M&As PERFORMANCE IN THE EUROPEAN FINANCIAL INDUSTRY

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José Manuel Campa
Ignacio Hernando

BANCO DE **ESPAÑA**

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José Manuel Campa (*)

IESE BUSINESS SCHOOL AND BANCO DE ESPAÑA

Ignacio Hernando (*)

BANCO DE ESPAÑA

Abstract

This paper looks at the performance record of M&As that took place in the European Union financial industry in the period 1998-2002. First, the paper reports evidence on shareholder returns from the merger. Merger announcements implied positive excess returns to the shareholders of the target company around the date of the announcement, with a slight positive excess-return on the 3-months period prior to announcement. Returns to shareholders of the acquiring firms were essentially zero around announcement. One year after the announcement, excess returns were not significantly different from zero for both targets and acquirers. The paper also provides evidence on changes in the operating performance for the subsample of merges involving banks. M&As usually involved targets with lower operating performance than the average in their sector. The transaction resulted in significant improvements in the target banks performance beginning on average two years after the transaction was completed. Return on equity of the target companies increased by an average of 7%, and these firms also experience efficiency improvements.

1 Introduction

The number of banks in the European Union fell over the period 1997 to 2003 from approximately 9,600 to slightly more than 7,400, a reduction of 23% [ECB (2004a)]. This decline came jointly with an increase in the importance of the banking sector in the economy. The growth of banking assets outpaced that of GDP during this period. Deregulation, technological progress, the introduction of the euro and increased competition have all led to this process by which more inefficient banks were absorbed by larger more efficient institutions. However, in spite of this concentration, the bulk of mergers and acquisitions in this industry continue to be among small domestic deposit institutions. During the period 1990-2001, 78% of the value of all M&A transactions involving one European bank was between institutions of the same European country [Cabral et al. (2002)]. The European Central Bank in a survey of M&A activity in the European financial sector highlighted as one of its main conclusions that international M&As in this industry are carried out more often with banks from outside the European Union than within banks from different EU countries [ECB (2000)]. Over the last decade, there is no evidence of a specific boost to cross-border M&As within the European Union or the euro area. In fact, banking groups in many European countries have been involved in domestic M&As trying to consolidate their position within national borders to face a more competitive environment, rather than pursuing an expansionary strategy to gain access in a larger geographical market in response to the increasing integration of the European economy.

The underlying motives for engaging in an M&A transaction have to deal with the efficiency gains reflected in lower costs and higher profits involved in the merger, the geographical diversification generated from the merger, the improvement in the competitive position and the increase in the ability to generate value to consumer by the cross-selling of products. Most of the studies of merger activity point to efficiency gains as the major source of value creation, while the net increase in revenue generated from the merger tends to be small [Houston and Ryngaert (1994)].

Among the key efficiency developments that determine the rationale for M&As in the financial sector lies the achievement of economies of scale and the opportunity to cut costs by eliminating overlapping operations and consolidating backroom operations. Restructuring of operations from a merger is always a difficult enterprise. In the case of international M&As, dealing with cultural differences among staff or lines of business or differences in regulatory and accounting systems, requires significant resources. The ECB report cited above concludes that "acquisitions with the objective of increasing efficiency and achieving cost savings may risk being less successful than anticipated, owing to the complexity of the operation (including risks of personal or cultural clashes) or to other reasons such as labour market rigidities."

These difficulties in exploiting the efficiency gains from a M&A, especially in the case of cross-border transactions, get reflected in the stock market reaction upon the announcement of an M&A transaction. There is an abundant literature using an event study methodology trying to ascertain whether bank mergers create value. Most of these studies refer to events in the US banking system and do not offer a clear general conclusion. Among the more scarce European studies, Beitel and Schiereck (2001) in a study of value creation to shareholders upon announcement of an M&A transaction report that returns to shareholders of the acquiring firm tend to be negative as the size of the acquiring bank increases and, in particular, international mergers within Europe destroy shareholder value. In a similar event study analysis of 54 M&As deals in 13 European banking markets, Cybo-Ottone and Murgia (2000) find, on average, a positive and significant increase in stock market value at the time of the deal announcement but this effect is not found for the subsample of cross-border deals.

The goal of this paper is to provide an assessment of the success in mergers and acquisitions activity involving European financial enterprises since the creation of the euro. For this purpose, we first analyze the stock market response of the firms involved in M&As deals in the European financial industry. More precisely, we conduct event studies of the stock market performance of these firms at different time horizons around the announcement of the deal. We then go beyond the event studies and perform a detailed analysis for a restricted sample of financial firms, the banking industry. For the banks involved in M&A activity we identify their basic characteristics in terms of their operating and accounting performance. We explore the impact of the deals in the ex-post performance of the banks involved in a transaction according to these parameters. In our analysis, we pay especial attention to the differences in the intensity of value creation or in the ex-post performance of the merging enterprises in terms of the geographical scope of the merger and the relative size of the merging companies.

The rest of the paper is organized as follows. Section 2 summarizes the recent developments in M&A activity within the European financial sector. Section 3 provides a short literature review of the main finding in this area. Section 4 describes the sample of M&As deals used in the event studies and presents the results of such analysis. Section 5 documents the characteristics of the banks involved in M&As transactions during this period and the impact on the performance of the merging banks. Section 6 concludes the paper.

2 Recent trends in M&A activity within the European financial sector[1]

Overall M&A activity in the euro area, measured by transaction values, experienced a significant boost after 1997. This increase was also perceptible in the number of transactions that went from just over 9700 in 1997 to a peak of 16750 firms in 2000. This increase in the volume of M&A activity was not only due to the increase in the number of transactions taking place but mainly due to a large increase in average transaction size with the total volume of M&A transactions involving EU firms reaching an all time high of almost €2000 billion in 2000. Beyond 2000, the volume of M&A activity declined jointly with the deceleration in economic activity and the fall in the stock market valuation of corporations.

The financial industry followed a similar pattern of M&A activity during this period: very intense during the late nineties and considerably weaker from 2001 to 2003 (see Figure 1). M&A operations in the EU financial sector area increased in number during the period 1997-2000 by over 47%. This growth was very similar between euro member countries (a 49% increase) and non-euro member countries (47%). These transactions implied an important qualitative change in terms of industry structure. Merger transactions prior to this period mostly involved smaller financial enterprises and had a goal of reducing costs and improving efficiency [Cabral et al. (2002)]. In the late 1990s, invested volumes increased as these transactions were more aggressive in pursuing market access and enhancing the competitive position of the firms involved in the by now more integrated national markets. The volume of transactions differed by line of business within the financial sector and, more importantly, by geographical scope. Most of the mergers in the financial industry were accounted for by banks. This was specially the case within the euro zone. Bank mergers in non-euro EU countries were significantly less important. This is probably due to the higher level of banking concentration already existing in the non-euro area countries (Denmark, Sweden and UK) relative to the euro member countries.

Concerning the geographical scope of the merger deals in the financial industry of the euro area, most of the transactions were among domestic firms. This pattern was particularly strong in the banking sector although, as Figure 2 shows, the percentage of international transactions is slightly increasing since the mid-1990s. Nevertheless, it is worth mentioning that international M&As in the banking industry are carried out more often with banks from outside the euro-zone than within banks from different euro area countries [ECB (2000) and Hartmann et al. (2004)]. This is the case, for instance, of the expansion of European banks into different emerging economic areas, like Latin America or South-East Asia.

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[1]. More detailed overviews of the developments in the M&A activity in the EU financial sector may be found in ECB (2000, 2004a, and 2004b), Cabral et al. (2002), Hartmann et al. (2003) and Bikker and Wessling (2003).

Similar developments are observed within the financial sector in industries other than banking. M&A activity in the insurance sector in the euro-zone increased during the period 1998-2000 despite a declining trend in this industry outside the euro-zone. In terms of the geographical distribution of this activity, most of the transactions in the insurance sector involved again domestic firms. In the segment of financial intermediation by non-depository institutions (security and commodity brokers, and insurance agents and brokers) most of the merging activity took place in the UK where these activities are much more developed. Finally, despite the majority of transactions taking place within the same industry, there has also been activity towards the creation of financial conglomerates involving banks, insurance companies and securities firms [Cabral et al. (2002)].

Highlighting the importance of domestic mergers, M&A transactions involving institutions from the same country accounted for 78% of the total transaction value over the period 1990-2001. The only exception to this trend starts to take place in the period 1999-2000, when cross-border transactions accounted for 42% of the total value. The prevalence of cross-border transactions however is mostly concentrated in the smaller countries of the EU. Overall, for the last decade there is no evidence of a significant trend towards cross-border deals within the EU, suggesting that banks have preferred to consolidate their market position within national borders before entering in foreign markets.

This trend resulted in substantial increases in market concentration at the national level during this period.[2] From 1997 to 2003 the banking sector has experienced a 23% reduction in the number of banks operating in the EU. This increase in national concentration in the European banking industry led to a moderate increase in concentration at the European level. The average share of total banking assets accounted by the five largest institutions (the C5 concentration ratio) has increased in all major national markets of the euro area over the period 1997-2003, the increase being substantial in some of them. In Spain the C5 ratio increased by 12 percentage points (from 32% to 44%); in France, by 7 pp. (from 40% to 47%); in Germany, by 5 p.p. (from 17% to 22%) and in Italy, by 2 pp. (from 25 to 27). National differences in concentration are still large, with Germany having one of the less concentrated banking sectors while smaller countries like the Netherlands, Finland and Belgium have 5-firm concentration ratios above 75%. The unweighted average of the C5 ratios for the 12 euro area countries raised from 45% in 1997 to 53% in 2003. However, looking at the euro area as a whole, concentration is markedly lower. Bikker and Wesseling (2003) report that the C5 concentration ratio defined for the euro area increased by 4 pp, from 12% in 1996 to 16% in 2001.

The process of internationalization and integration of the European financial services industry has developed beyond M&A transactions.[3] Ayuso and Blanco (2001) show that during the nineties there was an increase in the degree of integration among European stock

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2. See ECB (2004a) for a detailed overview of recent developments on EU banking structure and Gual (2004) for an assessment of the process of integration of EU banking markets..

markets. As to the money market, actual transaction prices for overnight rates in the euro interbank market have converged to within 2 basis points, beyond this point arbitrage is no longer profitable. This convergence has been more acute for Spain, Italy, Portugal and Ireland. In wholesale banking, prices have also converged very fast within the euro area countries. The international flows within the European banking sector have also significantly increased during this period. Pérez et al. (2004) report an increase in the proportion of total amount of foreign claims received(sent) from(to) euro area countries from 17.1% of the total of banking assets in euro area countries in 1999 to 22.2% in 2002. This number is higher for smaller countries indicating a higher degree of cross-border flow, but still low in absolute level. Given the evidence indicating an increasing integration of the interbank and wholesale banking segments, Pérez et al. (2004) conclude that the lack of integration of retail markets is still substantial. In this respect, a recent ECB report states that there are intrinsic characteristics of the traditional banking business that constrain the cross-border expansion of commercial banking [see ECB (2004b)]. A similar conclusion is reached in Degryse and Ongena (2004), who argue that current technological and regulatory developments might be insufficient in dismantling the remaining barriers for the integration of European retail banking markets. Gual (2004) claims that the integration process is far from complete in retail banking because of the existence of natural (language and distance) and strategic (branch network, brand and reputation) barriers and the introduction of local regulations as an exception to the general principle of home country regulation.

This lack of integration in the retail banking segment is also reflected in the large differences in explaining the breakdown of net income from the different national retail banking industries. J.P. Morgan (2004) calculates the breakdown of the net income reported by banks from different European countries into their components by banking products (Figure 3). Despite the decline in interest rates within the euro area over the last decade, more traditional products such as checking accounts contribute more than 50% of total profits to retail banks in certain European countries, such as Germany. By contrast, in the anglosaxon and nordic countries, these traditional products account for less than 20% of industry profits. Asset management, and other products addressing long-term savings, account for 32% of banking profits in the UK, while these products contribute less than 15% of profits in Germany and France. This heterogeneity in the sources of value by product in the different national banking markets reflect underlying differences in the functioning of these markets in the European Union and they imply an important barrier to developing financial integration within the Union.

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3. See Baele et al. (2004) for a review of alternative measures to quantify the degree of financial integration in the euro area.

3   The performance of M&As in the financial industry

Most of the literature evaluating the effects of mergers and acquisitions in the European financial industry has focused in the banking sector. At the theoretical level the underlying rationale for the integration of banks over the last decade has focused primarily in the achievement of efficiency improvements through cost reductions. Merging banks supposedly are capable of improving their operating costs by rationalizing the branch network of the merging banks, reducing back-office operations and common services and achieving higher economies of scale in information technology, brand recognition and other fixed assets. A second rationale for value generation from mergers focuses more on the market implications. The mergers allow banks to improve their market positioning in the overall market and increase their cross-selling of financial products.

The empirical literature has focused on three main aspects: the type of mergers that appear to be value creating in event studies, the measurement of improvements in efficiency and operating ratios of the resulting institution and the impact of regulatory changes in the success of market integration. We will look at these three lines of literature in tandem.

The first line of research focuses on the stock market reaction of the firms involved upon the announcement of a transaction. A number of studies have performed this analysis in different samples covering the US and European banking sectors. These studies use event-studies of stock market performance around the announcement of the merger to obtain excess returns to shareholders and, in a second stage, correlate these excess returns with some of the key characteristics of the transaction. Houston and Ryngaert (1994) look at a sample of US domestic mergers and find that on average a merger does not create shareholder value. Shareholder wealth is shifted from the shareholders of the acquiring bank, whose share price usually falls, to those of the target bank. They do find a positive correlation between value creation from the merger and the past operating performance of the acquiring bank, the degree of overlap in the markets in which both banks operate, and the deals financed with cash. Overall, more profitable banks tend to buy less profitable banks. Pilloff (1996) also finds in a sample of US mergers that abnormal returns are correlated to gains from economic efficiencies. Those mergers that offer the greatest potential for cost reduction measured by geographic overlap and pre-merger cost measures (total expenses and non-interest costs of the target bank) have the highest returns from merger. Finally, value creation from market related considerations has also been reported in the U.S. markets. Kane (2000) finds that mergers are likely to generate value when the target bank is a large deposit institution, and when both firms are headquartered in the same US state, indicating potential for increases in market penetration.

Shifting our focus to European evidence, Beitel et al. (2004) use a sample of 98 large European bank mergers (1985-2000) to investigate the drivers of excess returns for the

involved entities. The study considers thirteen potential value drivers for the merger ranging from relative size, to profitability and cost efficiency. The study finds that overall returns for the combined (target and acquirer) entity are higher for non diversifying transactions, when the acquirer is engaged in few M&A transactions and when the target exhibits a poor past stock performance. Campa and Hernando (2004) also looking at a sample of E.U. mergers, financial and non-financial, report that larger value creation occurs in mergers in regulated industries, such as the financial sector, when both companies involved are from the same country. This increase in value generated from higher geographical market concentration from mergers has raised some concerns among regulators and competitors on their social desirability. More market concentration may lead to more market power and higher prices hurting consumers. This view does have some empirical support. Prager and Hannan (1998) report a reduction in the deposit interest rates paid by banks resulting from large local mergers, while small mergers show no significant effect on the interest rate paid to customers.[4] Corvoisier and Gropp (2002), analyze the banking system of the euro area over the period 1993-1999 and did not find a homogeneous effect on pricing from increases in concentration. They report that pricing for loans and demand deposits became less competitive, whereas this did not happen in the pricing for savings and time deposits. They attribute the lack of price increases in the latter product to the achievement of cost savings from economies of scale.

The second line of research has focused on evaluating the expected gains from the merger in terms of post-merger operation improvements. One conclusion from the event studies reviewed above is that regardless of the underlying sources of value creation, there seems to be consistent evidence that financial markets are quite sceptical about the potential value creation from financial mergers. Houston et al. (2001) look at the underlying sources of value creation announced with the merger by the management teams involved. The study confirms that most of the estimated gains arise from the opportunity to cut costs by eliminating overlapping operations and consolidating backroom operations. For the typical merger, estimated revenue enhancements are relatively minor. The study also finds that abnormal stock market returns around the announcement date are positively correlated with estimated costs savings from the merger. However, these abnormal returns are too low for the estimated cost savings indicating that financial markets significantly discount the expected cost-savings from management projections.

The existence of these cost-savings from mergers is also confirmed by studies looking at post-merger efficiency performance. Berger and DeYoung (2001) look at a sample of US banks during the 1990s and find that expanding banks tend to be more efficient and profitable. Operating efficiencies are correlated with geographic distance. Banks expanding to nearby regions tend to show better efficiency and profitability measures. DeLong (2001) also finds that focusing mergers (by activity and geography) enhance stockholder value and diversifying mergers do not create value. However, this effect is small suggesting that

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4. Some recent theoretical work by Carletti et al. (2003) also shows that consolidation could reduce the liquidity of the market for central bank reserves and increase market volatility. This effect is larger the more heterogeneous is the distribution of banks in the industry.

alternative forms of geographical expansion are consistent with overall efficiency improvements.

This emphasis on the benefits from mergers and consolidation along geographical markets raises the issue of what constitutes an integrated market in the financial sector. The third line of research has focused on the impact that regulatory changes have in the success of market integration. This research has focused on two main questions: how does the regulatory framework affect the incentive to merge and what are the regulatory conditions to favor an integrated market at the international level.

On the first question, changes in the regulatory environment have also increased the value creation form merger activities. Saunders and Wilson (1999) find in an analysis of the Canadian, UK and US financial sectors over a period of 100 years, that bank consolidation and safety-net protection have supplanted over time high bank-capital levels as a way to provide protection to risk-averse depositors. This shift has occurred overtime while asset risk remained essentially flat during the century. Walter (2004) and Yu (2002) look at a major change in regulation in the US, the recent repeal of the Glass-Steagall Act that forbade the consolidation of deposit firms and securities corporations, and report abnormal returns for large US financial holdings that did not have subsidiaries in the securities business.

On the second question, the role of regulation in promoting international financial market integration, Berger et al. (2000) provides a survey of the trends in international financial integration and international M&As. The study finds that, on average, foreign banks face higher operating costs and have lower profitability than domestic banks. They relate this evidence to the "liability of foreigners". Buch (2002) goes further in searching for the source of this liability and reports that information costs are the major disadvantages that banks face when buying and operating foreign subsidiaries, concluding that information costs are the main source of segmentation in international financial markets.

This liability of foreigners may justify the often-found result in the literature that the announcement of an international merges does not increase value for shareholders. Amihud et al. (2002) report an average abnormal return of -1% upon announcement in a sample of 214 international mergers worldwide. More interestingly, this study not only looks at expected returns but also at the implied risk from the mergers, allowing a distinction between these two factors. The study finds no evidence that cross-border merging banks add to their risk exposure, whether looking at the total risk of the acquirer or its systematic risk relative to various banking industry indexes (home, host, world). The study concludes that "the growth of cross-border banking appears to pose limited systematic risk dangers to the stability and solvency of the international banking system".

This evidence is consistent with studies performed in the European Union financial sector. Cybo-Ottone and Murgia (2000) find that announced banking mergers within domestic banks from EU countries result in positive abnormal returns while mergers among

banks from different EU countries result in negative abnormal returns. The study also reports significant negative returns when the merger occurs between a deposit institution and a securities firm. Similarly, Vander Vennet (2002), using a sample of 62 cross-border M&As with a European acquirer over the period 1990-2001, analyses both the role of efficiency as a motive for cross-border bank M&As in Europe and the impact of cross-border deals on the post merger cost and profit efficiency. The study finds that acquiring banks typically outperform acquired banks in terms of profit and cost efficiencies before the transaction takes place. The analysis of ex-post performance (short horizon) shows a partial profit efficiency enhancement without gains in terms of cost efficiency in cross-border mergers. The authors argue that these results suggest the existence of different types of barriers to operational efficiency improvement in cross-border deals.

In any case, international cross-border activity within the European Union has been rather low, especially when compared with domestic activity (see section 2). Buch and DeLong (2002) claim that cultural factors and regulatory restrictions are important factors behind the poor success of cross-border bank mergers in the EU. Moreover, these authors do not find any substantial effect of the deregulation process initiated with the Second European Banking Directive on the intensity of cross-border merger activity. As suggested in CEPR (2004), this deregulation initiative might have induced defensive domestic mergers rather than foster cross-border deals. Against this background, future prospects in the activity of cross-border mergers in the EU as a consequence of the enlargement process or of further integration among the European economies are uncertain.

4 Shareholder value creation in financial M&As

This section reports the results from the analysis of event studies around the announcement of an M&A transaction in the European Union during the period 1998-2002. The selected sample includes M&A transactions announced within the European Union in which both firms involved in the transaction were financial firms (within SIC 60 to 67) and both were publicly traded companies. We started from a sample of 244 transactions that took place during this period.[5] Table 1 provides some information on the sample composition. The UK (56 buyers) and Italy (46 buyers) accounted for the majority of transactions in the sample followed by Germany and France. The vast majority of these transactions (181) were domestic transactions, i.e. involved two institutions from the same country.

The sample varied significantly by segment within the financial service industry. Almost half of the sample (120 acquirers) included depository institutions within the European Union, followed by holdings and other financial firms (42 acquirers) and by insurance companies (34). There were also 48 transactions that took place in the real estate business, i.e. either the target or the acquirer was a real estate company. We decided to drop these observations from the sample. We also decided to drop from the sample those transactions in which the buyer already owned 50% of the targeted company (14 deals), and some outliers in terms of the excess returns of either the acquirer or the target firms (10).[6] As a result we conclude with a final sample of 172 transactions. In this sample, 104 observations involved banking institutions. We use this later in the analysis of ex-post performance in section 5. For this banking sample we removed 27 withdrawn deals, 8 pending deals and 3 outliers (in terms of some performance variables of the banks involved).[7]

We performed event studies around the announcement date of the merger (t). We analyzed the excess returns to the target and acquirer through three distinct periods around this date: pre-announcement period (windows [t-30,t-1] and [t-90,t-1]), announcement period (windows [t-30,t+1] and [t-1,t+1]) and post-announcement period (windows [t-1,t+30] and [t-30,t+30]). We also looked at the excess return to the acquirer a year after the merger announcement (windows [t-30,t+360] and [t-1,t+360]). Excess returns are defined as the difference between total shareholder return of the company involved during the event window minus the expected return during that period. The expected return is calculated using the CAPM during the six months prior to the event window using as the measure of market return the financial sector market index from the companies respective country.[8] The results of this analysis for the sample of bank mergers are reported in Table 2. The bottom panel of the

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5. The appendix provide information on the data sources

6. More precisely, we drop a deal from the sample if the excess returns of either the target or the acquirer computed for different windows around the announcement date (t) exceed 100% in absolute value. In particular, we consider the following windows: [t-30,t-1], [t-90,t-1], [t-30,t+1] [t-1,t+1] [t-1,t+30] and [t-30,t+30].

7. In particular, in two deals one of the merging banks had a capitalisation ratio above 75% and in one transaction one of the involved banks had a ROE below -50%.

8. We also estimated expected returns relative to the broader general market index of the respective country and the results were essentially the same to those reported in the paper.

table shows the p-values from tests of equality among the excess returns of the different windows.

Target companies experienced a positive excess return around the announcement of the merger. This excess return was on average 5.80% from the period one month prior to the merger announcement to the day after the announcement. There is a small run-up effect prior to the announcement since approximately 30% of the excess return over the period [t-30,t+1] is realized in the period up to the day prior to the announcement.[9] A run-up effect of around 2.5% is also found over the period [t-90, t-30].[10] Positive excess returns are clearly present, on average, prior to the announcement date. In contrary, no additional excess return is observed after the first day of the announcement. The average return in the window [t-30,t+1] was 5.80% and for the longer window [t-30,t+30] was 5.43%, essentially the same. The distribution of excess returns is quite asymmetric and median excess returns tend to be smaller. However, the proportion of target firms that experience negative excess returns is still large fluctuating, depending on the window, between 35% and 50% of all targets.

For acquirers the distribution of excess returns around announcement is substantially different. Average excess returns are negative and of the order of -1%. There does not appear to be any significant excess return during the run-up period prior to announcement. Excess returns also experienced a wide dispersion around this average number. The median excess return is very close to zero indicating the presence of a few events of large positive returns. In fact, the percentage of acquirers that experienced negative excess returns around announcement is around 55%.

Long-run returns differ substantially from short-run returns. One year after the merger announcement, excess returns for both buyer and acquirers are negative and fluctuate in the interval -2.4% to -4.4%. Median excess returns, a year after the merger, are substantially lower in absolute value. It is worth noting that in the case of targets long-run returns (both average and median) are significantly lower than short-run returns. However, the equality between excess returns over the announcement period and those over the long-run horizons is not rejected in the case of the acquirer companies. Overall, around 60% of the target firms display negative excess returns one-year after the merger. The share of acquiring firms displaying negative excess returns is much closer to 50%. In both cases average excess returns are smaller than median returns in these long-run windows. Excess returns are clearly positively skewed, with a few firms obtaining large positive excess returns. Interestingly, short-run and long-run returns are uncorrelated for both targets and acquirers.[11]

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9. The equality between the average excess returns for the windows [t-30,t+1] and [t-1,t+1] is rejected at the 5% significance level.
10. The equality between the average excess returns for the windows [t-90,t-1] and [t-30,t-] is rejected at the 5% significance level.
11. The correlation of excess returns to acquirers over the periods [t-30,t+1] and [t-30,t+360] is 0.20 (p-value=0.008) and correlation of excess returns to acquirers over the periods [t-1,t+1] and [t-1,t+360] is 0.13 (p-value=0.087). However, this correlation is lower and non significant when an outlier with a very low long-run excess return is removed from the sample.

As summarized in the previous section, most of the literature highlights substantial differences among financial mergers depending on whether they are domestic or international. Domestic mergers are supposed to allow better exploitation of economies of scale from rationalization of the branch network, and reductions in redundant back-office operations. We split the sample between domestic and international mergers and compare average (top panel of Table 3) and median (top panel of Table 4) excess returns for the two groups. Average and median values substantially differ as a result of the highly asymmetric distribution of excess returns, which jointly with the small sample size, explains the lack of statistical significance of the comparison in most cases. Focusing on the median figures, several interesting patterns arise in this comparison. First, we do observe that excess returns to targets are substantially lower in cross-border mergers than in national mergers, this difference being significant over one pre-announcement window and one short-run post-announcement window. In the case of acquirers, the sign of this difference depends on the considered window. Median excess returns to targets are somewhat lower than those to acquirers in cross-border mergers, the opposite being true for short-run windows in domestic mergers.

We also split the sample among large and small mergers depending on the size of the deal, measured by the joint market capitalization of the merging companies. Mergers in the lower (upper) quartile of the distribution were considered small (large) mergers in the analysis.[12] The differences are quite striking especially in the long-run. In the short-run excess returns to targets and acquirers do not differ significantly in large and small deals. Large deals in contrast show much different behavior from small deals one-year after the merger. Small deals had an average (median) combined excess return of -17% (-6%). This returns was split between an average (median) excess return for shareholders of the target firm of -14% (-5%) and an average (median) excess return of -21% (-9%) for the shareholders of the acquirer. In contrast total average excess return in large deals was positive at around 6%, with shareholders of the acquiring bank obtaining a positive excess return of approximately 8%. Focusing on median values, long-run total excess returns were very close to zero. In contrast to the results reported in Moeller et al. (2003) for the U.S. who find that a few very large M&A deals resulted in large destruction of value for shareholders, in the current sample, large transactions result (on average) in value creation for shareholders.

In order to obtain some insight on the type of mergers that have been value creating, we next regress the estimated excess returns over a set of country dummies and a set of variables indicating key characteristics of each transaction. Among these characteristics we include a dummy [DOMESTIC] that takes value of 1 if the merging companies are from the same country, a dummy [BANK] that takes value of 1 if both merging firms are banking institutions, two dummies [LARGEDEAL and SMALLDEAL] that take value 1 for those transactions that are in the upper (lower) quartile of the distribution of transactions defined in terms of the joint market capitalization of the merging companies, and, finally, a variable that

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12. As we only use half of the deals, the problem of lack of significance is even more pronounced.

indicates the relative size of the merging companies [*RSIZE*].[13] Given that excess returns are estimated values, we use GLS in the estimation, and use the inverse of the standard error in the estimation of the expected return for each transaction as the weighting scheme. Table 5 displays the results for the excess returns to target and acquiring shareholders as well as for the weighted average of both excess returns. Consistently with the descriptive statistics presented before, domestic mergers imply significantly higher returns for shareholders of the target firm with no significant impact on the return to bidders. Transactions involving firms more different in size (in most cases, a target significantly smaller than the acquirer) imply a higher return for targets. This result is consistent with the hypothesis that the acquisition of smaller targets is less complex and thus value creation might be less problematic. Interestingly, this effect is significant only around the announcement date, suggesting that news on who the specific parties involved in a transaction are does not leak to the market. Finally, focusing on long-run windows, we find that large M&A transactions resulted in higher positive excess returns for acquirers than smaller transactions, although the difference is not statistically significant. This result might be reflecting that the degree of overlap between two large merging companies is usually high and therefore large deals show a greater potential for cost reduction.

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13. RSIZE is defined as: $\left(\left(\dfrac{tmv}{tmv+amv}\right)-0.5\right)^2$ where *tmv* and *amv* denote the market capitalisation of the target and acquiring companies, respectively. Note that this variable reaches its minimum value, zero, when the two companies are equally sized and is increasing as the relative size between both companies is greater.

5 Effects on performance of financial M&As

This section analyses the accounting and economic evolution of the firms involved prior to the transactions and compares these characteristics with their performance after the transaction. For this part of the analysis we focus on the transactions that took place in the banking industry. Given that we are also going to look at their economic performance after the transaction took place we restrict our analysis to the sample of 66 completed deals in the banking sector. We look at measures of profitability (return on equity [*ROE*], and net financial margin [*NFM*]), solvency (capitalization ratio [*CAP*]), efficiency (cost to income ratio [*EFF*]), lending intensity (net loan to total assets [*LOAN*]) and risk profile (loan loss provisions to total assets [*PROV*] and loan loss provisions to net financial margin [*RISK*]).[14]

Table 6 reports descriptive statistics on the value of these financial ratios for target and bidder banks. The top two panels report the value of these ratios the year prior to the completion of the merger. We report the value of each ratio at each quartile of the sample distribution as well as the median of the difference of these ratios with respect to the average values in the industry.[15] Acquirers display a slightly higher return on equity than targets. In both cases, the merging banks exhibit on average a better performance measured in terms of *ROE* than their corresponding market. Acquirers also show better (lower) cost to income ratios than targets. Moreover, acquirers display a better cost efficiency ratio than the average bank in their country. Targets have larger loan to total assets ratios than acquirers. In fact, while targets show a higher proportion of loan activity than the average bank in their industry, acquirers show the opposite. More importantly, target banks show a clearly higher risk profile in their lending activity. Loan loss provisions measured both in terms of total assets or in terms of the net financial margin are substantially higher in the target banks than the acquirers. All these facts suggest that bidder banks present a better risk profile than targets.

The lower panel of Table 6 displays similar statistics of the same financial ratios for the sample of acquiring banks but measured two years after the completion of the transaction. Overall, there are not substantial changes in the financial performance of the bidder banks. Median *ROE* slightly improves. However, this improvement appears to be more linked to the overall behavior of the industry than to the transaction, since median difference in *ROE* relative to the industry slightly declines. The efficiency ratio of the banks does not change significantly, however this ratio improves (decreases) significantly relative to the market. The median bidding bank has an efficiency ratio that is 10% lower than the industry average. Regarding the risk profile of the bidder banks, engaging in these M&A deals does not seem to imply a substantial increase in the risks supported by these banks, although a small increase in the median values of both ratios of loan loss provisions is observed. The

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14. The appendix provides a detailed description of each of these ratios and of the data sources used.
15. The average for the industry is defined as the value of each ratio for the country of each firm. This ratio is computed using the aggregate national information from all banks reporting to Bankscope in the year prior to the completion of the deal.

intensity of their lending activity (measured by the ratio of net loans to total assets) displays a modest increase. The increases in the lending activity and in the risk profiles mostly reflect the higher lending activity and risk supported from the target banks.

To further analyze the ex-post performance of the merging banks, we run regressions of the performance variables on country dummies, time dummies and a set of variables designed to capture the impact of the merger deal on the performance of the merging banks.[16] The goal is to disentangle to what extent observed changes in performance are due to the transaction, and how long does it take for these changes to occur. We include a set of dummies [*DFUS1, …, DFUS4*] indicating the number of years after the effective date of the deal. The coefficients of these dummy variables will reflect the time profile of the impact on ex-post performance. We also include interactions of a dummy variable taking value 1 for the period after the merger deal [*POSTFUS*] with a set of variables measuring different characteristic of the merger deal: a dummy for national mergers [*DOM*], a dummy for cyclical upturn [*UPTURN*] and the relative size of the merging partners [*RSIZE*]. The coefficients of these interactions will capture, respectively, the average difference in ex-post performance between domestic and cross-border mergers, between mergers taking place in different cyclical positions and the difference in ex-post performance as a function of the relative size of the merging partners.

The results of this analysis are reported in Tables 7 (for targets) and 8 (acquirers). Although the results reported (especially for targets) should be taken with some caution since the available observations after the effective date of the deal is limited. The results do show some illuminating patterns.

In the case of targets, there is a significant ex-post improvement in *ROE* following the transaction. This result is consistent with Altunbas and Marqués (2004) who find that, on average, bank mergers in the European Union from 1992 to 2001, resulted in improved return on capital. The estimated increase in *ROE* is of the order of 6% to 7% and it becomes significant two years after the completion of the deal. The absolute value of this effect remains, although it is non-significant in t+4 and t+5 probably due to the reduced number of observations for targets four and five years after a merger deal. Column (5) shows that the effect on ROE is larger if the deal takes place in a cyclical downturn but the difference is not significant. There is also not a significant difference in the impact on ROE neither between domestic and cross-border mergers nor as a function of the relative size of merging banks.

There is also a significant positive impact in the net financial margin of target banks. This effect is decreasing over time and it is only significant in the first year after the deal. In fact, the effect is only significant for deals that became effective in a cyclical downturn

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16. Alternatively, we run regressions with the performance variables adjusted by the mean of the industry in the specific country and year. The measure of market performance was however very noisy due to the limited Bankscope coverage for some countries. For this reason, we report results for the unadjusted performance variable but introducing country and time dummies. In any case, results must be interpreted with caution since changes in performance may reflect not only the impact of the transaction but also the trend in market performance.

(column 6). This effect seems to be mostly driven by the movement in interest rates in the period 2000-2002. As with the impact on ROE, the effect on net financial margin does not differ between domestic and cross-border mergers or as a function of the relative size of merging banks.

The ex-post performance of the bidder banks (Table 8) shows a slightly negative impact on ROE. The ROE of the bidder banks in the two years after the deal is 2% below its predicted value, although the effect is not significant. The net financial margin of these banks increases and it becomes significant four years after the transaction reaching an improvement of 0.7 percentage points. No differences in this effect are found according to the geographical scope of the deal, the cyclical situation in which the merger took place or the relative size or the merging banks.

Bidding banks show a marked difference in their cost to income ratio depending on whether the merger was domestic or international (column 8). International mergers show a decline in the cost to income ratio of the bidding banks. This effect remains several years after the merger. However, this efficiency ratio does not significantly change for domestic mergers. This result is consistent with the fact that excess returns to acquirers are generally lower in domestic deals (see Tables 3 and 4), what results paradoxical since, as discussed in section 2, domestic deals a priori offer more potential for cost savings. The positive coefficient of the interaction term $RSIZE*POSTFUS$ implies that the impact on efficiency is lower the higher is the difference in the relative size of the companies involved in the merger.

As a robustness check, we estimated a model, both for targets and acquirers, that also included a set of dummy variables indicating the number of years before the effective date of the deal. The coefficients of these dummy variables reflect the average ex-ante performance of the merging banks relative to the average bank in their country. The estimated coefficients of these dummy variables were non-significant in all cases. More interestingly, the coefficients of the dummies reflecting the impact of the mergers in the ex-post performance did not significantly change, except for the behavior of the net financial margin in target firms that became insignificant, although the sign remained positive.

Stock market returns, to the extent that they anticipate future cash-flows, will likely be correlated with changes in post-acquisition performance from an M&A. The results provided here and in the previous section show that this relationship exists at the aggregate level. Average excess returns to target firms were found to be positive on announcement, and this is consistent with the observed improvements in ROE and financial margins observed after the completion of the transactions. For acquirers, there was no significant excess return upon announcement of the merger and neither ROE nor financial margins show consistently large changes after the merger. To test whether these aggregate patterns also hold at the level of the individual deals, we correlated the excess returns from the transactions reported in the previous section, with the observed changes in economic performance reported in this

section for the sample of the banking transactions for which information existed. The results clearly indicate that the aggregate patterns do not hold when looking at the cross-section distribution of returns for either target or acquiring firms. It is not true, that target banks with the larger positive (negative) excess return around the announcement of the merger were also the banks that showed a larger (smaller) improvement in ROE or financial margins. The same conclusion is obtained for the cross-section of acquirers. Therefore, stock market excess returns around announcement are not good predictors of ex-post changes in the economic performance of the firms involved.

6   Conclusions

European financial integration has been a topic for academic and industry discussion at least since the entry into force of the Second Banking Directive. More recently, the introduction of the single currency has fostered the debate. In particular, the question is now whether or not the introduction of the euro has represented a substantial qualitative change in the process of financial integration. The degree of financial integration in Europe has evolved drastically in the last decade, with various degrees of speed depending on the different segments of the financial industry. The evolution of the commercial banking industry is of particular interest given the key role that this sector plays in financial intermediation in the European countries.

This paper has looked at the M&A activity in the financial sector industry during the period 1998-2002. This period has been characterized by an increase in the average value of transactions taken place and by a tenuous move in the industry from domestic consolidation towards a larger process of pan-European integration. We have looked at the value created to shareholders around the announcement of the transactions and at the medium term development of the business performance for these transactions.

Shareholder returns to the target companies are positive on average upon the announcement of the transaction while returns to shareholders of the acquiring companies are slightly negative on average. Most of this return gets realized on the days surrounding the announcement, with a small run-up effect up to three months prior to the announcement date. Excess returns to targets are short-lived with average excess returns one year after the announcement being negative although non-significantly different from zero. Returns to targets are also positively skewed, most transactions perform poorly in terms of shareholder value while there are a few that get substantial positive returns.

Target banks show improvements in their return on equity and efficiency following their acquisition. These improvements are substantial. However, the operating improvements observed after the merger are not correlated with the excess returns shareholders received upon the announcement of the deal. This lack of correlation suggests that the ability to obtain such operating gains is difficult to predict by financial markets.

Data Appendix

1. Information for event studies

1.1 *Information on M&A deals*. Source: Thomson Financial SDC (M&As Database)

The initial set of M&A deals includes 244 transactions in which both firms involved were financial firms of a country belonging to the EU-15 and both were publicly traded companies. We started from a sample of all transactions involving firms from group 6 classification. We picked all transactions involving publicly traded EU firms.

1.2 *Returns on individual equities.* Source: Datastream

For each of the companies involved we use daily series of the total return index on the stock.

1.3 *Market indices*. Source: Datastream.

The market indices used in the estimation of the expected return for the event studies, are the indices of the financial sector of each company´s respective country.

2. Information on final performance: Source BankScope

Bankscope is a financial database compiled by Fitch-IBCA containing financial information, mostly from balance sheet, income statement and applicable notes in audited annual reports of banks and depository institutions.

We have used annual public financial data from the period 1997 and 2003. The ratios used in the analysis in section 5 are computed from information obtained from Bankscope in the following manner [Bankscope codes for each variable are reported in brackets]:

Return on equity (*ROE*) = (Net income [2115] / Total equity [2055]) * 100

Net financial margin (*NFM*) = (Net Interest revenue [2080] / Total earning assets [2010]) * 100

Capitalisation ratio (*CAP*) = (Equity [2055] / Total assets [2025]) * 100

Cost to income ratio (*EFF*) = (Operating expenses [2090] / (Net interest revenue [2080] + Other income [2085]) * 100

Lending activity (*LOANS*) = (Net loans [2000] / Total assets [2025]) * 100

Loan loss provisions to total loans (*PROV*): (Loan loss provisions [2095] / Total loans [2000]) * 100
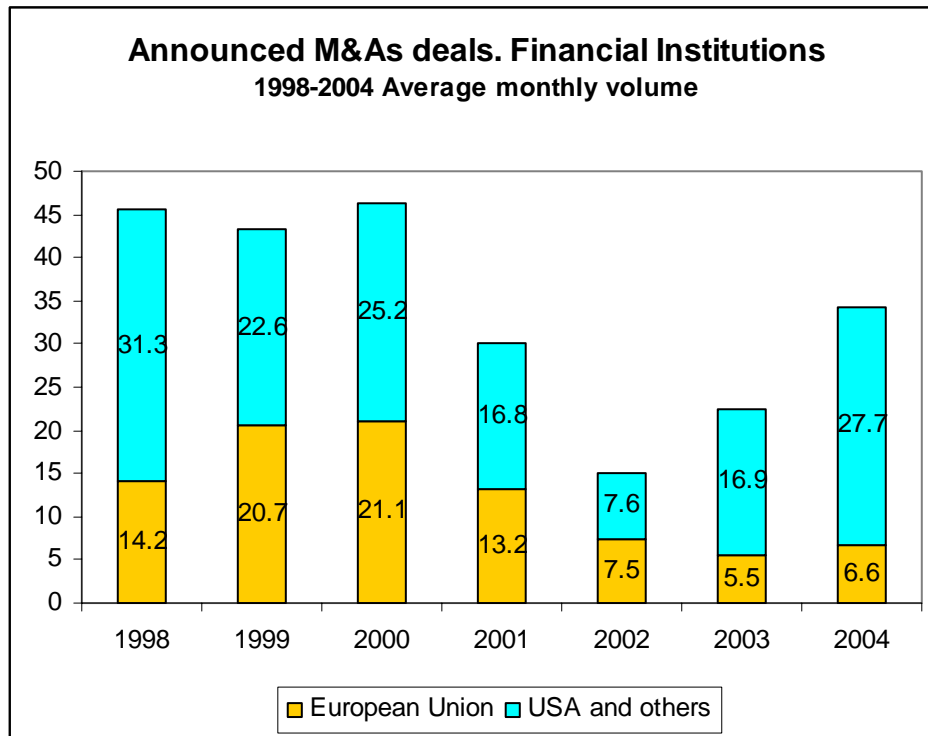
Loan loss provisions to net interest revenue (*RISK*): (Loan loss provisions [2095] / Net interest revenue [2080]) * 100

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Figure 1: M&A Transactions in the Financial Sector

Announced M&As deals. Financial Institutions
1998-2004 Average monthly volume

	1998	1999	2000	2001	2002	2003	2004
USA and others	31.3	22.6	25.2	16.8	7.6	16.9	27.7
European Union	14.2	20.7	21.1	13.2	7.5	5.5	6.6

☐ European Union ☐ USA and others

Source: Thomson Financial.

Figure 2: Geographical Scope of M&A deals among euro area credit institutions

Geographic Location of M&A deals among credit institutions
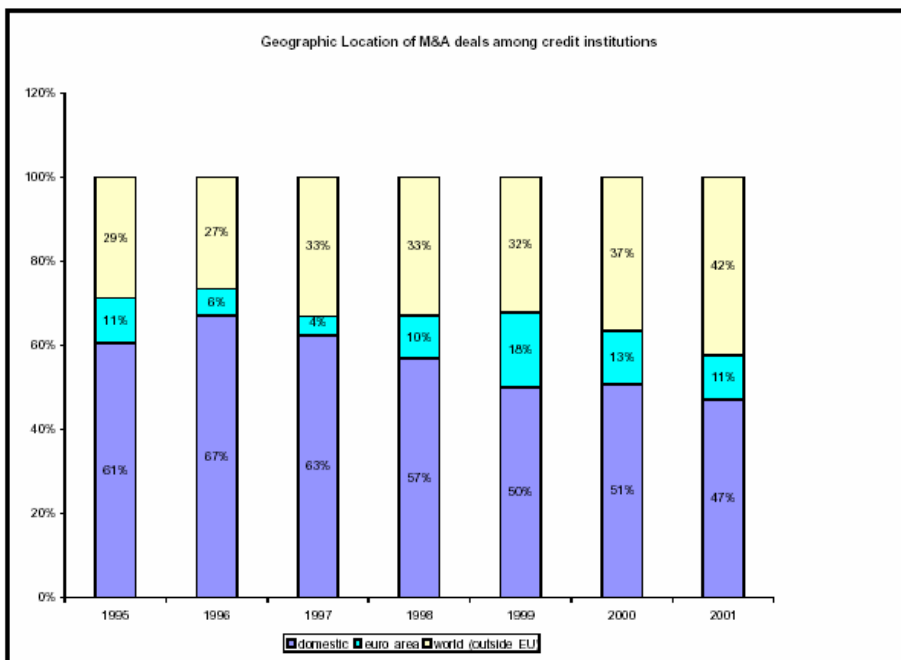
Source: Hartmann, Phillip, Angela Maddaloni, and Simone Manganelli, 2003, "The euro area financial system: Structure, Integration and Policy Initiatives" ECB Working Paper 230, May.

Figure 3: European Commercial Banking: Breakdown of Net Income
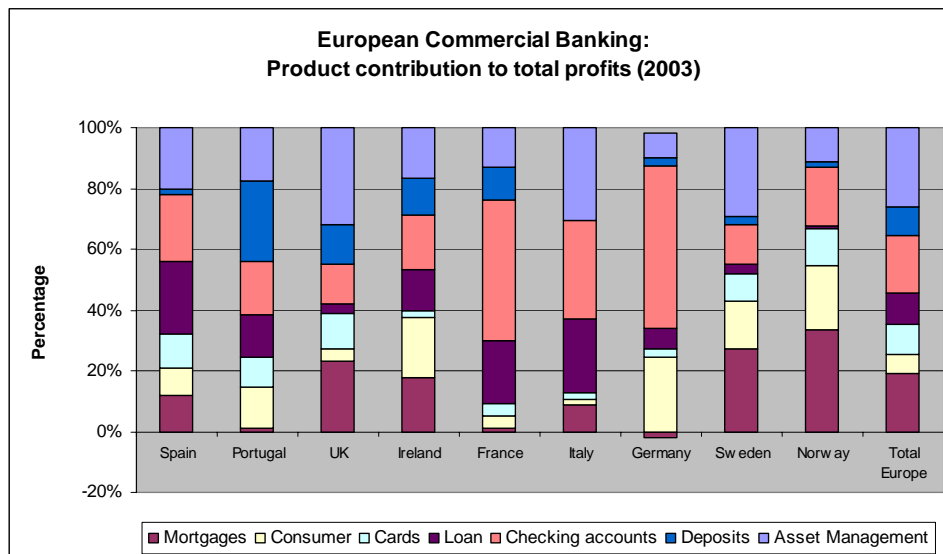
Source: JP Morgan (2004).

Table 1. Sample description

Panel A. Breakdown by country

	Initial sample		Cleaned sample		Banking	
	Targets	Acquirers	Targets	Acquirers	Targets	Acquirers
Austria	3	3	2	2	0	0
Belgium	8	10	3	6	0	2
Denmark	11	8	10	7	3	1
Finland	2	1	1	0	0	0
France	22	22	12	11	7	4
Germany	31	39	26	32	8	12
Greece	10	7	9	6	4	3
Ireland	1	3	1	2	1	0
Italy	46	40	40	35	18	16
Luxembourg	3	1	2	1	2	0
Netherlands	9	13	6	8	1	3
Portugal	16	12	13	9	7	4
Spain	16	14	10	9	6	6
Sweden	10	14	4	9	0	2
UK	56	57	33	35	9	13
	244	244	172	172	66	66

Panel B. Breakdown by sector

	Targets	Acquirers	Targets	Acquirers	Targets	Acquirers
Depository institutions	105	120	96	104	52	55
Nondepository credit institutions	5	0	3	0	1	0
Security, commodity brokers and services	20	13	17	9	8	4
Insurance carriers	25	34	20	29	0	0
Insurance agents, brokers and services	4	2	4	2	0	0
Real estate	41	33	0	0	0	0
Holding and other investment office	44	42	32	28	5	7
	244	244	172	172	66	66

Panel C. Other characteristics

1998	29	18	7
1999	75	59	20
2000	64	34	15
2001	41	33	12
2002	35	28	12
Total	244	172	66
National	181	120	42
Cross-border	63	52	24
Total	244	172	66

Table 2. Differences in Cumulative Abnormal Returns by Window Length

Differences in cumulative average abnormal returns to target and acquirer between windows of different length. Abnormal returns are calculated as the difference between shareholder returns and expected shareholder returns, measured using the CAPM. Each column of the table reports CAARs over different intervals around the announcement date, t, as well as the p-values of a paired t-test on the significance of the differences between cumulative abnormal returns.

	Means (1)		Medians (2)		% negative	
	Targets	**Acquirers**	**Targets**	**Acquirers**	**Targets**	**Acquirers**
Cumulative average abnormal returns						
Pre-announcement						
(t-30,t-1)	1.85%	-1.03%	1.09%	-0.34%	42.4%	54.7%
(t-90,t-1)	4.35% **	-0.08%	4.58% **	0.48%	35.5%	45.3%
Announcement						
(t-1,t+1)	3.24% **	-0.87% **	0.17%	-0.03%	45.9%	51.7%
(t-30,t+1)	5.80% **	-1.81% **	1.94% *	-0.64%	40.1%	54.7%
Post-announcement						
(t-1,t+30)	2.38% **	-1.20%	0.53%	-0.40%	48.8%	57.0%
(t-30,t+30)	5.43% **	-2.37% **	2.73% **	-1.43%	39.0%	57.0%
Long-run						
(t-30,t+360)	-3.56%	-2.42%	-1.99%	1.47%	55.8%	45.3%
(t-1,t+360)	-4.43%	-3.37%	-2.93%	-0.92%	57.6%	52.3%

Tests on differences in cumulative average (median) abnormal returns by window length (3)

(t-90,t-1) - (t-30,t-1)	0.02	0.26	0.01	0.49
(t-30,t+1) - (t-1,t+1)	0.02	0.25	0.03	0.25
(t-1,t+30) - (t-1,t+1)	0.32	0.65	0.04	0.40
(t-30,t+30) - (t-30,t+1)	0.65	0.41	0.08	0.25
(t-1,t+1) - (t-1,t+360)	0.07	0.49	0.00	0.82
(t-30,t+1) - (t-30,t+360)	0.02	0.86	0.00	0.19

(1) */** denote significance at the 10%/5% level. Confidence intervals on the distribution of excess returns have been adjusted for skewness following the methods described in Lyon et al. (1999).
(2) */** denote significance at the 10%/5% level.
(3) The reported numbers are p-values of a paired t-test of the null hypothesis that the differences in returns of the two windows are statistically different from zero.

Table 3. Differences in Cumulative Average Abnormal Returns by Type of Merger

Differences in cumulative average abnormal returns to target, acquirer, and value creation between national and cross-border mergers and between large and small mergers. Abnormal returns are calculated as the difference between shareholder returns and expected shareholder returns, measured using the CAPM. Each column of the table reports the statistics for the distribution of abnormal returns over a different interval around the announcement date, t.

		(t-30,t-1)	(t-90,t-1)	(t-1,t+1)	(t-30,t+1)	(t-1,t+30)	(t-30,t+30)	(t-30,t+360)	(t-1,t+360)
A. National vs. Cross-border									
	Cross-border	0.27%	2.23%	3.82% **	4.45% *	1.57%	3.05%	-7.47% **	-10.15% **
Targets	National	2.53%	5.27%	2.99% **	6.38% **	2.72% **	6.46% **	-1.87%	-1.96%
	Diff	-2.27%	-3.05%	0.83%	-1.92%	-1.15%	-3.42%	-5.60%	-8.19%
	p-value (2)	0.28	0.22	0.72	0.52	0.67	0.34	0.41	0.27
	Cross-border	-0.18%	0.17%	-0.39%	-0.62%	0.02%	-0.31%	-1.15%	-1.12%
Acquirers	National	-1.40%	-0.20%	-1.08% **	-2.33% *	-1.72% *	-3.26% **	-2.96%	-4.35%
	Diff	1.22%	0.37%	0.68%	1.71%	1.75%	2.95%	1.81%	3.23%
	p-value (2)	0.41	0.87	0.27	0.28	0.16	0.11	0.75	0.59
	Cross-border	0.21%	1.46%	0.13%	0.21%	0.00%	0.19%	-2.05%	-2.23%
Value	National	-0.90%	1.34%	-0.42%	-0.95%	-0.76%	-1.53%	-4.62%	-5.51%
creation (1)	Diff	1.11%	0.12%	0.55%	1.16%	0.75%	1.72%	2.56%	3.28%
	p-value (2)	0.42	0.95	0.37	0.41	0.50	0.31	0.62	0.55
B. Small deals vs. Large deals (3)									
	Small deals	1.59%	4.89%	4.61% **	5.88%	3.22%	5.36%	-12.47%	-14.18%
Targets	Large deals	-0.18%	3.57% **	0.35%	1.91%	-0.38%	0.81%	-1.31%	-2.61%
	Diff	1.76%	1.32%	4.27% *	3.96%	3.60%	4.55%	-11.16%	-11.58%
	p-value (2)	0.62	0.77	0.07	0.33	0.21	0.33	0.38	0.41
	Small deals	-1.88%	1.06%	-1.25%	-2.99%	-2.70%	-4.36%	-18.37% **	-20.92% **
Acquirers	Large deals	0.47%	1.90%	-0.95%	-0.36%	0.66%	0.61%	7.35% **	8.32% **
	Diff	-2.35%	-0.84%	-0.30%	-2.62%	-3.35%	-4.97%	-25.72% *	-29.24% **
	p-value (2)	0.47	0.86	0.77	0.43	0.20	0.16	0.07	0.04
	Small deals	-0.86%	2.94%	-0.18%	-0.92%	-1.12%	-1.73%	-15.40%	-17.24%
Value	Large deals	0.58%	2.24%	-0.75%	-0.06%	0.43%	0.67%	5.09%	5.89%
creation (1)	Diff	-1.44%	0.70%	0.56%	-0.86%	-1.54%	-2.40%	-20.49% *	-23.12% *
	p-value (2)	0.62	0.87	0.52	0.77	0.47	0.46	0.09	0.06

*/** denote significance at the 10%/5% level.Confidence intervals on the distribution of excess returns have been adjusted for skewness following the methods described in Lyon et al. (1999).

(1) Data on value creation are only available for 158 merger deals.

(2) The reported numbers are p-values of a t-test (allowing for different standard deviations between the two subsamples) of the null hypothesis that the difference between the CAARs in the two subsamples is zero.

(3) Small (large) deals are those deals that are in the lower (upper) quartile of the distribution defined in terms of the joint market capitalisation of the merging companies.

Table 4. Differences in Cumulative Median Abnormal Returns by Type of Merger

Differences in cumulative median abnormal returns to target, acquirer, and value creation between national and cross-border mergers and between between large and small mergers. Abnormal returns are calculated as the difference between shareholder returns and expected shareholder returns, measured using the CAPM. Each column of the table reports the statistics for the distribution of abnormal returns over a different interval around the announcement date, t.

		(t-30,t-1)	(t-90,t-1)	(t-1,t+1)	(t-30,t+1)	(t-1,t+30)	(t-30,t+30)	(t-30,t+360)	(t-1,t+360)
A. National vs. Cross-border									
Targets	Cross-border	0.20%	0.25%	0.04%	0.30%	-0.81%	-0.90%	-1.64%	-3.63%
	National	1.15% *	6.22% **	0.18%	3.24% **	1.19%	3.94% **	-2.22%	-1.98%
	Diff	-0.94%	-5.98% *	-0.14%	-2.93%	-1.99%	-4.85% *	0.58%	-1.65%
	p-value (2)	0.62	0.07	0.87	0.41	0.25	0.07	0.87	0.87
Acquirers	Cross-border	0.93%	1.52%	-0.06%	0.57%	-0.36%	-0.21%	1.58%	-1.39%
	National	-0.51% *	0.43%	-0.02%	-1.00%	-0.50%	-2.78% *	1.47%	-0.05%
	Diff	1.44%	1.09%	-0.04%	1.58%	0.14%	2.57% *	0.11%	-1.34%
	p-value (2)	0.62	0.87	0.87	0.62	0.87	0.07	0.87	0.62
Value creation (1)	Cross-border	0.37%	2.37% *	-0.06%	0.13%	-0.32%	-0.53%	-0.36%	-2.48%
	National	0.05%	2.60% *	-0.02%	-0.23%	-0.17%	-0.42%	-1.51%	-1.38%
	Diff	0.32%	-0.23%	-0.04%	0.36%	-0.15%	-0.11%	1.15%	-1.10%
	p-value (2)	1.00	1.00	1.00	0.73	1.00	1.00	0.49	1.00
B. Small deals vs. Large deals (3)									
Targets	Small deals	-0.34%	7.98% **	0.34%	4.97%	0.90%	3.56% *	-3.77% **	-4.68% **
	Large deals	0.26%	2.92%	0.00%	-0.32%	-0.04%	-1.20%	-1.65%	-1.47%
	Diff	-0.60%	5.06%	0.33%	5.29%	0.94%	4.76% *	-2.11%	-3.21%
	p-value (2)	1.00	0.37	0.65	0.37	0.65	0.07	1.00	0.37
Acquirers	Small deals	-0.69% *	2.40%	-0.12%	-1.01%	-1.74%	-3.41%	-1.17%	-8.95%
	Large deals	-0.33%	2.41%	-0.02%	-0.33%	-0.28%	0.10%	3.23% *	1.78%
	Diff	-0.36%	-0.01%	-0.10%	-0.68%	-1.46%	-3.52%	-4.40%	-10.73%
	p-value (2)	1.00	1.00	1.00	1.00	0.37	0.37	0.17	0.65
Value creation (1)	Small deals	0.05%	4.37% *	-0.48%	0.03%	-0.63%	-2.26%	-0.28%	-5.57%
	Large deals	-0.36%	2.37%	-0.24%	-0.80%	-0.17%	-0.53%	3.40%	0.03%
	Diff	0.41%	2.00%	-0.24%	0.82%	-0.46%	-1.73%	-3.68%	-5.59%
	p-value (2)	0.65	0.65	0.65	1.00	1.00	0.65	0.37	0.65

*/** denote significance at the 10%/5% level.

(1) Data on value creation are only available for 158 merger deals.

(2) The reported numbers are p-values of a t-test (allowing for different standard deviations between the two subsamples) of the null hypothesis that the difference between the CAARs in the two subsamples is zero.

(3) Small (large) deals are those deals that are in the lower (upper) quartile of the distribution defined in terms of the joint market capitalisation of the merging companies.

Table 5. Regression analysis of excess returns

The dependent variable are estimated excess returns around the announcement of the transaction relative to the performance of the national financial market index, over the window in days indicated in the top of the column. *DOMESTIC i*s a dummy that takes the value 1 if the transaction involves two companies of the same country. *BANK* is a dummy that takes the value 1 if the transaction involves two banks. *RSIZE* is defined as: ((tmv/(tmv+amv)-0.5)**2) where tmv and amv denote the market capitalisation of the target and acquiring companies. *SMALLDEAL* (*LARGEDEAL*) is a dummy that take the value of 1 if the joint market capitalization of the involved companies is in the first(fourth) quartile of the distribution.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Event Window	(t-90,t-1)	(t-30,t-1)	(t-1,t+1)	(t-30,t+1)	(t-1,t+30)	(t-30,t+30)	(t-30,t+360)	(t-1,t+360)
Targets								
DOMESTIC	0.043	0.065	0.023	0.089	0.017	0.096	0.134	0.129
	'(1.49)	(2.39)**	'(1.36)	(3.00)**	'(0.71)	(2.97)**	(2.31)**	(1.99)*
BANK	-0.059	-0.015	0.014	0.011	-0.011	-0.003	-0.018	-0.048
	'(1.70)*	'(0.61)	'(1.02)	'(0.39)	'(0.42)	'(0.09)	'(0.26)	'(0.67)
RSIZE	-0.118	0.01	0.346	0.397	0.134	0.262	0.025	-0.089
	'(0.48)	'(0.06)	(3.15)**	'(1.95)*	'(0.90)	'(1.20)	'(0.06)	'(0.18)
SMALLDEAL	-0.051	-0.023	0.001	-0.018	0.008	-0.018	0.015	0.036
	'(0.73)	'(0.46)	'(0.03)	'(0.37)	'(0.23)	'(0.35)	'(0.07)	'(0.18)
LARGEDEAL	0.013	0.028	-0.019	-0.003	-0.013	0.007	0.079	0.078
	'(0.43)	'(0.98)	'(1.18)	'(0.10)	'(0.60)	'(0.21)	'(1.33)	'(1.29)
Observations	145	147	148	147	147	147	141	145
R-squared	0.14	0.18	0.25	0.25	0.13	0.28	0.14	0.12
Acquirers								
DOMESTIC	-0.038	-0.017	-0.012	-0.03	-0.014	-0.04	0.033	0.04
	'(1.61)	'(1.18)	'(1.07)	'(1.65)	'(0.93)	'(1.87)*	'(0.74)	'(0.84)
BANK	-0.005	-0.011	-0.005	-0.021	0.003	-0.012	0.068	0.072
	'(0.20)	'(0.71)	'(0.48)	'(1.05)	'(0.23)	'(0.55)	'(1.19)	'(1.17)
RSIZE	-0.054	-0.014	0.027	0.016	-0.014	-0.016	-0.035	-0.022
	'(0.42)	'(0.17)	'(0.70)	'(0.20)	'(0.19)	'(0.15)	'(0.14)	'(0.08)
SMALLDEAL	0.037	0.001	0.008	0.018	-0.013	-0.002	-0.101	-0.063
	'(0.53)	'(0.03)	'(0.69)	'(0.50)	'(0.47)	'(0.04)	'(0.53)	'(0.31)
LARGEDEAL	0.023	0.001	-0.006	-0.002	0.015	0.014	0.057	0.062
	'(0.87)	'(0.07)	'(0.73)	'(0.12)	'(0.96)	'(0.57)	'(1.34)	'(1.37)
Observations	148	146	147	146	147	146	150	147
R-squared	0.11	0.07	0.15	0.08	0.12	0.11	0.06	0.07

Country dummies not reported

Robust t statistics in parentheses

* significant at 5%; ** significant at 1%

Table 6. Descriptive statistics of financial ratios of target and acquirer banks

Distribution of performance measures for the target and acquiring banks involved in a sample of 66 completed M&A transactions involving EU banks in the period 1998-2003. Each measure is calculated for the target and acquirer banks on the year prior to the effective completion of the transaction, and for the acquirer bank in the second year after the completion of the transaction. The last column, reports the median difference with respect to the average for the corresponding national industry, defined as the aggregate ratio from all banks reporting to Bankscope.

Ex-ante characteristics of target banks

	Mean	p25	Median	p75	Median difference with respect to the market
Return on equity (*ROE*)	11.11	6.36	10.08	13.10	1.27
Net financial margin (*NFM*)	2.20	1.27	2.17	2.75	0.39
Capitalisation ratio (*CAP*)	12.15	4.27	5.35	8.34	0.25
Cost efficiency ratio (*EFF*)	62.87	58.72	67.32	72.76	-0.22
Net loans to total assets (*LOANS*)	52.50	43.64	49.87	67.62	6.26
Loan loss provisions to total loans (*PROV*)	0.89	0.55	0.89	1.22	0.20
Loan loss provisions to net financial margin (*RISK*)	22.31	15.17	21.80	33.41	0.77

Ex-ante characteristics of acquirer banks

	Mean	p25	Median	p75	Median difference with respect to the market
Return on equity (*ROE*)	11.56	8.90	11.23	15.61	1.30
Net financial margin (*NFM*)	2.01	1.32	2.09	2.67	0.25
Capitalisation ratio (*CAP*)	8.47	4.28	5.73	8.40	0.58
Cost efficiency ratio (*EFF*)	62.35	54.78	63.94	71.50	-1.85
Net loans to total assets (*LOANS*)	44.76	34.80	49.40	52.61	-4.84
Loan loss provisions to total loans (*PROV*)	0.82	0.45	0.62	1.04	0.09
Loan loss provisions to net financial margin (*RISK*)	16.76	9.62	16.30	20.88	1.37

Ex-post characteristics of acquirer banks

	Mean	p25	Median	p75	Median difference with respect to the market
Return on equity (*ROE*)	10.06	5.17	11.37	14.26	0.97
Net financial margin (*NFM*)	2.04	1.29	2.16	2.51	0.22
Capitalisation ratio (*CAP*)	8.67	3.76	6.22	7.99	-0.11
Cost efficiency ratio (*EFF*)	63.53	59.13	62.63	69.69	-7.42
Net loans to total assets (*LOANS*)	46.22	41.14	51.08	55.92	-2.92
Loan loss provisions to total loans (*PROV*)	0.79	0.64	0.77	0.86	0.03
Loan loss provisions to net financial margin (*RISK*)	18.64	13.66	17.48	23.91	-1.07

(1) The definition of the variables is reported in the Appendix.

Table 7. Evolution of ex-post target performance

	(1) ROE	(2) NFM	(3) CAP	(4) EFF	(5) ROE	(6) NFM	(7) CAP	(8) EFF
DFUS1	3,781	0,668	-3,482	-0,992	8,327	1,753	-7,575	-3,371
	(1.57)	(2.03)**	(0.95)	(0.20)	'(1.58)	'(2.42)**	'(0.95)	'(0.32)
DFUS2	6,772	0,207	-0,186	-1,924	13,316	1,511	-5,348	-3,877
	(2.43)**	(0.55)	(0.04)	(0.34)	'(2.32)**	'(1.91)*	'(0.61)	'(0.34)
DFUS3	6,01	-0,075	0,314	-3,704	15,386	1,535	-4,836	-6,585
	(1.67)*	(0.16)	(0.06)	(0.52)	'(2.10)**	'(1.56)	'(0.44)	'(0.47)
DFUS4	7,174	-0,452	-3,306	-1,866	16,919	1,881	-9,063	-8,102
	(1.50)	(0.71)	(0.45)	(0.20)	'(1.84)*	'(1.52)	'(0.65)	'(0.45)
DFUS5	8,746	-0,511	-4,769	-0,097	18,862	1,91	-11,17	-9,523
	(1.17)	(0.52)	(0.42)	(0.01)	'(1.61)	'(1.23)	'(0.63)	'(0.43)
*RSIZE*POSTFUS*					-7,463	-2,165	12,554	11,729
					'(0.34)	'(0.74)	'(0.38)	'(0.28)
*DOM*POSTFUS*					-0,648	0,436	0,608	1,694
					'(0.23)	'(1.18)	'(0.14)	'(0.32)
*UPTURN*POSTFUS*					-6,621	-1,6	2,756	1,877
					'(1.40)	'(2.46)**	'(0.38)	'(0.20)
Observations	345	323	349	320	320	304	324	301
R-squared	0,16	0,37	0,15	0,13	0,16	0,41	0,19	0,16

Absolute value of t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8. Evolution of ex-post acquirer performance

	(1) ROE	'(2) NFM	'(3) CAP	'(4) EFF	(5) ROE	(6) NFM	(7) CAP	(8) EFF
DFUS1	-1.888	-0.104	0.973	3.142	-1.053	-0.372	-11.705	-8.932
	(1.59)	(0.65)	(0.46)	(0.97)	'(0.55)	'(1.36)	'(3.49)***	'(1.66)*
DFUS2	-1.751	-0.062	2.609	1.636	-1.1	-0.352	-10.629	-9.568
	(1.25)	(0.33)	(1.05)	(0.42)	'(0.49)	'(1.13)	'(2.75)***	'(1.56)
DFUS3	-0.363	0.363	6.162	-2.724	0.189	0.118	-8.428	-14.532
	(0.20)	(1.49)	(1.94)*	(0.07)	'(0.07)	'(0.30)	'(1.72)*	'(1.90)*
DFUS4	-1.777	0.711	10.638	-3.678	-1.678	0.402	-8.322	-16.244
	(0.75)	(2.17)**	(2.51)**	(0.55)	'(0.44)	'(0.76)	'(1.25)	'(1.56)
DFUS5	1.456	0.233	3.293	1.014	1.644	-0.149	-16.46	-13.082
	(0.33)	(0.39)	(0.41)	(0.08)	'(0.30)	'(0.20)	'(1.73)*	'(0.89)
RSIZE*POSTFUS					-8.11	2.111	43.564	47.459
					'(1.16)	'(2.13)**	'(3.59)***	'(2.43)**
DOM*POSTFUS					-0.401	-0.014	7.603	11.312
					'(0.31)	'(0.08)	'(3.42)***	'(3.16)***
UPTURN*POSTFUS					0.46	0.063	7.209	4.022
					'(0.26)	'(0.26)	'(2.38)**	'(0.84)
Observations	371	362	377	362	348	339	354	339
R-squared	0.31	0.41	0.11	0.22	0.29	0.41	0.18	0.27

Absolute value of t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

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