemma of international macroeconomics is.

Answer: The trilemma is the situation where policymakers have three objectives but can reach only two.

The objectives are a stable exchange rate, the ability to use monetary policy for domestic objectives, and capital mobility.

With capital mobility, if conditions in world financial markets change, the interest rate parity implies that we must either have a change in the domestic monetary policy (the interest rates), which then may not match domestic needs, or in the exchange rate, which goes against exchange rate stability.

To preserve autonomy and keep the exchange rate stable, the authorities have to break the investors' arbitrage that underlies the interest rate parity condition, which requires limiting capital mobility.

5 How to get autonomy

Question: A flexible exchange rate or limited capital mobility can in theory restore policy autonomy. Empirically, are these tools effective? Is their impact linear in the extent capital controls and exchange rate flexibility?

Answer: The work by Klein and Shambaugh shows that we get more autonomy with more exchange rate flexibility and more capital controls.

An aspects that is not fully in line with the theory, is that full autonomy requires that both tools are used, i.e. exchange rate flexibility and capital controls. The theory however implies that either of the two should be enough.

The linearity of impact is different between the two tools. With exchange rate flexibility, the impact is linear in the sense that a bit more flexibility gives a bit more autonomy, and thus we can get a fair amount of autonomy by letting the exchange rate move partially, without going to full flexibility. The situation is different with capital controls, where the authorities can get autonomy only by putting strict controls. Putting partial controls does not deliver a partial autonomy. The reason for this contrast is that agents can finds ways to get around partial capital controls, but there are no ways to escape the fluctuations of the exchange rate.