

EXCHANGE-RATE MISALIGNMENTS IN DUOPOLY: THE CASE OF AIRBUS AND BOEING

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NON-TECHNICAL SUMMARY

Exchange rates are known to be very volatile. Furthermore, departures of the exchange rate from “longrun equilibrium” are generally long-lived. This translates into major cost shocks for those companies suffering from a currency mismatch between revenue and cost. We study the implications of large, although temporary, deviations of the exchange rate in a duopoly case where one company suffers from such a currency mismatch. We focus on the aircraft industry for three reasons. First, it is a big and technologically advanced industry; changes in the market performance of this industry hence have significant effects on the economy as a whole. Second, exchange-rate misalignments have a particularly stark effect on this industry. This is due to the fact that the industry is almost a duopoly where prices are mostly set in dollars but one competitor, namely Airbus, has costs that are largely denominated in euros. Airbus thus bears the full brunt of euro/dollar fluctuations. In contrast, the other firm, Boeing, is almost completely protected from exchange-rate movements because its costs are mostly in dollars. Third, our estimates of price elasticities indicate that market performance in the aircraft industry is quite similar to that of other industries, suggesting that our results will apply, at least qualitatively, to other highly concentrated industries. From a policy perspective, our results illustrate why the benign neglect adopted by the ECB on the exchange rate issues has been fiercely criticized by some European industry representatives, in particular in the aircraft sector.

We rely on price-elasticities of (“big”) aircraft exports estimated at the detailed level for the 1994-2003 period to calibrate a simple, static model of optimal pricing in the Airbus-Boeing duopoly. It is assumed that Airbus and Boeing are in a stable duopoly in which no company leaves the market and there is no threat of entry by new rivals. Competition takes place mostly in prices, as suggested by the widespread use of price discount and generous financing options for airlines.

We show that home currency exchange rate appreciation has huge impact on Airbus profits. To contain these effects, the best response is to contract current profits by limiting the pass-through to export prices to less than 50%. The rationale behind this strategy endangering the price-cost margin is that any rise in one firm’s price leads to an important contraction of its sales. Still,

while optimal, this strategy is far from fully cushioning the detrimental impact of the appreciation on sales and profits.

This short sight strategy is even reinforced when the temporary character of the exchange-rate shock is accounted for. Then, a dynamic optimization would lead the aircraft company to compress its margins even more following an appreciation of the domestic currency. This is because customers face switching costs when they move from one supplier to the other, and because the production of an aircraft exhibits significant learning effects. Sacrificing current profits allows a firm to maintain its market share, hence to continue to enjoy learning economies while attracting new customers that will then be “locked in”.

Accounting for new entries would even reinforce the case for little exchange-rate pass through. However, if entry cannot be deterred, short- and medium-term pass-through should be higher, because future profits are reduced by entry.

Still, the intertemporal strategy of sacrificing current profit in exchange for higher future profits is risky, since it is hard to predict how long an exchange-rate misalignment may last. And a potential problem of compressing margins today is that it may make it more difficult to finance R&D spending.

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