Box 4

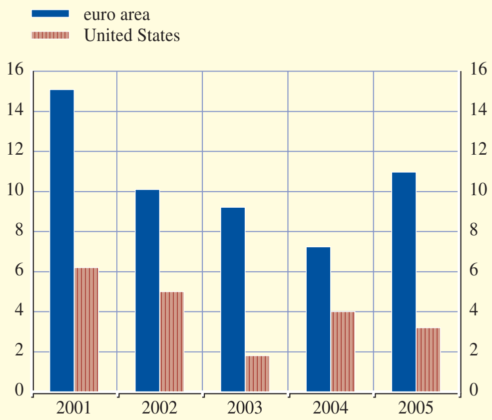
DEVELOPMENTS IN THE COMPOSITION OF EURO AREA AND US STOCK MARKET INDICES

Since the capital stock of a large part of the economy is traded on the stock market, developments in the composition of stock market indices can provide indications of structural change in the economy – such as the process of consolidation or the ability to take advantage of possibilities offered by new technology. This box illustrates how developments in the composition of stock market indices may shed some light on the structural changes that are taking place in the economy.

The decision as to which firms are to be included in stock market indices is usually determined on the basis of their market capitalisation (calculated on a firm-level basis as the price of the stock multiplied by the number of outstanding shares). Thus, firms whose value is boosted as a result of mergers or new technology, for example, will tend to replace other firms previously included in the index. Large companies which go public because of, say, privatisation, may also contribute to the turnover in the index. Changes in the composition of these stock market indices can be measured by the number of firms entering these indices over a certain period of time; for the purposes of this box, this shall be referred to as stock market turnover.

Chart A Stock market turnover in the euro area and in the United States

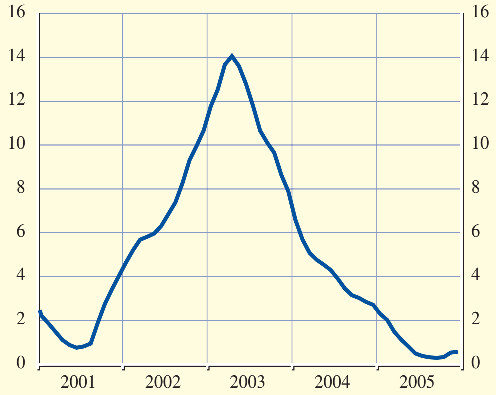
(percentages)



Sources: EURO STOXX, Standard & Poor's 500 index and ECB estimate.
Notes: Stock market turnover defined as the percentage of firms entering the indices on an annual basis.

Chart B Difference between implied stock market volatility in the euro area and in the United States

(percentages per annum; ten-day moving average of daily data; end-of-month observations)



Sources: ECB estimate and Reuters.
Note: The implied volatility series reflects the expected standard deviation of percentage stock price changes over a period of up to three months, as implied in the prices of options on stock price indices. The equity indices to which the implied volatilities refer are the Dow Jones EURO STOXX 50 for the euro area and the Standard & Poor's 500 for the United States.

In order to ensure that comparisons between stock market indices are accurate, the indices should contain a sufficient number of firms. Consequently, the EURO STOXX broad index (including around 300 corporations) is used for the euro area and the Standard & Poor's 500 index for the United States. Chart A shows the annual turnover (as a percentage) of corporations in the two broad-based stock market indices from 2001 to date.

As illustrated by the chart, over the past few years the stock market turnover in the euro area has been higher than in the United States. It would, therefore, appear that the economic and financial landscape of the euro area has experienced comparatively pronounced changes over the past few years. It is interesting to note that the stock market turnover in the euro area does not seem to have been dominated by a few individual sectors, but has been fairly broad-based, particularly over the past few years. Factors behind the relatively high stock market turnover in the euro area include developments in deregulation, privatisation, technology and globalisation, which have played an important role in encouraging the restructuring and consolidation of the euro area corporate sector. The introduction of the euro has probably also acted as a catalyst for these developments. For example, these driving forces can be seen to be reshaping the market for financial services, making firms more competitive and also more integrated both within the euro area and at the global level. In fact, financial institutions (banks, insurance corporations, and other financial institutions) have contributed significantly towards the increase in the turnover seen in the euro area. It is also worth mentioning that the weight of the financial sector in the EURO STOXX broad index increased from 28% at the end of 2000 to 33% at the end of 2005. Hence, the high turnover may be seen as reflecting the various efforts made by euro area firms to adapt to a changing environment.

There are, however, some important caveats to be borne in mind. First, this general pattern may also partly reflect the fact that the prices of technology stocks in the euro area have undergone a more pronounced boom-and-bust cycle than in the United States over the past few years. This is illustrated by the fact that the share of the technology sector in the EURO STOXX broad index declined from 15% at the end of 2000 to around 5% at the end of 2005.

Second, it cannot be excluded that slightly more volatile stock market developments in the euro area than in the United States may also have contributed to the higher turnover (see Chart B). In this respect, the probability that the relative ranking of the firms making up the index will vary is greater in an environment of high volatility than in an environment of low volatility.

Overall, the fairly marked developments in the stock market composition of the euro area may indicate that, reflecting structural changes, the industrial and financial landscape of the euro area has been evolving significantly over the past few years.