

# Discussion

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## Introduction

Devereux and Yetman investigate the role of sluggish price adjustment in explaining why exchange rate pass-through in the short run might be incomplete and why it might differ across countries. The paper is very topical, given the belief that pass-through has declined in many countries over the past decade and considering the debate over the role that monetary policy may have played in this decline. In the authors' framework, price rigidities can account for pass-through that is less than complete in the short run. Indeed, in their simple model of a small open economy, pass-through is determined by the frequency of price changes of importing firms. And this frequency is itself a function of the monetary policy regime and is, hence, endogenous. Thus, the variation in the *extent* of price sluggishness across countries—which arises because of differences in the monetary policy regime—can explain cross-country differences in short-run pass-through. The model's predictions are therefore consistent with Taylor's (2000) view that the decline in pass-through over the past decade is the result of the adoption of more credible monetary policy regimes.<sup>1</sup>

My comments are organized as follows. First, I will examine the price-setting mechanism used in the model. Second, I will discuss local currency pricing, one of the model's key assumptions. I will then comment on the estimation results, and conclude by discussing what I view as some interesting policy implications of the paper for emerging-market countries.

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1. Of course, we assume here that pass-through has, in fact, declined over the past decade, but this has yet to be firmly established in the literature.

## Price-Setting Mechanism

In the model, price rigidities are the result of the presence of “menu costs” that firms must pay when they want to change their prices. The presence of these costs leads to the following objective function for the profit-maximizing firm, which the authors express as a loss function:

$$L_t = F + E_t \left[ \sum_{j=0}^{\infty} (\beta\kappa)^j (\hat{p}_t(i) - \hat{p}_{t+j}(i))^2 + \frac{(1-\kappa)}{\kappa} \sum_{j=1}^{\infty} (\beta\kappa)^j L_{t+j} \right].$$

The loss function has three elements. The first,  $F$ , is defined as the share of average profits that goes to price adjustment. The second element is the expected discounted value of losses resulting from the difference between the new price and the desired one. The third element is the expected value of the loss function that applies when the firm changes its price again in the future. My understanding is that the second and third terms represent Calvo-type rigidities where adjustment costs are implicit. But note that this has been shown in the literature to be equivalent—in the sense that one can obtain the same pricing equations—to using explicit quadratic adjustment costs (see, for example, Rotemberg 1982). It is unclear to me, therefore, why in addition to having Calvo-type rigidities as expressed in the last two terms, there is the extra term,  $F$ , representing the explicit cost of price adjustment. It would have been useful to see a discussion of whether it is possible to model price rigidities without this additional term and, if so, what the implications are of including this term. For instance, does it introduce additional rigidity?

## Local Currency Pricing

In the paper, all firms set their prices in the local currency, even though the importing firms face their costs in terms of the foreign currency (these firms do not use any domestic inputs, including labour). The assumption of local currency pricing (LCP) is not used consistently across the literature, so it is important to emphasize that, in this paper, this assumption encompasses much more than simply the currency denomination of the country’s imports: it is also a form of pricing to market. Consequently, it is one of the model’s key assumptions, and its importance can be illustrated by considering the case of assuming the opposite assumption, foreign currency pricing (FCP). In this case, pass-through would be both immediate and complete.

Accordingly, a consideration of FCP would not be particularly constructive. However, it might be worth examining an intermediate case, where some firms set their prices in the local currency, while others set them in the

foreign currency. A combination of these two pricing assumptions might be more realistic as an economy-wide characterization, since evidence suggests that the degree of pricing to market varies by industry. In addition, the assumption that all importing firms in the economy follow LCP might appear a little extreme in a model of a small open economy. It is unclear to me how modifying this assumption would influence the model's predictions. I suspect that it might mitigate some of the results, but not overturn them.

## Estimation Results

The authors test the implications of their model by first estimating a simple pass-through equation for every country in their sample, and then regressing the estimated pass-through coefficients on a series of explanatory variables that are shown to be a function of the monetary policy regime in their model. In the individual country estimations, the pass-through coefficient for some of the countries is larger than one and statistically significant. There are 11 such countries, all of which are developing or transition economies.<sup>2</sup> It is not clear to me whether such a result is consistent with the model. It might therefore be useful to discuss whether there is a restriction in the model that pass-through be less than 100 per cent or whether pass-through can exceed its long-run threshold in the short run.

If this sort of result is consistent with the theoretical definition of pass-through, an elaboration of this scenario might be useful. For instance, does the model offer any insights about what is driving pass-through over 100 per cent? Can it be traced back to a particular type of shock? Most of the countries with pass-through greater than 100 per cent experienced periods of high inflation over the sample period and, in some cases, hyperinflation. Therefore, it is most likely that high inflation fed into inflation expectations, creating an inflation spiral. This spiral was typically instigated by factors other than the exchange rate (e.g., in many of these countries, the governments ran large budget deficits and attempted to finance them by printing money). However, one would still observe a high degree of correlation between the rate of depreciation of the nominal exchange rate and inflation, because higher inflation would lead to a depreciation in the exchange rate. It is not surprising, therefore, that one would find a high rate of estimated pass-through in these countries, even if the exchange rate had not instigated the cycle.

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2. These countries are: Angola, Argentina, Bolivia, Brazil, Democratic Republic of Congo, Lebanon, Mexico, Nicaragua, Peru, Poland, and Sierra Leone.

## Concluding Remarks

In closing, I would like to discuss the potential policy implications of this paper for emerging markets. In my view, the paper has very interesting and relevant policy implications for emerging markets that have, over the past decade, significantly reduced their inflation rates and adopted more credible monetary policy regimes. For instance, many of these countries in Latin America, such as Mexico, Brazil, and Peru, have brought inflation down significantly in the 1990s and have recently adopted floating exchange rate regimes coupled with inflation targeting. These new regimes are generally perceived as being more credible than previous ones. It is believed that pass-through has declined in these countries as a result, although this belief is based largely on anecdotal evidence or event studies, since there are not yet enough data points to conduct an econometric study. In the context of an inflation-targeting regime, it is obviously very important for policy-makers to understand what has happened to pass-through with the adoption of the new monetary policy regime. This model can provide a theoretical explanation for why one might expect pass-through to have declined in this situation. Indeed, the model would suggest that as inflation fell in these emerging markets, price stickiness would have increased, and pass-through would have declined.

## References

- Rotemberg, J.J. 1982. "Sticky Prices in the United States." *Journal of Political Economy* 90 (6): 1187–211.
- Taylor, J.B. 2000. "Low Inflation, Pass-Through, and the Pricing Power of Firms." *European Economic Review* 44 (7): 1389–408.