

## SHARE BUYBACKS IN THE EURO AREA

*Firms' share buybacks have witnessed a very strong rise over the past decade in most major markets. This article presents some theoretical considerations as regards firms' payout policies and also discusses the reasons why firms may choose to effect payouts by means of share buybacks rather than dividends. In the empirical part, estimates are provided for dividend and share buyback activities undertaken by firms in the euro area. The article finds that the recent upturn in share buybacks appears to have been driven partly by exceptionally strong profitability among euro area firms. Furthermore, it is also possible that part of the increase in euro area firms' share buyback activities may be linked to the "signalling hypothesis", which suggests that management may use share buybacks as a means of signalling improved future earnings and profitability to the markets. Finally, euro area firms that have undertaken share buybacks over the past few years have, on average, invested less than firms not undertaking any share buybacks. Although the causality between investments and share buybacks can work in both directions, this provides some tentative evidence that share buybacks have become an important tool allowing euro area firms to distribute excess cash flows during periods when investment opportunities are scarce.*

### I INTRODUCTION

Large established firms typically pay out a significant percentage of their earnings to their shareholders. As this decision has implications, for example, for the extent to which the funds generated can be invested in the internal or external growth of the firm, a firm's "payout policy" constitutes an integral part of corporate financial decision-making. The payout to shareholders can be effected in two main ways: either through dividends; or through share buybacks, where the firm buys back some of the outstanding shares from the shareholders. Historically, firms' payouts have predominantly taken the form of dividends. However, over the past decade or so share buybacks have become an increasingly popular alternative among firms in most major markets, including the euro area.

The purpose of this article is twofold. First, it considers the theoretical arguments that have been put forward in the academic literature concerning firms' payout policies, with a special focus on share buybacks, and second, it presents available data on euro area firms' dividends and share buybacks over the period 1998-2005.<sup>1</sup>

The structure of the article is as follows. Section 2 presents various theoretical arguments concerning firms' payout policies and puts

forward some reasons why firms may prefer share buybacks to dividends. This section also discusses the various different ways in which a firm can go about implementing share buybacks. Section 3 presents available data on euro area firms' dividends and share buybacks over the past few years and evaluates the extent to which those data are in line with what would be expected on the basis of financial theory. In addition, an event study is conducted to examine the financial market's responses to announced share buybacks. Section 4 concludes.

### 2 SHARE BUYBACKS IN THEORY AND PRACTICE

A firm's strategic finance decisions can be broken down into four interrelated elements. The first concerns decisions on which investment projects the firm should undertake. The second concerns the firm's capital structure policy, which determines the degree of financial leverage the firm should adopt. The third element comprises the firm's working capital decisions, which concern the amount of liquidity and working capital the firm needs on an ongoing basis. Finally, the fourth element is the firm's payout policy, which involves deciding

<sup>1</sup> The subject of this article is related to those of the articles entitled "Characteristics of corporate finance in the euro area" and "Financing and financial investment of the non-financial sectors in the euro area" which appeared in the February 2001 and May 2001 issues of the Monthly Bulletin respectively.

the amount of cash the firm believes it is necessary and appropriate to pay out to its shareholders. This section discusses some theoretical concepts concerning firms' payout policies and also elaborates on why firms may prefer to opt for share buybacks rather than paying money back to their shareholders through dividends. This section also describes how share buybacks are implemented in practice.

### FIRMS' PAYOUT POLICIES

In the late 1950s and early 1960s Modigliani and Miller published a number of papers that have had a strong influence on corporate finance theory. At the heart of those papers lay an irrelevance proposition, namely that, in a world without taxes, transaction costs or other market imperfections, a firm's financial decisions do not affect its value.<sup>2</sup> In the present context, it can be shown that a firm's value is, in such circumstances, independent of its payout policy.<sup>3</sup>

Some of the traditional finance literature has, however, claimed that payout policy does indeed affect the value of the firm, as the assumptions underlying the irrelevance proposition do not hold up. In particular, differences in the taxation of shareholders' dividends and capital gains can have a notable impact on firms' payout policies. In most economies, dividends tend to be taxed more heavily than capital gains. As a consequence, if this difference in taxation is large enough, a firm may choose to retain earnings or buy back shares instead of paying out dividends, in order to minimise the tax burden on its shareholders.<sup>4</sup>

Another strand of the corporate finance literature argues that the payout to shareholders should be large. For instance, Graham and Dodd suggest that investors generally prefer a "safe dollar" coming from a payout such as a dividend, rather than an uncertain payoff in the form of an expected capital gain.<sup>5</sup> In addition, according to the "free cash flow hypothesis" there is an

agency problem between managers and shareholders as regards the distribution of free cash flows generated by the firm.<sup>6</sup> By keeping the payout ratio high, the shareholders can to some extent prevent the management of a firm from undertaking investments that would yield negative net present values. Furthermore, the literature on event studies has found that firms with high payout ratios tend to be rewarded by the financial markets in terms of excess stock price returns.

### WHY DO FIRMS UNDERTAKE SHARE BUYBACKS?

In practice, firms in most major markets tend to pay a large proportion of their earnings back to their shareholders. For a long time the payout was effected mainly in the form of dividends. However, over the past decade it has become more and more popular to return money to shareholders in the form of share buybacks rather than dividends. In 1999 industrial firms in the United States spent, for the first time, more money on share buybacks than on dividend payments. Since then this trend has continued and also spread to other major economies.

In addition to possible tax advantages, several other factors may lie behind this development, of which the following three hypotheses are those emphasised most in the academic literature. First, the signalling hypothesis suggests that management can use share

2 Miller, M. H., and Modigliani, F. (1958), "The cost of capital, corporation finance and the theory of investment", *American Economic Review*, 48, 261-97; Miller, M. H., and Modigliani, F. (1961), "Dividend policy, growth and the valuation of shares", *Journal of Business*, 34, 411-33; Miller, M. H., and Modigliani, F. (1963), "Corporate income taxes and the cost of capital: a correction", *American Economic Review*, 53, 433-43.

3 See, for example, Tirole, J. (2006), "The Theory of Corporate Finance", Princeton University Press, 77-78.

4 The taxation of dividends and capital gains is not homogeneous across euro area countries. In some large euro area countries dividends are subject to income taxes, whereas in others investors pay a fixed tax rate on the dividend received. For share buybacks, investors usually pay taxes on capital gains, with the tax rate differing across the countries in the euro area.

5 Graham, B., and Dodd, D. L. (1951), "Security analysis: Principles and Techniques", McGraw-Hill, New York, 432.

6 Jensen, M. C. (1986), "Agency costs of free cash flow, corporate finance, and takeovers", *American Economic Review*, 76, 323-29.

buybacks to signal to the markets private information about a firm's future profitability. Managers can be assumed to have better information than outside investors as regards the firm's prospects. The management of the firm can thus use share buybacks as a signalling device to convey to the markets that the stock price of the firm is lower than would be suggested by a fundamental valuation.<sup>7</sup>

Second, the financial flexibility hypothesis suggests that share buybacks can be used as an instrument to distribute cash flows which the firm perceives to be temporary, while dividends represent an ongoing commitment and are therefore used to distribute cash flows which are more permanent.<sup>8</sup> For instance, healthy firms with robust profitability may sometimes have problems finding investment opportunities with positive net present values. If the firms perceive these difficulties to be of a temporary nature, they may choose to hand some of the excess cash back to their shareholders. According to this financial flexibility hypothesis, a firm should in these circumstances choose share buybacks over dividend payouts to signal to investors that the payout is only transitory and not permanent.

Third, share buybacks boost earnings per share (i.e. net income divided by the number of outstanding shares). A buyback is a share reduction mechanism, in the sense that it reduces the equity base. Of the myriad profitability measures, earnings per share is usually the standard measure monitored by investors. A share buyback will have the effect of decreasing the denominator in this ratio and in effect boosting earnings per share. Again, if markets are not fully informed, some investors may perceive the increase in earnings per share (on account of the share buyback) to reflect higher earnings potential on the part of the firm in question.

In addition to the three motivating factors outlined above, a firm may announce a share buyback programme in order to protect itself against the risk of hostile takeovers. By buying

back stocks from those investors who value them the least, a corporation makes it more difficult for a would-be buyer to take effective control of the company. In addition, a number of market commentators have reported that some firms also use share buybacks for stock option programmes and cash management purposes. Finally, on a more structural level, changes in the national legislation of some large euro area countries in the late 1990s have, in all probability, also contributed to the increase in the use of share buybacks.<sup>9</sup>

#### IMPLEMENTATION OF SHARE BUYBACKS

There are various ways in which a firm can go about undertaking share buybacks, of which the following three are the most important.<sup>10</sup> First, there is the open market share buyback, where a company simply purchases its shares in the market at the current market price. The seller of the shares is not necessarily aware that he or she is selling shares to the company. The second method is the fixed price self-tender offer, where the company submits – or tenders – an offer to buy up a certain number of shares from existing shareholders at a fixed price. To attract investors, the fixed price tends to be somewhat higher than the current market price. The firm usually reserves the right to increase the number of shares repurchased if the tender offer is oversubscribed. Third is the Dutch auction

7 Dividends can also be used as a tool to signal mispricing to the markets. However, as shown by Ofer and Thakor (1987), the signalling costs for dividends tend to be higher than for share buybacks. As a result, if a firm's future prospects are much better than is perceived by the markets, its managers will prefer share buybacks to dividends as a signalling device (see Ofer, A. R., and Thakor, A. V. (1987), "A theory of stock price responses to alternative corporate cash disbursement methods: Stock repurchases and dividends", *The Journal of Finance*, Vol. 42, No 2, 365-94).

8 Jagannathan, M., Stephens, C. P., and Weisbach, M. S. (2000), "Financial flexibility and the choice between dividends and stock repurchases", *Journal of Financial Economics*, 57, 355-84.

9 Restrictions on share buybacks were abolished in Germany by the "Corporate Control and Transparency Act", which took effect in May 1998, and in France by Law No 98-546 of 2 July 1998.

10 See Allen, F., and Michaely, R. (2003), "Chapter 7: Payout policy" in *Handbook of the Economics of Finance*, Elsevier, B. V., 404-07.

tender offer method, where the company initially specifies a range of prices for the offer. After that, each shareholder can specify the number of shares he or she is willing to sell and the minimum acceptable price within the range. The offering firm then pays, to all shareholders, the lowest price that will fetch the number of shares sought.

Studies of developments in the United States suggest that the open market vehicle accounts for the vast majority of the announced buybacks. For instance, the study by Grullon and Ikenberry (2000) found that over the 20-year period between 1980 and 1999 open market programmes accounted for around 90% of the total value of all buyback announcements in the United States.<sup>11</sup>

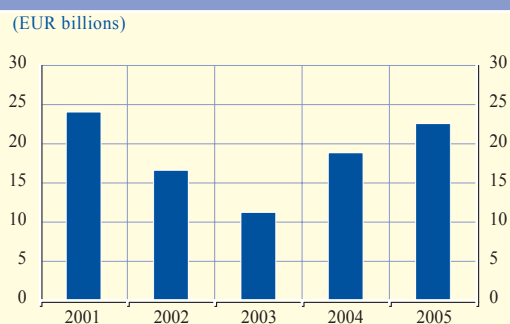
### 3 RECENT DEVELOPMENTS IN EURO AREA SHARE BUYBACKS – AN EMPIRICAL EXAMINATION

This section presents available data on payout activities for listed firms in the euro area, with a special focus on share buybacks. In order to evaluate whether any of the theoretical motivations for undertaking share buybacks outlined in Section 2 are supported by actual data, this section compares developments in euro area firms' share buybacks with data on firms' profitability and investment. This section also undertakes an event study evaluating euro area firms' stock price performance around the time they announce a share buyback programme.

#### DIVIDENDS AND SHARE BUYBACKS OF EURO AREA FIRMS

There are only a few sources that publish aggregate data on share buybacks for euro area firms in a regular and systematic way. Consequently, data on share buybacks in this section were collected from the financial statements of the companies in the Dow Jones EURO STOXX 50 index. As Chart 1 shows, the 50 largest listed companies in the euro area

**Chart 1 Euro area firms' aggregated share buybacks**



Source: Firms' financial statements and annual reports.  
Note: The sample includes all firms in the Dow Jones EURO STOXX 50 index.

repurchased shares, in net terms, with a value of more than €20 billion in 2005, which was almost double that observed in 2003. Despite this upturn, the level in 2005 was, however, still slightly lower than that seen in 2001.

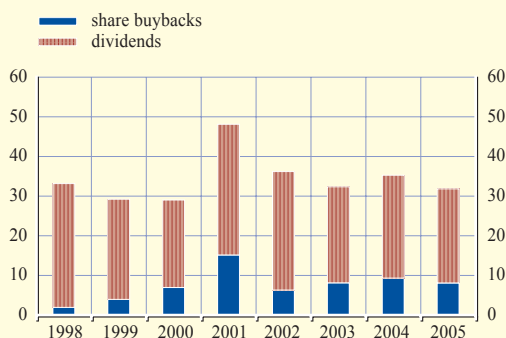
As mentioned in the previous section, a firm's total payout is the sum of dividends and share buybacks. Chart 2 shows the average annual payout ratio for all listed companies in the euro area, calculated as the ratio of dividends and share buybacks to operating income. This measure gives an idea of how much of euro area firms' operating income is retained by those firms (being used either for increased cash holdings or for investment purposes) and how much firms pay back to their shareholders.

The chart shows three interesting things. First, the total payout ratio remained relatively stable at around 30% between 1998 and 2005, with the exception of 2001. This seems to suggest that euro area firms prefer to pay a constant percentage of their operating income back to their shareholders. Second, dividends make up the bulk of the payouts in the sample under consideration. Third, share buybacks increased strongly as a percentage of total payouts at the turn of the century and have stayed at such elevated levels since then. This, in turn, might

<sup>11</sup> Grullon, F., and Ikenberry, D. I. (2000), "What do we know about stock repurchases?", *Journal of Applied Corporate Finance*, Vol. 13, No 1.

**Chart 2 Euro area firms' dividends and share buybacks**

(percentages of operating income)

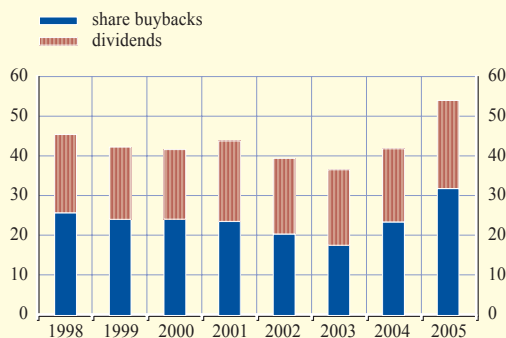


Sources: Thomson Financial Datastream and ECB calculations.

Notes: Figures are aggregates of firm-level data based on a sample consisting of all firms in the broad-based Dow Jones EURO STOXX index for which yearly cash flow statements were available. In total, the sample consists of 1,760 firm-year observations. The following data items were used: operating income (WC01250), dividends (WC04551) and share buybacks (WC04751).

**Chart 3 US firms' dividends and share buybacks**

(percentages of operating income)



Sources: Thomson Financial Datastream and ECB calculations.

Notes: Figures are aggregates of firm-level data based on a sample consisting of all firms in the Standard and Poor's 500 index for which yearly cash flow statements were available. In total, the sample consists of 3,934 firm-year observations. The following data items were used: operating income (WC01250), dividends (WC04551) and share buybacks (WC04751).

reflect a structural change in firms' payout policies.

By contrast with the euro area, data on firms' share buybacks in the United States are published more frequently. Chart 3 shows the average payout ratio for US firms in the Standard & Poor's 500 index. As the chart shows, there are marked differences between the two economies in terms of both the level and the breakdown of the payout ratio. First, the payout ratio is, on average, higher in the United States than in the euro area. Second, it seems that share buybacks are more common among US firms than among euro area firms.

One possible explanation for this discrepancy could be related to differences in the financing needs of the firms in the two economies. In particular, non-financial corporations in the United States have, since 2000, witnessed a stronger recovery in the financing gap – measured as the ratio between firms' lending and borrowing – than euro area non-financial firms. This stronger improvement in the balance sheets of US corporations could thus represent a plausible explanation for the higher US payout ratios. However, caution should be exercised

when comparing the payout ratios in the two economies, as there may be some differences in how operating income is defined. In addition, the different characteristics of the firms included in the two indices can further complicate direct comparisons.

#### EURO AREA FIRMS' SHARE BUYBACK ACTIVITIES, PROFITABILITY AND INVESTMENT

A firm's share buyback activities should not be considered in isolation, but rather as a strategic decision very closely linked to its earnings prospects, leverage and investment decisions. As regards earnings prospects, Chart 4 shows the share buybacks of firms in the Dow Jones EURO STOXX index as a percentage of total payouts, together with 12-month annual growth rates for actual and expected earnings.

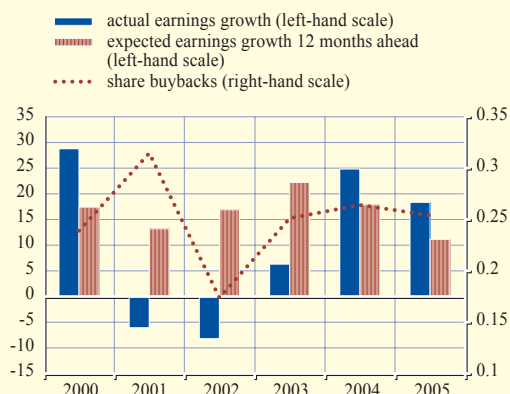
As the chart shows, there have been significant fluctuations in the profitability of euro area firms over the period 2000-05. Most notably, annual earnings growth dropped sharply in 2001 and 2002, mainly owing to weak economic growth in the euro area. Subsequently, ongoing cost-cutting efforts, the low interest rate environment and, recently, a pick-up in

economic activity in the euro area have all helped to boost the profitability of euro area firms. In 2004 and 2005 annual earnings growth rates hovered around the 20% mark, which was much higher than market analysts had anticipated in late 2003 and 2004. At the same time, share buybacks by euro area firms increased in magnitude. The first conclusion that can be drawn from Chart 4 is that, in accordance with the above-mentioned signalling hypothesis, some managers of euro area firms may in 2004 and 2005 have felt the need to signal to the markets that the stock prices of their firms were, in their own assessment, below their fundamental value. Consequently, they may have undertaken share buybacks to bet on these projections and thereby signal their private information to the market.<sup>12</sup> As shown in the box below, stock markets have tended to reward share buybacks through excess returns, which could be an indication that investors perceive a share buyback announcement to be a credible signal of undervaluation.

Moreover, the strong earnings growth observed was probably an important factor in the higher levels of dividends and share buybacks in 2003 and 2004. In this respect, some firms probably

**Chart 4 Share buybacks and actual and expected growth in earnings per share for the EURO STOXX index**

(annual percentage changes (left-hand scale); ratio of share buybacks to total payouts (right-hand scale))



Sources: Thomson Financial Datastream and ECB calculations.

Notes: Expected earnings growth has been shifted forward one year to enable a direct comparison with realised earnings. The share buybacks series is based on firm-level data from a sample consisting of all firms in the broad-based Dow Jones EURO STOXX index for which yearly cash flow statements were available. In total, the sample consists of 1,760 firm-year observations. The following data items were used for the share buyback series: dividends (WC04551) and share buybacks (WC04751).

<sup>12</sup> It should, however, be noted that the causality between earnings per share and share buybacks can work in both directions. As mentioned in Section 2, share buybacks reduce the number of outstanding shares and thus boost earnings per share.

## Box

### SHARE BUYBACKS AND STOCK MARKET PERFORMANCE

In theory, if market participants are relatively well informed about a firm's earnings prospects, the announcement of a share buyback programme should not have any significant impact on the stock price of the firm. In practice, however, many market analysts have pointed out that the wave of share buyback activities in the euro area has indeed supported the positive stock market sentiment observed over the past few years. This box conducts an event study and examines the average behaviour of firms' stock prices around the time that firms announce an intention to embark upon a share buyback programme. The study looks at the largest listed firms in the euro area.

Event studies have a long history in the academic literature, dating back to Dolley (1933), who examined the price effects of stock splits.<sup>1</sup> This strand of the literature has since been applied to many firm-specific and economy-wide events. Studies of share buybacks have so far largely focused on the US markets, with the main finding being that announcing share buyback

<sup>1</sup> Dolley, J. C. (1933), "Characteristics and procedure of common stock split-ups", *Harvard Business Review*, 11, 316-26.

programmes tends to result in abnormal positive stock price returns. The less numerous studies carried out for European countries largely reflect the results of the US studies.<sup>2</sup>

Various methods can be applied when conducting an event study, of which the market model approach, also used in this box, tends to be the most prevalent. This approach first establishes how the stock price of the firm effecting the share buyback is related to the market portfolio, the latter usually being approximated by broad-based stock market indices. This relationship is then used to calculate the abnormal developments in the relevant individual securities around the time of the events in question.<sup>3</sup>

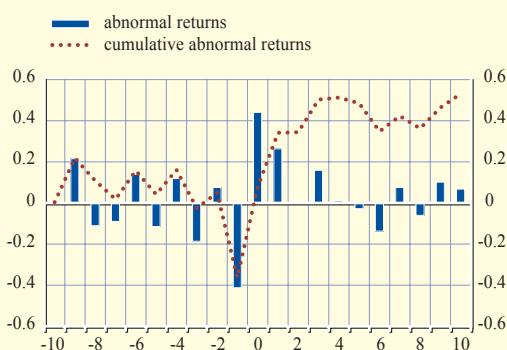
The share buyback data used here consist of 106 share buyback programmes announced by the largest euro area firms in the broad-based Dow Jones EURO STOXX index over the period 2001-06. The timeline for the event study consists of a 21-day window around the time of the announced buybacks (ten days before and ten days after the actual announcements). To gauge how the firms' stock prices are related to the market portfolio, the firms' daily stock price returns are regressed on the basis of the returns of the Dow Jones EURO STOXX index over a one-year estimation window prior to the share buyback event window. Abnormal returns in the event window are then calculated by subtracting the respective firms' stock price returns from the normal reaction pattern derived from the estimation window results. The chart shows the aggregate daily and cumulative abnormal returns over the event window.

As the chart shows, the stock prices of the euro area firms that decided to undertake a share buyback programme saw a positive abnormal return in the order of close to one percentage point, which is broadly in line with previous findings.<sup>4</sup> When explaining this finding, the event study literature on share buybacks tends to accord most prominence to the fact that firms that buy back their own shares do so to signal to investors that the price of their stock is lower than would be suggested by a fundamental valuation.

To conclude, share buyback activities tend to boost the stock prices of the firms undertaking them. Thus, it cannot be ruled out that the strong performance of euro area stock prices in the period 2000-06 resulted not only from strong earnings and cost-cutting measures, but also, although to a lesser extent, from the share buyback activities of euro area firms.

#### Abnormal returns associated with announcements of share buyback programmes

(percentage points)



Sources: Announcement information is taken from the Zephyr database of Bureau van Dijk. Share price information is taken from Thomson Financial Datastream.

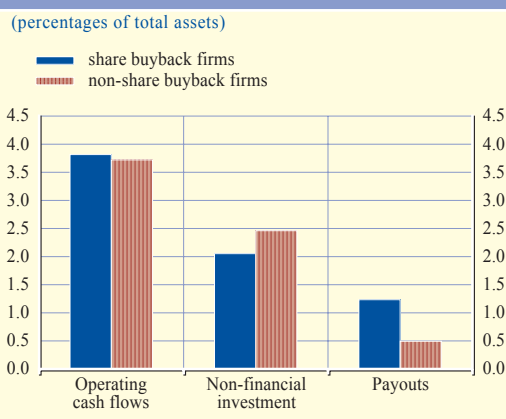
Notes: The sample comprises 106 observations from euro area firms announcing an open market share buyback programme in the period between 2001 and 2006. Only firms in the broad-based Dow Jones EURO STOXX index are included. Abnormal returns are calculated after removing the 1st and 99th percentiles from the daily return distributions. The horizontal axis spans the 21-day window around the announcement day (zero).

2 For the United Kingdom, see Oswald, D., and Young, S. (2002), "What role for taxes and regulation? A second look at open market share buyback activity in the UK", *Journal of Business Finance & Accounting*, Vol. 31 (1-2), 257-92. As regards Germany, see Hackethal, A., and Zdantchouk, A. (2006), "Signalling power of open market share repurchases in Germany", *Financial Market Portfolio Management*, 123-51.

3 See the overview provided in MacKinlay, A. C. (1997), "Event studies in economics and finance", *Journal of Economic Literature*, Vol. XXXV, 13-39.

4 For European evidence, see Lasfer, M. A. (2000), "The market valuation of share repurchases in Europe", City University Business School working paper.

**Chart 5 Breakdown of firms' characteristics on the basis of share buyback activity**



Sources: Thomson Financial Datastream and ECB calculations. Notes: All figures are based on an aggregation of firm-year data in the period 1998-2005. The categorisation of firms is effected on a yearly basis, which means that a firm can appear in both categories over the period. The sample consists of all firms in the broad-based Dow Jones EURO STOXX index for which yearly cash flow statements were available. In total, the sample consists of 1,760 firm-year observations. The following data items were used: cash flow from operations (WC04860); non-financial investment (calculated as cash flow for investments (WC04870) minus net cash flow for financial investments (WC04760 – WC04440)); payouts (the sum of dividends (WC04551) and share buybacks (WC04751)); and total assets (WC02999).

adjusted the payouts made to their shareholders in order to leave the payout ratio broadly unchanged.

Another theoretical rationale for a firm to undertake share buybacks could be a combination of a temporarily strong cash flow coupled with uncertain investment opportunities. In such an environment, a firm may opt for a wait-and-see strategy to allow such uncertainties to unwind, and therefore distribute some of the excess cash flow back to its shareholders in the form of share buybacks. To get an idea of whether such a hypothesis can be supported by data on euro area corporations, Chart 5 breaks down firms' operating earnings, investment and payouts on the basis of whether or not the firms bought back shares.

Interestingly, the chart confirms that, on average, those firms that undertook share buybacks spent less on investment and paid more money to their shareholders than those firms that did not embark on share buyback

programmes. These results thus provide some tentative evidence that some euro area firms may use share buybacks to distribute excess cash flows.

#### 4 CONCLUSION

Firms' payout policies are very closely related to their own assessment of earnings prospects and investment opportunities. As those two variables are important elements in a central bank's assessment of the growth and inflation outlook for an economy, share buyback activities should also be closely monitored.

This article comes to a number of relevant conclusions. First, share buybacks now account for a significantly larger share of total payouts than was the case in the late 1990s. This could indicate that firms' payout policies have, to some extent, undergone a structural change over this period, increasingly taking the form of share buybacks. Second, although share buybacks have become more common among euro area firms, such activities are, however, still more prevalent among the largest firms in the United States. Third, the most recent upturn in share buybacks appears to have been driven partly by exceptionally strong profitability growth among euro area firms. In this respect, firms have scaled up their share buybacks – as well as their dividends – in order to leave the total payout ratio broadly unchanged. Particularly during the early stages of the stock market recovery following the bursting of the “IT bubble” at the beginning of this century, some firms may also have used share buybacks as a signalling device to convey to the markets that they perceived the stock prices of their firms to be lower than would be suggested by a fundamental valuation. Recently, in an environment in which takeover bids and leveraged buyouts have increased in magnitude, share buybacks may also have been used by some firms to protect themselves against the risk of hostile takeovers. Finally, a number of firms in the euro area may have preferred share buybacks to dividends in an environment



## ARTICLES

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characterised by a temporarily strong cash flow coupled with uncertainty about investment opportunities. However, it should be kept in mind that firms' investments, profits and share buyback decisions are closely intertwined and the direction of causality can vary over time and across firms.

