Box 3

WHY HAVE LISTED NON-FINANCIAL CORPORATIONS IN THE EURO AREA INCREASED THEIR CASH HOLDINGS OVER THE LAST THREE YEARS?

Balance sheet data on listed non-financial corporations in the euro area point to a substantial increase of their cash holdings[1] over the last three years. On the one hand, this increase generally signalled an improvement in the financial soundness of euro area non-financial corporations, making them less susceptible to adverse financial shocks. On the other hand, holding large amounts of cash over a protracted period appears to run counter to the objective of a non-financial corporation. A proper assessment of high corporate cash levels thus requires an adequate understanding of the underlying motives of firms. In this box, several indications are given about why firms in the euro area have increased their cash holdings, based on information from a sample of listed corporations.

In theory, cash holdings are set at a level that equates their marginal cost and benefit so that the shareholder's wealth is maximised. The (opportunity) costs of holding cash are the lower expected return compared with alternative assets, while the benefits derive from the reduced probability of being short of financing if profits fail to meet expectations. This general reasoning appears to be applicable to all types of euro area firms, regardless of their general financing conditions.[2] Moreover, firms with more intangible assets, in particular, are likely to hold more cash given the higher cost of external finance for this type of uncollateralised and more volatile assets.[3] Furthermore, cash holdings could increase in anticipation of future real and financial investments, because internal finance is generally the cheapest form of finance. Finally, over a short-term horizon, firms may prefer to keep a fixed fraction of their profits in liquid assets as a kind of buffer before deciding on a more permanent allocation of funds to other investments or distributing them to shareholders.

Developments in cash holdings

Cash holdings have been relatively high in the last three years compared with the period from 2000 to 2002. The share of cash in total assets has increased from 8% in 2000 to slightly above 10% in 2005 (see Chart A). This level is similar to the average over the years from 1995 to 1999. A breakdown by sector reveals that the overall trend of an increasing cash-to-total assets ratio in the years from 2002 to 2005, following a drop in 1999-2000, was seen in several sectors. In 2004 and 2005, the services, transport and communication, and utilities sectors increased their shares of cash holdings, while the remaining sectors had a stagnant or even a decreasing share of cash.

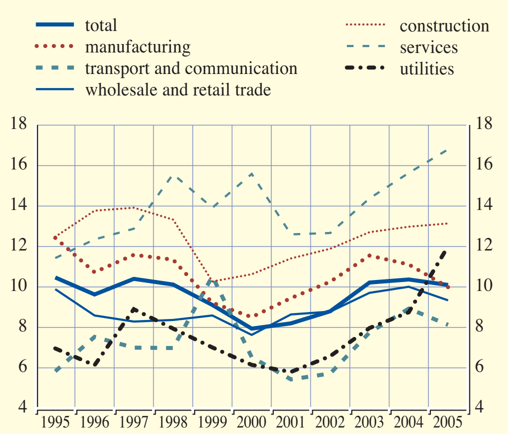
Cash flow, profitability and opportunity costs

After substantial declines in the period from 2001 to 2002, profits and cash-flow generation picked up significantly from 2003 onwards.[4] To investigate to what extent increased cash

1 Cash holdings are defined as cash and cash equivalents (Source: Thomson Financial Datastream). This definition is broader than that underlying the monetary aggregate M3. See also the article entitled "Sectoral money holdings: Determinants and recent developments" in the August 2006 issue of the Monthly Bulletin for a discussion of the determinants of the non-financial corporate sector's money demand.
2 R. Pal and A. Ferrando, "Financing constraints and firms' cash policy in the euro area", ECB Working Paper No 642, 2006.
3 R. Passov, "How much cash does your company need?", Harvard Business Review, Harvard School of Business, November 2003.
4 See the box entitled "Profitability and leverage developments of listed non-financial corporations in the euro area" in the June 2006 issue of the Monthly Bulletin.

Chart A Sectoral breakdown of the ratio of cash to total assets

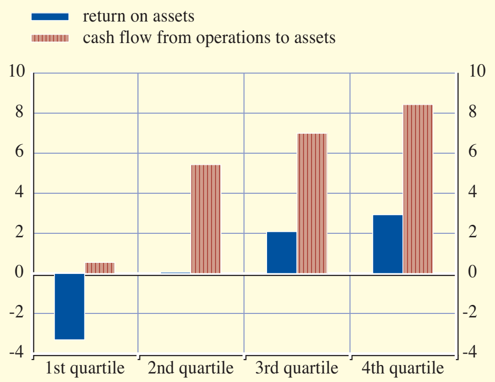
(percentages)



Sources: Thomson Financial Datastream and ECB calculations.
Notes: The calculation is based on aggregated annual financial statements of listed non-financial corporations in the euro area. The sample has been cleaned of outliers.

Chart B Cash flow and profitability

(percentages; period 2003-2005)



Sources: Thomson Financial Datastream and ECB calculations.
Notes: The calculation is based on aggregated annual financial statements of listed non-financial corporations in the euro area. Firms are placed in ascending order according to their level of cash accumulation over the period from 2003 to 2005; thus, the 1st quartile represents the 25% of firms with the lowest cash accumulation in the period.

holdings were associated with higher profits and cash flows, Chart B shows the average profitability and cash-flow generation of firms according to their level of cash accumulation. The relationship is seen to be monotone and positive, which shows that the accumulation of cash follows the increased profits, assuming that a part of the profits is retained in cash. The weighted average of the ratio of cash accumulation to profits was around 17% in the period from 2003 to 2005, although it decreased over time from 55% in 2003 to 8% in 2005.

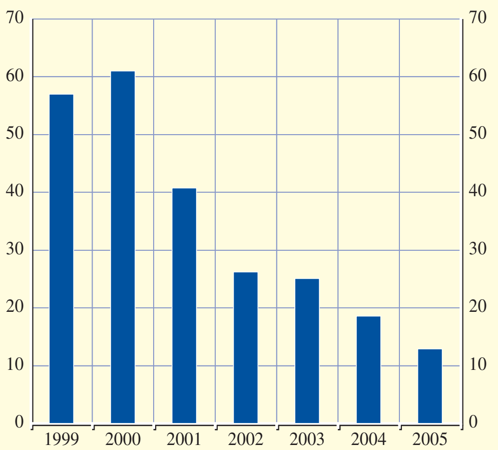
The opportunity cost of holding cash is determined by the expected return on alternative investments. As one of the possible measures of the return on alternative investments, long-term rates could be considered. The low level of interest rates that prevailed over the past few years may have favoured the accumulation of cash.

Benefits of holding cash: avoiding illiquidity and credit constraints

One advantage of holding cash is that firms can avoid illiquidity. A cash reserve saves the company from the risk of having to recourse to expensive credit lines, or even from bankruptcy, in a situation where the cash flows generated by a company's overall operations are not sufficient to meet its obligations. Such a situation is more likely to occur in a more volatile business environment and hence higher volatility of sales should be associated with larger benefits from holding cash. Chart C shows, however, that the volatility of sales growth of euro area listed firms has decreased in recent years, reflecting a decline in the average sales growth. At the same time, as the realised level of volatility (which is backward-looking) may not be a perfect indicator of the level of perceived future volatility, it cannot be entirely ruled out that business uncertainty has contributed to increased cash holdings in the euro area.

Chart C Sales volatility

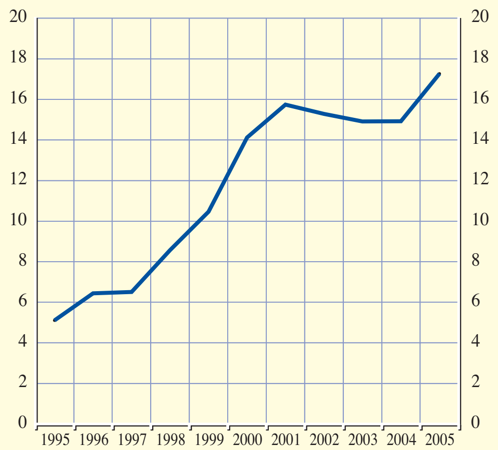
(standard deviation; annual data)



Sources: Thomson Financial Datastream and ECB calculations.
Notes: The calculation is based on a balanced sample of about 800 listed non-financial corporations in the euro area. Standard deviations are calculated using firm-level sales growth over a four-year period and weighted by total assets.

Chart D Ratio of intangible fixed assets to total assets

(percentages)



Sources: Thomson Financial Datastream and ECB calculations.
Notes: The calculation is based on aggregated annual financial statements of listed non-financial corporations in the euro area. The sample has been cleaned of outliers.

Furthermore, firms will expect to benefit from stockpiling cash if they anticipate investments in the near term using cash holdings as a sort of prefunding. Merger and acquisition activity surged in 2005 and 2006, and this activity was increasingly financed with cash. This may be evidence that anticipated profitable investments were indeed the purpose of some of the higher cash holdings.[5]

Availability of collateral is another factor that will influence a firm's possibility of obtaining credit. In this respect, the significant increase in the intangible assets of listed firms in the euro area may have been a reason for firms to hold additional cash (see Chart D). By holding more cash, firms reduced the cost of external finance for this type of assets which cannot be easily used as collateral.

Conclusions

The rise in cash holdings in the euro area seems to be closely related to higher profitability and larger cash flows of euro area listed firms in recent years, which may have chosen to invest in liquid assets in the short term to hoard the increase of funds. In addition, firms' cash holdings may be high in anticipation of future investments, for example in mergers and acquisitions. The increase in cash holdings by listed euro area non-financial corporations can moreover also be explained by low opportunity costs of holding cash compared with alternative financial investments over the past few years. In addition, firms may have increased their cash holdings as a larger part of their current and prospective assets is in the form of intangible assets.

5 See the box entitled "Recent trends in mergers and acquisition activity in the euro area" in the July 2006 issue of the Monthly Bulletin.