Exchange rate pass-through in emerging countries: Do the inflation environment, monetary policy regime and central bank behavior matter?☆

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A B S T R A C T
In this paper, we estimate the exchange rate pass-through (ERPT) to import and consumer prices for a sample of 14 emerging countries over the 1994Q1–2015Q3 period. To this end, we augment the traditional bivariate relationship between the nominal effective exchange rate and inflation by accounting for monetary stability proxied by the inflation environment, monetary policy regime and central bank behavior. We show that both the level and volatility of inflation, as well as adopting an inflation target or the transparency of monetary policy decisions clearly reduce ERPT to consumer prices. However, uncertainty about domestic monetary policy seems less relevant in explaining the pass-through to the price of imports.

1. Introduction

Traditional monetary theory regards high money creation as a common source of instability in both the exchange rate and the price level. Accordingly, in the presence of large monetary shocks, price inflation and exchange rate depreciation should be closely linked. Indeed, the relation between nominal exchange rate changes and price inflation—the exchange rate pass-through, ERPT from now on1—can be important in an unstable monetary environment in which nominal shocks fuel both exchange rate depreciation and high inflation.

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1 Strictly speaking, ERPT corresponds to the degree to which changes in the nominal exchange rate impact trade prices—especially import prices—and, in turn, other domestic prices. The original definition has been extended to address the effects of exchange rate changes on consumer or producer prices. The level of transmission corresponding to the original definition is referred to as “the first-stage ERPT”, while the one corresponding to the extended definition is referred to as “the second-stage ERPT”.

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However, the bulk of the empirical literature finds that prices do not fully reflect exchange rate movements, meaning that ERPT is incomplete or partial. Two main approaches have been proposed to explain this phenomenon: a macroeconomic approach (Monacelli, 2003) in which the incompleteness comes from nominal rigidities leading to unresponsiveness in prices in the short run, and a microeconomic approach linking the incomplete ERPT to an increasing degree of pricing-to-market behavior of firms (Betts and Devereux, 2000). This literature also argues that ERPT has been declining in many industrialized countries following a dramatic change in inflation environment during the 1990s. In particular, ERPT seems to be very low over the past decades for a broad group of countries that have pursued stable and predictable monetary policies.

A common explanation for the declining ERPT is that expectations of inflation have become much more solidly anchored in recent years. In the context of a stable and predictable monetary policy environment, nominal shocks play a vastly reduced role in driving fluctuations in prices and in the exchange rate (Taylor, 2000). Thus, a stable monetary policy environment—supported by an institutional framework that allows the central bank to pursue a credible and independent policy—contributes to explaining why even sizeable depreciations of the nominal exchange rate have exerted small effects on prices: when the inflation environment is more stable, firms resist passing exchange rate changes on to prices. Likewise, in Devereux et al. (2004), 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. A similar argument is developed in Devereux and Yetman (2010), where the size of pass-through is a function of the stance of monetary policy as it affects the degree of price stickiness. When firms can adjust their frequency of price changes, loose monetary policy (associated with high inflation) leads to higher ERPT. In this sense, ERPT would be endogenous to a country’s inflation performance. Note, however, that low ERPT will persist only so long as monetary authorities continue with a credible monetary policy.

Falling into this strand of the literature, this paper aims at estimating ERPT to import and consumer prices for a sample of 14 emerging countries over the 1994Q1–2015Q3 period. The case of emerging countries is particularly interesting since these economies have undergone major changes in the last two decades: adoption of inflation targeting, adoption of floating exchange rate regimes, elimination of capital controls, etc. Consequently, these countries may face higher imported inflationary pressures and exchange rate volatility. Besides, given that many of them have also reached low and quite stable inflation levels by the end of the 1990s, it is likely that they have experienced the declining ERPT observed for advanced economies. In their survey, Aron et al. (2014) put forward the very different estimates obtained for ERPT, and emphasize that frequent misspecifications are at play in the empirical literature.

Being aware of this issue, we go further than previous literature by paying attention to various key elements in investigating ERPT in emerging countries. First, most of the empirical literature either relies on a single country or on a panel of economies by imposing country homogeneity. Here, we consider country-by-country estimations and thus account for heterogeneity through not imposing the same ERPT coefficients for all countries. Second, we augment the usual bivariate relationship between inflation and change in the nominal exchange rate by including various variables and interaction terms. Specifically, in addition to control variables, we account for the inflation environment, monetary policy, and monetary policy behavior in terms of independence, transparency and credibility. Third, regarding the choice of the price series, numerous studies—especially those belonging to the macroeconomic approach—focus on import prices and put forward the importance of pricing-to-market (PTM) behavior. In this paper, we pay particular attention to the inflationary environment, in line with Taylor (2000)’s view highlighting that ERPT depends on the monetary policy regime—a credible low inflation regime implying a low ERPT. Investigating how monetary policy affects import pass-through is important to better understand PTM and production chains. However, relying on import prices to assess this approach may be misleading because pass-through to import prices reflects the behavior of foreign firms which is not necessarily linked to the domestic inflationary environment. For this reason, in addition to import prices, we also consider consumer prices to appraise the importance of inflation environment in explaining the declining ERPT.

Our main results can be summarized as follows. We emphasize that the choice of the price—import or consumer—series is crucial in estimating ERPT: (i) in line with the dynamics of the transmission of exchange rate changes along production chains, ERPT to consumer prices is lower than to import prices, and (ii) consumer prices are more appropriate than import prices to assess the impact of inflation environment. Indeed, even if some previous literature suggests that uncertainty about domestic monetary policy strengthens the pass-through to the price of imports, we show that this is not the case, at least for

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2 See Menon (1995) and Engel (2002) for a survey, and Campa and Goldberg (2005), Marazzi and Sheets (2007), Bouakez and Rebei (2008), Gust et al. (2010), Forbes et al. (2015) and Auer and Schoenle (2016) for more recent empirical studies. These two latter papers are particularly interesting regarding the most recent literature on ERPT. In assessing how exchange rate changes affect prices, Forbes et al. (2015) propose to incorporate the underlying shocks that cause such variations and find evidence that the relationship between exchange rate changes and prices depends on the cause of exchange rate variations. Their study provides an original framework to explain the time-varying nature of ERPT. Auer and Schoenle (2016) rely on U.S. import price micro data to investigate firm-level pricing behavior with regard to ERPT. They show that the response of import prices to exchange rate changes is U-shaped in their proxy for market share, and hump-shaped with regard to competing importers’ prices.

3 For more details, see the survey by Aron et al. (2014).


5 For a survey, see Aron et al. (2014).

6 See, e.g., Choudhri and Hakura (2006).
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