Box 3

THE RESUMPTION OF THE UNWINDING OF PORTFOLIO SHIFTS IN THE FOURTH QUARTER OF 2005

Monetary growth and inflation both display significant short-run volatility owing to idiosyncratic shocks. Such short-run noise may blur the signal that is provided by the underlying rate of monetary expansion as regards risks to future price stability. In carrying out a thorough monetary analysis to support monetary policy decisions, it is therefore necessary to employ both institutional analysis and statistical techniques to identify the low frequency movements or underlying trends in the money stock that are relevant for the prediction of inflationary pressures over the medium to longer term.

A practical example of this comprehensive approach to monetary analysis at the ECB is the identification and estimation of the impact on M3 dynamics of extraordinary portfolio shifts into or out of monetary assets. This box presents the key elements of the analysis underlying the identification and quantification of these portfolio shifts, in the context of an assessment of recent developments.[1]

Portfolio shifts and the normalisation of portfolio allocation behaviour

During the period of heightened economic and financial uncertainty between 2001 and mid-2003, monetary dynamics could not be easily explained on the basis of developments in the conventional determinants of money demand, such as prices, income and interest rates. Strong

1 See also the earlier box entitled "Estimating the size of portfolio shifts from equity into money" in the May 2003 issue of the Monthly Bulletin and the box entitled "Approaches to identifying and estimating portfolio shifts into and out of M3" in the January 2005 issue of the Monthly Bulletin.

M3 growth during this period seems to have been the result of sizeable portfolio shifts from equity holdings into money, reflecting euro area residents' strong preference for safe and liquid assets in their attempt to shield their financial wealth from market volatility. The identification and, in particular, the quantification of these extraordinary portfolio shifts into money was complicated by the lack of directly recorded evidence regarding their magnitude.

As economic uncertainty receded from mid-2003 to early 2004, portfolio allocation behaviour normalised and the flow of new investment was increasingly directed towards riskier, longer-term assets rather than towards money. However, the unwinding of the portfolio shifts proceeded only at a very slow pace and from mid-2004 until recent months, this was thought to have ceased.

Recent evidence suggesting a resumption of the unwinding of portfolio shifts

Recently, there have been signs of a resumption of the unwinding of past portfolio shifts. In particular, the very subdued demand for money market fund shares/units (which fell on an annual basis in the year to December 2005) and the strong demand for MFIs' longer-term financial liabilities suggest a shift from monetary assets into riskier, longer-term euro-denominated instruments. In the same vein, the outflows in the net external asset position of the MFI sector observed since August 2005 also indicate a renewed interest on the part of euro area residents in foreign securities rather than in domestic money. Both developments are consistent with a renewed unwinding of past portfolio shifts into money.

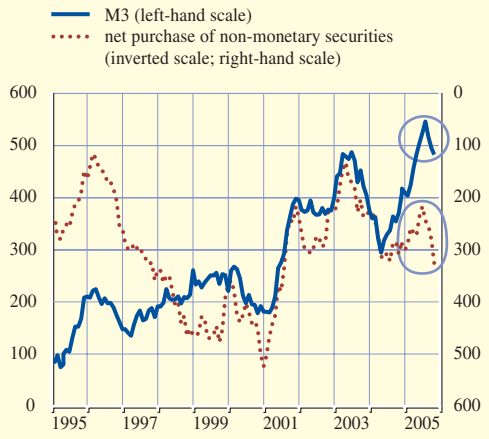
In the past, monthly estimates of the money-holding sector's net purchases of non-monetary securities from MFIs and non-residents have provided an indication of the magnitude of portfolio shifts (see Chart A; note that one of the scales in the chart is inverted). When there is a portfolio shift into money, purchases of non-monetary securities would be expected to fall and money holdings would be expected to rise by roughly the same amount. Indeed, this was the case during 2001 and in early 2003, i.e. the two periods characterised by large portfolio shifts. Similarly, between mid-2003 and mid-2004, the proxy for purchases of non-monetary securities rose, while monetary growth gradually declined, thus pointing to a slow unwinding of portfolio shifts. Focusing on the more recent period, purchases of non-monetary securities have gathered pace since August 2005 (as circled in Chart A), while the flow into M3 has moderated somewhat, but has nevertheless remained at a high level. Overall, this development is consistent with the view that the unwinding of past portfolio shifts may have resumed over recent months, after a pause between mid-2004 and mid-2005. At the same time, the relatively small magnitude of these flows (certainly compared with the end-2001 and early 2003 periods) and the inevitably short sample suggest that such a conclusion can only be tentative at present.

Investors' preference for safe and liquid monetary assets should also be linked to their level of risk aversion.[2] Since risk aversion is, in principle, unobservable, its role has to be assessed using empirical proxies. One possible proxy for aggregate risk aversion is the conditional correlation between returns on long-term government bond holdings and those on stock market investments (see Chart B; note that the scale in the chart is inverted). More precisely, during periods of

2 For further details on the estimation approach, see the box entitled "Risk aversion and developments in monetary aggregates" in the December 2004 issue of the Monthly Bulletin.

Chart A M3 and the net purchase of non-monetary securities[1)]

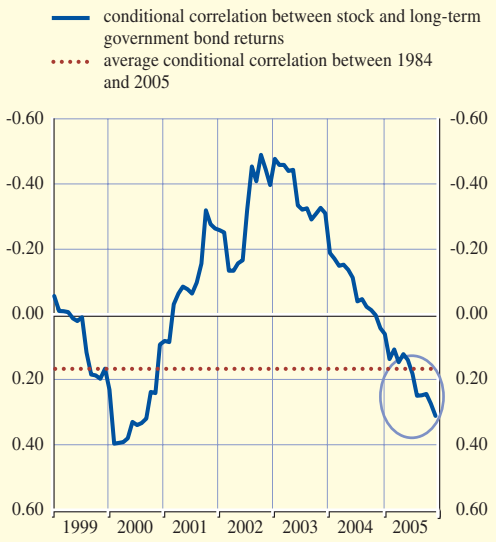
(annual flows; EUR billions)



Source: ECB.
Note: Data for the last two months are partly estimated.
1) Calculated as loans to euro area residents, plus issuance of securities by the consolidated money-holding sector, plus current account balance, minus instruments included in M3, minus long-term deposits with MFIs, minus net external transactions of the money-holding sector other than in securities.

Chart B The conditional correlation between stock and long-term government bond returns

(quarterly data; inverted scale)



Source: ECB estimates.
Note: Dow Jones EURO STOXX return index and ten-year government bond return index.

heightened risk aversion, the prices of these two asset classes should move in opposite directions, as investors withdraw from the equity market (lowering equity returns) and buy bonds (raising bond returns). By contrast, in "normal" periods, standard asset allocation would suggest a positive correlation between stock and bond returns, as low interest rates support equity prices. This indicator could, therefore, provide some indication of the possible timing and pattern of portfolio shifts. As shown in Chart B, the risk aversion of euro area investors increased significantly between mid-2000 and mid-2003 when M3 growth could not be explained by conventional macroeconomic determinants. Despite declining considerably by comparison with 2003, risk aversion remained in 2004 well above its long-term average, consistent with the slow pace of the normalisation of portfolio allocation behaviour. Since the summer of 2005, this indicator of risk aversion has fallen below its long-term average (as highlighted by the circle in Chart B) to a level comparable to that seen prior to the period of heightened uncertainty that began in 2001. This decline may be associated with the further unwinding of past portfolio shifts.

Overall, the evidence from the net purchase of non-monetary securities and the indicator of risk aversion supports the assessment of portfolio shifts into money occurring between 2001 and mid-2003 and possibly unwinding, albeit at a moderate pace, during the period from mid-2003 to mid-2004. Moreover, focusing on the most recent period, it suggests that a further unwinding of past portfolio shifts may currently be under way.

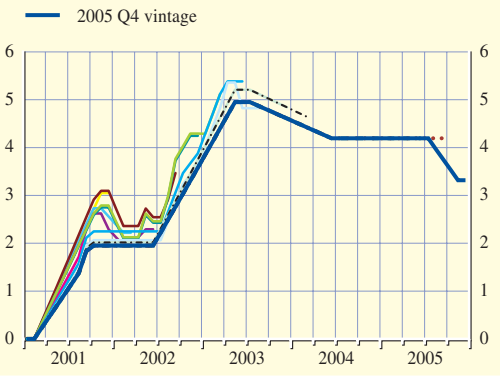
Quantifying the impact of portfolio shifts

The analysis described above does not permit a mechanical quantification of the portfolio shifts. To some extent, elements of judgement are also required. One approach to quantifying

the impact of portfolio shifts on the money stock, which has been used at the ECB in the past, is therefore to include intervention variables (dummies and trends) intended to capture the pattern of portfolio shifts in a univariate time series model of M3.[3] These intervention variables are designed on the basis of a comprehensive analysis of, inter alia, the components and counterparts of M3, the monetary presentation of the balance of payments, and the financial accounts.

Chart C Vintages of portfolio shift correction factors for the level of M3

(as a percentage of M3 money stock)



Source: ECB.

As Chart C shows, the real-time estimates of the magnitude of portfolio shifts derived using this approach (i.e. those estimates made in the past on the basis of the information available at the time) have not generally been subject to major subsequent revisions. Moreover, money demand equations estimated using a sample including this period, which – with the benefit of hindsight – include variables intended to capture the impact of financial market volatility on money holdings, tend to confirm the ECB's real-time estimates of the portfolio shifts.[4]

As is apparent from Chart C, the estimates of the magnitude of portfolio shifts peaked at over 5% of the money stock in early 2003. While such real-time estimates are undoubtedly surrounded by considerable uncertainty, the modesty of ex post revisions suggests that the ECB was able to make a robust assessment of monetary developments over time using an M3 series corrected for the estimated impact of portfolio shifts.

Since the magnitude of current portfolio shifts is dwarfed by those previously observed between 2001 and mid-2003 (in response to significant shocks, such as the stock market crash, the terrorist attacks in the United States on 11 September 2001 and the war in Iraq), the judgement required and the associated quantification are inevitably more uncertain than was previously the case. Nonetheless, taking all the information mentioned above into account, a comprehensive monetary analysis needs to include some assessment of the strength of any current unwinding of portfolio shifts in order to evaluate the resultant dampening impact on headline monetary growth. Such an approach is required to identify – even if imperfectly – the underlying trend rate of monetary expansion relevant for monetary policy decisions.

3 A further small correction for past outliers and certain volatile components has been also introduced in the estimation procedure.
4 For example, comparisons can be made with the results obtained in "Money demand and macroeconomic uncertainty", C. Greiber and W. Lemke, Discussion Paper, Series 1: Economic Studies, No 26/2005, Deutsche Bundesbank.