Macroeconomics A; EI060

Quiz

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1 Price premium

Question: In the closed economy model, what is the "price premium"?
How is it reflected if we take a linear approximation of the model?

Answer: When firms preset prices, they do so in a forward looking manner knowing the process of shocks that can happen once the prices are set.

If costs (wages adjusted by productivity) are volatile, firms face volatile profit margins. Their optimal choice is then to reduce somewhat their exposure to the risky business by setting a higher price, which reduces production on average.

The price premium reflects the volatility of the cost, hence the variance of variables. This is a second-order dimension (proportional to the variance of shocks) that is not captured in a linear approximation, as such an approximation only reflects the first-order dimension (proportional to standard deviation of shocks). To capture the price premium we need to be able to solve the model in a closed form, or take a quadratic approximation of the optimal forward-looking pricing equation (we can take linear approximations of the others).

2 Basket invoicing

Question: In the open economy, what is the measure of cost that policy wants to stabilize?

Answer: The measure of cost is the monetary stance (to which the wage is proportional) adjusted by productivity.

The specific monetary stance however depends of which currency the price is invoiced into. Specifically, we should stabilize the monetary stance of the invoicing basket, relative to the productivity.

For domestic sales, where the currency of the producer is the same as the currency of the client, the price premium is minimized by setting the domestic monetary stance in line with the domestic shocks.

Things are more complex for the price of imported goods consumed by the local household. If they are invoiced in the currency of the exporter, then the central bank of the importing country has no impact on them. If they are invoiced in the currency of the importer, then the central bank of the importing country can minimize the price premium by setting its monetary stance in line with the foreign productivity shocks. However, in general, this will not be consistent with minimizing the domestic price premium.

3 Replication of the flexible price allocation

Question: Can monetary policy replicate the equilibrium reached under flexible prices?

Answer: Not in general. It can do so when the exchange rate fully affects import prices. In that case, monetary policy can reach an efficient level of demand by raising purchasing power, as well as reaching an efficient allocation of demand across Home and Foreign goods by moving the relative prices through the exchange rate. Under the optimal policy, the price premium is minimized because costs are fully stabilized, so even if firms could adjust their prices they would not want to.

When import prices are not fully impacted by the exchange rate, policy becomes less effective. It can still can reach an efficient level of demand by raising purchasing power, but cannot deliver an efficient allocation of demand as its ability to move relative prices is limited.

4 International cooperation

Question: When is international cooperation, i.e. aiming at the average utility across the two country rather than the domestic utility, warranted?

When it is warranted, do all countries benefit?

Answer: Two conditions are needed for cooperation to be useful.

First, there must be spillover. If Home monetary policy has no impact on the price premium of goods consumed in the Foreign country, then asking the Home central bank to take account of the Foreign welfare is pointless, as it cannot affect it. This is the case in the absence of exchange rate pass-through.

Second, the spillover must be such that the impact on the rest of the world is not the same as the domestic impact of policy. If the Home central bank aims only at Home welfare but chooses a policy that is also the right one for the Foreign country, then cooperation is not needed as the Home central already does the right thing for the Foreign country. This is the case when there is full exchange rate pass-through.

The two conditions are met when pass-through is asymmetric for instance. If the Home currency is used to invoice all trade flows, then the Home central bank sets a policy taking account of domestic and foreign productivity. It however ignores its impact on the import prices abroad. Taking account of that impact requires the Home central bank to put more weight on its own productivity. Interestingly, cooperation calls for policy to be more inward looking, i.e. caring more about its domestic shocks that it would otherwise.

When cooperation is useful, it increases the worldwide average utility. However, this comes at the expense of at least one country. For example, when the Home currency is used to invoice all trade flows, cooperation calls for the Home central bank to take a different policy, but does not call for any change for the Foreign central bank. Nothing prevents the Home central bank to adopt the cooperative policy on its own. So if it chooses a different policy when taking account only of its domestic welfare, it must be that the policy in question leads to a higher utility for the Home country than the cooperative policy does. Therefore, cooperation comes at the expense of the Home country.