Box VIII-1

Exchange rate pass-through

The Central Bank of Iceland's December 2010 report *Monetary Policy in Iceland after Capital Controls* explores the main reasons for Iceland's poor track record in controlling inflation in recent years. Among other things, the report seeks to explain why exchange rate pass-through is more pronounced in Iceland than in other inflation-targeting countries. Furthermore, the pass-through effect appears not to have diminished in Iceland since the adoption of the inflation target, as it has in other countries (see Pétursson, 2010).[1]

This Box presents a brief outline of leading economic theories on the determinants of exchange rate pass-through and attempts to shed light on which ones might explain the difference between Iceland's experience and that of other countries. The theories fall into three broad categories: those that seek explanations in competition in the domestic market, those based on the share of marketing and distribution costs in domestic consumer prices, and those that link the level of pass-through to the credibility of monetary policy.

Competition theories

According to competition theories, more active competition in domestic markets prompts foreign manufacturers to raise import prices less (or makes them less likely to raise them) in the wake of a currency depreciation (see, for example, Dornbusch, 1987, and Bacchetta and van Wincoop, 2005). As a result, the price of imported goods and consumer goods rises less than it would otherwise and exchange rate pass-through is less pronounced.

It can be concluded from these theories that the exchange rate affects domestic consumer prices through prices of imported consumer goods and competing domestic goods. Presumably, then, the greater the competition in the domestic market, the weaker the pass-through.

Based on competition theories, it can also be assumed that exchange rate movements affect domestic consumer prices because they affect the price of imported inputs used in domestic production. Thus it can be assumed that, the more competitive the domestic input market is, the less impact exchange rate movements will have on domestic input prices and the less the overall exchange rate pass-through.

Cost theories

According to cost theories, incomplete exchange rate pass-through – that is, when a 1% currency depreciation leads to less than a 1% rise in domestic prices – can be explained by domestic marketing and distribution costs, which are an important factor in domestic consumer prices. Penetration from currency depreciation to price increase is therefore dependent upon marketing and distribution costs relative to the price of the product; that is, the greater these costs are as a share of the product price, the weaker the pass-through will be.

According to Burstein, Neves, and Rebelo (2003), for example, marketing and distribution costs for a typical consumer product in the US constitute about 40% of the retail price of that product.

Credibility of monetary policy

According to Taylor (2000), lower and more stable inflation is likely to lead to weaker exchange rate pass-through. An example of a

1. According to Pétursson (2010), the level of pass-through in Iceland is 0.4. In other words, other things being equal, a 1% currency depreciation leads to a 0.4% rise in inflation. The level of pass-through has changed very little in Iceland in recent years, while it is much weaker and has been on the decline in other countries. The average level of pass-through in the 42 countries surveyed in Pétursson's study has declined from 0.36 to 0.11 in the past several years.

model that explains this is Gestsson's (2010) general equilibrium model, where uncertainty about monetary policy affects wage formation and therefore domestic production costs. Increased uncertainty reduces the number of domestically produced goods priced with reference to domestic market conditions. This, in turn, strengthens the exchange rate pass-through into prices of imports and consumer goods. Devereux, Engel, and Storgaard (2004) came to a similar conclusion. In their model, uncertainty about monetary policy can affect whether producers decide to determine their prices in domestic or foreign currency. As uncertainty about domestic monetary policy escalates, it becomes more likely that foreign producers will choose to price their goods in foreign currency. This, in turn, strengthens the pass-through to the price of imports and consumer goods. These results indicate that a lack of monetary policy credibility exacerbates exchange rate pass-through. The theory is strengthened by the fact that it can be supported using a number of different models.

Application to Iceland

Iceland is a small, open economy. It is smaller than most others, so it can be assumed that foreign producers are faced with less competition in the Icelandic market than in comparison markets. This is reflected in a relatively homogeneous domestic manufacturing sector, which often necessitates importation of a rather large proportion of necessities for domestic consumption, ranging from foodstuffs and other consumer goods to inputs for domestic production. Because of the nature of these goods, domestic demand for them is likely to be relatively immune to price movements. The homogeneity of domestic production also makes it likely that importers of goods to small countries are in competition not with domestic producers of comparable products but with other importers of the same products, which will be affected in the same way by exchange rate movements. Domestic purchasers therefore have greater difficulty switching their demand towards comparable domestic goods when the currency depreciates. Presumably, it is proportionally more expensive for foreign sellers of a product to survey market conditions in small countries, and therefore more common that goods are priced in the producer's currency than it would be in larger markets. This tendency tends to exacerbate exchange rate pass-through.

The main reason that exchange rate pass-through has not diminished in Iceland, as it has elsewhere, appears to be the relative lack of credibility (and success) of domestic monetary policy. Moreover, it could be that the limited competition in Iceland delays the dampening impact of enhanced credibility on pass-through. In any event, it appears unlikely that the explanation lies in a decline in competition (for other reasons) or a lower share of marketing and distribution costs in domestic consumer prices.

Sources

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