Macroeconomics A; EI060

Quiz

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Class of April 30, 2025

1 Different elasticities of substitution

Question: What is the advantage to consider a different substitutability between Home and Foreign goods, λ, and between various brands of the same origin, θ?

Answer: As all firms face similar conditions, and reset prices at the same time, they all make the same choices. In equilibrium, we can therefore think in terms of a representative firm in each country.

That firm competes with the Foreign representative firm, and the elasticity of demands for their goods is the one between Home and Foreign goods, λ. All the macroeconomic interactions reflect that elasticity. For instance, the extent to which exchange rate movements lead to changes in nominal revenue contrasts the positive effect of the weaker currency in boosting real output, which reflects λ, and the negative effect of the exchange rate on the terms-of-trade. If $\lambda = 1$ the two cancel out. If $\lambda > 1$, quantities react a lot to the exchange rate, hence a depreciation raises revenue.

The elasticity θ only enters when the firm makes a choice against its competitor. This only occurs in the optimal prices, where a firm sees other firms in the same country as its competitors because it is too small to affect the overall price of the Home or Foreign goods. It sets its price taking account of a demand with elasticity θ, which is reflected in the markup. This elasticity plays no role in the solution of the various variables, and only enters in the welfare assessment because it drives the extent of inefficiency of the initial output.

2 Flexible prices

Question: When firms can choose prices, why to they chose the same for domestic sales as for exports?

Answer: This is a feature of the CES assumption. When the elasticity of demand is just a parameter, firms only look at the marginal cost, which is the same regardless of where the goods go. The markup on the cost reflects the elasticity of demand.

Markups can differ when we take more general assumptions than CES, as they then reflect the market share of the firm in each of its markets, which can be different in the domestic and foreign markets. But this goes beyond the class.

3 Long run solution

Question: Once prices are fully flexible and the economy has adjusted to a new steady state, explain the impact of cross-border assets on consumption, output, and the terms-of-trade.

Answer: The impact reflects wealth effect. If the Home country has assets on the Foreign one (it is a creditor in bonds), it gets a steady interest earning on these assets.

It can then afford to consume more, both in terms of goods and in terms of leisure. The higher leisure consumption means that Home output is reduced. This scarcity in turn leads to the Home output becoming more expensive, i.e. an improvement in the terms-of-trade.

4 Overshooting

Question: What is requires to get exchange rate overshooting?

Answer: We need two elements.

The first is a different dynamic of consumption between the two countries. This requires a different real interest rate, i.e. a different inflation differential. Such a difference does not occur when exchange rate movements are fully transmitted to import prices (as PPP then holds), but takes place when the transmission is partial.

A Home monetary expansion, which depreciates the Home currency, then reduces the Home real interest rate relative to the Foreign one. The Home-Foreign consumption differential is then larger in the short run than in the long run, as Home brings consumption forward. This larger consumption differential in the short run raises relative (Home-Foreign) money demand. If the increase in money demand is strong enough, it absorbs the relative money supply and we don't need a different movement between the domestic Home and Foreign nominal interest. If however money demand reacts only a little (when the curvature of the utility of real balance is stronger than with a log utility), we need to boost money demand further through a decrease of the Home nominal interest rate (relative to the Foreign one). Interest rate parity then requires an appreciation of the Home currency between the short and the long run, leading to overshooting.

5 Welfare effect of monetary expansion

Question: A monetary expansion increases output more in the Home country than in the Foreign one. Does it mean that Home benefits by more than Foreign?

Answer: No. Higher output is not per se beneficial. It is beneficial to the extent that it allows for enough additional consumption.

In a closed economy (or in the worldwide solution) higher output is beneficial. This is because it leads to an identical increase of consumption, and as output was initially too low because of monopolistic competition, the extra consumption brings more benefit that the cost of the corresponding effort.

In terms of cross-country differences, we need to take account of the movements in international prices. When Home and Foreign goods are equally substitutable as brands are, then the macroeconomic elasticity λ is in line with the one driving the inefficiency, θ. All countries benefit equally, even through Home output increases by more. They benefit through different channels: Home gets a higher income, and Foreign gets more favorable relative prices (it imports cheaper Home goods).

When $\lambda < \theta$ Home suffers from its output expansion. This is because the additional Home output has to be absorbed by consumers, and this requires a big price change because the elasticity λ is low. Home then gets only a moderate increase in consumption, while Foreign gets a big decrease of the price of Home imports. As Home gets relatively little consumption to offset its additional effort, its welfare decreases.