Box 11

EXTRA-EURO AREA EXPORT PRICES AND EXCHANGE RATE PASS-THROUGH

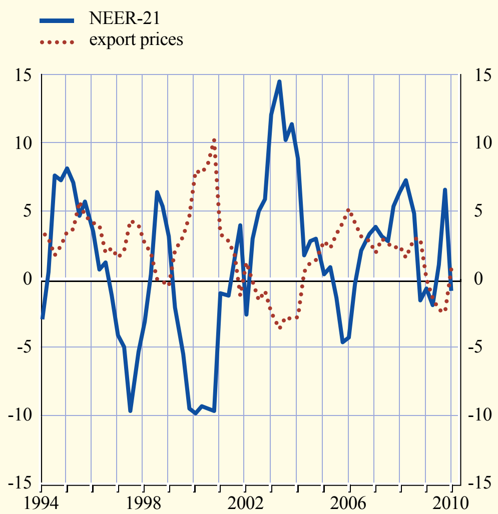
In 2009 extra-euro area export prices of goods were subject to significant downward pressure stemming from domestic and global economic conditions. Substantial spare capacity worldwide as well as developments in input costs led to a decline in euro area export prices. In early 2010 the year-on-year change in export prices returned to positive territory, partly owing to base effects (see the chart). Apart from developments in input costs and foreign demand, export prices were also influenced by significant exchange rate movements. Against this background, this box reviews the impact of exchange rate movements on extra-euro area export prices of goods.

Empirical evidence shows that exchange rate pass-through into export prices is generally incomplete. In other words, export prices in the producer currency generally do not move one to one with exchange rates. In the euro area, the exchange rate pass-through into extra-euro area export prices of goods – in euro terms – amounts to around 40-50%, with most of the impact occurring in the first year. For example, a 10% appreciation of the euro in nominal effective terms leads to a 4-5% decrease in export prices in euro terms and a 5-6% increase in foreign-currency export prices. This is reflected in the chart below, which shows that an appreciation of the euro in nominal effective terms tends to be associated with lower year-on-year growth in export prices in euro terms.[1] Exporters try to absorb part of the impact of an appreciation of the euro on their foreign-currency export prices by reducing their profit margins, in order to reduce the loss in price competitiveness. Meanwhile, depreciations allow exporters to increase their profit margins by raising prices (in euro), while still enjoying an improvement in their competitiveness in terms of foreign-currency prices.

The degree of exchange rate pass-through is determined by a number of factors. In the short term, the behaviour of export prices is affected by the choice of invoicing currency. If a contract is invoiced in the producer currency, the exchange rate pass-through is normally lower. Moreover, a high price elasticity of export demand – corresponding to a high degree of substitutability of exported goods – implies that small price changes will have a large impact on foreign sales. This makes it difficult to increase prices in foreign currency in response to an exchange rate appreciation.

Extra-euro area export prices of goods and the nominal effective exchange rate of the euro (NEER-21)

(annual percentage changes)



Sources: ECB, Eurostat and ECB staff calculations.
Notes: Export prices are measured as unit values (in euro terms). For the period 1994-1999 unit values refer to the aggregate of 12 euro area countries. Export prices for the first quarter of 2010 are based on data for January 2010.

1 See also R. Anderton and F. di Mauro, "The external dimension of the euro area: stylised facts and initial findings", in: F. di Mauro and R. Anderton (eds.), *The external dimension of the euro area*, Cambridge University Press, 2007; and H. Faruqee, "Exchange rate pass-through in the euro area", IMF Staff Papers, Vol. 53, No 1, 2006.

The price elasticity of export demand varies across goods categories. It tends to be higher for standardised low-technology goods (e.g. some intermediate and consumption goods), which can be substituted more easily, and lower for high-technology goods (e.g. capital goods). This might result in different levels of exchange rate pass-through across goods categories. In other words, export prices of low-technology goods in the producer currency might react more sensitively to exchange rate movements, as the corresponding foreign-currency pricing might follow pricing-to-market strategies. This appears to be supported by empirical evidence.[2] Differences in the exchange rate pass-through across goods categories imply that the aggregate pass-through can change with the composition of exports.

Movements in exchange rates may also affect export prices via the cost side, particularly when the import content of exports is high. Given that the import content of exports has risen significantly over time, partly owing to the international fragmentation of production and the increasing use of imported intermediate inputs, one would expect imports to be an increasingly important component of exporters' costs.[3] An appreciation of the euro would then reduce exporters' costs to a greater extent and thus allow export prices (in euro) to be lower.

In summary, there are various factors which may affect the degree of exchange rate pass-through into export prices. Although the exchange rate pass-through for extra-euro area export prices is incomplete, even in the long run, it still remains sizeable. Overall, an appreciation is associated with downward pressure on extra-euro area export prices in euro, as export profit margins are reduced in order to mitigate the loss in price competitiveness. This suggests that exchange rate movements might have contributed to the subdued extra-euro area export price developments in 2009, particularly in the light of the euro appreciation in the second half of the year. Likewise, the recent increase in export prices (in euro) may partly reflect the depreciation of the euro that started in late 2009.

2 See G. Gaulier, A. Lahrèche-Révil and I. Méjean, "Structural determinants of the exchange-rate pass-through", *CEPII Working Paper* 2006-03, 2006.

3 For more details on the import content of exports and related differences across sectors, see Box 6 in "Competitiveness and the export performance of the euro area", *Occasional Paper Series*, No 30, ECB, 2005.