HOW DO DIFFERENT EXPORTERS REACT TO EXCHANGE RATE CHANGES?
THEORY, EMPIRICS AND AGGREGATE IMPLICATIONS

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NON-TECHNICAL SUMMARY

Movements of nominal and real exchange rates are large. They however seem to have little
effect on aggregate variables such as import prices, consumer prices, and the volumes of
imports and exports. The sensitivity, or rather lack of, of prices to exchange rate movements has
been well documented by Goldberg and Knetter (1997) and Campa and Goldberg (2005 and
2008) who provide estimates of the pass-through of exchange rates into import prices. There is
also evidence indicating a decline in exchange rate pass-through to import prices in the U.S. On
the quantity side, the elasticity of aggregate exports to real exchange rate movements is
typically found to be low in industrialized countries, rarely above 2, sometimes below unity. In
international real business cycle models, the elasticity used for simulations is typically between
0.5 and 2.

One possible explanation is that prices are rigid in the currency of the export market. However,
Campa and Goldberg, (2005) show that the incomplete pass-through of exchange rate changes
into import prices is far from being a short-term phenomenon as it remains after one year. This
suggests that price rigidities cannot fully explain this phenomenon. Moreover, Gopinath and
Rigobon (2008) have recently shown on good-level data, that even conditioning on a price
change, trade weighted exchange rate pass-through into U.S. import prices is low, at 22%.
Another explanation is the presence of local distribution costs. These can directly explain why
consumer prices do not respond fully to exchange rate movements.

In this paper, we show that the heterogeneity of the optimal response of exporters to exchange
rate movements can help explain the lack of response of aggregate variables (prices and
quantities) to these movements. We show theoretically and empirically that high and low
performance firms react very differently to exchange rate movements. We interpret performance
in terms of productivity or, in an alternative version of the model, in terms of quality. Whereas,
following a depreciation, high performance firms optimally raise their markup rather than the
volume they export, low performance firms choose the opposite strategy. Another way to state
this result is that high performance firms absorb exchange rate movements in their markups but
low performance firms do not. The reason is that, due to local distribution costs, the demand
elasticity perceived by high performance firms is lower than the elasticity perceived by low
performance ones. This heterogeneity is a novel finding and is also interesting because of its
implications for aggregate effects of exchange rate movements. In our model, following the
spirit of Melitz (2003), fixed export costs generate a selection mechanism through which only
the best performers are able to export. Also, heterogeneity in productivity implies that a very
large share of aggregate exports is made by a small portion of high performance firms. Hence,
exporters, and even more so big exporters, are, by this selection effect, firms which optimally
choose to absorb exchange rate movements in their markups. A depreciation also leads new
firms to enter the export market but these are less productive and smaller than existing ones. We
show that our model, with sufficient heterogeneity in productivity, can indeed reproduce the
observed low level of the elasticity of the intensive and extensive margins of trade to exchange
rate movements. Our simple model emphasizes the role of distribution costs in generating
endogenous and heterogeneous pricing to market (although changing the demand system to make
it linear or translog can also also yield heterogenous responses to exchange rate changes).

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