Mergers and acquisitions in the European financial industry: a two-dimensional approach

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"Mergers and Acquisitions in the European Financial Industry: A two-dimensional approach"

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This thesis is dedicated to Spyros, Mariza, Manos and Valia.

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1. Introduction

The aim of our research is to study the value generated to shareholders by the announcement of mergers and acquisitions in the European financial industry over the period 2000-2006. We examine these effects under a two-dimensional approach. The first part of our paper focuses both on acquiring and target firms but not only in the banking sector. In contrast with the majority of previous papers, we scrutinize the whole industry: banks, asset management, brokerage and insurance firms. My purpose here is to study the reaction of the market between numerous types of M&A announcements and to point out the differences, if any, that may arise due to dissimilar characteristics of a merger announcement. Furthermore, we try to explain why the abnormal returns of target, acquirer and the combined entity vary across M&A announcements, focusing on firm-specific characteristics.

The second part concentrates on intra-industry reaction of rival firms which are located at the same country as the target institution when a merger or acquisition occurs. My objective here is to determine whether the information signal from M&A announcements in European financial industry is relevant only to the valuation of the firms engaged in the transaction, or it is transmitted to other, rival with the target, firms. Since M&A announcements can signal prospects for the industry, rivals' values can respond to this announcement given that their value is partially dependent with the trend and the prospects of the industry. In view of the fact that intra-industry effects also vary across announcements, we perform cross sectional analysis based on event-specific and rival firm-specific factors to explain this variation.

Our study use the event window analysis of stock market performance around the announcement of the merger to obtain abnormal returns to shareholders of acquiring, target and rival firms. We compute abnormal returns with market model and mean adjusted return model methodologies. The choice of methodology did not alter the main results in our study.

2. Consolidation in European financial sector

Theoretical and empirical evidence supports the view that integration and consolidation in financial sector can enhance overall economic performance via macroeconomic stabilization, higher levels of efficiency and consumer welfare. On the other hand, too concentrated banking systems might destabilize the overall financial system through monopolistic power and gains. Trying to find the golden section, European Union promoted major regulated changes that have reshaped Europe's financial markets. The First Banking Coordination Directive (1977), the EU White Paper (1985) and the Second Banking Coordination Directive (1988) finally led to the establishment of the Single Market of Financial Services (1993). Moreover, the introduction of euro at the late nineties and the implementation of the Financial Services Action Plan (2001) have generated expectations for a sharp reorientation towards a single, more competitive, and efficient European market for wholesale financial services . While the vision for a totally single financial market is far from fulfilled, mainly due to cultural and regulatory barriers, the extension of progress in European Union's financial integration is unquestionable. There are three main avenues to be taken for achieving integration: 1) The organic growth in the form of branches and subsidiaries, where the share of non-domestic branches and subsidiaries in the countries banking assets of the EU-15 reached more than 20% (ECB 2004). 2) The provision of services on a cross-border basis, allowing customers to choose financial products freely from their country of choice and 3) Consolidation via cross-border mergers and acquisitions.

Since our study focuses on mergers and acquisitions, we mention below the consolidation within EU expressed in the declining number of financial institutions, mostly driven by mergers and acquisitions among domestic European credit institutions. In addition, we provide a representative view of merger activity, both domestic and cross-border, in Europe during the last decade.

Mergers and acquisitions within the European financial sector have changed the European financial background enormously in the past decade. Despite the fact that our research gives attention to all twenty seven members of EU plus the two candidate states (Croatia and Turkey), the available data is more insightful for euro

area countries plus UK, Denmark and Sweden. For the majority of the twelve new member states our data begins at their enlargement date on 1 May 2004. As we can see in Table 1, there is a quite large decline in the number of credit institutions during the last ten years between twelve euro area nations (Slovenia have joined euro on 01/01/2007) and the other three members (United Kingdom, Denmark and Sweden) before the enlargement in 2004. Between 1997 and 2007, the number of credit institutions fell almost 40% in Germany, 34% in France, 45% in Netherlands and 25% in UK. On the other hand, the number increased almost 10% in Ireland, 12% in Greece and a slight 3% in Finland. Calculating the aggregate numbers, the decrease is full-size. The euro area institutions fell from 8637 to 6122 while the EU-15 reduced from 9624 to 6916 by the end of January 2007, a decline almost 30%.

As we cited above, the goal of our research is to study the abnormal returns to shareholders around the announcements of mergers and acquisitions, not only in the banking sector but in the financial industry as a whole. So, we ought to have a total view in European financial industry. In Chart 1 (Source: ECB, MFIs statistical report) we observe the development in monetary financial sector from 1999 (establishment of the single currency) to 2007. Monetary financial sector includes both credit institutions and money market funds. On 1 January 2007 there were 7,646 MFIs, a net decrease of 2,210 units (22.4%) from 1999, despite the inclusion of 105 MFIs when the euro was adopted by Greece on 1 January 2001 and 30 MFIs when the euro was adopted by Slovenia on 1 January 2007. Likewise, the number of MFIs in the EU-27 declined from 10.909 on 1 January 1999 to 10.191 on 1 January 2007 despite the inclusion of 1.680 MFIs from 2004 and onward. Credit institutions accounted for 80.5% (6,157 units) of all euro area MFIs, while money market funds counted for 19.3% (1,472 units). In the EU-27, the shares of credit institutions and money market funds were 83.5% and 15.7% respectively.

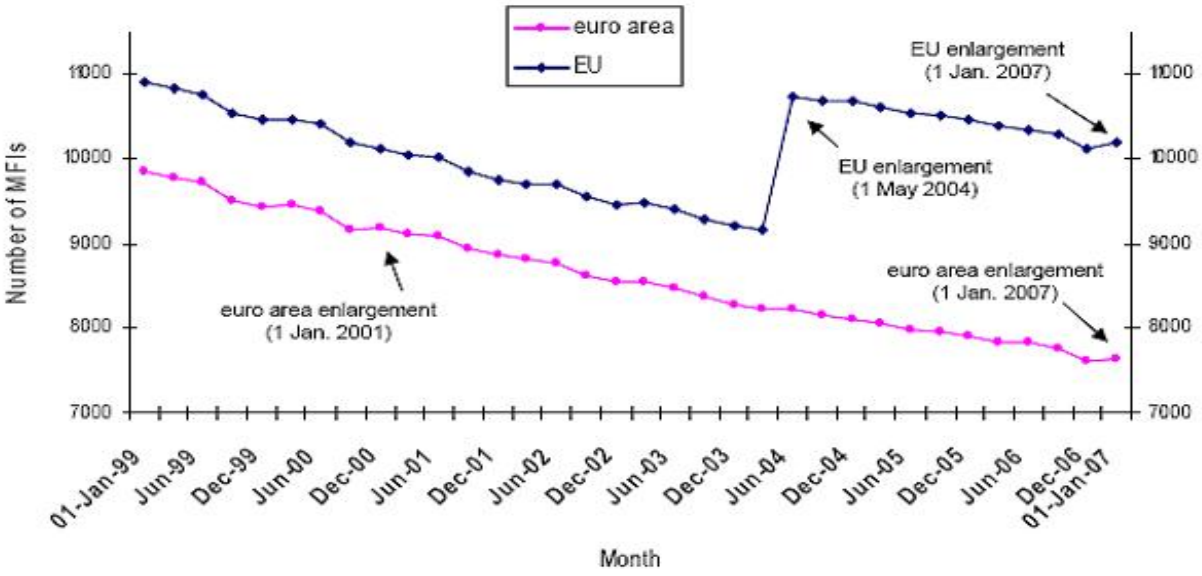
Table 1. Number of credit institutions, change in % from 1997-2007 Source: ECB and own calculations

Country/year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Change in %
Belgium	131	123	117	118	112	111	108	108	104	102	105	**- 19,8**
Denmark	213	212	210	210	203	178	203	203	202	197	191	**- 10,3**
Germany	3420	3238	2992	2742	2526	2363	2225	2222	2141	2084	2041	**- 40,3**
Greece	55	59	57	57	61	61	59	60	62	62	62	**+ 12,7**
Spain	416	404	387	368	366	359	348	347	345	346	352	**- 15,3**
France	1258	1226	1158	1099	1050	989	939	933	891	856	827	**- 34,2**
Ireland	71	78	81	81	88	85	80	80	80	79	78	**+ 9,8**
Italy	909	934	890	861	843	821	801	803	785	795	810	**- 10,8**
Luxemburg	215	212	212	202	194	184	172	171	161	154	154	**- 28,3**
Netherlands	648	634	616	586	561	539	481	483	461	401	346	**- 46,6**
Austria	928	898	875	848	836	823	814	814	796	819	809	**- 12,8**
Portugal	238	227	224	218	212	202	200	199	195	183	177	**- 25,6**
Finland	348	348	346	341	369	369	366	365	362	363	361	**+ 3,7**
Sweden	237	223	212	211	211	216	222	222	212	200	204	**- 13,9**
UK	537	521	496	491	452	451	426	420	410	396	399	**- 25,6**
Euro area 12	8637	8361	7954	7521	7218	6906	6593	6585	6383	6244	6122	**- 29.1**
EU-15	9624	9337	8872	8433	8084	7751	7444	7430	7207	7037	6916	**- 28,1**

The significant decline in the number of credit institutions came jointly with an increase in the importance of the banking sector in the economy. The growth of banking assets outpaced that of Europe's GDP during the period 1997-2003 and is still accelerating. At the end of 2005, banking assets of 25 EU members stood at € 32.288 billions, up to 13.5 % from the previous year. Total assets to GDP were above 300% for the first time in EU-25.

The number of insurance companies operating in the European market decline from 5.126 in 1999 to 4.933 in 2004, a net decrease of 3,7% (CEA statistics-June 2006). The weak concentration process that is observed in the European insurance industry primarily concerns life insurers and has happened through mergers and acquisitions. The integration in insurance industry is not yet well developed in view of the fact that on most markets, domestic firms account for more than 90% of total premium income.

Chart 1 - Development of the MFI sector



As we clearly saw in previous section, in terms of capacity there was a substantially decline in credit institutions, motivated mainly by mergers and acquisitions. While this process was and is gradual in terms of reducing branches and employees, it is critical to view the developments in concentration of the European financial sector, where the effects are immediate, especially if M&As are between large institutions in terms of banking assets and market share. Furthermore, disproportionate levels of concentration may be destabilize the financial system as

they could allow the "champion" bank to charge higher lending rates while the authorities would face serious difficulties on executing monetary policy.

Concentration of an industry is measured mostly by two different methodologies. The simplest method is called CR5 (concentration ratio five) and is the measurement of the combined market share of the five largest institutions. CR5 is used as an indicator of the relative size of firms in relation to the industry as a whole

Table 2: CR5 of the EU-25 Credit Institutions in total assets (%)

	2001	2002	2003	2004	2005
Belgium	78.3	82.0	83.5	84.3	85.2
Czech Republic	68.4	65.7	65.8	64.0	65.5
Denmark	67.6	68.0	66.6	67.0	66.3
Germany	20.02	20.5	21.6	22.1	21.6
Estonia	98.9	99.1	99.2	98.6	98.1
Greece	67.0	67.4	66.9	65.0	65.6
Spain	43.9	43.5	43.1	41.9	42.0
France	47.0	44.6	46.7	49.2	53.5
Ireland	42.5	46.14	44.4	43.9	46.0
Italy	29.0	30.5	27.5	26.4	26.7
Cyprus	61.3	57.8	57.2	57.3	59.8
Latvia	63.4	65.3	63.1	62.4	67.3
Lithuania	87.6	83.9	81.0	78.9	80.6
Luxembourg	28.0	30.3	31.8	29.7	30.7
Hungary	56.4	54.5	52.1	52.7	53.2
Malta	81.1	82.4	77.7	78.5	75.3
Netherlands	82.5	82.7	84.2	84.0	84.8
Austria	44.9	45.6	44.2	43.8	45.0
Poland	54.7	53.4	52.3	50.2	48.6
Portugal	59.8	60.5	52.7	66.5	68.8
Slovenia	67.6	68.4	66.4	64.6	63.0
Slovakia	66.1	66.4	67.5	66.5	67.7
Finland	79.5	78.6	81.2	82.7	83.1
Sweden	54.6	56.0	53.8	54.4	57.3
United Kingdom	28.6	29.6	32.8	34.5	36.3

and may also assist in determining the market form of the financial industry (i.e perfect competition, monopolistic competition, oligopoly). The CR5 for the euro area countries rise from 39% to 43% while there was a slightly increase for EU-25, from 59,1% to 59,7% in these five years.

A more sophisticated methodology to measure the capacity in an industry is Herfindahl Index (HI). It is defined as the sum of the squares of the market shares of each individual firm and it can range from 0 to 10.000 (or from 0 to 1 if the market shares are not used as whole numbers). The similarity between CR5 and HI is that both indicators take into account mostly the larger institutions. The difference is that the HI signals the size structure of the entire market whereas the CR5 takes into consideration the effective market share of the five larger firms disregarding institutions other than the five largest. The major benefit of Herfindahl Index against CR5 is that it gives more weights to larger firms. To be clearer, let us set a hypothetically financial market called A with five (5) main credit institutions which all produce the 75% of the industry and the remaining 25% share is equally produced by 10 credit institutions (2,5% each). In the first case all five (5) large credit institutions produce 15% and in the second case the one (1) main credit institution produces 55% and the four (4) remaining main institutions produce 5% each. In both cases, the CR5 will be 75%. But, in the first case Herfindahl Index will be $5*15^2+10*2{,}5^2=1187{,}5$ where in the second case, Herfindahl Index will be $55^2+4*5^2+10*2{,}5^2=3187{,}5$.

Another disadvantage of the CR is that the choice of the number for the i^{th} institution is somewhat arbitrary. Often, CR indicators are for the four, five or ten largest institutions (CR4, CR5, and CR10) and such distinctions may have an impact on the level and the effectiveness of the indicator. On the other hand, HI captures the structure of whole market in just one number; but is not problem-free. If we thought again the first case of the hypothetically financial market **A,** we had set 5 credit institutions with 15% market share each. Thus, market seems non monopolistic. But what happens if the one firm handles 70% of corporate loans in this country? In this scenario, firms in other industries would be suffering due to market dominance by one firm in the banking sector. Usually, if the Herfindahl Index is above a certain level then regulators and economists consider that market experience high concentration. This point is considered to be 1800 in United States while the European Union prefers to focus on the level of change (i.e the concern is raised if there's a 250 change where the HI is already above 1000).

Table 3: Herfindahl index of EU-25 Credit institutions' total assets

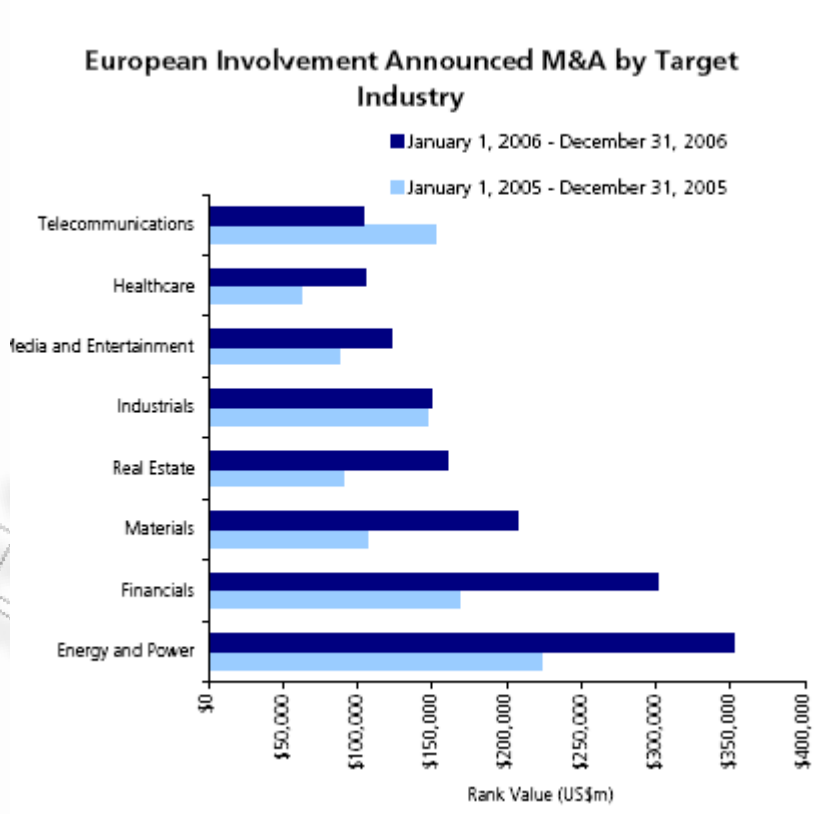
	2001	2002	2003	2004	2005
Belgium	1,587	1,905	2,063	2,102	2,108
Czech Republic	1,263	1,199	1,187	1,103	1,155
Denmark	1,119	1,145	1,114	1,146	1,115
Germany	158	163	173	178	174
Estonia	4,067	4,028	3,943	3,887	4,039
Greece	1,113	1,164	1,1130	1,070	1,096
Spain	532	513	506	482	487
France	606	551	597	623	758
Ireland	512	553	562	556	600
Italy	260	270	240	230	230
Cyprus	964	938	946	940	1,029
Latvia	1,053	1,144	1,054	1,021	1,176
Lithuania	2,503	2,240	2,071	1,854	1,838
Luxembourg	275	296	315	304	312
Hungary	892	856	783	798	795
Malta	1,835	1,806	1,580	1,452	1,330
Netherlands	1,762	1,788	1,744	1,726	1,796
Austria	561	618	557	552	560
Poland	821	792	754	692	650
Portugal	991	963	1,043	1,093	1,154
Slovenia	1,582	1,602	1,496	1,425	1,369
Slovakia	1,205	1,252	1,191	1,154	1,076
Finland	2,240	2,050	2,420	2,680	2,730
Sweden	760	800	760	854	845
United Kingdom	282	307	347	376	399

The HI for the euro area countries have raised from 883 to 1000 the last five years while there was a slight decline for EU-25, from 1158 in 2001 to 1153 in 2005. Generally, both the CR5 and the Herfindahl Index show the same, apparent picture. Despite the two merger waves, the first at the late nineties and the current one, there is not reasonable ground for concern about euro area countries. The present level of HI is 1000, far away from the undesirable 1800. We can see conditions of perfect competition in four mega markets, these of Germany, France, Italy and UK where the levels of concentration are 174, 758, 230 and 399 respectively. On the contrary, markets like Belgium and Holland seems to be concentrated enough (HI of 2108 and

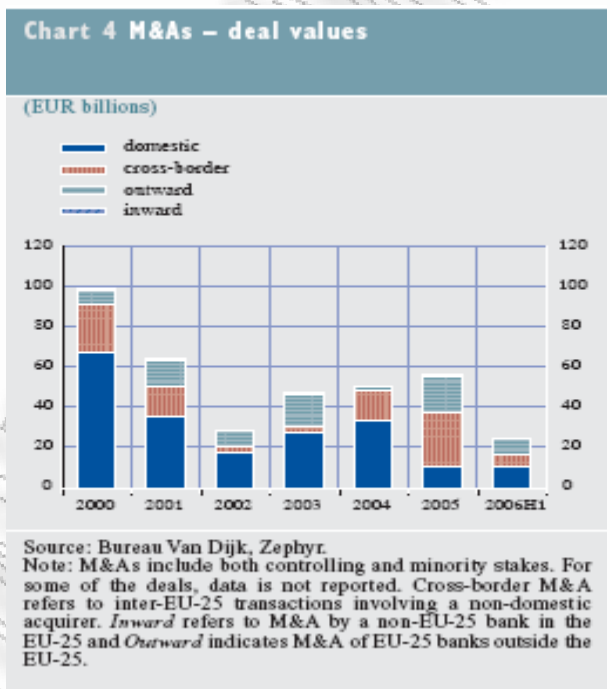
1796). Interestingly, we faced this fact in the part two of our paper, where we construct rival portfolios; for these two countries, the number of rival credit institutions that Thomson Financial provided us was less than ten, with two or three national champions like Dexia, Fortis Group and KBC Group. The picture for the ten new member states that have entered European Union in 2004 is controversially. We can see countries with highly concentrate markets like Estonia (4039) and Lithuania (1838), while new member states like Poland (650) and Hungary (795) seem to have conditions of perfect competition, in the base of Herfindahl Index.

3. Recent trends in merger activity within the EU financial sector

Overall M&A activity in the EU experienced a significant boost after 1998 both in terms of transaction numbers and in average transaction size that led to the stock market-driven M&A booming in the early 2000s. The financial industry followed a similar pattern: Very intense till the beginning of 2001, where the annual sum of the transactions reached € 232 billion. Beyond 2001, the volume of M&A transactions declined jointly with the deceleration in world economy till the turnaround at the midst of 2003. This upward trend was ongoing and reached an all time high at the end of 2006, where financial M&A activity with European involvement exceeded $ 300 billion. Financial sector plays a dominant role in overall European merger activity ($ 1,7 trillion) and this simply indicates that the consolidation progress in EU is still ongoing, parallel with the more intensive deregulation the industry will face in the near future. (Source: Thomson Financial).



The process of cross-border M&As in the banking industry was, and still is, less intensive than in the non-financial sector mainly due the home and host countries regulators, who concern about excess risk dispersion in the financial system of each country under these cross-border transactions. Moreover, in past years, consolidation operations in the EU banking sector mainly had domestic nature, suggesting that banks preferred to consolidate their market position within national markets. M&A transactions involving institutions from the same European country accounted for about 80% of the total value over the period 1993-2003. In contrast, European cross-border M&A activity picked up in the second half of 2005 and early 2006. As a result, the relative importance of cross-border M&As in the European financial industry compared with domestic consolidation continued to grow in 2005 and the early 2006. The deal value of cross-border within the EU M&As was more than double from domestic transactions in 2005 (source ECB, EU banking structures-2006). This trend will be very interesting in our study as the past literature notices that excess returns for acquirers and targets in cross-border transactions are



quite different from these on domestic mergers, both in US and EU studies. Cybo-Ottone and Murgia (2000) analyzed a sample of European M&As between 1988-1997 and reported that domestic mergers create, on average, shareholder value whilst the

economic impact of cross-border is non-existent. Campa et al (2006) who analyzed a sample of financial M&As during the period 1998-2002 found that excess returns to targets are significantly lower in cross-border mergers than in national mergers while median excess to targets are somewhat lower than those to acquirers in cross-border mergers, two results consistent with the hypotheses that domestic mergers allow better exploitation of economies of scale and increase in market power. Amihud et al (2002), for a sample of 214 cross-border transactions found negative average CAR, approximately -1% for acquirers. Despite the fact that acquirer's risk does not change relative to home and host bank indexes, shareholders of acquiring institutions did not presume these cross-border transactions as wealth maximizing projects. De Long (2001) studied 280 U.S mergers between 1988 and 1995 and documented that market does not distinguish geographically focusing mergers from geographically diversifying ones when the combine value is taken into consideration. However, targets of geographically focusing mergers tend to earn higher abnormal returns against the other category. Of course, it is essential to demarcate the cross-border mergers between US states (interstate mergers) and these between EU nations. The former, despite the highly regulation for interstate banking, occurs in a federal republic which shares a common language. The latter, occurs in a Union where information costs (as language and law) are high enough to drive us in different results. We can not assume that results of U.S studies are extrapolating linearly in EU studies and this assumption applies to all cases of our research, not only in cross-border mergers and acquisitions.

This paper extends the establish literature on mergers and acquisitions in European financial industry, overcoming three limitations found in previous studies:

First, the majority of previous papers in that field examine the revaluation of bidder and target firms till the period 2002. Under this time frontier, they failed to capture the expectations (negative or positive) and the realized event of the enlargement that took place in European Union on 1/1/2004. Today, EU is wide open, including twelve more nations than of the end of 2002.

Second, if the increase in deal value of cross-border mergers within EU and the efforts for a uniform set of takeover rules thought-out the EU as expressed by the *Directive 2002/0240* (Directive of the European parliament and of the council on takeover bids: 2002/0240 came into force on 20 May 2004 and had to be implemented

in each Member State by 20 May 2006.) lead to a different outlook, the market reaction in EU cross-border mergers and acquisitions is an open, and testable, question, even there are still barriers especially to cross-border transactions within the EU and the existence of some type of protectionism by national governments, who are obstructing foreign take over bids, especially when the target firm is a so – called national champion.

Last but not least, the current merger boom is characterized by a very large proportion of cash-based transaction, almost 70%-90% of the overall value of M&As, relative to the previous wave (ECB, Monthly Bulletin 7/2006). This is an essential factor in our event study. Merger announcements mix information concerning the proposed merger with information of the finance of the acquisition. If a bidder pays for a merger with stock, he perceives the stock to be cheaper than cash, thus signaling the stock to be overvalued. Hence, the negative or slightly positive announcement excess returns that the majority of the studies find for acquirers could be partially attributable to negative signaling about the payment method. The assumption here is that the large proportion of cash-based transactions will affect positively the bidders' excess returns. Of course, another aspect for the choice of payment reaches a different conclusion: target stockholders prefer to receive stock because payments in cash create an immediate liability for them whereas payments made in stock are taxable only when they are redeemed. Under this hypothesis, the large proportion of cash-based transactions will affect downward the targets' excess returns.

4. Mergers and Acquisitions. Why do they occur?

Rationales for bank mergers is widely discussed and tested with different methods. The main motive for a firm to merge is to maximize profits and shareholders wealth by exploiting *Economies of Scale and Scope*, thus reducing cost inefficiency and increasing revenues. These economies in European banking are extensively studied in two papers Altunbas et al (2001) found that scale economies, typically range between 5% and 7%, and are widespread for smallest banks. X-inefficiencies on average range between 20% and 25% across different size classes. This suggests that banks of all sizes can obtain greater cost savings through reducing managerial, technological and other inefficiencies, comparing with increasing size through the increase in the levels of their outputs like total loans, securities and OBS items (economies of scale). Cavallo and Rossi (2001) examined the presence of scale and scope economies, as well as X-inefficiencies in six European countries during the nineties. The scope economies are more pronounced for large institutions. They found that magnitude of scale economies is obvious for small banks. For large banks there was a constant return to scale. Probably, there is a threshold at which these scale economies can be achieved or in other words, there is a non-linear relation between size and returns. More recent studies tend to show that the level of the threshold is increasing compared with previous studies. The most obvious reason for this upward shift in the optimum size lies in new technologies. Technology is found to change the cost structure tangibly. Regulators changes also, play an essential role: The lifting of restrictions on inter – state banking in the United States and the implementation of the euro as common currency have created in practice larger markets. However, there is no evidence to suggest that larger banking organizations have a cost advantage over smaller banks. The above findings suggest that small banks can improve the output efficiency concentrating more on expand the scale of existing production rather than through production diversification.

- *Cost-based Economies of Scale*: The cost of producing an additional unit of output decreases as the volume of output increases. If a 100% increase in the level of

all outputs (total loans, total securities and off-balance sheet items) lead to a 95% increase in the level of all inputs (labor, physical capital and interest paid on deposits), then the Economies of Scale account for 5%.

- *Revenue-based Economies of Scale*: It is possible that economies of scale may exist not only on the cost side, but also on the revenue side. That is, credit institutions may be able to provide services or combination of services that consumers value more highly and are willing to pay higher prices to obtain. Large size and capital base will allow underwriting outsized loans or security issues, having a positive impact on the demand for these services. Theoretically, a 100% increase in the level of all outputs may lead to 105% increase in the revenues (and in this case economies of scale will be 5%).

- *Cost-based Economies of Scope*: Economies of scope exist when the total costs of a firm producing more than one output are lower than the sum of the costs of producing each output separately. They could originate from the spreading of fixed costs over an expanded product mix or/and cost complementarities in producing the different products.

- *Revenue based Economies of scope*: As for scale economies, there is also the possibility of scope economies on the revenue side of the credit institution. This relies on the hypothetical preference of investors for "one-stop shopping". Consumers may able to pay higher prices to buy multiple products from a single location, a single store. The case of offering simultaneously banking and insurance products is well known.

- *X- Efficiency*: The X-Efficiency of a credit institution refers to how close it is to the efficient cost frontier (where the output of the institution is produced at the minimum cost for the input prices it faces). X-Efficiency is differ from scale and scope economies because the former takes as grant the output, while the latter try to find a clear-cut beneficial combination of output and cost or revenues, taking as given that they operate in the efficient frontier.

In Table 1 we observe the cost structure of sixty public targets and acquirers from our sample. The table contains the median total assets value for both target and bidder and as proxy for cost efficiency the median ratio of total operating expenses to total assets the last reported year before the announcement of the merger. As we can see, whilst the size of the acquirer is ten times that of target, there is no remarkable advantage in terms of cost structure.

Table 1	***Targets***	***Acquirers***
Total Assets ($mil)	7.198	73.745
Cost Efficiency	6,29%	6,17%

On the other hand, cost reductions can be achieved by eliminating redundant managerial positions, closing bank branches and consolidating back office functions. Revenue enhancements can come from cross-selling of bank services. For diversifying mergers, standard portfolio theory shows that a portfolio of imperfectly correlated returns will reduce the overall volatility of profits, stabilize earnings and may raise shareholder wealth. In addition, a well diversified firm (after the merger completion) could operate an internal capital market where will be a relocation of free cash flows from steadily divisions (i.e. banks) to those firms or divisions with plenty of growth opportunities (venture capitals or hybrid financial products). While it is obvious that diversification reduces risk, simply is easier and cheaper for the stockholder than the firm. There is no or little evidence that investors pay a premium for diversified firms.

It is important to distinguish between cost reductions and efficiency improvements because, obviously, are not the same. Reductions in operating expenses can result from cutting employees, closing branches, consolidating offices, closing computer and back-office operations and so forth. These reductions in expenses however, are not de facto improvements in efficiency (in addition, there is a debate what proxy to use as efficiency measure; we must acknowledge that our proxy, operating expenses to total assets, while is commonly used in literature, may not

capture the whole cost structure of the financial institution). Reductions in expenses can also be accompanied by forthcoming reductions in total assets or revenues. An improvement in efficiency requires that costs will be reduced more than any decline in revenues. Common feeling in the literature is that cost savings represent the primary source of gains in the large majority of financial institutions mergers. Houston et al (2001) found that stock market obviously capitalizes cost-cutting projections but the market and analysts are skeptical about revenue projections.

Also, a merger can create wealth through the reduction of tax liabilities (boosting cash flows to shareholders). This reduction may occur from differential tax-systems, between firms in the case of diversifying mergers or among nations in the case of cross-border mergers. Moreover, this wealth can be created if the one firm has reported losses before and the other profits. The first pays no taxes whilst the second does but the tax paid by the second will be smaller if the two firms merge because the aggregate net profit for the combined firms will be smaller than the profit of the second firm. However, we do not believe that the latter reason will be a strong motive for a firm to acquire another one; probably is doubtful and does not seem to work, not only in the banking industry but in every corporate sector.

The third road of maximizing profits comes through the market – power hypothesis. According to this hypothesis, a merger will increase a firm's market share. But, simply increasing market share is not synonymous with economies of scale. Increasing market share really means increasing the size of the firm relative to competitors. Thus, horizontal mergers create monopolistic power by reducing the number of competing firms in the industry. This reduction, allows merged institutions to raise fees, lower interest rates on deposit accounts and lessening the cost of monitoring rival firms in the industry. Of course, this procedure is partially dependent with a series of factors like the given level of concentration in the industry and various anti-competitive laws and restrictions from the regulators. If the concentration level in the industry is high enough, M&As can support this theory. On contrast, if the level is small or medium-size, a unique event (M&A) can not lead to raising profits through the higher charging of services.

The information hypothesis supports the view that mergers and acquisitions occurs when there is asymmetry information about the correct value of the (potential) target firms. The acquirer believes that the target is undervalued and his aim is to

realize gains when the market will correct the value of the target. This theory recognizes and based on the semi-strong form of market efficiency (that is, share prices reflect all the available public information but not the private one. The private information theoretically is accessible only to bidder). When the bidder announces its proposed merger plans, the market price of the target, on average, raises. Under this hypothesis, if the merger will not complete, then the target's market price must not be dropped because the private information is now public. If we realize a drop, the price run up before the announcement of the merger was exclusively owed to possible synergies that could be realized only through the merger.

Alternatively, as a financial institution becomes very large in terms of the assets or the funds that invests, it is more likely to be qualified as "too big to fail" by the public authorities. This safety net would provide a competitive advantage in both lower funding cost for a given level of capital and risk, and in larger proportions accepted by counterparties. This was especially the case for the well known Long Term Capital Management FUND (LTCM), which had in its team the Nobel-prize winning economists Myron Scholes and Robert Merton. The purpose of the LTCM fund was to achieve substantial returns with a minimal risk through the combination of the quantitative models of the academics, and the experience and knowledge of the practitioners. The LTCM easily raised $1.25 billion, from about 80 investors, each of which provided a minimum of $10 million. These investors included USA and foreign banks, university funds and well known Wall Street and business executives. For several years, the LTCM fund lived up to its reputation with returns well above the average of the market. With such returns, the LTCM fund was able to borrow large amounts of money to leverage its own capital and further improve its profitability. But, the year 1997 was an average one, forcing LTCM to return $2.7 billion to investors at the end of this year. Still in the beginning of 1998, the LTCM fund had assets that exceeded $130 billion while its portfolio of derivatives was close to $1.2 trillion. Starting, however, in April 1998, several events, including the devaluation of the rubble and the debt moratorium declared by the Russian government, contributed to the demise of the LTCM that lost on a single day, August 21 1998, more than half a billion dollars. By the end of September 1998, the fund had lost the greatest part of its equity and was teetering on the brink of default and a consortium of banks and financial companies infused $3.6 billion into the fund in an

effort, lead by the Federal Reserve Bank of New York, to avoid its bankruptcy that, because of the size of LTCM borrowing (estimated at $1.3 trillion), was going to cause serious damages to the entire global financial system.

Another reason for M&As based on the existence of agency costs between managers and shareholder or stakeholders as the main driver for mergers and acquisitions. Managers are seeking for increasing their bonuses or perks through M&As and did not act in the interests of shareholders, thus managers act to maximize their own utilities. This is the case especially when the firm has plenty of free cash flows and the managers use them for their plans or for over-bidding instead of maximizing the shareholders wealth. In addition, according to Roll (1986) and the famous hubris hypothesis, there are cases where the managers rely heavily on their past success and seek to expand their firm through mergers that become value destroying, or trying to use the large size of their firms as a defensive measure against possible takeover that will drop them out of the management board. This behavioral hypothesis is similar to the existence of agency costs hypothesis, and both are based on a non-wealth maximizing behavior from shareholders perspective. So, if this behavior is recognized by the market, mergers and acquisitions will result in a wealth reduction for the acquirer's equity and overoptimism in evaluating potential merger candidates will transfer all gains from the transaction to the target shareholders resulting in a zero net wealth creation.

According to Jensen and Ruback (1986), firms that are subject to non-efficient management and are undervalued become possible targets. When managers take decisions that harm shareholders value, market control intervenes and the mechanism of mergers and acquisitions act as a disciplinary force to remove poorly performing management (punitive discipline) or push the managers to improve their performance (and the performance of their firm) if the acquisition does not be realized. Thus, the threat of a takeover may substitute the need, time and cost of individual shareholders to monitor the managers. Of course, poor management can be removed or improved by other devices than M&As, like proxy fights, stake buildings or defame of current management, but the latter are more costly. This market for corporate control seems to be more effective in U.S and U.K, both with market-based economies and less obvious in central Europe with bank based economies.

5. Mergers and Acquisitions. The associating risks

Whenever M&As are value maximizing or not projects and to whom, the are ex ante and ex post risks relative to these actions, as in every decision or investment in corporate environment.

The risks ex ante are mainly associated with the fixing of an appropriate price for the deal. This value that the acquirer is willing to pay should correspond to expected future cash flows that will rise from the merger. In every case, the price that the acquirer is willing to pay for the target firm should not be exceed the sum of the value of the target in a stand alone basis (market value in case of listed firms / present value of the firm) and the pure synergy that will arise from the acquisition. Let put PV_f = final price of the deal, PV_t = the value of the target in a stand alone basis, PV_s = the synergies that the acquirer expect to realize, where **a** accounts for the premium of the acquisition, then we have:

$$PV_f = PV_t + \mathbf{a}\, PV_s, \quad \text{where } 0 \le a \le 1$$

The synergistic gains can be realized if the production, administrative and marketing costs (profits) of the merged firm are smaller (larger) than the sum of these costs (profits) of the two individual firms before the merger.

The goal of the acquirer should be to not pay beyond $\mathbf{a}PV_s$. Specifically, must try to pay as smaller **a** as he can. On the other hand, the purpose of the target is to receive **a** very close to 1 (or beyond 1). In practice however, acquirers usually pay more than $\mathbf{a}PV_s$ and this is the most important reason why they realize (when that occurs) a downward reaction in their stock prices during the announcement of a merger (the market anticipates that the acquirer eventually will overpay for the target).

The risks ex post are linking to operational issues such the integration of information and risk management systems and the internal control procedures. Operational problems are more pronounced in mergers, where a full integration of

information technology and accounting systems into one platform is needed, where functions can be kept separate in acquisitions. More pronounced are also in international M&As, where the institutions in two different countries will be subject to different fiscal and reporting requirements (something that is loosen enough with the IFRS 3), they have to face different regulating systems and there are higher differences in corporate, and not only, culture between the stuff of the two merging firms.

In addition, combining two firms can destroy value if the managers of the combined firm use this "channel" to transfer excess cash flows from cash generator divisions to money-losing lines of business that alternatively could shut down. Non wealth maximizing useness of resources can occur if the firm's management is reluctant to cut jobs or don't want to admit past, falsely decisions. Ofcourse, this inefficiency in capital allocation can occur in every firm that have multiple lines of production and/or services and it is not an absolute result of merger and acquisition process.

At last, when two listed firms combine, there is one less publicly traded stock. This can create cost from the moment that stock prices convey information and reflect the future corporate projects and perspectives of the firm. Let put **A** as an acquirer that operates in Germany and **T** as a target that operates in Croatia. These two firms merge and transformed to **AT**. The **T** firm is delisted. From this moment, the top management of **AT** will make up all their corporate decisions for the **T** division based on subjective information. Hence, they "lost" part of the information due to delisting of **T**. Furthermore, the information from stock prices also is useful for compensating and evaluating management. It is easier to tie the compensation of **T** management when the firm is publicly traded than when it is subsidiary, because in the latter case there is no observable stock price for **T** that would reveal the success or not of the top management corporate plans.

6. Part One: The announcement effects of M&As in European financial institutions 2000-2006: Literature Review

Most of the literature evaluating the effects of mergers and acquisitions in financial industry has focused on two main categories. The first line of research studies the stock market reaction of the firms involved upon the announcement of a merger using as main tool the event window analysis which directly allows judging on the value implications of a merger or acquisition. The second line of research measures the improvements (or not) in the efficiency and in the profitability of the resulting institution using accounting data, based on income statement and balance sheet information. None of these methods are perfect for evaluating the results of M&As.

The event study methodology allows to measure directly the average gains or losses from a very large sample of data that is free from different accounting practices (acquisition versus pooling accounting). Event studies have greater flexibility and can focus precisely on the days that surround the event. On the contrast, performance measures are not time – value since they are based mostly on accounting data, due to the predetermined dates of publishing income statements and balance sheets. As the second line of research uses profitability proxies or the cash flows changes in time horizon of one year pre and post (one year is a minimum bound) to measure the success or not of M&As, it is more difficult to isolate the specific event of the acquisition from other corporate actions, or other political and strategically factors. On the other hand, the obvious difficulty with an event study research model is that it relies heavily on market efficiency. And in order to measure the market efficiency what appropriate asset pricing model we should choose? The market model, market or mean adjusted returns, the CAPM or the 3factor model of Fama and French which assumes that returns are driven only by firm size? And how we must treat the measurement of the coefficients of these models (i.e. all we know that many benchmarks take as grant the beta coefficient while the theory does not guarantee that the beta will be constant from one period to other. Although there are measures and

techniques which try to fix this problem, like Dimson and Marsh (1986), we must not forget that variance of returns changes not only every day, but intraday also). Related to the choice of benchmark is the issue of whether to use pre or post event data to estimate necessary model parameters. Literature evidence shows that whilst there is no significant change in beta, alpha estimates move from being significantly positive in the period before a takeover, to being significantly negative after takeover. Also, given the larger size in the "new" firm after the merger, exposures to size effects can be significantly less in the post takeover period. All the above should make us to treat and recognize the advantages and disadvantages of both methods and to not rely exclusively on the results of latter or former studies.

Given that in the Part One of our study we examined the market reaction of European M&As for bidders and the targets separately under the event study methodology, we will state a representative view of the existing literature based on event studies only. Generally, the findings of the M&A related event studies in banking are mixed. Roughly a quarter of about 100 studies surveyed by Beitel and Schierek (2001) demonstrate that both target and bidder earn significantly positive cumulative abnormal returns (CARs). The majority of these studies find positive CARs for the target while the evidence for the bidding financial institutions is mixed (slightly negative/positive abnormal returns or statistically insignificant).

We split the literature results in two sub categories: U.S studies and EU studies. Before that, it is useful to mark down the differences between these sub-samples. These differences arise mainly from altered legislation. One of the most important regulatory distinctions is the activity of a commercial bank. In Europe, the majority of countries permit a form of universal banking, which allows commercial banks to provide insurance services or to sell/underwrite securities. In United States, many laws restrict the types of activities a commercial bank could perform.

Cornett and De (1991) investigated stock market reaction to 196 U.S domestic mergers covering the period 1982-1986 and documented significant excess returns for both bidding and target banks. To obtain additional insights into effects of the acquisitions bids on acquirers' stock returns, they examined the influence of factors like the method of financing used for the acquisition, the relative size of the bidder to target and when the target bank was failing at the time of the acquisition announcement but none of these variables indicated some explanatory power. The

results of Houston and Ryngaert (1994) contrast that of Cornett et al. They tested a sample of 153 bank mergers during the period 1985-1991 and found that positive abnormal returns to targets are essentially offset by negative returns to acquirers resulting also to insignificant, positive, abnormal returns for the combined entity. To explain cross sectional variation of abnormal returns in merger announcements looked at a number of factors like Return on Assets of target and acquirer, the extent to which the operations of the target and the acquirer overlap (overlap is similar to domestic and cross border classification in our sample), the financing and the size of the deal. They reported those characteristics of the merger that the market perceives as more valuable; the prior levels of profitability of the acquirer (positive relation), the degree of overlapping (in-market mergers are perceived as more profitable than mergers involving banks that operate in different markets) and the use of cash instead stock. Consistent with this view is De Long (2001). She examined 280 mergers announced between 1988 and 1995 and found insignificant abnormal returns for the combined entity. But she went a step further and found that market does distinguish among various types of mergers. She divided mergers into four groups depending upon activity and geographic focus and diversification and found that mergers between partners that focus both their activity and geography enhance value more than any type. In addition, she look through other factors that may explain the abnormal returns of the combined entity and she found that the larger the target was relative to the bidder and the poorer the target had performed versus the market index, the greater were the CARs. Houston et al (2001) analyzed 64 large bank mergers between 1985 and 1996 and found negative and statistically significant excess returns to acquiring banks (-3,47%), positive returns to targets (20,8%) and, in contrast with previous U.S studies, positive and significant excess returns for the combined entity (1,86%). For a subset of this sample, they obtained management estimates of projected cost savings and revenue enhancements and they found also positive revaluations of the combined value of acquirer and target stocks but not as large as the present value of the management's estimates. This was the most interesting and entrepreneurial paper I studied, so I strongly recommend it to everyone who read my thesis.

At last, Cornett et al (2003) examined 423 acquisition announcements made by 177 bidding banks during the period 1988-1995. She found that bidding banks earned significantly negative abnormal returns in diversifying acquisitions, whereas

focusing acquisitions earn zero abnormal returns. The same pattern was for the subsample of intrastate and interstate mergers; the former resulted to negative and statistically significant excess returns to acquirers and the latter to non-significant excess returns. To sum up, most U.S studies found strong evidence of value creation but documented the existence of wealth redistribution from bidders' shareholders to those of targets.

De long (2003) examined 397 U.S and 41 non U.S mergers where at least one partner is a commercial bank, from 1988 to 1999. She found that acquirers in non-U.S bank mergers earn more and non-U.S targets less than their U.S counterparts. Also, announcements of non U.S bank mergers earn significant positive abnormal returns for the combined entity in contrast with U.S bank mergers, where the results for the combined partners are statistically insignificant. But when she split the sample of non U.S mergers to market-based and bank based economies, she found that combined partners earned similar returns in U.S and in countries with well developed stock markets. Scholtens and De Wit (2004) studied the differences between U.S and European mergers during the period 1990-2000 and showed that targets banks in both Europe and U.S earned abnormal returns of 9,28% and 12,65% respectively, for the testing period [-3, +31]. The bidding banks experienced no statistically significant excess returns both in two regions, but abnormal returns to European acquirers were positive in contrast with negative returns to U.S acquirers.

Shifting our focus to European evidence, Cybo-Ottone and Murgia (2000) empirical results for acquiring banks are different from the great majority of U.S studies. They studied the stock market valuation of mergers and acquisitions in the European banking industry from 1988 to 1997 and they documented positive and statistically significant abnormal returns for bidders, and as expected, highly positive abnormal returns for the targets. For the weighted entity, the abnormal returns were also positive and significant. In order to further explore their results, they regressed the CARs of the combined entity to the size of the target financial institution and variables as the size, activity focus and domestic nature of the deal. Only the last variable had explanatory power; domestic deals resulted to greater valuation of the combined entity. Goergen and Renneboog (2004) analyzed the wealth effects of large bank takeover bids. They found announcement effects of 4,03% for the target firms compared to insignificant announcement effects for the bidding firms. Beitel et al

(2004) used a sample of 98 large European bank mergers (1985-2000) and find that shareholders of targets earned positive cumulative abnormal returns, while returns on bidders shareholders were slightly positive or negative (depending on the analyzed window) but not statistically significant whilst the CARs for the combined entity was positive and significant. They set thirteen explanatory variables as drivers for successfully M&As and they performed cross sectional analysis for the targets, acquirers and the combined entity cumulative abnormal returns. They found that shareholders of the targets earn more if the targets were less cost efficient than their bidders and had performed worse than the national industry index prior to the acquisition. For the acquiring banks, the only independent variable that was statistically significant was the relative ROE of the transaction; bidding banks were more successful in taking over less profitable targets than provide for sufficient profit efficiency potential. In the regression analysis for the combined entity, they found that only the experience of the bidder significantly impacts the M&A success; more experienced bidders seem to account for reduced abnormal returns. Finally, Campa and Hernando (2006), examined a final sample of 172 transactions in the European financial sector from 1998-2002 and their findings were consistent with the majority of the U.S and E.U studies. Target firms earned significant positive returns (5,8%) between [-30, 1] while the returns were insignificant or slightly negative for the financial bidders. They regressed the estimate excess returns over a set of countries dummies and a set of variances indicating key characteristics of each transaction. The acquisition of smaller targets relative to bidders leads to higher returns for the targets while for the acquirers only the variable which captured the domestic nature of the transaction appeared significant.

7. Part Two: The intra-industry effects of M&As in the European financial industry: Literature Review

In the first part of our paper we study the announcement effects of M&As in the European financial sector for both acquiring and target firms. Here, our goal is to determine whether this effect is relevant to the valuation of the target only, or is transmitted to other financial institutions (referred as rival banks) in the industry. The presence of an information spillover will suggest that the information contains industry wide components. Moreover, if there are intra-industry effects indeed, we will try to explain why these effects vary across acquisitions announcements. If the signal embedded within announcements can change over time for the acquirer and the target, it could also change over time for rival firms. Literature evidence supports the view that intra-industry effects change over time because they are conditioned on event-specific variables as the CAR of target firm, rival bank size, degree of local concentration and the recent stock price performance of rival institutions.

Two competing hypotheses are proposed to describe the stock price reaction of the target's rivals. The information signaling hypothesis suggests that mergers and acquisitions convey information about further takeover activity within the industry that should benefit the target's competitors. A merger announcement and the potential synergies (as motive) could lead to expectations for efficiency gains of the target. In order to benefit from these potential gains, the rival financial institutions may become possible targets. In this case, the market value of the rival institutions will be bid up in anticipation of the expected gains from mergers and acquisitions. From a different point of view, a takeover bid may signal that an agency problem is industry-wide and induce managers of rival firms to improve management, possible to avoid a future outside bid. Thus, market participants revalue the shares of these rival firms as well in anticipation that they will be improved either with their existing management or as a result of being acquired.

Null hypothesis 1: M&A announcements will positively change the stock prices of rival financial institutions

The competitive hypothesis is based on the idea that M&As will adversely affect the future performance of the rivals institutions. If the target realizes efficiency gains from the merger, or increase its market share, may place the rival firms at a competitive disadvantage and therefore cause their market values to decline. Moreover, the combining firm may also gain a competitive advantage through implicit government guarantees if considered as "too big too fail". Cornet et al (2005) notes that unlike any other industry, a failing bank can not be closed until regulators evaluate the situation for its impact on the safety of the financial system. So, if competitors are not able to obtain these same advantages through their potential mergers, may realize negative excess returns.

Null hypothesis 2: M&A announcements will negatively change the stock prices of rival financial institutions

Intra-industry effects to specific policies (such as M&As, special dividends announcements, going private transactions and announcements of corporate security offerings) have been examined in previous studies. The study that is more similar to ours is this of Akhigbe and Madura (1999) who studied the intra-industry effects for 149 bank announcements in U.S and found that rivals firms experienced a positive significant revaluation (0,86%) at the [-1,0] event window. Intra industry valuation effects were higher when the target firm had small size and low performance against the market and when the abnormal returns to the target firm were high. Also, Eckbo (1983) studied the intra-industry effects in response to horizontal merger announcements in mining and manufacturing industries and found that horizontal rivals earned small but positive significant cumulative abnormal returns of 0,76% over the -3 to 3 period. As we mentioned before, our study covers the whole financial industry, not only the banking sector. Akhigbe and Madura (2001) studied the intra-industry effects of insurance company mergers and their findings were consistent with

the information signaling theory. As a consequence, the mean intra-industry effect based on the [-1, 0] CAR was small (0,4%) but significant. In addition, they segment the rival insurance firms on Life and Non-Life insurers and found that the corresponding CARs were (0,21%) and (1,01%) both statistically significant. The signal transmitted from the insurance company merger was more pronounced for those rivals that were located in the same region and had similar size with the target firms. Carow (2001) analyzed the Citicorp-Travelers Group merger on 1998 (bank and insurance company correspondingly) and found that the average abnormal return for Life Insurance firms was 1,02% while for banks with assets of greater than $10 billion was 1,26%. In contrast, the returns of small banks and health insurance companies were insignificantly different from zero. Baradwaj et al. (1996) measured the share price response of competitor banks to the announcement of 18 defensive acquisitions by banks, which they define as acquisitions that are so large that a future acquisition of the merged bank would be very difficult. They find that smaller competitors' banks experience a significant positive response to the announcements of 18 defensive acquisitions. This study offers interesting insight in that it documents that news about a bank merger could signal information about competitor banks.

Beyond intra-industry effects of M&As announcements we have the studies of Slovin et al (1991) and Szewczyk (1992). Slovin found that announcements of going private bids generate statistically significant positive (1,32%) effects for industry rivals. Szewczyk investigated the extent to which the information inferred from announcements of corporate security offerings affects share prices of non-announcing firms and found small but significantly negative abnormal returns for the non-announcing firms which range from (-0,33%) to (-0,64%) according the form of offering (common stock or convertible debt). At last, Balachandran et al (2004) examined the industry wide impact of special dividend announcements for a sample of Australian companies. Specifically in the financial sector, they found a negative correlation among announcing firms and rival institutions. The former reacts positively to special dividend announcements (CAR of 2,49%) over the five days period [-1,4] while the latter reacts negatively (CAR of -0,91%).

8. Sample design

In this paper, we investigate the short-term value generated to shareholders by the announcement of domestic and cross-border mergers and acquisitions. The transactions in our sample are selected if: 1) They had been announced and completed through the period 2000-2006 2) The acquirer and the target firm is classified as European financial institutions (Europe is defined as EU-27 plus Norway, Switzerland and the two candidate states, Croatia and Turkey). 3) Both firms involved in the transaction are financial firms (banks, credit institutions, asset management, brokerage and insurance) and at least one of the two parts was a public firm at the time of the announcement. 4) We include in the sample only transactions where the acquirer owns at least 50.01% of the target after the acquisition (account for change of corporate control). On the contrary, we exclude from the sample transactions of remaining interest and minority stake purchases because the announcement effect, if any, in these type of M&As will be biased downward/upward for targets/acquirers. 5) We include mergers and acquisitions with bid value greater than $100 million. This cut-off, somewhat arbitrary, was chosen because larger takeovers are of greater economic significance and provided us with large financial institutions with liquid stocks in terms of trading volume. 6) We exclude from the sample repurchases, exchange offers, self tenders, recapitalizations, spin-offs, LBOs because these types are tested as a different part in the literature (i.e LBOs). 7) The financial institution must be free of any confounding events during the pre, post and announcement period that could distort the measurement of valuation effect. Such confounding events include earning surprises, dividend changes, security offerings, stock repurchases and subsequent mergers during the observation period of our study. 8) For each deal we take in the sample, we also collect the data (information about the deal, stock market prices and balance sheet information) from Thomson One Banker, DataStream and Bloomberg.

This procedure yielded 199 events during the period 2000 – 2006. As we had set the criterion of at least one firm public at the time of the announcement, we finally identified 87 target and 172 acquirer financial institutions that were listed in some European stock market. The average deal value included in our sample is 2,05 USD

billions while the median deal is 0,50 USD billions. The mean stake acquired in the target equity has been 86,95% and this fact strengths our goal to include in the sample mergers with clear transfer of corporate control from the target to the acquiring firm. Furthermore, as we saw in Chapter 3, the recent boom in M&A transactions is characterized by a very large proportion of cash – based transactions and this trend is also observable in our study. The cash-based transactions accounts for the 75% (149 events) where the remaining 25% includes ordinary stocks or a combination of stocks and cash plus some other special or hybrid means of payment like cash earn out, cash dividend, third party ordinary shares and etc.

Table 1: Breakdown by Segment

	PUBLIC ACQUIRERS	PUBLIC TARGETS
DEPOSITARY INSTITUTIONS	114	60
NON-DEPOSITARY CREDIT INSTITUTIONS	3	-
SECURITY AND COMMODITY BROKERS	13	4
INSURANCE CARRIERS	28	11
REAL ESTATE	-	1
HOLDING AND OTHER INVESTMENT OFFICES	14	11

Table 1 provides us some information on the sample composition. There is a significant variation by segment within the financial industry. Almost 75% of the sample (114 acquirers) included depositary institutions, followed by insurance companies (28 acquirers) and by holdings and other financial firms (27). The overall activity is more pronounced between credit institutions, but this fact does not prevent our purpose to give a representative view on the whole financial industry. This is the rule in every wave. Banking sector plays a dominant role, so we believe that our sample is an "unbiased estimator" of merger activity in the European financial industry.

In Figure 1 we present the sample composition by year of study in terms of deal value and number of transactions. The sum of deal value in our sample reached 417 USD billions. As we can see, the lower and upper bound seems to follow a

similar pattern related to value; in 2000 and 2006, the amount was 89 and 96 USD billions respectively. Interestingly, we observe a slightly decline from 2000 to 2001 and a deep crash the two following years where the sum of deal value reached the very low 16 USD billions in 2003. Ofcourse, this is seriously correlated with the stock market crash that happened in the late 2000 and acted as a brake to overall M&A activity. From 2004, parallel with the recovery of stock markets in Europe and worldwide, M&A activity started to grow again and reached a peak in 2006.

Fig. 1 Mergers and Acquisitions in European financial sector: 2000-2006

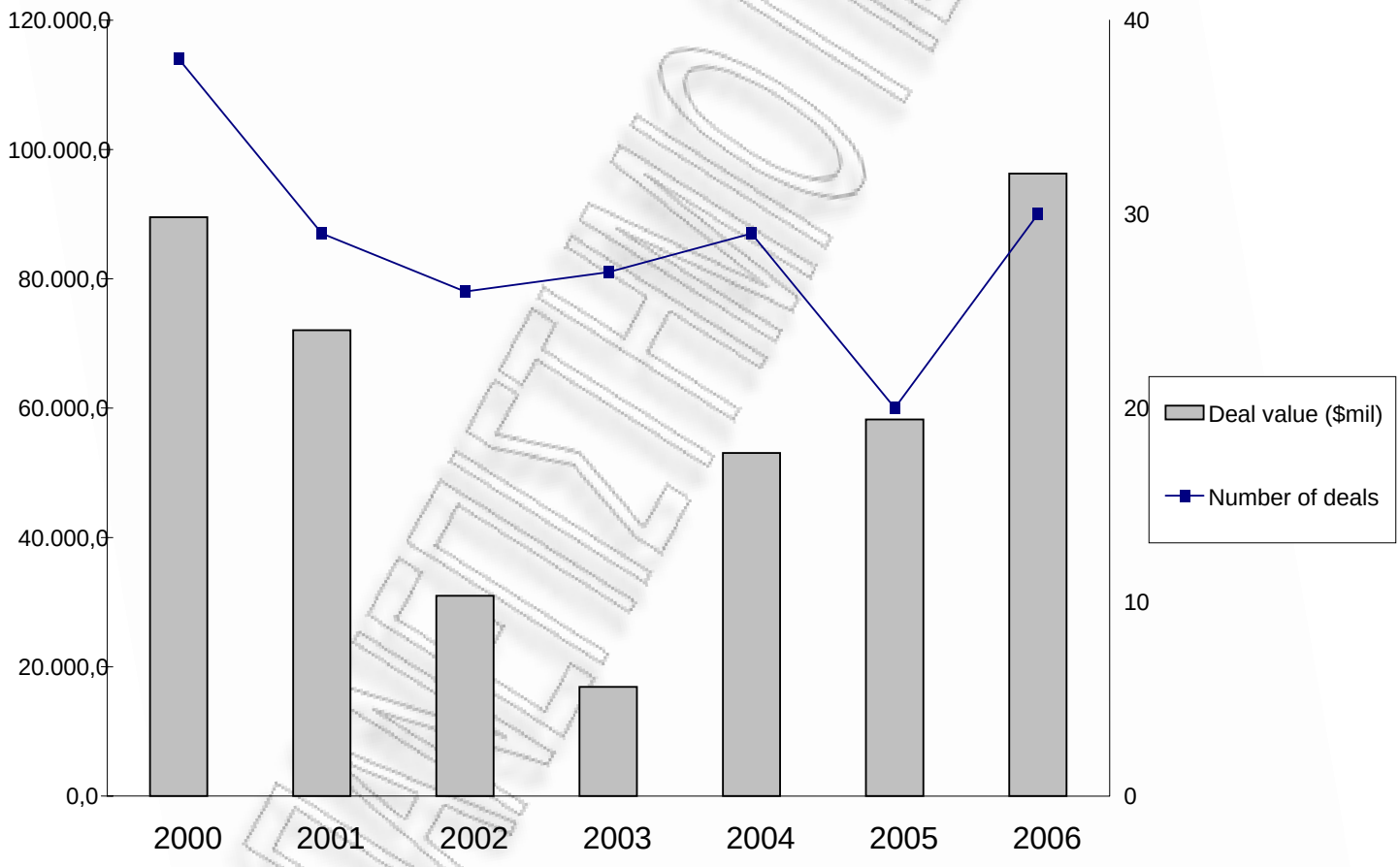


Table 2: Breakdown by country

COUNTRIES	PUBLIC ACQUIRERS	PUBLIC TARGETS
Austria	8	1
Belgium	8	1
Bulgaria	-	1
Croatia	-	2
Czech Republic	1	2
Denmark	3	3
Finland	3	2
France	23	9
Germany	14	9
Greece	9	7
Hungary	3	-
Iceland	3	1
Ireland-Rep	1	1
Italy	33	14
Lithuania	-	1
Luxemburg	1	-
Netherlands	5	6
Norway	2	3
Poland	-	1
Portugal	2	2
Slovak Rep	-	1
Slovenia	-	2
Spain	6	2
Sweden	7	1
Switzerland	7	1
Turkey	-	5
United Kingdom	33	9

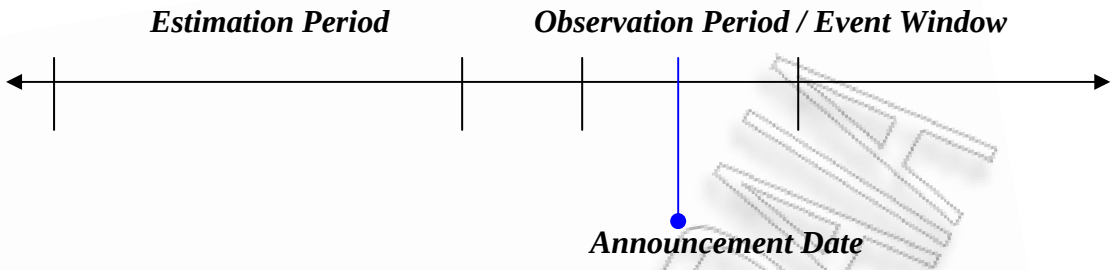
In Table 2 we present the sample composition by country, to better appreciate the intensity of consolidation process in each European member state. We observe a higher number of institutions involved in deals for UK, Italy, France and Germany and this is consistent with the great decline in the number of credit institutions in these countries. Cybo-Ottone and Murgia (2000) and Campa and Hernando (2006), which covers the aggregate period from 1988 to 2002, provide us with additional evidence that these countries seems to be the leaders in mergers and acquisitions in the European financial industry. So, this is another indicator that our study is similar in characteristics with previous ones and our results, whenever same or different, will be based in a homogenous link with previous studies in terms of constructing the sample.

9. Methodology

We perform event studies around the announcement date of the merger (t). The announcement date is when one or more parties involved in the transaction makes the first public disclosure of common or unilateral intent to pursue the transaction (no formal agreement is required). Among other things, date announced is determined by the disclosure of discussions between parties, disclosure of a unilateral approach made by a potential bidder, and the disclosure of a signed Memorandum of Understanding (MOU) or other agreement. We can analyze the excess returns to the target and acquiring firms through three distinct periods around the announcement : pre-announcement period [windows (t-k, t-1)], announcement period [windows (t-k, t+1), (t-1, t+1), (t-1, t)] and finally post-announcement period [windows (t-k, t+λ)], where k, $\lambda \in [1\ldots..15]$ are trading days, cause we focus on the short term valuation effects of M&A announcements. There is great variety of starting dates and length of event windows in published work. More effective for us will be to define the pre-announcement window that will capture the vast majority of the information leakage. This is crucial to all event studies, especially in the midst of a consolidation wave where acquisitions are largely anticipated and positive merger effects on acquirer and /or target value do not appear in too short observation windows.

But what exactly is an event study? An event study most of the times try to examine the behavior of firms' stock prices around corporate events. The event might take place in different points of time, as in our case, or it might be clustered in a particular date (i.e a government law that affects an industry). In a corporate context, the usefulness of event studies arises from the fact that the magnitude of abnormal performance at the time of an event provides a measure of the impact of this type of event on the wealth of the firms' claimholders. Thus, event studies focusing on announcement effects for a short-horizon around an event provide evidence relevant for understanding corporate policy decisions. In addition, event studies act as a test for stock market efficiency. According to this theory, the information of a corporate event (i.e M&As, special dividends, stock splits) should be incorporated in stock price the day of the announcement (or some days before if there is leakage of information).

Systematically nonzero abnormal returns after the announcement of such a corporate event do not support efficiency hypothesis.



In the initial sample, which includes 87 public targets and 172 public acquirers, we use the Mean Adjusted Return method to measure the abnormal returns due to M&A announcements. In this approach, the historical mean return of stock j over the 260 trading days ending 21 days before the announcement is used as an estimate of stock j's expected return. In this case, the unexpected (abnormal) return of stock j during day t is calculated as $\hat{e}_{jt} = R_{jt} - \overline{R}_j$, (1)

, where $\overline{R}_j = \frac{\sum_{-280}^{-21} R_{jt}}{260}$ (2)

The unexpected returns are then used to estimate average abnormal returns and cumulative average abnormal returns for the sample of these public stocks according to market model methodology that we describe right below.

For the sub-sample where both firms are public at the time of the announcement (60 cases), parallel with the mean adjusted return approach that we discussed above, we measure the cumulative average abnormal returns (CARs) for targets, acquirers and the combined entities by applying a standard event study methodology based on the Market Model:

$$R_{jt} = a_j + \beta_j R_{mt} + e_{jt} \quad (3)$$

R_{jt} is the daily return of stock j, $R_{jt} = \ln(P_{jt} / P_{j,t-1})$

Rmt is the daily return of general Stock Market Index, $R_{mt} = \ln(P_{mt} / P_{m,t-1})$

$j = 1....N$ is the number of public acquirers and targets in our sample.

$t = 1....W$ is each trading day in the estimation and observation period.

$$\beta_j = \frac{\text{cov}(R_{jt}, R_{mt})}{\text{var}(R_{mt})}$$

$$a_j = \hat{R}_{jt} - \left(\hat{a}_j - \hat{\beta}_j * R_{mt}\right)$$

e_{jt} = the stochastic disturbance term of stock j in day t which is normally distributed with a zero mean and serially and contemporaneously uncorrelated with constant variance.

$$\text{cov}(e_{it} e_{js}) = 0 \quad \text{for all } i \neq j \text{ and } j \neq s$$

$$\text{cov}(e_{it} R_{MT}) = 0 \quad \text{for all t}$$

The market portfolio is a portfolio that contains all risky assets in proportion to their market value, so in practice we use as proxy a stock market index. We construct the abnormal returns using as benchmark the national market index of each country instead of any financial index for the following reason. According to Eckbo (1983), when a bank merger is announced bank stocks tend to rise either because the increase in market concentration improves profits of the largest players or because there is an increasing likelihood of other peers to be acquired. Thus, the sector index reaches a higher level reducing the measurement of the abnormal returns.

We apply an OLS-regression model of Rj on Rm to estimate the model parameters αj, βj for each stock j. The parameters are estimated during a period of 260 trading days which ends twenty one trading days before the announcement of the deal, and are referred as $\hat{a}_j$ and $\hat{\beta}_j$. Using these estimated parameters we can rewrite the equation (3) as follows:

$$\hat{e}_{jt} = R_{jt} - [\hat{a}_j + \hat{\beta}_j R_{mt}] \qquad (4)$$

where the term in brackets is the expected return or "normal" return of stock j at date t and $\hat{e}_{jt}$ is an estimate of unexpected return, which will be referred to our study as Abnormal Return. We rewrite the equation (4) in the subsequent way.

$$AR_{jt} = R_{jt} - \hat{R}_{jt} \qquad (5)$$

Estimated parameters are not adjusted to reflect non – synchronous (thin) trading, an adjustment that we could have done according to Dimson (1979) who used the market model with two leads and lags of the market returns. The non – synchronous trading problem arises when there are stocks that are more thinly traded than the market. When thin trading is present, the beta estimates can be biased. As a general rule, the standard OLS estimates of a thinly traded stock will be downward biased. However, as Brown and Warner (1985) have shown in their empirical analysis that, procedures other than OLS for estimating the market model in the presence of non – synchronous trading, convey no clear-cut benefits in detecting abnormal performance. Beyond that, the main reason that we do not adjust the parameters is the large average deal value of the transactions and that the majority of acquirers (mainly) have very liquid stocks as they belong to the largest institutions of European financial sector.

The market model in equation (3) breaks down the total return of stock j into two components: market component and firm specific component taking as granted that there are only two factors that affecting stock prices, the general market movements and the firm specific price variations caused by firm's specific events. Deducting the expected returns from the actual return of firm j on date t, neutralizes the effect of the general market movements but does not neutralize firm's specific price variations caused by irrelevant events to mergers and announcements. To neutralize firm-specific price variations caused by events other than the announcement, we take the cross-sectional average of the Abnormal Returns for the stocks in our sample for each date during the observation period:

$$\overline{AR_t} = \frac{1}{N} * \sum_{J=1}^{N} ARjt \qquad (6)$$

N is the total number of stocks in the sample. The cross – sectional average neutralizes firm specific price variations unrelated to the merger, simply because M&As occurs in different points in time for the N stocks in our sample and for the period of seven years that our study covers.

The last step in our analysis is to calculate the cumulative average abnormal returns (CARs) of multi-period event windows during the observation period:

$$CARs(t_1,...,t_2) = \sum_{t=t_1}^{t=t_2} \overline{AR}_t \qquad (7)$$

9.1 *Rival Portfolios Methodology*

To measure the abnormal returns of rival institutions in response to each announcement we follow the next procedure. The target institution must be public and have at least one listed rival institution headquartered in the same EU nation with the same 2-Digit Primary Standard Industry Code (SIC). SIC codes were developed to provide a standard industry classification which covers all the economic activities of a state. These SIC codes are assigned to companies according to the type of business in which they are engaged. A company may have up to eight SIC codes assigned to it or as little as one depending on the number of business segments which make up the company's revenue. If a sales breakdown for segments is available, SIC Code 1 would represent the business segment which provided the most revenue. SIC Code 8 would represent the segment that provided the least revenue. If a sales breakdown is not available, the SIC Code is assigned according to the best judgement of Worldscope. The primary SIC Code indicates the company's primary line of business.

In our initial sample the number of public targets is 87. So, the correct procedure was to create 87 rivals portfolios. Unfortunately, there were 15 cases where we could not construct these portfolios; either because the rivals of target firm had experienced absolute thin trading during the estimation period (in eastern countries as Croatia, Slovenia) or the number of rival firms exceeded 400 firms. When the number of firms which operating in the same industry equals such large number, I strongly believe that there is no competition among them in terms of monitoring the rival firms. The costs in that case would be extraordinary and would place the firm that would attempt to monitoring, not in competitive advantage but rather in disadvantage. We were unable to find a listed rival with the same 2 digit primary SIC in two cases, whilst there were 6 events which had happened in the same industry and country during the observation period that we set in our study (31 days) and we dropped them out of the final sample.

We do not include in the rival portfolios the target, the bidder and rival firms that are not free of confounding events around the estimation and the observation period. This criterion insures that any effect on rivals is a result of the M&A announcement. Furthermore, because it was quite difficult to examine confounding events for a minority of rival firms, we follow a different path. We scrutinize their

abnormal returns during the observation period and we dropped out cases where abnormal returns exceeded 100%. To obtain the abnormal returns for the rival firm portfolio, all rival institutions that are headquartered in the same country as the target, and are publicly traded at the time of the merger, are pooled into an equally weighted portfolio.

The procedure of creating equally weighted portfolios by event, accounts for potential cross-sectional correlation of returns in the financial industry. In addition, if we had use weights in these rival portfolios, we might had induced a bias in the measurement of portfolio returns cause our main assumption is that the firms that are more likely to realize a positive price run up are these firms that have the larger probability to become a possible target. If we assume that very large financial institutions are somewhat difficult to become possible targets, then their stock price would not show any positive abnormal reaction. If we had used weights according to size, the overall reaction of the portfolio would be even smaller and biased, because we could not realize abnormal returns when existed.

We use both the Market Model and the Mean Adjusted Return approach to estimate the abnormal returns of the seventy two (72) rival portfolios. Here, we present the market model methodology. The mean adjusted return approach follows the same steps (the only difference is the estimation process of expected returns; in this case we follow equation 2/ Chapter 9). Returns of the equally weighted portfolio p for each date t are calculated as the average of the returns of its constituents:

$$Rp_{it} = \frac{1}{L} * \sum_{k=1}^{L} R_{RIV_{kt}} \qquad (1)$$

- p_i is a representative rival portfolio. The total number of rival p portfolios will be equal 72.
- **L** is the total number of rival firms that constitutes the p portfolio. The minimum number is one while the maximum is L, depended on the number of public rival institutions from Thomson One Banker.
- $R_{RIV_{kt}}$ is the return on the rival firm K on each date t of the estimation period

Then, the returns of the equally weighted portfolio are used to estimate the market model parameters applying an OLS regression of Rp on Rm for the 260 trading days that make up the estimation period. The expected returns, $\hat{R}_{pt}$ for the observation period are calculated as follows:

$$\hat{R}_{pt} = \hat{a}_p + \hat{\beta}_p * R_{mt} \quad (2)$$

The abnormal returns of the equally weighted portfolio p for each date t in the observation period are the actual returns minus the expected returns

$$AR_{pt} = R_{pt} - \hat{R}_{pt} \quad (3)$$

ARp_t is the daily abnormal return of the rival portfolio p

The average abnormal return of all rival portfolios for each date t during the observation period are calculated as follows

$$\overline{AR}_{pt} = \frac{1}{N}\sum_{p=1}^{N} AR_{pt} \quad (4)$$

N is the total number of the rival portfolios equals M&A events

The cumulative abnormal returns (CARs) for different event windows during the observation period would be

$$CARs(t_1,\ldots,t_2) = \sum_{t=t_1}^{t=t_2} \overline{AR}_{pt} \quad (5)$$

..

10. Tests for statistical significance of Average Abnormal Returns and Cumulative Average Abnormal Returns.

Estimated mean returns may be different from zero although true unobservable mean returns of the population are in fact zero. Estimated mean (average) abnormal returns must be subjected to a statistical test to find out whether they are significantly different from zero for a given level of significance (10%, 5%, 1% level). The null hypothesis to be tested in every case is that the average abnormal returns in each day of the observation period [-15, 15] is zero. Similarly, we test the same null hypothesis for the cumulative average abnormal returns for different time intervals (event windows).

There is a great variety of statistical tests in event studies. We tried to use as much as possible according to suggestions of Dodd and Warner (1983), Brown and Warner (1985), Mikkelson and Partch (1986), Hawawini and Swary (1990) and Kothari and Warner (1997). We must report that in the vast majority of results in our study, these tests conclude the same (in terms of accepting or rejecting the null hypothesis).

In our initial sample, we use the mean adjusted return approach to measure the average abnormal returns and we follow the set of statistical tests of Brown and Warner (1985), Hawawini and Swary (1990) and Kothari and Warner (1997). According to that, the test statistic is the ratio of the average abnormal return for day t in the observation period to its estimated standard deviation; the standard deviation is estimated from the time series of average abnormal returns over the estimation period. The test statistic in this case is

$$t - statistic = \frac{\overline{AR_t}}{\hat{S}(\overline{AR})} \qquad (1)$$

Where,

$$\overline{AR_t} = \frac{1}{N} * \sum_{J=1}^{N} AR_{jt} \qquad (2)$$

$$\hat{S}(\overline{AR}) = \sqrt{\frac{\sum_{t=-280}^{t=-21} (\overline{AR}_t - \overline{\overline{AR}})^2}{259}} \quad (3)$$

$$\overline{\overline{AR}} = \frac{1}{260} \sum_{t=-280}^{t=-21} \overline{AR}_t \quad (4)$$

If $\overline{AR}_t$ are independent, identically distributed and normal, the test statistic is distributed as student t under the null hypothesis. Since the degrees of freedom are 259, the test statistic is assumed unit normal. The specific test takes into account cross-sectional dependence in the security specific abnormal returns.

The test statistic to assess the statistical significance of cumulative average abnormal returns (CARs) over a period of T days according to Kothari and Warner (1997) is:

$$t - statistic = \frac{CARs\left(t_{1,\ldots} t_2\right)}{\hat{S}(\overline{AR}) * \sqrt{T}} \quad (5)$$

where $\hat{S}(\overline{AR})$ is the estimated standard deviation of average abnormal returns during the estimation period of the study (equation 3).

However, this test statistic ignores any time series dependence in abnormal returns. Thus, the next test uses the **standardized abnormal returns procedure**. For each stock and for each date of the observation period we standardize the abnormal return as follows:

$$ASR_{jt} = \frac{AR_{jt}}{\sqrt{\frac{\sum_{t=-280}^{t=-21} (AR_{jt} - \overline{AR}_J)^2}{259}}} \quad (6)$$

where the denominator is the estimated standard deviation of each stock j during the estimation period. Again it is assumed that ASRjt are identically distributed random variables, each having a t – distribution with 259 degrees of freedom. The cross-sectional average standardized abnormal return for a given K sample of N stocks is computes as follows:

$$AASR_t = \frac{1}{N}\sum_{j=1}^{N} ASR_{jt} \qquad (7)$$

where $t \in [-15, 15]$

Since, ARjt is assumed to be independent across time t and normally distributed, AASRt follows a t-distribution and the t-statistic is:

$$t-statistic = \sqrt{N} * AASR_t \approx t(259) \qquad (8)$$

which is used to test the hypothesis whether the average abnormal returns $\overline{AR_t}$ are significantly different from zero at various levels of significance.

We employed a similar procedure to test the hypothesis whether the cumulative average abnormal returns are significantly different from zero. The relevant t-statistic in this case according to Hawawini and Swary (1990) is:

$$t-stat. = \sqrt{\frac{N}{t_2 - t_1 + 1}} * \sum_{t_1}^{t_2} AASR_t \qquad (9)$$

where N is the number of firms in the sample and the denominator of the square root accounts for the days of the event window (i.e. the event window [-10, 10] accounts for 21 days).

When we test a sub-sample where both targets and acquirers are simultaneously listed (60 events), we calculate excess returns with Market Model. In that case, we employ also significant test suggested by Dodd and Warner (1983) and Mikkelson and Partch (1986). The procedure of this test statistic based also on Standardized Abnormal Returns, but now we estimate standard deviation Sjt as follows:

$$S_{jt} = \sqrt{V^2{}_J * (1 + \frac{1}{260} + \frac{(R_{mt} - E(R_m))^2}{\sum_{t=-280}^{t=-21} (R_{mt} - E(R_m))^2})} \qquad (10)$$

where $V^2{}_J$ is the residual variance of firm's j market model regression, Rmt is the market return on day t and E(Rm) is the mean market return in the estimation period. In that case, the abnormal standardized return for each stock j and each day t during the observation period is $ASR_{jt} = \frac{AR_{jt}}{S_{jt}}$. (11)

We also examine whether the differences between various type of mergers are statistically significant (i.e domestic and cross border targets). We employ the suggestions of De Long (2001) and we use the following t-statistic that measures the statistical difference between the means of the two groups:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\text{var}_1}{N_1} + \frac{\text{var}_2}{N_2}}} \qquad (12)$$

where $\bar{x}_1, \bar{x}_2$ are the means of the sub samples 1, 2 [i.e CARs (-10, 1) of domestic targets versus CARs(-10, 1) of cross border targets], $\text{var}_1, \text{var}_2$ are the variances and N_1, N_2 is the size of each sample [i.e 51 domestic targets and 36 cross border targets]. The t-statistic is distributed as Student-t under the null hypothesis of no difference in cumulative abnormal returns to the two sub samples.

11. Empirical Results

11.1 *Targets and Acquirers: Full Sample*

Table 3 presents the Cumulative average abnormal returns (***CARs***) for the targets and the acquirers for the entire sample of M&As transactions in European financial sector between 2000 and 2006. CARs have been measured over several event windows to evaluate the market reaction before and after the deal's announcement. We found that, consistent with the majority of U.S and European research, shareholders of targets earn significantly positive CARs in all analyzed event windows. At the announcement day, targets earn, on average, 6,12%, while for the lengthiest event window, abnormal earnings account for 12,65%. Comparing the event windows (-10, 1) and (-1, 1), we can notice an information spill-over of the forthcoming event: About 2% of excess return occurred ten days before the first "official" date of the event. Other things equal, if there was not information leakage, the only date that we should observe abnormal returns should be this of the announcement. The number of targets that experienced positive reaction was quite large, around 65 of 87, in all event windows. At Panel B of Table 3 we report results for the acquirers. The majority of studies have shown slightly positive or negative abnormal returns for acquiring financial institutions. Whenever sometimes significant or not, are slightly above zero. In that point of view our results were somewhat predictable. As we can see however, the CARs for event windows very close to the announcement date are positive, ranging form 0,15% to 0,25%, different from several related U.S studies that have found negative price effect for the acquiring financial institutions. While is premature to try to explain this difference, I believe that this outcome is twofold. Firstly, this difference may arise from the degree of market development. The information of the merger announcement will have the highest impact in markets that are most developed and this is the case for the U.S market in comparison with European. Under this approach, if mergers and acquisitions are not wealth maximizing projects, we expect the "disapproval" to be more confounded in countries with developing financial markets.

Table 3
Cumulative daily abnormal returns

Panel A : **Targets (N = 87)**

Event Window	CAR	Pos.	Neg.	Tests of significance	
(-15, 15)	*12,65%*	64	23	9,54*	12,59*
(-10, 10)	*12,60%*	69	18	11,55*	15,77*
(-10, 1)	*11,75%*	69	18	14,25*	19,65*
(-5, 5)	*11,61%*	64	23	14,71*	20,34*
(-2, 2)	*10,37%*	64	23	19,49*	28,22*
(-1, 1)	*8,39%*	64	23	20,36*	31,49*
(-1, 0)	*7,60%*	64	23	22,59*	34,10*
t = 0	*6,12%*	61	26	25,70*	41,53*

Panel B : **Acquirers (N = 172)**

Event Window	CAR	Pos.	Neg.	Tests of significance	
(-15, 15)	*-0,14%*	88	84	-0,16	0,58
(-10, 10)	*-0,08%*	92	80	-0,11	0,39
(-10, 1)	*-0,33%*	84	88	-0,58	0,03
(-5, 5)	*-0,12%*	88	84	-0,22	0,30
(-2, 2)	*0,14%*	88	84	0,37	0,83
(-1, 1)	*0,23%*	85	87	0,82	1,47
(-1, 0)	*0,24%*	87	85	1,02	1,48
t = 0	*0,15%*	86	86	0,88	1,03

1. The table presents results of the event study for 87 targets and 172 acquirers in European financial sector the period 2000-2006. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997), first column, and Hawawini and Swary (1990).
2. *significant at the 1% level.

I don't intend to follow the logical of market-based and bank-based economies, simply because I can't rely heavily on this dichotomization. I rather believe that, if investors can distinguish between value added projects or not, surely they can distinguish better in U.S market, comparing to the European Union or the euro area countries. It would be interesting to have had the opportunity to examine the different reaction, if any, between UK acquirers, as a market similar to that of U.S and the rest of the countries of our sample, but the number of observations is not enough for such a comparison. On the other hand, this difference in the sign of results (positive versus negative abnormal returns) may arise from different regulatory settings. As we know, the majority of countries in European Union permit universal banking whereas in United States many laws restrict this form. So, investors in former countries may find different benefits from mergers and acquisitions and therefore value them differently.

Table 3.1 presents the average abnormal returns for targets and acquirers during the observation period (15 days before and through 15 days after the announcement of the merger). We do not aim to present both the results for average abnormal returns and CARs in the following sections. Here, we want to check the different procedures that we use to test the null hypothesis that average abnormal returns are equal zero and to distinguish, if any, remarkable differences between these two procedures. The results are striking, especially for the acquiring firms, where abnormal returns are turn to be statically insignificant with both tests in each day of the observation period. When we test for targets abnormal returns, we identify only two observations (days) where these two tests provided us with different results. Thus, it seems that the significance of abnormal returns is unrelated to the testing measures.

When we test the reaction of target and acquiring firms using the standardized abnormal return procedure, t(AR)2, few abnormal returns and the corresponding test statistic have opposite signs. This can happen, as noted by Dodd and Warner (1983), if most abnormal returns are positive (negative) and the sample includes a few extreme negative (positive) outliers with very large standard deviation. In such cases, average abnormal returns are typically close to zero, as it happens in our case.

Table 3.1		Targets			Acquirers		
Observation	**Period**	AR	t(AR)1	t(AR)2	AR	t(AR)1	t(AR)2
-15		0,24%	1,00	0,58	-0,20%	-1,20	-1,20
-14		-0,17%	-0,71	-0,88	-0,03%	-0,17	-0,14
-13		-0,26%	-1,10	-0,90	0,16%	0,97	1,90***
-12		0,40%	1,68***	1,52	-0,05%	-0,28	0,10
-11		-0,23%	-0,96	-2,18**	-0,01%	-0,05	-1,06
-10		-0,24%	-0,99	-0,47	-0,05%	-0,27	-1,20
-9		0,22%	0,91	1,37	-0,07%	-0,39	-0,38
-8		0,31%	1,32	1,67***	0,00%	0,03	0,40
-7		0,40%	1,68***	1,50	0,00%	0,01	0,52
-6		0,20%	0,85	0,16	0,06%	0,33	0,47
-5		0,01%	0,03	0,04	-0,22%	-1,31	-0,85
-4		0,57%	2,39**	1,09	-0,14%	-0,85	-0,87
-3		0,54%	2,25**	1,98**	-0,12%	-0,72	-0,42
-2		1,35%	5,68*	6,18*	-0,04%	-0,26	-0,10
-1		1,49%	6,25*	6,70*	0,09%	0,56	1,05
0		6,12%	25,70*	41,53*	0,15%	0,88	1,03
1		0,79%	3,32*	6,32*	0,00%	-0,02	0,45
2		0,63%	2,63*	2,39**	-0,05%	-0,33	-0,59
3		0,22%	0,94	0,77	0,16%	0,94	1,34
4		-0,03%	-0,12	0,66	0,04%	0,27	0,05
5		-0,07%	-0,28	-0,19	0,02%	0,10	-0,14
6		0,07%	0,28	0,64	0,18%	1,10	1,68***
7		-0,02%	-0,10	-0,14	0,00%	0,01	0,09
8		0,16%	0,69	0,74	0,08%	0,50	0,79
9		0,04%	0,15	-0,04	-0,03%	-0,17	-0,16
10		-0,15%	-0,62	-0,65	-0,15%	-0,90	-1,40
11		-0,04%	-0,16	0,11	0,07%	0,45	0,77
12		0,04%	0,17	-0,06	0,00%	-0,02	0,31
13		-0,04%	-0,18	-0,63	0,05%	0,28	0,76
14		0,27%	1,13	1,10	0,05%	0,30	0,12
15		-0,16%	-0,69	-0,83	-0,11%	-0,64	-0,09

1. Average abnormal returns for targets and acquirers for the period 15 days before and through 15 days after the announcement of the merger. T-statistics are following the suggestions of Kothari and Warner (1997), first column, and Hawawini and Swary (1990).

2. *significant at the 1% level, ** significant at the 5% level, *** significant at the 10% level.

11.2 *Controlling for time effects*

For any postgraduate student, the main motive and purpose of a thesis should be to understand as much as possible the subject of his/her "research" instead of trying to present results that are absolutely consistent with previous literature. There is some empirical evidence that supports time-varying valuation effects in a specific event. These effects may be attributable to factors other than the usually control variables like size, method of payment, geography, past performance of target and etc. These factors may be fundamental, like a deep crash in world stock markets, or a political action with great impact, as the enlargement of the European Union at 2004.

The main motive for the forthcoming test was a random event. While our sample covers the period 2000-2006, our first choice was the period 2002-2006. But, the lack of a sufficient number of public targets led us to expand our sample by two more years. The random event is the following: In the first sample, acquirers (118) CARs were positive and significant in many analyzed event windows, while in our final sample that covers the seven year period, acquirers (172) CARs were positive but statistically insignificant. Targets results are the same in both periods; they earn highly and significant abnormal returns. Under this approach I try to identify if my results are time-sensitive, that is, the acquirers' returns are not uniform across time. In Figures 2 and 3 we present the distribution of acquirers' cumulative abnormal returns for the two most tested event windows in the literature, **(-10, 1)** and **(-1, 0)**. For the lengthier window, in 2000 and 2002 we observe highly negative excess returns, 3% and 3,5% respectively. For the event window **(-1, 0)**, negative returns exists in 2000, while in the following six years CARs are positive. While the number of acquirers by year of study is small enough to make any statistical inference (except 2000 and 2006 where M&As exceed 30), the outcome for 2000 probably is driven by the stock market bubble that crashed on mid 2000's, while the trend for European acquiring financial institutions is to earn not significant positive abnormal returns in years up to 2006.

Fig 2. Time Effects

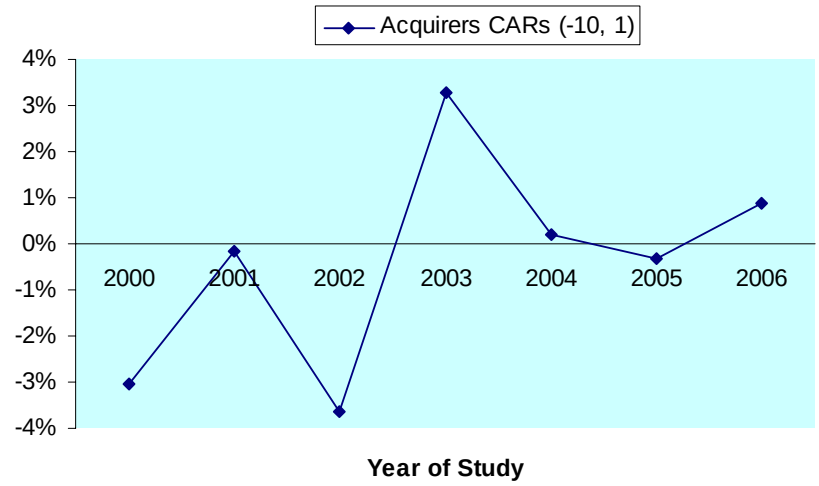
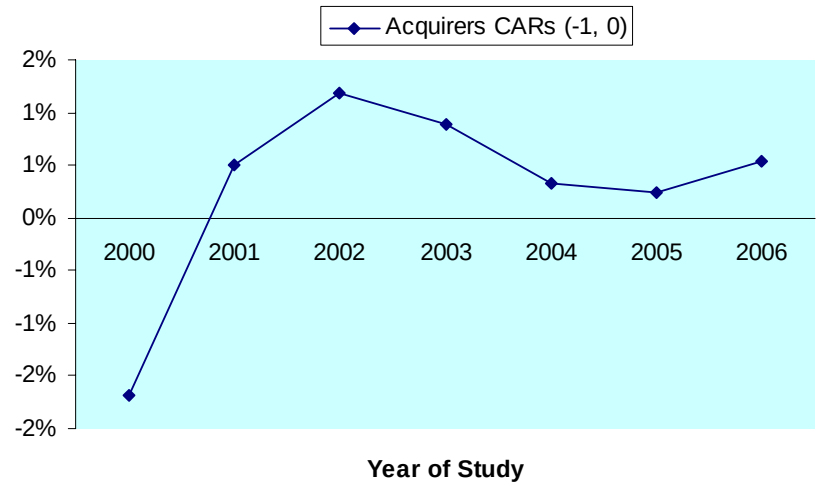


Fig 3. Time Effects



To further test if the results for acquirers are time-varying, I run a cross sectional OLS regression. I use dummy variables that take 1 if the deal happened in the specific year and 0 otherwise. To avoid perfect multi-collinearity I omit the dummy for 2006 deals, which effects are therefore estimate through the constant term.

The regression that examines the hypothesis of time effects is:

$$CARs(-10,1) = \beta_o + \sum_{i=2000}^{2005} \beta_i * D_i + \varepsilon$$

- β_0 = the intercept that "substitutes" the Dummy 2006
- D_i = Dummy Variables, $i \in [2000...2005]$
- β_i = coefficient for Dummy variables, $i \in [2000...2005]$
- ε = error term.

Dependent Variable: CARS(-10, 1)
Method: Least Squares
Date: 07/10/07 Time: 13:58
Sample: 1 172
Included observations: 172
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.008787	0.012316	0.713479	0.4766
Y2000	-0.039305	0.021939	-1.791615	0.0750
Y2001	-0.010485	0.020599	-0.509006	0.6114
Y2002	-0.045221	0.031996	-1.413323	0.1594
Y2003	0.024102	0.019223	1.253800	0.2117
Y2004	-0.006924	0.015214	-0.455104	0.6496
Y2005	0.004363	0.019271	0.226411	0.8212

R-squared	0.067573	Mean dependent var	-0.003337
Adjusted R-squared	0.033667	S.D. dependent var	0.087872
S.E. of regression	0.086380	Akaike info criterion	-2.020265
Sum squared resid	1.231160	Schwarz criterion	-1.892169
Log likelihood	180.7428	F-statistic	1.992935
Durbin-Watson stat	2.168767	Prob(F-statistic)	0.069433

In the case of event window (-10, 1) I found a negatively significant (at 10% level) estimated coefficient only for year 2000 and this was somewhat expected from the bivariate analysis of CARs by year of study. The same was true also for the event window (-1, 0). The coefficient was negative and significant at 10%.* Furthermore, the F-statistic shows a weak significance at 10% level, indicating that we could reject the null hypothesis that all slope coefficients are simultaneously equal to zero and thus statistically insignificant. With the robustness of these results, I conclude that time effects are modest enough in our sample and they do not seem to play a significant role on the results for acquirers' abnormal returns.

** The results are not reported in this section because is similar to the regression using as dependent variable the event window (-1, 0).*

11.3 *Cross – Border versus Domestic Deals*

Most of the literature till nowadays highlights substantial differences among financial mergers depending on whether they are domestic or cross border. From one point of view, domestic mergers can allow acquirers to explore effectively economies of scale from reductions in redundant back office operations or in the number of branches that operating in a specific area. Furthermore, domestic mergers may generate large credit institutions in a context where policy makers favour the creation of national champions (i.e France). On the other hand, cross border transactions face significant information costs or cultural barriers and the majority of previous studies have found moderate differences on valuation of domestic and cross border mergers; usually, the latter perceived from local markets as more risky / non wealth maximizing projects resulting in a downward revaluation of acquirers' equity at the time of the announcement of the merger. Ofcourse, there are studies that documented an opposite reaction of the market. Cybo-Ottone and Murgia (2000) found that acquirers earn 1,38% at cross border transactions and -0,40% at domestic ones. Both results were statistically insignificant. At this point we must demarcate again that our study focuses on European field only and cross border transactions considered these among EU member states. It is totally different to study cross border mergers between EU nations and non EU, or U.S acquirers to bid for non U.S targets. It is different also between interstate and intrastate mergers (U.S). As we had previous referred, most of the European credit institutions perform universal banking and this may drive investors to valuate differently cross border mergers between EU countries than in any other category. What is new in our study? De Long and Buch (2004) named their interesting paper "Cross-border bank mergers: What lures the rare animal". The new here is that the animal is not rare anymore. Cross border acquirers account for 45% in our sample and if this change is a representative view of the significant increase in deal value of cross border mergers in Europe the last three years, then we do not expect to detect any significant differences in valuation of domestic and cross border acquirers in our study.

Table 4

Acquirers cumulative abnormal returns

	Domestic M&As (N = 92)		Cross-Border M&As (N = 80)	
Event Window	CAR	t(CAR)	CAR	t(CAR)
(-15, 15)	*-0,29%*	-0,21	*0,02%*	0,02
(-10, 10)	*0,05%*	0,05	*-0,31%*	-0,31
(-10, 1)	*-0,56%*	-0,65	*-0,05%*	-0,07
(-5, 5)	*-0,10%*	-0,12	*-0,17%*	-0,24
(-2, 2)	*0,14%*	0,25	*0,12%*	0,26
(-1, 1)	*0,30%*	0,70	*0,17%*	0,44
(-1, 0)	*0,28%*	0,79	*0,20%*	0,65
t = 0	*0,21%*	0,86	*0,07%*	0,10

1. The table presents results of the event study for 172 acquirers in European financial sector during the period 2000-2006. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).

Indeed, Table 4 provide us with such results that confirm our assumption about the equal valuation of domestic and cross border acquirers in the field of the European Union. As we can see, in the event windows (-15, 15), (-10, 10), (-10, 1) and (-5, 5) both acquirers earn negative abnormal returns while in the shorter event windows both earn positive abnormal returns. For the two sub samples, the results are statistically insignificant. I believe that the enlargement that took place in 2004 and provide Union with 10 more markets, offer plenty of room to acquirers of euro area countries to "play". Either before or after the enlargement, investors in MU-12* recognized the potentials of these candidate (before 2004) and member (after 2004) states, and valued domestic and cross border mergers and acquisitions equally.

** MU-12 refers to euro area countries excluding Slovenia that have joined euro in 1/1/2007*

In Table 5 we present the results of the bivariate analysis for domestic and cross border targets.

Table 5
Targets cumulative abnormal returns

	Domestic M&As (N = 51)		**Cross-Border M&As** (N = 36)	
Event Window	CAR	t(CAR)	CAR	t(CAR)
(-15, 15)	*12,63%*	7,69*	*12,67%*	5,30*
(-10, 10)	*12,67%*	9,37*	*12,51%*	6,36*
(-10, 1)	*11,27%*	11,03*	*12,44%*	8,36*
(-5, 5)	*11,42%*	11,67*	*11,88%*	8,34*
(-2, 2)	*9,12%*	13,82*	*12,15%*	12,65*
(-1, 1)	*6,84%*	13,39*	*10,59%*	14,24*
(-1, 0)	*5,97%*	14,30*	*9,92%*	16,34*
t = 0	*4,03%*	13,65*	*9,08%*	21,14*

1. The table presents results of the event study for 87 targets in European financial sector during the period 2000-2006. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).
2. *significant at the 1% level.

The results for targets are dissimilar with those for acquirers. For all analyzed event windows except (-10, 10), cross border targets earn more. Focusing on shorter periods, cross border targets earn almost double abnormal returns than their domestic counterparts. If we try to explain this difference, our main assumption relies on the nationality of the cross border targets. Almost 40% are financial institutions from the 10 new member states and Turkey. I believe that we must go back in information asymmetry hypothesis. From the moment that a large bank from MU-12, bids up for a target in these nations, investors possibly assume that the bidder, usually a national and worldwide first class bank, has some form of private information about the real potentials of the target. And the potentials should be great, because if were not, why this institution to invest in a developing or not even developing country? On the other hand, the effort to buy and monitoring in developing markets in comparison with

developed markets should not be an indicator of the real potential of the target. My second thought was to see the average deal value paid by acquirers assuming that if there was a significant difference on deal premium paid for cross border transactions then the valuation of targets in the latter case would be higher. Again, I find no differences; the average deal value paid on both subsample was almost 3,6 USD billions. I think probably that the factor that plays the dominant role here is endogenous. The 40% of cross border targets belongs to developing countries. The information that an acquirer from mega market is willing to pay and buy them, drives investor to assume that these targets will be the national champions of their countries.

Maybe nothing of above is true; I perform next a statistical test in differences for two main windows. I present the results which indicate that the differences in cumulative abnormal returns are not statistically different from zero suggesting that market does not strongly distinguish when revaluate domestic and cross-border targets.

Event Window	***Difference***	***Statistical test for differences***
(-10, 1)	1,17 %	0,30
(-1, 0)	3,95 %	1,15

1. Table presents the results for differences between domestic and cross border targets in the European financial sector during the period 2000-2006. Tests for statistically differences between the means CARs of the two subgroups are according to DeLong (2001).

11.4 *Large versus Small Deals*

We also split the sample between large and small mergers depending on the median deal value. We classify large mergers all those which had a deal value greater than the mean, and small deals the others. We use the median figure (0.5 USD billions) instead the average (2.09 USD billions) because the latter is positive skewed by the mega merger between San Paolo and Banca Intesa on August 2006, with an astonishing deal value of 37 USD billions. A large deal usually indicates that target is a large institution either in terms of total assets or market capitalization. Furthermore, acquirers pay much in cases where the expected synergies would be valuable. If these kind of deals result in a financial institution that may benefit of the size in terms of market power or/and is too big to discipline adequately, we may expect higher abnormal returns for the acquirer and the target. On the other hand, problems may occur if the two merging institutions are large enough; the process of merged entity will be complex enough and if the large institutions do not really exploit economies of scale, then we expect small deals to be wealth maximizing projects.

Table 6 presents the results for acquiring financial institutions. The difference is remarkable. Large deals show much different behaviour from small deals and acquirers earn negative abnormal returns in all analyzed event windows. On contrary, CARs for acquirers in deals with mean value under 0,5 USD billions are positive and significant for the shorter event windows. At the announcement date of the merger, the difference between two groups is about 1,20%. We perform a test for statistical significance in the two event windows that literature use most, (-10, 1) and (-1, 0), allowing for different variances between the two groups. The null hypothesis is that the difference of the means of these groups is zero. We describe analytically this test in Chapter 10. For the event window (-10, 1) the difference is 2,49% and statistical significant at 10% level. Thus, market seems to distinguish between small and large deals for acquiring financial institutions. Our results are consistent with Cybo-Ottone and Murgia (2000) who found a difference of 3% for the event window (-10, 1), but it was not significant.

Table 6

Acquirers cumulative abnormal returns ***ACQUIRERS***

Event Window	*Large Deals (N=81)*			*Small Deals (N=91)*		
	CAR	t(CAR)	t(CAR)	CAR	t(CAR)	t(CAR)
(-15, 15)	*-0,41%*	-0,35	0,57	*0,09%*	0,06	0,26
(-10, 10)	*-0,56%*	-0,58	0,15	*0,34%*	0,28	0,39
(-10, 1)	*-1,65%*	-2,27**	-1,61	*0,84%*	0,90	1,56
(-5, 5)	*-0,29%*	-0,42	0,40	*0,03%*	0,04	0,03
(-2, 2)	*-0,43%*	-0,92	-0,03	*0,64%*	1,07	1,17
(-1, 1)	*-0,33%*	-0,89	-0,22	*0,73%*	1,58	2,23**
(-1, 0)	*-0,25%*	-0,84	-0,46	*0,67%*	1,77***	2,46**
t = 0	*-0,50%*	-2,39**	-1,95***	*0,72%*	2,69*	3,26*

Differences in CARs: Large versus Small deals

	Difference	t-test
(-10, 1)	2,49%	1,83***
(-1, 0)	0,92%	1,37

1. The table presents results of the event study for 81 acquirers (large deals) and 91 acquirers (small deals) in European financial sector during the period 2000-2006. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (first column) and Hawawini and Swary. Tests for differences in means of the two sub samples are according to DeLong (2001).

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

For targets, our results again are consistent with previous literature. In Table 7 we can see that abnormal returns in small deals are higher than in large deals. At the announcement day, targets earn an additional 3%, while the maximum difference is almost 7%. Targets seem to earn more in small deals and this is somewhat expected if we thought that in small deals the premium that acquirer pays is usually larger. Of course, I must treat our results with caution for two main reasons. Firstly, targets that involve in small deals are only 28, not a sufficient number for reliable statistical

inference. Secondly, we perform again tests in the differences between the CARs of the two group for the two main event windows (-10, 1) and (-1, 0). While the difference is 6,67% and 4,87% respectively, neither are statistically significant, even at the 10% level.

Table 7

Targets cumulative abnormal returns ***TARGETS***

Event Window	*Large Deals (N=59)*			*Small Deals (N=28)*		
	CAR	t(CAR)	t(CAR)	CAR	t(CAR)	t(CAR)
(-15, 15)	*10,93%*	7,80*	8,32*	*16,26%*	5,37*	10,11*
(-10, 10)	*10,53%*	9,13*	10,28*	*16,98%*	6,80*	12,87*
(-10, 1)	*9,60%*	11,02*	12,34*	*16,28%*	8,63*	16,71*
(-5, 5)	*9,96%*	11,94*	13,00*	*15,08%*	8,35*	16,98*
(-2, 2)	*9,12%*	16,21*	18,14*	*13,01%*	10,69*	23,42*
(-1, 1)	*6,86%*	15,74*	18,57*	*11,62%*	12,33*	28,55*
(-1, 0)	*6,04%*	16,97*	19,25*	*10,90%*	14,16*	32,17*
t = 0	*5,13%*	20,39*	23,14*	*8,20%*	15,06*	39,61*

Differences in CARs: Large versus Small deals

	Difference	t-test
(-10, 1)	6,67%	1,59
(-1, 0)	4,87%	1,24

1. The table presents results of the event study for 59 targets (large deals) and 28 targets (small deals) in European financial sector during the period 2000-2006. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (first column) and Hawawini and Swary. Test for significant differences in means of the two sub sample are according to DeLong (2001).

2. * significant at the 1% level.

11.5 *Activity Focus versus Activity Diversification*

Till now, we constructed several subsamples, classifying each deal in several groups. In this section, we divide our sample in two main categories. Activity focus M&As, which occur when the two partners engage in similar activities, and Activity Diversification M&As, which happens when a financial institutions merges with a firm that operates in another sector of financial industry. Our purpose is to study if the market discriminates between "pure" mergers and conglomerates and which of them values most. As we saw in Chapter 4, there are plenty of theories that support either focusing or diversified mergers. Briefly, the former could create value in several ways, including the replacement of less efficient with more efficient managers, the increase of market power and by exploring economies of scale, while the latter could create value by forming an effective internal market, thereby lowering the cost of capital or achieving economies of scope.

How we categorize a merger as focus or diversified? We obtain the two digit primary standard industry classification code (SIC) of each financial institution from Thomson Financial. When a merger occurs between two firms with primary SIC of 60 (credit institutions) automatically goes to Activity Focus subsample. If the acquirer is a credit institution and the target is an insurance company (63), the event goes to Activity Diversification group. Of course, this determination is a little bit arbitrary if we consider that credit institutions may be commercial banks, saving institutions, credit unions, foreign bank and branches or functions related to industry. In this case, a merger between a commercial bank and credit union is not as focus as a merger between two commercial banks. However, about 95% of credit institutions are commercial banks in our sample.

When we start this study, our goal was to construct a representative, as much as possible, sample of M&As in the European financial industry and not only focus in bank mergers. That's why our sample contains also insurance companies, non depositary credit institutions, security brokers and holding and other investment offices. I must admit that, while this choice provides us with a great variety of areas to explore, there is a lack of homogeneity in the following results in Table 8. The majority of previous studies that form a bivariate analysis of this type allow only

banks to act as acquirers and then compare banks to banks mergers with banks to insurance/brokerage mergers. I perform that kind of analysis in following steps of this study. In Table 8 we allow as acquirers in focus and diversified transactions not only credit institutions but also insurance and security firms. The number of acquirers (targets) do not sum to 172 (87) which are the initial number of public firms in our sample. This happens, because in some events a joint venture acted as acquirer so we were unable to categorize these events.

Table 8
Activity Focus versus Activity Diversification

		TARGETS (N = 67)		ACQUIRERS (N = 111)	
	Event Window	CAR	t(CAR)	CAR	t(CAR)
Activity Focus	(-15, 15)	*12,71%*	9,00*	*-0,35%*	-0,27
	(-10, 10)	*12,38%*	10,65*	*-0,65%*	-0,60
	(-10, 1)	*11,99%*	13,64*	*-0,93%*	-1,15
	(-5, 5)	*11,17%*	13,27*	*-0,49%*	-0,64
	(-2, 2)	*10,63%*	18,73*	*-0,38%*	-0,74
	(-1, 1)	*8,56%*	19,48*	*-0,24%*	-0,60
	(-1, 0)	*8,04%*	22,42*	*-0,17%*	-0,52
	t=0	*6,49%*	25,58*	*-0,19%*	-0,82
		TARGETS (N = 16)		ACQUIRERS (N = 41)	
Activity Diversification	(-15, 15)	*10,71%*	3,73*	*0,15%*	0,08
	(-10, 10)	*11,85%*	5,01*	*0,23%*	0,16
	(-10, 1)	*9,90%*	5,54*	*-0,26%*	-0,23
	(-5, 5)	*12,78%*	7,47*	*-0,50%*	-0,47
	(-2, 2)	*10,26%*	8,89*	*0,47%*	0,64
	(-1, 1)	*8,08%*	9,04*	*0,41%*	0,72
	(-1, 0)	*6,24%*	8,55*	*0,61%*	1,32
	t=0	*5,31%*	10,29*	*0,29%*	0,88

1. The table presents results of the event study for acquirers and targets in activity focus and activity diversification M&As in European financial sector during the period 2000-2006. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).
2. * significant at the 1% level.

As we can see in Table 8, targets earn positive and significant abnormal returns whenever the transaction is focused or diversified. In the first case, CARs for targets are higher, with a difference ranging from -0.5% to 2%. As in the case of large and small deals, the results are quite different for acquirers. When a financial institution merges with a firm that do not share similar activities, abnormal returns are positive but not statistical significant. When firms with focus activities in terms of revenues and sales merge, abnormal returns are negative in all analyzed event windows. Market seems to favour slightly, activity diversification mergers from activity focus ones and this is not consistent with the majority of U.S studies. On the other hand, we could not detect any statistical difference when we perform the appropriate tests for the event windows (-2, 2), (-1, 1) and (-1, 0). The t-statistics were 0.91, 0.73 and 1.28 respectively, and probably these tests confirm that this distinguish, if any, is weak.

In addition, we split again our sample but this time allowing only bank to act as acquirer. We do not present results for target firms because we have only 8 targets in diversified transactions.

Table 9: Activity Focus versus Activity Diversification: Bank as Acquirer

		Activity Focus Acquirers (N=72)		**Activity Diversification Acquirers** (N=34)			
		CAR	t(CAR)	CAR	t(CAR)	Difference	t-statistic
Event Window	(-15, 15)	*0,06%*	0,04	*1,94%*	1,08		
	(-10, 10)	*-0,57%*	-0,42	*1,88%*	1,28		
	(-10, 1)	*-0,78%*	-0,76	*0,71%*	0,64		
	(-5, 5)	*-0,43%*	-0,43	*0,21%*	0,19		
	(-2, 2)	*-0,74%*	-1,11	*0,69%*	0,96	1,42%	1,34
	(-1, 1)	*-1,09%*	-2,11**	*0,50%*	0,90	1,59%	1,51
	(-1, 0)	*-0,75%*	-1,78***	*0,81%*	1,78***	1,56%	2,15**
	t=0	*-0,55%*	-1,85***	*0,25%*	0,76		

1. The table presents results of the event study for 106 acquirers in activity focus and activity diversification M&As in European financial sector during the period 2000-2006. In this section we allow only depositary institutions to act as acquirers. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

The results have the same sign as in the previous case but this time the impact is more pronounced. As we can see in Table 9, acquirers in focus transactions reach negative abnormal returns. In short windows these results are significant at 10% and 5% level. On the other hand, acquirers who bid up for insurance and other non banking firms earn positive abnormal returns. These excess returns are significant only for the three-day window at 10% level. We perform test to examine if this difference in abnormal returns between the two groups is significant; for the event window (-1, 0) the t-statistic is 2.15 thus significant at 5% level. Again our results are inconsistent with majority of U.S studies. But our area of research is Europe. Cybo-Ottone and Murgia (2000) found that acquirers in diversifying transactions earn positive abnormal returns while in focus earn negative. Again, if this weak proof that investors distinguish between these transactions in European financial system holds, I believe that the core reason is the form of universal banking. Many European credit institutions perform this type of banking and own subsidiaries that offer insurance or/and brokerage services. Under this approach, to acquire or merge with this type of firms is not a black box. Furthermore, M&As between bank and other firms had a median deal value of 354 USD millions. This figure was 524 USD millions for focusing transactions. Banks are costly and the market seems sceptical if the acquirer will eventually capitalize the full amount of this investment.

Our analysis of activity focus and diversification transactions had two stages till this point. Firstly, we cluster our sample independently of the acquiring institution and allowed depositary institutions as also insurance and other firms to participate. In the next stage, we remove other firms than banks from acquiring group. In both steps, we realize that market penalize, weak, focusing acquirers. This reaction was stronger from step one to step two. In the following session, we compare the acquirers' abnormal returns setting two new groups. The first one includes focusing depositary institutions and the second focusing insurance / brokerage firms. We expect that market will favourably value the second group, cause the nature of the insurance company operations. The services offered by insurance companies (life or/and non-life insurance) are somewhat standardized and can be more easily merged or commingled among units; this may leads to a more favourable market reaction.

Table 10
Cumulative abnormal returns for activity focus Acquirers

		Banks to Banks (N=72)		**Insurance/Brokerage to Insurance/Brokerage**(N=39)			
		CAR	t(CAR)	CAR	t(CAR)	Difference	t-statistic
Event Window	(-15, 15)	*0,06%*	0,04	*-1,11%*	-0,62		
	(-10, 10)	*-0,57%*	-0,42	*-0,78%*	-0,53		
	(-10, 1)	*-0,78%*	-0,76	*-1,21%*	-1,09		
	(-5, 5)	*-0,43%*	-0,43	*-0,62%*	-0,59		
	(-2, 2)	*-0,74%*	-1,11	*0,27%*	0,37	*1,00%*	0,72
	(-1, 1)	*-1,09%*	-2,11**	*1,32%*	2,38**	*2,40%*	2,08**
	(-1, 0)	*-0,75%*	-1,78***	*0,89%*	1,97**	*1,64%*	1,69
	t=0	*-0,55%*	-1,85***	*0,47%*	1,47		

1. The table presents results of the event study for 111 activity focus acquirers in European financial sector during the period 2000-2006. In this section, we dichotomize our sample of activity focus acquirers in two main categories. The first include only bank to bank M&As and the second one only insurance (brokerage) to insurance (brokerage) M&As. Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).
2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

The positive valuation effect on acquiring insurance and brokerage companies suggest that the market tends to distinguish these firms from banks. Table 10 present us the results of this form of discrimination. Insurance and brokerage firms earn positive and statistically significant abnormal returns in short term event windows. The maximum cumulative average abnormal return is 1.3% for the event window one day before and after the announcement of the deal. The results for the focusing banks are already known from Table 9 and shows negative abnormal returns. The difference between mean CARs (-1, 1) is 2.40% and significant at 5% level. The above results strengths our assumption; mergers between insurance and brokerage companies seems to be less complicated. Market recognizes that lack of potential synergies or the existence of agency problems is superior in mergers between credit institutions than among other financial firms.

11.6 *Acquirers buy Public, Subsidiaries and Private targets*

This section is really new in the literature. The great majority of U.S and European event studies include in their sample only public acquirers and targets and just few contain as targets non-public firms. There are possible reasons for doing that. M&As between public institutions considered of greater significance cause public firms are usually, but not always, the dominant firms in their industry. Furthermore, it is more easily to collect data for public firms and their intraday pricing through the market allows researchers to get as much as possible "objective" information.

In our sample there was a great variety of events other than the simultaneously listing of public acquirers and targets (64 events). Specifically, there were 68 cases where a public acquirer bid up for subsidiary and 32 cases where the target is private. For the remaining 10 events (remember that our sample contains 172 public acquirers) the target was a government enterprise so I drop out these cases from this section.

The assumption here is that categorizing acquirers in the base of target characteristics (whether is public, subsidiary or private) will allow us to examine which transactions market favours most and if our results for the full sample of acquirers are somewhat noisy. I remind that cumulative average abnormal returns for the full sample of acquirers are slightly positive or negative, depending on the event window, but statistically insignificant. If these results are driven by factors like the legal status of the target, it is crucial for us to examine it.

What we expect? Public targets have the advantage of being priced by a mark to market process. Thus, acquirers could better and efficiently monitor them. Acquirers could gather all the required information for these targets more easy and inexpensive. On the contrary, subsidiaries and private companies are priced privately and this process is skewed, either upward or downward. But we can not ignore that public targets are usually dominant firms in their industry and worth more. In our sample, the median deal value paid by acquirers for public targets was 970 USD millions while this amount lowers to 363 and 330 USD millions for subsidiaries and private firms. Thus, acquirers seem to pay much for gain competition. Furthermore, in a lot of cases in the subsample of public targets, acquirers made tender offers. This offer to purchase a certain number of shares at a specific price and on a specific date usually associated with cash and usually acquirers pay something more to attract

current shareholders to sell their shares. In a tender offer, acquirer infrequently will pay lower price than the market price of the target. At least acquirer will pay at par. In example, Alpha Bank acquired the remaining 62% interest, or 65.1 mil ordinary shares, which it did not already own, in Alpha Investments SA in a stock swap transaction valued at 181.606 mil euros. Alpha Bank offered 1 ordinary share per 5.3 ordinary shares. Based on Alpha Bank's closing stock price of 14.76 euros on June 4 2003, the last full trading day prior to the announcement, each Alpha Investments share was valued 2.62 euros, which was exactly the closing stock price of Alpha Investment in Athens Stock exchange. The question here is, if Alpha Bank paid no premium for synergies, what will be the synergies from this transaction? Probably there are no synergies at all. The specific merger happened during the stock market crash and was just an alternative for preventing Alpha Group's balance-sheet for excessive losses. To sum up, acquirers must pay for public targets. And usually pay much. For subsidiaries and private firms, acquirers pay less and have the advantages of a cut and tailor deal.

Table 11	**Acquirer buys Public Targets** (N=64)		**Acquirer buys Subsidiaries Targets** (N=68)		**Acquirer buys Private Targets** (N=32)	N=32
Event Window	CAR	t(CAR)	CAR	t(CAR)	CAR	t(CAR)
(-15, 15)	-2,55%	-1,46	0,80%	0,58	1,22%	0,56
(-10, 10)	-1,90%	-1,32	0,69%	0,60	0,75%	0,42
(-10, 1)	-2,27%	-2,09**	0,69%	0,80	0,95%	0,70
(-5, 5)	-1,64%	-1,58	0,33%	0,41	1,67%	1,29
(-2, 2)	-0,72%	-1,03	0,13%	0,23	1,67%	1,92***
(-1, 1)	-1,10%	-2,03**	0,71%	1,65***	1,80%	2,67*
(-1, 0)	-0,91%	-2,04**	0,68%	1,94***	1,34%	2,43**
t = 0	-1,01%	-3,20*	0,49%	1,98**	1,59%	4,08*

1. The table presents results of the event study for 164 acquirers in European financial sector during the period 2000-2006. We split our sample in three categories according to the legal status of target (Public, Subsidiary and Private targets). Abnormal returns are computed with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

In Table 11 we present the CARs over multi length event windows separately for the three sub groups. As we expect, acquirers earn negative and significant

abnormal returns when the target firm is public. Specifically, their excess returns range from -1% to -2.5%. The differences are remarkable when we move to second and third category. When acquirers bid up for subsidiaries (even if they belong to his group or to other groups) market react positively at the announcement of these deals. At the two day event window acquirers gain 0.68%, significant at the 5% level, while for the rest windows the CARs are positive but either marginally significant or insignificant. In addition, market reacts even more positively when the target firm is private. In these cases, due to small deal value and the simplicity of the transaction, acquirers earn positive and significant abnormal returns that range from 1% to 2%. At the announcement date, acquirers earn 1.59%.

Table 11.1
Testing for Differences

	Event Window			
	(-10, 1)		(-1, 0)	
	Difference	t-statistic	Difference	t-statistic
Acquirer buys Public Targets vs. Acquirer buys Subsidiaries	2,96%	1,83***	1,59%	2,06**
Acquirer buys Public Targets vs. Acquirer buys Private	3,22%	1,72***	2,25%	2,36**
Acquirer buys Private Targets vs. Acquirer buys Subsidiaries	0,26%	0,16	0,66%	0,75

1. The table presents results of the statistical differences between the means of the three categories. Tests of significance are following the suggestions of DeLong (2001).

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

In Table 11.1 we perform tests in differences of mean CARs for the three groups in our sample and the results support our assumption that market does distinguish between these types of transactions. The difference between public and subsidiaries targets ranges from 1.59% to 2.96% and is statistical significant for the two event windows. This result also exists between acquirers that bid up for public versus private targets but the differences are greater and range from 2.25% to 3.22%. Only at the last group between private and subsidiaries targets we do not detect any significant difference between cumulative abnormal returns.

11.7 *Target and Acquirer simultaneously listed: Sensitivity of results to the choice of Methodology*

In this section of our study we compare CARs for simultaneously listed targets and acquirers at the time of the announcement of the transactions with two models. We put side by side mean adjusted return model that we had used so far, with market model. We perform this test to the most important sub sample of our study; the case where both firms are public. We consider that as the most important for three main reasons. First, we have referred that previous literature, on average, examine M&As where both firms are public. Second, in this subsample we are able to test the wealth creation or not for the combined entity. At last, in a later stage of our study we perform cross sectional analysis for this subsample to identify additional factors that may affect cumulative abnormal returns.

This procedure yielded 60 targets and acquirers. If we look back at Table 11, the number of acquirers that bid up for public targets is 64. For the corresponding four targets, we could not get data from DataStream (2 cases) and the rest were firms with thin trading (during the whole estimation and observation period had zero returns). In the following pages we present and discuss the empirical results related to the reaction of target and bidding financial institutions during the announcement of an acquisition proposal with both models. This will help us to understand if the choice of methodology to estimate abnormal returns has any effect on the results of our empirical tests. Moreover, we are now able to perform an additional test statistic, suggested by Dodd and Warner (1983) that we describe in Chapter 10.

The results on Table 12 indicate that the price of a public target's share increases, on average, by about 8% in the two days event window. The result is unaffected by the methodology employed to estimate abnormal returns. With both models, targets earn significant, highly positive abnormal returns that range from 7% to 13.25%. An indication of pre announcement reaction is given by CAR (-10, 1). Over the 12 days period prices went up by 11.80% with both methodologies. Therefore, the reported increase in prices for public targets is not questionable. A look at the acquirer's side indicates that the price of bidding financial institutions shares

decreased, on average, in all analyzed event windows. The average decline in the event window (-10, 1) is 1.53% when measured with market model methodology and 1.49% when measured with the mean adjusted return approach. Generally, acquirers' excess returns are negative in all event windows. In shorter ones, results are also statistically significant. Therefore, the information revealed by the merger

Table 12
Both public with two models (N = 60)

	Acquirers (Market Model)			**Acquirers** (Mean Adjusted)		
Event Window	CAR	t(CAR)1	t(CAR)2	CAR	t(CAR)1	t(CAR)2
(-15, 15)	-1,62%	-0,95	-0,03	-2,09%	-1,16	-0,58
(-10, 10)	-1,48%	-1,06	-0,33	-1,32%	-0,89	-0,41
(-10, 1)	-1,53%	-1,44	-0,51	-1,49%	-1,32	-0,56
(-5, 5)	-1,52%	-1,50	-0,73	-1,23%	-1,14	-0,94
(-2, 2)	-1,19%	-1,74***	-1,21	-0,92%	-1,27	-0,63
(-1, 1)	-1,43%	-2,70*	-2,43**	-1,17%	-2,09**	-1,95***
(-1, 0)	-0,91%	-2,10**	-2,09**	-0,84%	-1,84***	-1,81***
t=0	-0,91%	-2,98*	-3,19*	-0,79%	-2,43**	-2,33**
	Targets (Market Model)			**Targets** (Mean Adjusted)		
	CAR	t(CAR)1	t(CAR)2	CAR	t(CAR)1	t(CAR)2
(-15, 15)	12,85%	9,10*	11,83*	13,22%	8,70*	11,78*
(-10, 10)	12,87%	11,07*	14,52*	12,97%	10,37*	14,44*
(-10, 1)	11,80%	13,42*	18,29*	11,80%	12,48*	17,80*
(-5, 5)	11,59%	13,77*	19,07*	11,84%	13,08*	18,97*
(-2, 2)	10,39%	18,30*	26,59*	10,56%	17,30*	26,17*
(-1, 1)	8,45%	19,22*	29,98*	8,62%	18,24*	29,69*
(-1, 0)	7,87%	21,93*	33,06*	7,91%	20,49*	32,59*
t=0	6,99%	27,56*	43,05*	6,98%	25,59*	42,89*

1. The table presents results of the event study for 60 targets and acquirers that were simultaneously listed in European financial sector the period 2000-2006. Abnormal returns are computed with the mean adjusted return model and tests for significance are according to Kothari and Warner (1997). When abnormal returns of target and acquirer are computed with the OLS market model, tests of significance are calculated also from standardized abnormal returns employing the Dodd and Warner (1983) procedure.

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

announcement drives acquirers' shareholders to perceive acquisitions as negative net present value investments for the bidding financial institutions. The hypotheses that surround this assumption are discussed in Chapter 4. As for target institutions, results for acquirers have the same magnitude whenever we use market model or mean adjusted model as benchmark. Again, we can conclude with robustness that the choice of model did not affect our results; the majority of acquiring financial institutions exhibits a moderate decrease in price. This price decline is small compared to the rise in price that we observe for the targets and this lead us to the next section of our study where we try to evaluate the market's expectations on the combined gain (loss) resulting from the merger of the two financial institutions.

11.8 *Combined entity: Overall gains (or losses)*

In the previous section we demonstrated that targets (acquirers) earn positive (negative) abnormal returns which turn to be statistically significant in the majority of event windows during the observation period. Now, we measure the true percentage change in the value of the combined firm. In fact, looking only at the two separate entities may give a partial and perhaps distorted interpretation of the market's reaction during the announcement of the deal. Although we have seen in previous section that targets realize a capital gain of 7.87% during the event window (-1, 0) in contrast with acquirers who loose 0.90%, targets in our sample are about 10% of the size of the acquirers in terms of total assets. In this case, we should check if there is indeed a net aggregate wealth creation to shareholders of the combined entity or the loss of acquirers offsets the gains to targets.

In order to examine whether a merger is value-enhancing or destroying, we analyze the combined entity following the suggestions of Houston and Ryngaert (1994) and Cybo-Ottone and Murgia (2000). To calculate the abnormal returns for the combined entity of the target and the acquirer, we weigh the abnormal returns of the target (ARt) and the abnormal returns of the acquirer (ARa) with two measures: 1) their market capitalizations (MA) at the end of the estimation period, 2) their total assets (TA) at the last reported year before the announcement of the deal. We use the abnormal returns for target and acquirer which we have calculated both with the market and the mean adjusted model. This procedure will create four measures of abnormal returns for the combined entity.

Therefore, we calculate the weighted sum of acquirer and target abnormal returns according to the following equation:

$$AR_t = \frac{AR_{T_t} * MV_T(TA_T) + AR_{A_t} * MV_A(TA_A)}{MV_T(TA_T) + MV_A(TA_T)}$$

When we approach test of significance we use the standardized abnormal return procedure according to Hawawini and Swary (1990). We calculate the variance of

each combined entity taking in account the estimated correlation (ρ) between bidder and target market model residuals (the correlation of abnormal returns during the estimation period when we use the mean adjusted return model) following the suggestions of Houston and Ryngaert (1994). The variance of each combined entity abnormal return during the estimation period is given by the following equation:

$$\text{var} = \left(\frac{MV_T}{MV_T + MV_A}\right)^2 * VAR_T + \left(\frac{MV_A}{MV_T + MV_A}\right)^2 * VAR_A + 2 * \frac{MV_T}{MV_T + MV_A} * \frac{MV_A}{MV_T + MV_A} * \rho * \sqrt{VAR_T * VAR_A}$$

- *When we use total assets as weights, we replace (MV) of target and acquirer with (TA).*

Before we try to interpret the results for the combined entity, we make a short analysis of the two proxies of size that we use as weights. Each of them has advantages and disadvantages. Total assets of target and acquirer are figures that we obtain from balance sheets of each firm at the last reported year before the announcement of the deal. Maybe this is an imprecise measure of size, because many announcements fell in the last months of a specific year, so the first proxy can not detect and incorporate changes, if any, in the value of total assets. On the other hand, we know that market capitalization is commonly used as proxy of firm's size at financial markets worldwide. In this case, we try to avoid the following pitfall; we know from our empirical results that targets' stock prices earn highly positive abnormal returns during the observation period. These abnormal returns increase the market capitalization of targets, on average, 12% during the ten day period before the announcement of the deal and decrease the market value of acquirers, on average, 1.5% during the same period. If we had taken these market values as weights, probably we would have mistakenly calculated abnormal returns for the combined entity because these weights would not reflect the real size of both partners. That's why we weigh abnormal returns of targets and acquirers with their respective market values twenty one days before the announcement of the deal, assuming that this time there was not information leakage that would change sizeable the market capitalization of target and acquirer. On the other hand, market capitalization is more time-sensitive in comparison with total assets as proxy for size. M&A announcements

in our sample fell in stock market crash at 2000 and onward, as in the recovery that begins at the mid of 2004. In both extreme cases, we can not take for granted that targets (small size) and acquirers (large size) prices react equally. Although we could not perfectly and unbiased calculate the abnormal returns for the combined entity, we follow precisely the suggestions of previous studies but we go a step further. We calculate abnormal returns not only with both proxies as weights, but also with two models; market model and mean adjusted model.

Table 13

CARs for combined entities

		Combined Entities			
		(Market Model)		***(Mean Adjusted)***	
	Event Window	CAR	t(CAR)	CAR	t(CAR)
Panel A.	(-15, 15)	1,59%	2,85*	1,24%	1,92***
	(-10, 10)	1,67%	3,49*	1,75%	2,93*
Total Assets as weights	(-10, 1)	1,21%	3,77*	1,20%	3,23*
	(-5, 5)	1,32%	3,98*	1,66%	3,69*
	(-2, 2)	1,12%	5,95*	1,37%	5,10*
	(-1, 1)	0,58%	4,77*	0,78%	4,44*
	(-1, 0)	1,01%	7,24*	1,05%	6,55*
	t=0	0,79%	8,31*	0,88%	8,15*
		CAR	t(CAR)	CAR	t(CAR)
Panel B.	(-15, 15)	0,63%	1,18	0,32%	0,31
	(-10, 10)	0,89%	1,70***	1,07%	1,18
Market values as weights	(-10, 1)	0,47%	1,64	0,50%	1,13
	(-5, 5)	0,72%	1,91***	1,16%	1,70***
	(-2, 2)	0,59%	2,98*	0,83%	2,19**
	(-1, 1)	0,05%	0,90	0,11%	0,58
	(-1, 0)	0,43%	2,63*	0,47%	2,13**
	t=0	0,13%	1,87***	0,20%	1,95***

1. The table presents results of the event study for a sample of 60 deals where target and acquirer are simultaneously listed. Abnormal returns for the combined entity are computed with the mean adjusted return model and with the market model using as weights the value of total assets (market equity) of target and acquirer. Tests for significance are following the suggestions of Hawawini and Swary (1990) and Houston and Ryngaert (1994).

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

Following this strategy we could detect, if any, endogenous problems like the choice of benchmark we use for the calculation of abnormal returns and/or exogenous ones, like the choice of weights for constructing the abnormal returns for the combined entities.

The results in Panel A of Table 13 indicate the creation of net aggregate wealth to shareholders unrelated to the choice of benchmark. When we use total assets as weights, all CARs are positive and highly significant. This is consistent with the older European research [(Cybo-Ottone and Murgia (2000), Beitel et al (2004), Campa and Hernando (2006)]. The differences between market and mean adjusted model are slight, depending on the event window. The weighted abnormal returns are 1% for the two days period, both with market and mean adjusted model. In Panel B of Table 13 we present the results for the combined entity using market values of the participants in the acquisition as weights. Again the results are unaffected by the method we use. Overall gains for the combined entity range from 0.10% to 1.10% depending on the event window. But, as we can see, there is a modest deviation from the results of Panel A; CARs are almost double when we use total assets as weights and statistically significant in all event windows. CARs with market values as weights are positive but significant only in the half (according the model) of the analyzed event windows. For the most commonly used event window in previous studies, window (-1, 0), CARs are positive and statistically significant with all four combinations. This result is a strong indicator that M&As are wealth creation projects for the shareholders of the combined entity.

12. Intra – Industry Effects

12.1 *Rival Firms with the same 2digit SIC code*

In this part of the study, our goal is to test whether the announcement effect of M&As is relevant to the valuation of the target and the acquirer only, or is transmitted to other financial institutions (referred as rival banks) in the industry. We have comprehensively discussed the two competitive assumptions behind the existence or not of intra-industry effects in Chapter 7. Here, I present them briefly:

Under Null Hypothesis 1, a merger announcement can signal an increased probability that corresponding rivals will be acquired. It may also signal more growth opportunities within the industry. In both cases, the announcement will result in a positively revaluation of rivals equity.

Null hypothesis 1: M&A announcements will positively change the stock prices of rival financial institutions

Under Null Hypothesis 2, M&As will adversely affect the future performance of rival institutions. If the target realizes efficiency gains from the merger, or increase its market share, may place the rival firms at a competitive disadvantage and therefore cause their market values to decline.

Null hypothesis 2: M&A announcements will negatively change the stock prices of rival financial institutions

Besides these two main hypotheses, comes also an alternative issue. There is always the probability that the signal transmitted in M&A announcements is not strong enough to affect rival prices. Although the empirical research focuses only on these two hypotheses, there is an obvious disadvantage. The number of studies about intra industries effects in financial industry M&As is limited. Although the published studies refer in some extent that there is indeed an internal effect on rival prices, this

effect, expressed in abnormal returns of rival portfolios, is weak. Akhigbe and Madura (1999) found CARs of 0.8% only for the event window (-1, 0). In the remaining event windows, results were statistically insignificant. And this outcome seems a little bit odd, especially from the moment where the majority of studies agree that there is an information spill over at least ten days before the announcement. If this spill over is real, it can not exist only for targets and acquirers, but for rivals also.

To measure the abnormal returns of rival institutions in response to each announcement we follow the next procedure*. We construct 72 rival portfolios, one portfolio for each public target in our initial sample. The target institution must have at least one listed rival institution headquartered in the same EU nation with the same 2-Digit Primary Standard Industry Code (SIC). Based on this procedure, we identify a total of 1275 financial institutions for the 72 rival portfolios. The exact composition of the rival firms varies with the timing of the event because the number of firms that qualify for inclusion in the rival sample varies over time. The average number of rival firms per event (per rival portfolio) is 17.70, the median is 13, the minimum is 1 and the maximum is 44. We use both the market model and the mean adjusted return approach to estimate abnormal returns of the seventy two (72) rival portfolios because we want to give additional support in our results.

The intra-industry effects are disclosed in Table 14. The results support fragile the hypothesis that mergers and acquisitions in the European financial sector affect the value of other firms. The choice of methodology seems to be unrelated to the sign of cumulative average abnormal returns. For seven event windows, the reaction is positive for both models. But for the event window (-1, 0), the main window in our analysis, CARs are negative but statistically insignificant both with market and mean adjusted return model. When we test the reaction of rival firms with market model, in the event window (-1, 0) CARs and the test statistic has opposite signs. This can happen, as noted by Dodd and Warner (1983), if most CARs are positive and the sample includes a few extreme negative outliers with very large standard deviation. In such cases, average CARs are typically close to zero, as it happens in our case.

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* Details about the methodology are given analytically in Chapter 9.1

Table 14
CARs of Rival financial Institutions (N=72)

	Rivals (Market Model)		**Rivals** (Mean Adjusted)	
Event Window	CAR	t(CAR)	CAR	t(CAR)
(-15, 15)	1,76%	3,28*	1,83%	2,06**
(-10, 10)	1,01%	2,70*	0,86%	1,75***
(-10, 1)	0,52%	2,30**	0,65%	1,33
(-5, 5)	1,08%	3,28*	1,25%	2,79*
(-2, 2)	0,47%	3,02*	0,60%	2,04**
(-1, 1)	0,30%	3,85*	0,27%	1,90***
(-1, 0)	-0,08%	0,95	-0,10%	-0,03
t = 0	0,11%	1,55	0,16%	0,95

1. The table presents the cumulative abnormal returns to rival portfolios in 72 M&A announcements in the European financial sector during the period 2000-2006. Rival portfolios contain all rival financial firms in the same country as the target that were publicly traded at the time, grouped into a portfolio by the event. Abnormal returns are calculated with two methodologies, Market Model and Mean Adjusted Model. Tests of significance are following the suggestions of Hawawini and Swary (1990) and test the null hypothesis that CARs equal zero.

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

The first approach to realize if indeed the information released from mergers is transmitted to rival firm is in some degree, confounding. Our second thought is to split the rival portfolios sample into three categories based on the target's event period CAR (-1, 0). One category contains targets with non positive CARs for this window, the other category contains targets with positive CARs (-1, 0) and the last includes targets with high positive CARs (-1, 0). The assumption here is that acquisitions that contain more positive information about the targets also convey more positive information about rivals. Under this assumption, we would expect a gradually rise in rival CARs relative to targets CARs; more positive abnormal returns for the targets would cause more positive abnormal returns for rivals. The results are presented in Table 15 and do not support this assumption. On the contrary, they give additional weight in the competitive hypothesis. Thus, it seems that rival banks face the announcement of a merger as a potential disadvantage about their future in the

industry. As we can see for the majority of the event windows, there is a gradual drop in rival CARs. For the event window (-1, 0) the drop in rivals CARs from category 1 to category 3 is 0.5% whilst for the event window (-10, 1) is 2.4%. That is, when targets experience highly positive abnormal returns, their rivals react strongly negative. And this can be explained from the fact that a specific acquisition can create a financial institution that has the potentials to be the leading star of the industry.

Table 15
Abnormal returns to rival portfolios grouped by the target's event window abnormal returns

		TARGETS CAR					
		Negative		**Positive**		**High Positive**	
	Event Window	(N=19)	t(CAR)	(N=27)	t(CAR)	(N=26)	t(CAR)
	(-10, 1)	1,84%	3,13*	0,64%	1,39	-0,57%	-0,27
RIVALS	(-2, 2)	1,11%	2,73*	1,12%	3,07*	-0,68%	-0,43
CAR	(-1, 1)	0,93%	2,91*	0,74%	3,04*	-0,63%	0,83
	(-1, 0)	0,01%	-0,18	0,24%	1,30	-0,47%	0,41

1. The table presents the abnormal returns to rival financial institutions grouped by the target's event window CARs. One category contains target with non-positive CARs. The other category contains targets with positive CARs. The positive CARs category is further classified into two subsamples. Announcements which ranked in the top half were designated as high positive CARs targets and those in the bottom half were classified as positive CARs targets.
2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

On the other hand, we can not ignore the results of the second category; when targets experience positive CARs, rivals achieve that also. But when we move from positive targets CARs to high positive targets CARs, again the rivals' abnormal returns experience a significant decline. It seems that there is a break point. Before that, rivals prices bid up to anticipate the expected gains of a merger. But, after that point, the threat of a market-powerful institution causes their market values to decline. In the remainder of this study, the cross sectional regression analysis of rivals' abnormal returns will help us to better understand the magnitude of M&A announcements to firms that operate in the same industry as the target.

12.2 *Rival Firms with the same 4digit SIC code: Narrowing the criteria*

We present another test that relies on the following assumption. Till now, we identified rivals of the public targets based on the 2 digit primary SIC code that DataStream provided us. These SIC codes are assigned to companies according to the type of business in which they are engaged. In example, Institut de Participations de l'Ouest (IPO), has a two-digit SIC code of 67, thus fell in the category of Holding and other Investments offices. So the procedure was to identify all listed rivals that headquartered in France with the same code. Now, we narrow the criteria for identifying rivals. We consider as rival firms, these with the same four-digit SIC code. In the case of IPO, the code is 6719. The assumption here is that identifying rivals with more similar operations with the target, we expect more pronounce intra-industry effects. Under this consideration, the number of rival firms for the 72 portfolios fell from 1275 to 1008, a net decrease of 20%. The average number of rival firms per event is now 14 and the median figure is 9. We present the results in Table 16.

Table 16
CARs of Rival financial Institutions

	Rivals (**4 DIGIT SIC CODE**)		Rivals (**2 DIGIT SIC CODE**)	
Event Window	CAR	t(CAR)	CAR	t(CAR)
(-15, 15)	2,63%	2,57**	1,83%	2,06**
(-10, 10)	1,45%	2,23**	0,86%	1,75***
(-10, 1)	1,09%	1,88***	0,65%	1,33
(-5, 5)	1,65%	3,01*	1,25%	2,79*
(-2, 2)	0,83%	2,40**	0,60%	2,04**
(-1, 1)	0,54%	2,65*	0,27%	1,90***
(-1, 0)	0,03%	0,78	-0,10%	-0,03
t = 0	0,29%	1,95***	0,16%	0,95

1. The table presents results of the event study for 72 rival portfolios based on the primary SIC code of public target. The first category contains rival portfolios with the same four-digit SIC code as the target. The second category contains rival portfolios with the same two-digit SIC code as the target. Abnormal returns for rival portfolios are computed with the mean adjusted return model. Tests for significance are following the suggestions of Hawawini and Swary (1990).

2. * significant at the 1%, ** significant at the 5% level, *** significant at the 10% level.

We have already presented the results for rival firms with the same two-digit SIC code. Here, we re-include them in Table 16 for a direct comparison with the results by narrowing the criteria of identifying rival firms (four-digit SIC code). As we expected, intra-industry effects are now more pronounce. In all event windows, there is an increase in cumulative abnormal returns as we construct portfolios with rival firms with more similar operations with the target. For the event window (-1, 0) the increase is 0.13% while for the lengthiest event window (-15, 15) the increase is 0.80%. Despite the fact that the increase is clear, we employ tests in differences between the means of the main event windows of the two categorizations of rival portfolios. But, as we can see, the difference is not statistically significant in anyone analyzed event window. This outcome does not support our assumption, thus the inferences that we can make are moderate.

Differences between Rival Portfolios with 4SIC and 2SIC codes

Event Window	Differences	test statistic
(-10, 1)	0,13%	0,36
(-2, 2)	0,27%	0,55
(-1, 1)	0,44%	0,51
(-1, 0)	0,23%	0,40

1. Table presents the differences of the two categories of rival portfolios according to the SIC code of the corresponding target. Test for significance are following the suggestions of DeLong (2001).

13. Cross sectional analysis: Targets, Acquirers and the Combined Entity

Our goal in this chapter is try to explain the differences in market reaction across our sample where both firms are public (60 events). The market reaction differs across time for targets, acquirers and the combined entity. As we saw in sections 11.7 and 11.8, abnormal returns for targets and combined entities are, on average, positive, while the opposite stands for acquirers. However, the magnitude in this raise / drop is not the same. In addition, few targets and combined entities experienced negative abnormal returns and few acquirers earn positive CARs. To examine the difference in market reaction we employ a multiple-variable cross sectional regression analysis. We try to identify these explanatory variables following the suggestions of previous literature and adding a few variables based on our instinct. Ofcourse, cross sectional analysis is not problem – free. It assumes a linear relationship between the dependent variable (CARs of target, acquirer and the combined entity) and the explanatory variables, a condition that may not hold in reality. The factors that help us to better explain mergers and acquisitions in the European financial sector are:

1. RELATIVE SIZE

   The possible influence of relative size is twofold. The acquisition of smaller targets may be less complex and value creation potential may be easier. However, the larger the target the larger the possible synergies through scale economies may be. In addition, large targets may be a significant tool for the acquirer who wants to grow rapidly and capture greater market share. To test whether the relative size of a target has an impact on the M&A, we use two different measures. a) The total asset size of the target in relation to an acquirer. b) The market value of the target in relation to an acquirer.

2. PRIOR PERFORMANCE OF TARGET

Theory suggests that the stock performance of a target is a good proxy for the management quality. Firms that have low stock performance are more likely to be acquired (market control theory). To analyze performance as an explanatory factor we use two different measures. a) The difference in stock performance between the target and the target's national general market index. b) The target average market to book ratio during the estimation period.

3. PROFIT EFFICIENCY OF A TRANSACTION

To measure the performance of target relative to acquirer, we apply as proxy the ratio of a target's return on assets (ROA) and an acquirer's return on assets (ROA) and/or the ratio of return on equity (ROE) for these two firms. These two measures frequently used as profitability measures by capital market analysts. A low relative profitability measure (ROE or ROA) indicates that the acquirer is much more profitable than the target and empirical. In this case, previous studies have shown that acquirer may be able to realise efficiency potentials by transferring their superior management skills to target.

4. GROWTH FOCUS

To measure this kind of focus for a transaction, we apply the growth of the total assets of the target during the year prior to the announcement. As we mention for relative size, a target with a strong growth rate is consider as mean for stimulating development of the acquiring institution.

5. GEOGRAPHIC FOCUS

To measure the differences, if any, between domestic and cross-border acquisitions we use a binary variable which takes the value of 1 for national transactions and 0 for cross-border transactions.

6. METHOD OF PAYMENT

Previous literature indicates that another factor that could be important to market reaction is the method of payment, both for acquirer and the target. We had discussed in Chapter 7 that cash-based mergers and acquisitions accounts

for 75% (149 events) in our initial sample. The same pattern does not hold for the sample that we employ cross sectional analysis. Analytically only the half of transactions is made by cash (30 events). Thus, we use a dummy variable that takes 1 if the acquirer pays with cash and 0 otherwise.

7. CORRELATION

We use the correlation coefficient of the stock market returns of target and acquirer during the estimation period; the lower the correlation coefficient the higher the diversification of a transaction. This control variable will give us additional insight, if any, for the bivariate analysis about Activity Focus and Activity Diversification mergers and acquisitions.

8. COST EFFICIENCY

To measure the cost efficiency of a transaction we use as proxy the relative cost to asset ratio. We construct this proxy as follows: The numerator is the ratio of total operating expenses to total assets of the target, while at the denominator is the same ratio for the acquirer. This proxy compares the cost structure of a target to the cost structure of the acquirer. According to previous studies, transactions with a large cost efficiency differential have a higher value creation potential.

13.1 *Cross sectional analysis: Targets*

This section will be organized as follows. I will present 1) The model that we employ for cross sectional regression with the exogenous variables that can partly explain the differences in the market reaction of targets. 2) The results of the cross sectional regression. In this case I will present two tables. The first will include the initial regression. The second one will present the results when we move from a general to specific model. Thus, in the second table I have removed the insignificant variables one by one, beginning with this variable that has the greater probability to be zero, hence would not have any explanatory power. In all cases, we run ordinary least squares (OLS) regressions using White's method to control for heteroskedasticity.

Model 1

$$CARs(-10,1) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * RELROA + \beta_4 * GEO + \beta_5 * PAY + \varepsilon$$

- CARs are the abnormal returns for the twelve day event window using the Market Model.
- RELSIZE is the relative market value of target to acquirer at the end of the estimation period.
- PERF is the difference between target's actual stock performance and the national general market index.
- RELROA is the ratio of target's ROA to that of acquirer.
- GEO is a dummy variable that takes 1 if the event is domestic and 0 otherwise.
- PAY is a dummy variable that takes 1 if the mean of payment is only cash and 0 otherwise.
- The intercept term represents the portion of returns that is not explained by the other variables.
- The error term ε.
- β_i the coefficient for explanatory variable, $i \in [1,....,5]$

Model 1: Results

Dependent Variable: CARS(-10, 1)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.181992	0.064518	2.820811	0.0067
RELSIZE	-0.261292	0.139175	-1.877443	0.0659
PERF	-0.153916	0.053000	-2.904086	0.0053
RELROA	-0.003959	0.003587	-1.103802	0.2746
PAY	0.034683	0.053424	0.649201	0.5190
GEO	0.024348	0.050804	0.479256	0.6337

R-squared	0.169158	Mean dependent var	0.118015
Adjusted R-squared	0.092228	S.D. dependent var	0.194108
S.E. of regression	0.184940	Akaike info criterion	-0.442928
Sum squared resid	1.846957	Schwarz criterion	-0.233493
Log likelihood	19.28784	F-statistic	2.198855
Durbin-Watson stat	1.643149	Prob(F-statistic)	0.067736

Model 1.1: Results

Dependent Variable: CARS(-10, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.201041	0.046829	4.293097	0.0001
RELSIZE	-0.247225	0.141075	-1.752433	0.0851
PERF	-0.143252	0.052472	-2.730077	0.0084

R-squared	0.157331	Mean dependent var	0.118015
Adjusted R-squared	0.127764	S.D. dependent var	0.194108
S.E. of regression	0.181284	Akaike info criterion	-0.528794
Sum squared resid	1.873248	Schwarz criterion	-0.424077
Log likelihood	18.86381	F-statistic	5.321109
Durbin-Watson stat	1.668567	Prob(F-statistic)	0.007607

The results from regression are quite similar with the majority of previous literature. By testing all the explanatory variables we observe the prior stock performance of the target and the relative size of the partners to be significant. The nature of the transaction, domestic or cross border does not play a significant role for the targets abnormal returns. The coefficient for the prior stock performance has the expected (negative) sign. That is, the shareholders of the target seem to earn higher CAR if the target under-perform the market. If we face the prior stock performance as a measure of the management quality, the shareholders of the target expect to benefit from the transfer of corporate control to the management of an acquirer. The coefficient of relative size variable is marginally significant at 10% level and has also a negative sign. Thus, it seems that targets receive less when they are larger enough relative to the acquirer because acquirers may find it difficult to justify large premiums for larger targets. If this is the case, the premiums paid to larger targets will be smaller.

When we set as dependent variable the CAR (-10, 1) from the mean adjusted return approach, the results are quite the same but the coefficient of relative size is statistically significant now at the 5% level. Here, we present only the specific model.

Dependent Variable: CARS(-10, 1)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.212922	0.043329	4.914036	0.0000
RELSIZE	-0.283701	0.120138	-2.361451	0.0216
PERF	-0.162282	0.048212	-3.365992	0.0014

R-squared	0.210145	Mean dependent var	0.118020
Adjusted R-squared	0.182431	S.D. dependent var	0.191303
S.E. of regression	0.172975	Akaike info criterion	-0.622630
Sum squared resid	1.705464	Schwarz criterion	-0.517913
Log likelihood	21.67891	F-statistic	7.582592
Durbin-Watson stat	1.644508	Prob(F-statistic)	0.001203

In the following model, the only change relative to model 1 is the dependent variable. We use the two-day CARs of target firms that we have calculated with the market model methodology. The previous studies employ (or present) cross-sectional analysis with only one event window as the dependent variable, usually the one that characterized the most important (or make the best fit to the model). Here, our goal is to examine if indeed the choice of the analyzed event window is critical to cross sectional analysis. The results are giving support in our assumption. Using the shorter event window with exactly the same explanatory factors, the results are quite different. When we move from general to specific model, the coefficient for performance has the same sign, but is marginal significant at the 10% level, while the relative size is not significant. But an additional factor seems to have descriptive power and this is the relative return on assets of the partners. The coefficient is negative indicates that cumulative abnormal returns are higher if acquirers are more profitable than targets. Thus, it seems that profitable targets do not perceive potential mergers as value maximizing projects. But the major change in this model relative to the previous one is the adjusted R^2. While we keep the same regressors, the adjusted R^2 decrease from 18% to 0.1%, simply indicates a poor fitting model.

Model 2

$$CARs(-1,0) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * RELROA + \beta_4 * GEO + \beta_5 * PAY + \varepsilon$$

Model 2: Results

Dependent Variable: CARS(-1, 0)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.134711	0.057104	2.359022	0.0220
RELSIZE	-0.109113	0.115791	-0.942331	0.3502
RELROA	-0.003133	0.002096	-1.494483	0.1409
PERF	-0.103660	0.044659	-2.321119	0.0241
GEO	-0.028634	0.046381	-0.617353	0.5396
PAY	0.025400	0.040096	0.633488	0.5291

R-squared	0.095532	Mean dependent var	0.078702
Adjusted R-squared	0.011785	S.D. dependent var	0.168558
S.E. of regression	0.167561	Akaike info criterion	-0.640295
Sum squared resid	1.516147	Schwarz criterion	-0.430861
Log likelihood	25.20885	F-statistic	1.140725
Durbin-Watson stat	1.867040	Prob(F-statistic)	0.350348

Model 2.1: Results

Dependent Variable: CARS(-1, 0)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.099816	0.025862	3.859606	0.0003
RELROA	-0.003170	0.001447	-2.191086	0.0325
PERF	-0.080493	0.045451	-1.770969	0.0819

R-squared	0.051630	Mean dependent var	0.078702
Adjusted R-squared	0.018353	S.D. dependent var	0.168558
S.E. of regression	0.167004	Akaike info criterion	-0.692896
Sum squared resid	1.589741	Schwarz criterion	-0.588179
Log likelihood	23.78689	F-statistic	1.551547
Durbin-Watson stat	1.816581	Prob(F-statistic)	0.220736

13.2 *Cross sectional analysis: Acquirers*

We now turn to the case of acquiring financial institutions and perform a similar test as that described in previous section. We only display multivariate models for variables that have shown some sign of explanatory power in the comparative statistics (i.e we do not include the dummy variable for domestic or cross border transactions. As we have seen, market does not distinguish the geography nature of a transaction in our sample). In all cases, we run ordinary least squares (OLS) regressions using White's method to control for heteroskedasticity.

Model 1

$$CARs(-10,1) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * GROWTH + \beta_4 * PAY + \beta_5 * CORREL + \varepsilon$$

- CARs are the abnormal returns for the twelve-day event window using the Mean Adjusted Return Model
- RELSIZE is the relative market value of target to acquirer at the end of the estimation period.
- PERF is the difference between target's actual stock performance and the national general market index.
- GROWTH is the growth of the total assets of the target the last year before the announcement
- CORREL is the correlation coefficient between target and acquirer stock returns during the estimation period of this study
- PAY is a dummy variable that takes 1 if the mean of payment is only cash and 0 otherwise.
- The intercept term represents the portion of returns that is not explained by the other variables.
- The error term ε.
- β_i the coefficient for explanatory variable, $i \in [1,....,5]$

Model 1: Results

Dependent Variable: CARS(-10, 1)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.027907	0.026449	-1.055104	0.2961
RELSIZE	-0.039652	0.045372	-0.873935	0.3860
PERF	0.041566	0.030729	1.352644	0.1818
GROWTH	0.006504	0.044797	0.145182	0.8851
CORREL	0.101890	0.052764	1.931065	0.0587
PAY	-0.011358	0.033156	-0.342579	0.7332

R-squared	0.089437	Mean dependent var	-0.014875
Adjusted R-squared	0.005125	S.D. dependent var	0.093509
S.E. of regression	0.093270	Akaike info criterion	-1.812006
Sum squared resid	0.469757	Schwarz criterion	-1.602572
Log likelihood	60.36019	F-statistic	1.060789
Durbin-Watson stat	2.117173	Prob(F-statistic)	0.392277

Model 1.1: Results

Dependent Variable: CARS(-10, 1)
SPECIFIC MODEL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.032057	0.015506	-2.067373	0.0432
CORREL	0.089430	0.048587	1.840609	0.0708

R-squared	0.051676	Mean dependent var	-0.014875
Adjusted R-squared	0.035326	S.D. dependent var	0.093509
S.E. of regression	0.091843	Akaike info criterion	-1.904707
Sum squared resid	0.489238	Schwarz criterion	-1.834896
Log likelihood	59.14122	F-statistic	3.160539
Durbin-Watson stat	2.095435	Prob(F-statistic)	0.080681

The only variable that has in some degree some explanatory power is the correlation between target and acquirer market returns. The coefficient is positive, significant only at the 10%, suggesting that the greater the similarities between the operations of two financial institutions, the greater are the CARs of the acquirers. But

again, we can not ignore that our general model has an adjusted R^2 very close to zero, indicating a poor model. In addition, when we run this regression setting as dependent variable the abnormal returns that we compute from market model (instead of mean adjusted return methodology), all the independent variables were insignificant. All the above, suggests that the correlation variable, only marginally, has an effect on acquirers CARs.

As a next step, I try to fix a model substituting 1) the proxy for the relative size. I used as proxy not the market values but the total assets of each firm. 2) I did not include as independent variables these that have not shown explanatory power in all regressions I had run (over thirty). Thus, I did not include the dummy for payment (because in all regressions had a p-value above 0.75) and the variable of market to book value. 3) I used the proxy for relative cost, but this tactic cost me five observations (I was not able to find total operating expenses for five targets in my sample).

Model 2

$$CARs(-10,1) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * RELCOST + \beta_4 * CORREL + \varepsilon$$

- CARs are the abnormal returns for the twelve-day event window using the Market Model
- RELSIZE is defined as the logarithm of total assets of the target divided by the logarithm of the total assets of the acquirer
- PERF is the difference between target's actual stock performance and the national general market index.
- RELCOST is defined as the total operating cost/total assets of target divided by total operating cost/total assets of the acquirer
- CORREL is the correlation coefficient between target and acquirer stock returns during the estimation period of this study
- The intercept term represents the portion of returns that is not explained by the other variables.
- The error term ε.
- β_i the coefficient for explanatory variable, $i \in [1,....,4]$

The results show no improvement in terms of adjusted R^2 or in the significance of explanatory variables. Instead, even the coefficient for correlation of the returns is now insignificant.

Model 2: Results

Dependent Variable: CARS(-10, 1)
Method: Least Squares
Sample: 1 55
Included observations: 55
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.011631	0.056451	0.206037	0.8376
RELSIZE	-0.057654	0.065557	-0.879448	0.3834
PERF	0.029461	0.021380	1.378009	0.1743
RELCOST	-0.003586	0.005972	-0.600471	0.5509
CORREL	0.077915	0.058089	1.341296	0.1859

R-squared	0.076214	Mean dependent var	-0.019369
Adjusted R-squared	0.002311	S.D. dependent var	0.081938
S.E. of regression	0.081843	Akaike info criterion	-2.081522
Sum squared resid	0.334913	Schwarz criterion	-1.899037
Log likelihood	62.24185	F-statistic	1.031268
Durbin-Watson stat	1.889030	Prob(F-statistic)	0.400392

Generally, in my results there is no strong evidence that characteristics of the merger, the target or /and the acquirer can explain partly the acquirers abnormal returns. But I believe that this outcome is not strange in past literature. Hawawini and Swary (1990) had found only the number of potential acquirers to have some explanatory power (define me the number of potential acquirers). Neither the relative size nor measures of performance or profitability could explain the acquirers CARS. Cybo-Ottone and Murgia (2000) did no even make a cross sectional regression analysis for acquirers CARS (they run regressions for the combined entity but they had not found any significant variable. At last, Campa and Hernando (2006) could not detect also a factor that could partly explain the cross-variation of acquiring financial institutions (and this study is more similar to ours because they include in their sample not only banks, but financial institutions from several sectors of the industry).

13.3 *Cross sectional analysis: Combined entity*

We have seen that the weighted average of gains to the acquirer and the target financial institutions in our sample were positive indicating net wealth creation from the M&A announcement. Now, we try to examine the characteristics of mergers that market perceives as most valuable. In all cases, we set as dependent variable the cumulative abnormal returns that we obtained from market model and we run ordinary least squares (OLS) regressions using White's method to control for heteroskedasticity.

Model 1

$$CARs(-1,0) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * RELROA + \beta_4 * PAY + \beta_5 * CORREL + \varepsilon$$

- CARs are the abnormal returns for the two-day event window using the total assets of each firm as weights.
- RELSIZE is defined as the logarithm of total assets of the target divided by the logarithm of the total assets of the acquirer.
- PERF is the difference between target's actual stock performance and the national general market index.
- RELROA is the ratio of target's ROA to that of acquirer.
- PAY is a dummy variable that takes 1 if the mean of payment is only cash and 0 otherwise.
- CORREL is defined by the correlation coefficient between target and acquirer market returns during the estimation period of the study.
- The intercept term represents the portion of returns that is not explained by the other variables.
- The error term ε.
- β_i the coefficient for explanatory variable, $i \in [1,....,5]$

Model 1: Results

Dependent Variable: CARS(-1, 0)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.081091	0.041681	-1.945539	0.0569
RELSIZE	0.125778	0.061326	2.050980	0.0451
PAY	-0.007149	0.020491	-0.348913	0.7285
CORREL	-0.034791	0.041824	-0.831844	0.4092
PERF	-0.023006	0.022586	-1.018606	0.3129
RELROA	0.001538	0.000613	2.510348	0.0151

R-squared	0.133798	Mean dependent var	0.010123
Adjusted R-squared	0.053594	S.D. dependent var	0.067058
S.E. of regression	0.065237	Akaike info criterion	-2.526956
Sum squared resid	0.229813	Schwarz criterion	-2.317521
Log likelihood	81.80867	F-statistic	1.668219
Durbin-Watson stat	1.612185	Prob(F-statistic)	0.158064

Model 1.1: Results

Dependent Variable: CARS(-1, 0)
SPECIFIC MODEL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.107962	0.050422	-2.141173	0.0365
RELSIZE	0.141375	0.065768	2.149618	0.0358
RELROA	0.001471	0.000669	2.197199	0.0321

R-squared	0.102645	Mean dependent var	0.010123
Adjusted R-squared	0.071159	S.D. dependent var	0.067058
S.E. of regression	0.064628	Akaike info criterion	-2.591622
Sum squared resid	0.238079	Schwarz criterion	-2.486905
Log likelihood	80.74867	F-statistic	3.260001
Durbin-Watson stat	1.544023	Prob(F-statistic)	0.045655

The total abnormal return of the merger is positively related to relative size of the combined entity and the relative performance of the two partners. The coefficients

for the two variables are significant at the 5% level. The sign of the coefficients provide support for the hypothesis that combined gains are higher when the target is large and profitable enough relative to the acquirer. When we use relative ROE instead of relative ROA, the results are quite the same. The same exist if we replace our first measure of performance (PERF: the difference between target's stock returns and the general market index) with the second one (MVBV: market to book value of the target one year before the announcement of the transaction). Unfortunately, the Durbin-Watson statistic is 1.54, indicating positive first order serial correlation. Consequently, OLS is no longer efficient among linear estimators. To overcome this problem, we run the regression following the suggestions of the previous studies; we set as dependent variable the CARs of the combined entity, but this time with the **market values of each firm as weights**.

Model 2: Results

Dependent Variable: CARS(-1, 0)
Method: Least Squares
Sample: 1 60
Included observations: 60
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.049538	0.033302	-1.487546	0.1427
RELSIZE	0.063951	0.036977	1.729484	0.0894
CORREL	0.001869	0.023677	0.078941	0.9374
PERF	-0.002249	0.015766	-0.142632	0.8871
RELROA	0.000984	0.000413	2.382972	0.0207
PAY	-0.000486	0.016509	-0.029452	0.9766

R-squared	0.058397	Mean dependent var	0.004282
Adjusted R-squared	-0.028788	S.D. dependent var	0.042406
S.E. of regression	0.043012	Akaike info criterion	-3.360034
Sum squared resid	0.099902	Schwarz criterion	-3.150600
Log likelihood	106.8010	F-statistic	0.669807
Durbin-Watson stat	1.822301	Prob(F-statistic)	0.648007

Model 2.1: Results

Dependent Variable: CARS(-1, 0)
SPECIFIC MODEL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.052006	0.024630	-2.111490	0.0391
RELSIZE	0.066603	0.029504	2.257429	0.0278
RELROA	0.000997	0.000474	2.104354	0.0398

R-squared	0.057572	Mean dependent var	0.004282
Adjusted R-squared	0.024504	S.D. dependent var	0.042406
S.E. of regression	0.041883	Akaike info criterion	-3.459157
Sum squared resid	0.099990	Schwarz criterion	-3.354440
Log likelihood	106.7747	F-statistic	1.741027
Durbin-Watson stat	1.838176	Prob(F-statistic)	0.184534

Again, the coefficients for relative size and relative performance are positive and significant at the 5% level. On contrast, the Durbin-Watson statistic is about 1.85, a remarkable improvement from the 1.53 figure of the previous model. However, we conducted more tests (correlogram of residuals) to examine if the model's residuals are serial uncorrelated. The correlogram table is included in the Appendix, and the results show the absence of first order serial correlation.

At this point, we ought to refer that the sign for the relative size when we examined the abnormal returns of the target in isolation is negative (indicating that target receive less when they are larger). According to Houston and Ryngaert (1994) the reason is that the total revaluation resulting from larger deals put more weight on the target return which is generally positive and less weight on the acquirer return which is generally negative. This reason suggests that the relative size of the participants affects the division of gains (losses) from the merger. Generally, it can be misleading to focus on acquirers and targets in isolation. A more complete picture is obtained by looking at the overall gains (losses) from a sample of mergers rather than examining target and acquirers return separately.

14. Cross sectional analysis: Rival Portfolios

As we have discussed in previous chapters, there is a cross sectional variation of abnormal returns to targets, acquirers and the combined entity. If the signal embedded within announcements and the characteristics of the acquirer and the target can change over time, it could also change for rival firms. To explain the dispersion of intra-industry effects among announcements, we employ again a multiple-variable cross sectional regression analysis, but this time we set the CARs of rival firms as the dependent variable for the 72 events. In addition, this procedure could shed some light in our empirical analysis in Chapter 12. Our results have shown weak evidence that there is an information spill over and this information seems to impact negatively the rival financial institutions. The negative impact strongly holds in the case where the targets CARs are highly positive, indicating that a soaring value added merger could result in a dominant firm that places its rivals in competitive disadvantage. So the results of the cross sectional analysis which allow controlling for additional factors, may be critical to understand better the impact of M&As in rival prices. We hypothesize that intra-industry effects are conditioned on the event and rival-institution specific variables:

1. CAR of TARGET

   As analytically discussed in previous sections of our study, there are two main competitive hypotheses that could explain the impact of the target's CAR on the intra-industry effects of M&As announcements. A positive relation is predicted if the announcement contains information that could also benefit rival firms. On the other hand, a negative relation is predicted if the acquisition creates a large bank which is more efficient than its weaker rivals. We use target's CARs from both models, according on the dependent variable. If rival CAR (-1, 0) is a two-day CAR obtained from market model, we use as explanatory variable the target CAR (-1, 0), also obtained from market model.

2. RIVAL FIRM SIZE

There are few arguments that can be made about the rival's firm size. If the intra-industry effects are attributed to an increased probability of being acquired, relatively small institutions may benefit the most, because prospective acquirers can more easily afford to acquire the smaller rivals. On the other hand, if the intra-industry effects are credited to the competitive hypothesis, relatively large institutions may gain the most, because the merged entity would not place them in a competitive disadvantage. At last, the relationship between rivals' CARs and rival's size may not be linear. In that case, rivals with the same size as the target may benefit the most, but rivals with smaller and rivals with larger size may not advantage at all. Based on the probability of being acquired, smaller rivals possibly can not offer these synergies that an acquirer is seeking for (in a financial institution with the same size as the specific target). The median natural logarithm of the market value of rival financial institutions at the month end prior to the M&A announcement is used as a proxy for the size.

3. RIVALS STOCK PERFORMANCE

If rival with weaker price performance have more potential either to be acquired because there is more potential to improve their performance, or to enhance their own performance in response to more favourable industry prospects, then they should experience a more favourable share price response than other rivals with superior performance. The median stock price performance of rival firms is used as a proxy for performance. We compute this proxy as the difference between a firm's actual stock performance and the national general market index over the estimation period.

4. DEAL VALUE

The value of the deal may be a significant predictor of the intra-industry signal. It can show the depth and the perspectives of M&As in an industry and set a standard for the forthcoming events. The greater the announced deal's value the more rivals it concerns as possibility either

becoming target in the future or face competitive disadvantages. The natural logarithm of the announced deal value is used as proxy for the size and the impact of the deal.

5. LOCAL CONCENTRATION

M&As where the target and the acquirer are headquartered in the same nation can create the potential for anticompetitive problems by increasing the probability of collusion among rival firms or by eliminating competition from one of the rivals of the price leader. To the extent that collusion among financial institutions can increase their market power, a domestic transaction should have a favourable effect on the rival firms. This effect would be greater for countries with higher pre-merger concentration levels. To test the relation between the degree of local concentration and the intra-industry effects, we use as pre-merger concentration proxy the Herfindahl Index of each target's country, at the end of the year before the announcement. Unfortunately, I was unable to find data for all the rival portfolios (44/72).

As I mentioned before, I could not find data of Herfindahl Index for the 72 rival portfolios. Thus, the first model which tries to explain the cross sectional variation in intra – industry effects of mergers and acquisitions in the European financial sector, has the following form.

Model 1

$$RIVCARs(-1,+1) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * TARCARs(-1,+1) + \beta_4 * DEAL + \varepsilon$$

- RIVCARs are the abnormal returns of 72 rival portfolios for the three-day event window computed from Market Model.
- RELSIZE is defined as the natural logarithm of median market capitalization of rival financial institutions of target (portfolio).
- PERF is the difference between rival firm's actual stock performance and the national general market index.
- TARCARs are the abnormal returns of 72 public targets for the three-day event window computed from Market Model.
- DEAL is the natural logarithm of the announce market deal.
- The intercept term represents the portion of returns that is not explained by the other variables.
- The error term ε.
- β_i the coefficient for explanatory variable, $i \in [1,....,4]$

The results are presented in the next two following tables. As we can see, the coefficient for target's CARs is negative and significant at the 10% level, suggesting that the intra-industry effects are less favorable when the valuation effect of the target is more favorable. The sign of the coefficient confirms our descriptive results on Chapter 12. It seems that the possible increase in target's efficiency from its combination with the acquiring firm may place the rival financial institutions at a competitive disadvantage and therefore causes their market value to decline. In addition, when we remove the variable which accounts for the performance of rival

firms, the coefficient for the targets CARs is significant at the 5% level (instead the 10% level). Interestingly, the other three variables have the correct sign if we accept the competitive hypothesis. The coefficients for performance and size are positive (the latter is insignificant) suggesting that large rivals who over-perform the market react optimistically about the merger activity in the industry. This happens because a well performing, large firm is strong enough to compete with the merged (more efficient) institution. The adjusted R^2 is 7% that is a sufficient figure for the sample size in cross sectional regressions, while the Durbin Watson statistic is very close to 2, which implies no serial correlation between the residuals of the regression. But again, we present in the Appendix the correlogram of the residuals and the correlogram of squared residuals to additionally test for correlation and heteroskedasticity. The results for these tests proved that our results that the residuals of our model are serially uncorrelated and don't exhibit heteroskedasticity.

Model 1: Results

Dependent Variable: CARS(-1, 1)
Method: Least Squares
Sample: 1 72
Included observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TARCAR(-1,1)	-0.025875	0.014381	-1.799271	0.0765
DEAL	-0.001440	0.001747	-0.823924	0.4129
PERF	3.576066	2.270553	1.574976	0.1200
RELSIZE	0.001748	0.001340	1.304228	0.1966
C	0.005113	0.012678	0.403307	0.6880

R-squared	0.122255	Mean dependent var	0.002974
Adjusted R-squared	0.069852	S.D. dependent var	0.020465
S.E. of regression	0.019738	Akaike info criterion	-4.945649
Sum squared resid	0.026102	Schwarz criterion	-4.787548
Log likelihood	183.0434	F-statistic	2.332993
Durbin-Watson stat	1.883762	Prob(F-statistic)	0.064570

Model 1.1: Results

Dependent Variable: CARS(-1, 1)
SPECIFIC MODEL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TARCAR(-1,1)	-0.027593	0.014017	-1.968612	0.0530
PERF	3.892290	2.242273	1.735868	0.0871
C	0.005291	0.002669	1.982510	0.0514

R-squared	0.098254	Mean dependent var	0.002974
Adjusted R-squared	0.072116	S.D. dependent var	0.020465
S.E. of regression	0.019714	Akaike info criterion	-4.974228
Sum squared resid	0.026816	Schwarz criterion	-4.879366
Log likelihood	182.0722	F-statistic	3.759093
Durbin-Watson stat	1.897927	Prob(F-statistic)	0.028211

Model 1.2: Results

Dependent Variable: CARS(-1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TARCAR(-1, 1)	-0.029644	0.014166	-2.092608	0.0400
C	0.005714	0.002696	2.119597	0.0376

R-squared	0.058874	Mean dependent var	0.002974
Adjusted R-squared	0.045430	S.D. dependent var	0.020465
S.E. of regression	0.019995	Akaike info criterion	-4.959262
Sum squared resid	0.027987	Schwarz criterion	-4.896021
Log likelihood	180.5334	F-statistic	4.379007
Durbin-Watson stat	1.858686	Prob(F-statistic)	0.040011

In the following model we use as pre-merger concentration proxy the Herfindahl Index of each target's country at the end of the year before the announcement, trying to test the relation between the degree of local concentration and the intra-industry effects. Unfortunately, the limited number of data for the Herfindahl Index decreases the sample from 72 to only 44 observations. Therefore, the results should be treated with cautious. Presenting this model, my purpose is to examine if the inclusion of this variable (pre-merger concentration proxy) alter noticeably the implications of Model 1, rather to make any statistical inferences.

Model 2

$$RIVCARs(-1,+1) = \alpha + \beta_1 * RELSIZE + \beta_2 * PERF + \beta_3 * TARCARs(-1,+1) + \beta_4 * CONCRATIO + \varepsilon$$

- RIVCARs are the abnormal returns of 44 rival portfolios for the three-day event window computed from Market Model.
- RELSIZE is defined as the natural logarithm of median market capitalization of rival financial institutions of target (portfolio).
- PERF is the difference between rival firm's actual stock performance and the national general market index.
- TARCARs are the abnormal returns of 44 public targets for the three-day event window computed from Market Model.
- CONCRATIO is the Herfindahl Index of target's industry at the end of the year before the announcement of the transaction.
- The intercept term represents the portion of returns that is not explained by the other variables.
- The error term ε.
- β_i the coefficient for explanatory variable, $i \in [1,....,4]$

Model 2: Results

Dependent Variable: CARS(-1, 1)
Method: Least Squares
Sample: 1 44
Included observations: 44

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000195	0.016621	0.011737	0.9907
TARCAR(-1, 1)	-0.015731	0.019027	-0.826779	0.4134
RELSIZE	0.000677	0.002307	0.293710	0.7705
PERF	4.311659	3.826256	1.126861	0.2667
CONCRATIO	-0.015977	0.052161	-0.306296	0.7610

R-squared	0.077980	Mean dependent var	0.002614
Adjusted R-squared	-0.016586	S.D. dependent var	0.022096
S.E. of regression	0.022278	Akaike info criterion	-4.663770
Sum squared resid	0.019356	Schwarz criterion	-4.461022
Log likelihood	107.6029	F-statistic	0.824606
Durbin-Watson stat	2.021883	Prob(F-statistic)	0.517539

With the addition of the pre-merger concentration ratio as explanatory variable, none of the coefficients in the model are significant. The coefficient of target's CAR has the same sign (negative) while the coefficients of the performance and the size of rival firms remain positive, but as I said, insignificant. The coefficient which tries to capture the effects of the concentration ratio has a negative sign, as we expected. That is, the greater the market power of few firms in the industry, the lower would be the abnormal returns of rivals during the announcement of a merger. This happens because the hypothetically institutions would had already high market shares. The combination of them would result in a dominant firm which place the other players in competitive weakness. Again, the small number of observations, the negative adjusted R^2, which indicates a poorly fitting model, and the insignificant coefficients prevent us to making any reliable implications for the results of this model.

15. Conclusion

This study provides a comprehensive analysis of the stock market valuation of mergers and acquisitions in the European financial industry that have been announced from 2000 to 2006. This period has been characterized by an increase in the average value of transactions taken place and a remarkable move from domestic consolidation towards a cross-border process. Especially, at the last two years, cross-border merger activity was superior relative to domestic one. Another noteworthy factor was the large proportion of cash-based transaction, almost 70%-90% of the overall value of M&As, relative to previous waves. Under these novel characteristics and using an extensive dataset of 200 M&As and 1450 financial firms, we reported evidence on targets, acquirers and rival firms share returns from the announcement of the merger.

Our results document that there is a positive and significant increase in value for the target firm during the observation period of our study. As expected, targets earn highly abnormal returns ranging from 6% to 12%, depending on the analyzed event window. On the contrary, returns to shareholders of the acquiring firms were essentially zero around the announcement; abnormal returns were slightly negative or positive and this share price behaviour indicates that investors perceive M&As to be, on average, not net-present value investments to the acquiring financial institutions.

When we analyzed the abnormal returns for different type of deals in terms of their scope, size, geography and legal status of the target firm we found that there is a positive and significant market reaction around the announcement of the merger for the following type of transactions: 1) Acquirers (banks) bid up for insurance or brokerage firms. 2) Acquirers buy subsidiaries or private targets. 3) Acquirers earn more on relative small deals and 4) Activity focus transactions between insurance and brokerage firms. On the contrary, shareholder abnormal returns to the acquiring companies are negative when: 1) Acquirers buy public targets. 2) Activity focus transactions between banks. 3) Acquirers earn negative excess returns in large deals. While abnormal returns to acquirers fluctuate sufficiently according to the type of the deal, abnormal returns to targets are highly positive in all forms. We can only discriminate that shareholders of target firms earn more in 1) Cross-border deals and, 2) Small deals.

We further tested if there was indeed a net aggregate wealth creation to shareholders of the combined entity or the target shareholder gains were equal to acquirer shareholder losses. In fact, looking only at the two separate entities may give a partial and perhaps distorted interpretation of the market's reaction during the announcement of the deal. We constructed the combined portfolios using as weights two measures of relative size; total assets and market capitalization of target and acquirer. We also computed abnormal returns with two methodologies; market model and mean adjusted return model. The overall gains were significantly positive with all four combinations and this outcome indicates a net aggregate wealth creation for shareholders of the combined entity. Furthermore, part of this value enhancement is associated with relative size and ROA. The larger and more profitable the target is relative to the acquirer, the greater the abnormal returns for the combined entity.

In addition, we tried to determine whether the M&A announcement transmits intra-industry signals. To analyze this question, we constructed equally-weighted portfolios of rival firms that were headquartered in the same country as the target. The initial findings were somewhat predictable, but weak. We found that merger announcements generated positive intra-industry effects in all analyzed event windows except the two-day window (-1, 0). Unfortunately, this is the main event window in M&A literature. Thus, to further exploit the pattern of intra-industry abnormal returns we performed additional tests for rivals' CARs that offer us some interesting results. It seems that there is a break point for rivals' abnormal returns. Before that point, rivals prices run-up to anticipate the expected gains of a merger. But after that, the competition threat of a market-powerful, dominant financial institution causes rivals market values to decline. The magnitude of rivals' abnormal returns was also positively correlated with the size of the rival financial institution suggesting that relatively large rivals react positively in merger announcements mainly due to their competitive advantage.

As a next step, we constructed again rival portfolios but this time narrowing the criteria for identifying rivals. We selected them in the base of four-digit SIC code, trying to include firms with more similar operations and type of business in which they are engaged, with the target financial institutions. That is, we picked firms with greater similarities in terms of revenues and sales and we tested the hypothesis that intra-industry effects would be more favourable. Indeed, CARs for these rival

portfolios were to some extent higher, but the differences between the two categories were statistically insignificant. This weak marker reaction may arise from the variety of services (commercial, investment banking, insurance, and brokerage) that financial institutions simultaneously offer in Europe. The broader offering services attribute for a non clear-cut classification of European financial institutions and make somewhat noisy the identification of rival financial companies.

The potential benefits and economic value produced by financial institutions mergers is reflected in the positive, on average, reaction of capital markets to this type of activity. The combination of this positive response with the existing low levels of concentration in European banking industry may act as a predictor for the forthcoming M&A activity; while a large burst of merger activity already takes place, the prospective pan-European market offers greater possibilities for additional M&A waves.

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APPENDIX

In this session we include different statistical tests that account for serial correlation and heteroskedasticity in the residuals of the regressions in Chapters 13 and 14 (Cross sectional analysis). The correlograms of residuals and squared residuals are named according the corresponding Chapter/Section and model and are presented only at the printed version of this thesis. In addition, we present analytically our sample of European M&As in the financial industry, an additional test for the results in Chapter 11.1 (Full Sample) and the legal background of takeover bids in European Union. I present briefly the residuals tests:

Correlogram of Residuals

This view displays the autocorrelation and partial autocorrelation functions up to the specified order of lags. Autocorrelation (AC) is the correlation coefficient for values of the series k periods apart. If is nonzero, it means that the series is first order serially correlated. The dotted lines in the plots of the autocorrelations are the approximate two standard error bounds. If the autocorrelation is within these bounds, it is not significantly different from zero at the 5% significance level. Partial autocorrelation at lag k measures the correlation of y values that are k period apart after removing the correlation from the intervening lags. If the pattern of autocorrelation is one that can be captured by an autoregression of order less than k, then the partial autocorrelation at lag k will be close to zero. The last two columns reported in the correlogram are the Ljung-Box Q-statistics and their p-values. The Q-statistic at lag k is a test statistic for the null hypothesis that there is no autocorrelation up to order k.

Correlogram of Squared Residuals

This view displays the autocorrelation and partial correlation of the squared residuals up to any specified number of lags and computes the Ljung-Box Q-statistics and their p-values for the corresponding lags. The correlogram of squared residuals can be used to check autoregressive conditional heteroskedasticity (ARCH) in the residuals. If there is no ARCH in the residuals, the AC and PC should be zero at all lags and the Q-Statistics should not be significant. I use correlogram of squared residuals only at the intra-industry regressions where I did not estimate coefficients of the regression using White Method's to account for heteroskedasticity.

Differential estimation period

In previous studies, the number of trading days using to estimate expected returns range from 160 to 260. Here, we wanted to examine if the choice in the number of trading days at the estimation period has any impact in the results of section 11.1, and accordingly to the rest of the paper. We present in the following tables the average CARs for targets and acquirers with 260 trading days (our case) and 200 trading days. As we can see, the differences are almost zero in all analyzed event windows. Thus, our results are not biased from the length of the estimation period of our studies. The same pattern holds also for acquirers abnormal returns.

Cumulative daily abnormal returns

	Panel A : **Targets (N = 87)** Estimation Period : **260** trading days		Panel A : **Targets (N = 87)** Estimation Period: **200** trading days	
Event Window	CAR	t(CAR)	CAR	t(CAR)
(-15, 15)	*12,65%*	9,54*	*12,71%*	10,04*
(-10, 10)	*12,60%*	11,55*	*12,64%*	12,14*
(-10, 1)	*11,75%*	14,25*	*11,77%*	14,96*
(-5, 5)	*11,61%*	14,71*	*11,63%*	15,44*
(-2, 2)	*10,37%*	19,49*	*10,38%*	20,43*
(-1, 1)	*8,39%*	20,36*	*8,40%*	21,34*
(-1, 0)	*7,60%*	22,59*	*7,61%*	23,67*
t = 0	*6,12%*	25,70*	*6,12%*	26,93*

1. Table presents results of the event study for 87 public targets under two different selections of the estimation period. We calculate abnormal returns with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).

2. * significant at the 1% level.

Cumulative daily abnormal returns

	Panel A : Acquirers **(N = 172)**		Panel A : Acquirers **(N = 172)**	
	Estimation Period : **260** trading days		Estimation Period: **200** trading days	
Event Window	CAR	t(CAR)	CARs	t(CAR)
(-15, 15)	*-0,14%*	-0,16	*-0,29%*	-0,31
(-10, 10)	*-0,08%*	-0,11	*-0,18%*	-0,24
(-10, 1)	*-0,33%*	-0,58	*-0,39%*	-0,67
(-5, 5)	*-0,12%*	-0,22	*-0,17%*	-0,31
(-2, 2)	*0,14%*	0,37	*0,11%*	0,30
(-1, 1)	*0,23%*	0,82	*0,22%*	0,76
(-1, 0)	*0,24%*	1,02	*0,23%*	0,96
t = 0	*0,15%*	0,88	*0,14%*	0,84

1. Table presents results of the event study for 87 public targets under two different selections of the estimation period. We calculate abnormal returns with the mean adjusted return approach. Tests for significance are according to Kothari and Warner (1997).

Directive 2004/25/EC on Takeover Bids

Discussions on a European Directive on takeovers began over 20 years ago, with the aim of creating a Community-wide set of rules governing the conduct of takeovers across Europe. Following much negotiation and compromise, Directive 2004/25/EC on takeover bids (the Directive) was eventually adopted in May 2004, with implementation scheduled for 20 May 2006. This adoption was only achieved as the result of a controversial compromise which makes the two most important provisions (Article 9 and Article 11) of the Directive optional. Its aim of establishing a level playing field for takeovers across Europe was hindered by the level of compromise involved in agreeing the provisions of the Directive; as much it is not an "EU Takeover Code", but instead is a framework directive, establishing minimum standards for the regulation of takeovers.

Reflecting the freedom given to member states under the Directive to impose more stringent takeover rules where they see fit, countries are taking different approaches to implementation. The European Commission published a report in February 2007 on the implementation of the Directive and concluded that because many of the member states have used the options available in the Directive on key provisions, and in particular, the provisions restricting frustrating action new barriers to takeovers may in fact have been created rather than existing barriers being eliminated. The Commission says that, as a result, it will continue to closely monitor the way that the Directive is operating in practice and may bring forward a full review.

I will briefly present the general principles and the two main articles of the Directive.

General Principles

1. All target shareholders of the same class must be afforded equal treatment; in addition, if a person acquires control of a company, the other holders of securities must be protected.

2. Target shareholders must have sufficient time and information to enable them to reach a properly informed decision on the bid; when advising its shareholders, the target board must give its views on the effect of the bid on employment, conditions of employment and location of place of business of the target.

3. The target board must act in the interests of the company as a whole and must not deny shareholders the opportunity to decide on the merits of a bid.

4. False markets must not be created in the shares of the bidder, the target, or any other company involved in the bid, such that the price of the securities concerned artificially rises or falls and the normal functioning of the markets is distorted.

5. A bidder must announce a bid only after taking all reasonable measures to secure the implementation in full of the consideration offered.

6. A target company must not be hindered in the conduct of its business by a bid for its shares for longer than is reasonable.

Article 9 - Obligations of the board of the offeree company

Article 9 requires Member States to ensure that the board of the offeree company refrains from taking any defensive measures that may result in the frustration of the bid unless it has the prior authorisation of the general meeting of shareholders for the purpose. Where control of the offeree company is at stake, it is important to ensure that its fate is decided by its shareholders. The authorisation of the general meeting must therefore be given explicitly with a view to responding to a specific bid. The Directive does not define the measures which can frustrate a bid. In general, such measures may be all operations which are not carried out in the normal course of the company's business or not in conformity with normal market practices. The board of the offeree company must also be required by national rules to give its opinion on the bid, together with the reasons on which it is based, in a report setting out the arguments for and against acceptance of the offer. The offeree company's employees should be associated with the opinion and should be able, if they disagree, to communicate their own opinion at the same time. These opinions are addressed to the shareholders, who have the responsibility to decide on the bid. Member States are allowed a transitional period for the application of this provision.

Article 11 - Unenforceability of restrictions on the transfer of securities and voting rights

This new Article reflects the need to level the playing field in takeover bids in the European Union by banning certain legal restrictions that can be regarded as hindering bids. It therefore proposes that:

– Any restrictions on the right of ownership which may prevent the offeror from acquiring securities of the offeree company, such as limitations on ownership or a right for the company or other holders of securities to veto any transfer of securities, should be rendered unenforceable against the offeror.

– Any restrictions on voting rights which prevent holders of the offeree company's securities from exercising their rights when the general meeting decides on defensive measures after a bid has been announced, such as limits on voting rights, deadlines for exercising voting rights or agreements between holders of securities, should be rendered ineffective. In accordance with the principle laid down in Article 9, holders of securities should be able to make a completely free and properly informed decision on the bid

– Any restrictions on the transfer of securities and on voting rights, as well as any special rights of shareholders concerning the appointment or removal of board members, which may prevent an offeror who holds sufficient securities of the offeree company from exercising the corresponding voting rights in order to amend the company's articles of association should be lifted at the first general meeting following closure of the bid. "Sufficient securities" means a particular percentage which is normally required under the relevant national law for taking such decisions.

It should be noted that securities without voting rights are not regarded as restrictions in so far as they carry a preferential entitlement to a share in the profits or liquidation surplus. These provisions are aimed at measures that could result in management entrenchment; they do not concern securities carrying double or multiple voting rights. It can be argued that securities with multiple voting rights form part of a system for financing companies and that there is no proof that their existence renders

takeover bids impossible. The same applies to securities with double voting rights, which may make for a stable shareholder base.

Member states are at various stages of implementation. I will present in the following table the implementation process for these countries that I was able to find legal actions.

Country	Is it applying Article 9?	Is it applying Article 11?
France	YES	NO
Germany	NO	NO
Netherlands	NO	NO
United Kingdom	YES	NO

Date Announced	Date Effective	Target Name	Acquiror Full Name	Target Nation	Acquiror Nation	Target Public Status	Acq. Public Status	Value of Transaction ($mil)
3/11/2006	3/11/2006	Kensington Mortgage Co Ltd	Bradford & Bingley PLC	United Kingdom	United Kingdom	Sub.	Public	399,32
13/10/2006	14/12/2006	GE Life	Swiss Reinsurance Co	United Kingdom	Switzerland	Sub.	Public	863,27
11/10/2006	22/12/2006	Hawkpoint Partners Ltd	Collins Stewart Tullett PLC	United Kingdom	United Kingdom	Priv.	Public	259,58
29/9/2006	29/9/2006	DZI Bank	EFG Eurobank Ergasias SA	Bulgaria	Greece	Public	Public	200,72
12/9/2006	11/12/2006	Vojvodjanska Banka ad	National Bank of Greece SA	Serbia	Greece	Govt.	Public	456,73
26/8/2006	31/12/2006	SanPaolo IMI SpA	Banca Intesa SpA	Italy	Italy	Public	Public	37.624,24
4/8/2006	3/11/2006	Norisbank AG-Branches(98)	Deutsche Bank AG	Germany	Germany	Sub.	Public	537,81
28/7/2006	28/7/2006	Panonska Banka ad	SanPaolo IMI SpA	Serbia & Mont.	Italy	Govt.	Public	156,17
21/7/2006	24/7/2006	eBanka AS	Raiffeisen International Bank- Holding AG	Czech Republic	Austria	Sub.	Public	165,05
20/7/2006	13/10/2006	Modra Pyramida Stavebni Sporitelna	Komercni Banka AS	Czech Republic	Czech Republic	Sub.	Public	182,55
14/7/2006	14/7/2006	Centro Asegurador Cia de Seguros	Assicurazioni Generali SpA	Spain	Italy	Priv.	Public	379,65
5/7/2006	21/11/2006	Revios Rueckversicherung AG	Societe Commerciale de Reassurance SA	Germany	France	Priv.	Public	769,80
4/7/2006	12/12/2006	Marfin Investment Group Holdings S	Cyprus Popular Bank Ltd	Greece	Cyprus	Public	Public	1.895,52
3/7/2006	30/10/2006	Investsberbank	Orszagos Takarekpenztar Bank	Russian Fed	Hungary	Priv.	Public	477,00
26/6/2006	4/10/2006	Toro Assicurazioni SpA	Assicurazioni Generali SpA	Italy	Italy	Public	Public	2.693,24
14/6/2006	22/12/2006	Winterthur Schweizerische	AXA SA	Switzerland	France	Sub.	Public	9.988,63
13/6/2006	24/8/2006	Emporiki Bank SA	Credit Agricole SA	Greece	France	Public	Public	2.650,24
7/6/2006	1/9/2006	Scottish Mutual Assurance PLC	Resolution PLC	United Kingdom	United Kingdom	Sub.	Public	6.693,48
31/5/2006	17/10/2006	DenizBank Financial Services Group	Dexia Participation Belgique SA	Turkey	Belgium	Public	Sub.	2.428,57
24/5/2006	4/7/2006	Banco Urquijo SA	Banco Sabadell SA	Spain	Spain	Sub.	Public	969,69
21/4/2006	5/6/2006	EBS Group Ltd	ICAP PLC	United Kingdom	United Kingdom	Priv.	Public	823,01
20/4/2006	30/6/2006	HVB Splitska Banka dd	Societe Generale SA	Croatia	France	Sub.	Public	1.231,91
3/4/2006	18/8/2006	Finansbank AS	National Bank of Greece SA	Turkey	Greece	Public	Public	2.258,16
20/3/2006	21/6/2006	Second Alliance Trust	Alliance Trust PLC	United Kingdom	United Kingdom	Public	Public	1.033,25
10/3/2006	17/11/2006	Natexis Banques Populaires	CNCE	France	France	Public	Sub.	13.749,07
21/2/2006	4/5/2006	NewFinance Capital LLP	Schroders PLC	United Kingdom	United Kingdom	Priv.	Public	247,89
3/2/2006	24/7/2006	Banca Nazionale del Lavoro SpA	BNP Paribas SA	Italy	France	Public	Public	5.944,13
31/1/2006	4/10/2006	2S Banca SpA	Societe Generale SA	Italy	France	Sub.	Public	736,43
27/1/2006	17/5/2006	CaixaBank France SA	Boursorama SA	France	France	Sub.	Public	278,90
25/1/2006	30/5/2006	Liguria Assicurazioni	Fondiaria-SAI SpA	Italy	Italy	Sub.	Public	190,72
20/12/2005	12/10/2006	Banca Comerciala Romana	Erste Bank der Oesterreichischen Sparkassen	Romania	Austria	Priv.	Public	4.699,06
15/11/2005	31/3/2006	Eurohypo AG	Commerzbank AG	Germany	Germany	Public	Public	5.344,02

15/9/2005	2/1/2006	Banca Antonveneta SpA	ABN AMRO Bank NV	Italy	Netherlands	Public	Sub.	2.589,53
12/9/2005	18/10/2005	Pohjola-Yhtyma Oyj	Osuuspankkien Keskuspankki {OKO Bank}	Finland	Finland	Public	Public	1.481,57
5/9/2005	2/12/2005	Ehinger & Armand von Ernst AG	Julius Baer Holding AG	Switzerland	Switzerland	Sub.	Public	4.546,19
11/8/2005	28/11/2005	DeltaCredit Bank	Societe Generale SA	Russian Fed	France	Sub.	Public	100,04
9/8/2005	28/2/2006	ZAO United Financial Group	Deutsche Bank AG	Russian Fed	Germany	Priv.	Public	400,00
7/7/2005	30/9/2005	Deutsche Asset Management Group	Aberdeen Asset Management PLC	United Kingdom	United Kingdom	Sub.	Public	464,68
5/7/2005	31/12/2005	FinecoGroup SpA	Capitalia SpA	Italy	Italy	Public	Public	1.592,93
22/6/2005	13/12/2005	Sampo Powszechne Towarzystwo	Nordea Bank AB	Poland	Sweden	Sub.	Public	115,19
30/5/2005	23/11/2005	Bayerische Hypo-und Vereinsbank	Unicredito Italiano SpA	Germany	Italy	Public	Public	18.256,50
13/5/2005	5/6/2006	Foersaekrings AB Skandia	Old Mutual PLC	Sweden	United Kingdom	Public	Public	5.993,41
11/5/2005	25/7/2005	Uni One Assicurazioni SpA	Societa Cattolica di Assicurazione Scrl	Italy	Italy	Sub.	Public	126,92
19/4/2005	16/12/2005	Finaxa SA	AXA-UAP SA	France	France	Public	Public	7.066,23
12/4/2005	4/7/2005	Turk dis Ticaret Bankasi	Fortis Group NV	Turkey	Belgium	Public	Public	1.136,07
11/4/2005	1/6/2005	Iveco Finance Holdings Ltd	Barclays PLC	Italy	United Kingdom	Sub.	Public	145,05
22/3/2005	2/1/2006	BHW Holding AG	Deutsche Postbank AG	Germany	Germany	Public	Public	2.168,78
14/2/2005	9/8/2005	Delta Bank	Banca Intesa SpA	Serbia & Mont.	Italy	Priv.	Public	432,24
31/1/2005	28/9/2005	Yapi Ve Kredi Bankasi AS	Koc Finansal Hizmetler AS	Turkey	Turkey	Public	J.V.	1.396,76
26/1/2005	3/2/2005	Jubanka AD	Alpha Bank AE	Serbia & Mont.	Greece	Sub.	Public	198,82
28/12/2004	19/7/2005	Investkredit Bank AG	Oesterreichische Volksbanken AG	Austria	Austria	Public	Public	511,47
23/12/2004	3/3/2005	Almanij NV	KBC Bank & Insurance Holding NV	Belgium	Belgium	Public	Public	20.891,21
14/12/2004	1/3/2005	Northern Bank Ltd	Danske Bank A/S	United Kingdom	Denmark	Sub.	Public	1.863,51
10/12/2004	6/5/2005	Carr Sheppards Crosthwaite Ltd	Rensburg PLC	United Kingdom	United Kingdom	Sub.	Public	375,52
8/12/2004	10/3/2005	Nova Banka dd	Orszagos Takarekpenztar Bank	Croatia	Hungary	Priv.	Public	316,69
22/11/2004	21/2/2005	Hanseatic Bank GmbH & KG Co	Societe Generale SA	Germany	France	Priv.	Public	247,85
15/11/2004	9/2/2005	Copenhagen Stock Exchange A/S	OMX AB	Denmark	Sweden	Priv.	Public	212,90
15/11/2004	13/5/2005	Bolig-og Naeringsbanken AS	Islandsbanki hf	Norway	Iceland	Public	Public	287,43
10/11/2004	17/2/2005	FinecoVita Cia di Assicurazioni	Caisse Nationale de Prevoyance SA	Italy	France	Sub.	Public	741,74
28/10/2004	31/10/2005	ING BHF-SME Credit Portfolio	Bayerische Hypo-und Vereinsbank AG	Germany	Germany	Sub.	Public	178,46
26/10/2004	11/1/2005	Lombard International Assurance	Friends Provident PLC	Luxembourg	United Kingdom	Priv.	Public	563,74
26/10/2004	12/1/2005	Australia & New Zealand Banking	Standard Chartered PLC	United Kingdom	United Kingdom	Sub.	Public	1.500,00
24/9/2004	13/10/2004	FPG Holdings Ltd	Collins Stewart Tullett PLC	United Kingdom	United Kingdom	Priv.	Public	125,37
23/7/2004	12/11/2004	Abbey National PLC	Santander Central Hispano SA	United Kingdom	Spain	Public	Public	15.787,49
20/7/2004	30/9/2004	CenE Bankiers NV	F van Lanschot Bankiers NV	Netherlands	Netherlands	Sub.	Public	307,88
19/7/2004	28/1/2005	Ocidental-Cia Portuguesa de Seguros	Fortis Group NV	Portugal	Belgium	Sub.	Public	622,28
12/7/2004	9/11/2004	Marks & Spencer Retail Financial	HSBC Holdings PLC{HSBC}	United Kingdom	United Kingdom	Sub.	Public	1.418,69

1/7/2004	1/7/2004	SPP Fondforsakring AB	Svenska Handelsbanken AB	Sweden	Sweden	Priv.	Public	145,92
14/6/2004	29/9/2004	FIH Erhvervsbank A/S	Kaupthing Bunadarbanki hf	Denmark	Iceland	Sub.	Public	1.147,13
24/5/2004	31/12/2004	WestfalenBank AG	Bayerische Hypo-und Vereinsbank AG	Germany	Germany	Sub.	Public	138,01
14/4/2004	24/8/2004	Life Assurance Holding Corp	Swiss Reinsurance Co	United Kingdom	Switzerland	Priv.	Public	612,65
14/4/2004	5/5/2004	Coats Group Ltd	Guinness Peat Group PLC	United Kingdom	United Kingdom	J.V.	Public	119,51
31/3/2004	5/8/2004	Elcon Finans AS-Leasing & Factoring	Societe Generale SA	Norway	France	Sub.	Public	197,09
10/3/2004	22/6/2004	Institut de Participations de {IPO}	Credit Industriel et Commercial{CIC}	France	France	Public	Public	103,49
16/2/2004	6/5/2004	Rue Imperiale de Lyons SA	Eurazeo SA	France	France	Public	Public	1.451,38
13/2/2004	30/11/2004	Fideuram Vita SpA	SanPaolo IMI SpA	Italy	Italy	Sub.	Public	804,47
11/2/2004	6/5/2004	If Skadeforsakring Holding AB	Sampo Oyj	Sweden	Finland	Priv.	Public	1.735,49
10/2/2004	30/4/2004	Laing & Cruickshank Investment	UBS AG	United Kingdom	Switzerland	Sub.	Public	298,86
19/1/2004	19/1/2004	Cassa di Risparmio di Alessandria	Banca Popolare di Milano Scarl	Italy	Italy	Sub.	Public	350,92
19/12/2003	24/2/2004	Banco Atlantico SA	Banco Sabadell SA	Spain	Spain	Public	Public	1.840,57
19/12/2003	31/3/2004	Banca BNL Investimenti SpA	Riunione Adriatica di Securita SpA	Italy	Italy	Sub.	Public	124,36
10/12/2003	30/1/2004	Bankhaus Gebrueder Bethmann	ABN-AMRO Holding NV	Germany	Netherlands	Sub.	Public	134,36
5/12/2003	22/12/2003	Canary Wharf Group PLC-Canada	Royal Bank of Scotland Group PLC	United Kingdom	United Kingdom	Sub.	Public	1.925,09
18/11/2003	3/2/2004	Seguros Bilbao	Assegurances Catalana d'Occident	Spain	Spain	Sub.	Public	299,72
6/10/2003	5/1/2004	First Active PLC	Royal Bank of Scotland Group PLC	Ireland-Rep	United Kingdom	Public	Public	1.039,03
30/9/2003	30/9/2003	Absolute Invest AG	Absolute US AG	Switzerland	Switzerland	Public	Sub.	300,37
25/9/2003	16/12/2003	Postabank Rt	Erste Bank der Oesterreichischen Sparkassen	Hungary	Austria	Sub.	Public	456,56
6/8/2003	3/11/2003	Zurich Life Assurance Co Ltd	Swiss Reinsurance Co	United Kingdom	Switzerland	Sub.	Public	240,00
21/7/2003	1/12/2003	ING Sviluppo Investimenti SIM SpA	Unicredito Italiano SpA	Italy	Italy	Sub.	Public	124,76
18/7/2003	4/2/2004	Entenial SA	Credit Foncier de France SA	France	France	Public	Public	510,77
11/7/2003	21/7/2003	Le Continent	Assicurazioni Generali SpA	France	Italy	Sub.	Public	327,32
11/7/2003	22/7/2003	Credibe NV-Mortgage Portfolio	ABN-AMRO Holding NV	Belgium	Netherlands	Sub.	Public	222,80
20/6/2003	31/7/2003	Theodoor Gilissen Bankiers NV	Kredietbank Luxembourg SA{KBL}	Netherlands	Luxembourg	Sub.	Public	197,40
12/6/2003	1/7/2003	HDI Reinsurance(Ireland)Ltd	Hannover Rueckversicherung AG	Ireland-Rep	Germany	Sub.	Public	382,60
11/6/2003	1/9/2003	Churchill Insurance Co Ltd	Royal Bank of Scotland Group PLC	United Kingdom	United Kingdom	Sub.	Public	1.831,72
5/6/2003	1/12/2003	Alpha Investments SA	Alpha Bank AE	Greece	Greece	Public	Public	215,20
5/6/2003	17/7/2003	Nuova MAA	Milano Assicurazioni SpA	Italy	Italy	Sub.	Public	193,18
20/5/2003	27/8/2003	HEX Oyj	OM AB	Finland	Sweden	Priv.	Public	192,41
13/5/2003	2/10/2003	DSK Bank EAD	Orszagos Takarekpenztar Bank	Bulgaria	Hungary	Govt.	Public	358,58
8/5/2003	16/7/2003	Banco Zaragozano SA	Barclays Bank SA	Spain	Spain	Public	Sub.	1.298,45
17/4/2003	24/4/2004	Banca Popolare di Cremona SCARL	Banca Popolare di Lodi Scarl	Italy	Italy	Public	Public	730,62
14/4/2003	26/5/2003	Bunadarbanki Islands hf	Kaupthing Bank HF	Iceland	Iceland	Public	Public	377,67

13/3/2003	4/12/2003	Gjensidige NOR ASA	Den Norske Bank Holding ASA	Norway	Norway	Public	Public	2.725,06
3/3/2003	4/3/2003	Finconsumo SpA	Santander Central Hispano SA	Italy	Spain	J.V.	Public	151,00
5/2/2003	23/7/2003	Entrium Direct Bankers AG	Allgemeine Deutsche Direktbank AG	Germany	Germany	Public	Sub.	323,61
23/1/2003	10/3/2003	Tullett PLC	Collins Stewart Holdings PLC	United Kingdom	United Kingdom	Priv.	Public	345,16
20/12/2002	31/12/2003	Nordlandsbanken A/S	Den Norske Banken Corporate (Pareto A/S)	Norway	Norway	Public	Sub.	147,95
18/12/2002	18/12/2002	Yes Car Credit	Provident Financial PLC	United Kingdom	United Kingdom	Priv.	Public	225,25
16/12/2002	27/5/2003	Credit Lyonnais SA	Caisse Nationale de Credit Agricole SA	France	France	Public	Priv.	16.242,82
15/12/2002	25/6/2003	Banca Popolare Commercio Industria	Banca Popolare di Bergamo- Credito Varesino	Italy	Italy	Public	Public	1.306,36
6/12/2002	22/1/2003	Banco di Chiavari e della Riviera	Banca Popolare di Lodi Scarl	Italy	Italy	Public	Public	405,24
6/11/2002	31/3/2003	Ergoinvest SA	EFG Eurobank Ergasias SA	Greece	Greece	Public	Public	177,02
25/10/2002	23/12/2002	FACET	BNP Paribas SA	France	France	Sub.	Public	848,32
22/10/2002	31/3/2003	Seguros E Pensoes Group	Banco Comercial Portugues SA	Portugal	Portugal	Sub.	Public	775,90
21/10/2002	6/11/2002	GNI Holdings Ltd	Man Group PLC	United Kingdom	United Kingdom	Sub.	Public	154,55
23/9/2002	6/11/2002	Schweizerische Lebensversicherungs	Swiss Life Holding AG	Switzerland	Switzerland	Public	Public	734,00
6/8/2002	6/8/2002	Ceska Sporitelna Savings Bank	Erste Bank der Oesterreichischen Sparkassen	Czech Republic	Austria	Public	Public	679,14
26/7/2002	26/7/2002	Funeuropa Biztosito	Uniqa Versicherungen AG	Hungary	Austria	Sub.	Public	1.674,06
4/7/2002	1/8/2002	Legal & General Bank Ltd,Legal	Northern Rock PLC	United Kingdom	United Kingdom	Sub.	Public	201,15
30/5/2002	11/7/2002	Beeson Gregory PLC	Evolution Group PLC	United Kingdom	United Kingdom	Public	Public	133,84
30/5/2002	29/12/2002	Societa Assicuratrice {SAI}	Fondiaria Assicurazioni SpA	Italy	Italy	Public	Public	1.663,66
28/5/2002	13/7/2002	Tecis Holding AG	AWD Holding AG	Germany	Germany	Public	Public	232,53
23/5/2002	31/5/2002	RMF Investment Group	Man Group PLC	Switzerland	United Kingdom	Priv.	Public	832,42
14/5/2002	31/7/2002	Sanpaolo Invest SIM	Banca Fideuram SpA(	Italy	Italy	Sub.	Public	507,55
10/5/2002	1/7/2002	Compagnia di San Paolo Investimenti	SanPaolo IMI SpA	Italy	Italy	Sub.	Public	401,80
3/5/2002	15/7/2003	Cie Monegasque de Banque Monaco	Mediobanca-Banca di Credito Finanziario SpA	Monaco	Italy	Priv.	Public	282,08
30/4/2002	1/7/2002	RSA Investments	Friends Ivory & Sime PLC	United Kingdom	United Kingdom	Sub.	Public	350,18
18/4/2002	2/6/2003	Hamburgische Landesbank Giro	Landesbank Schleswig-Holstein Girozentrale	Germany	Germany	Public	Govt.	1.851,07
12/4/2002	29/4/2002	Rijecka Banka	Erste Bank der Oesterreichischen Sparkassen	Croatia	Austria	Public	Public	136,23
2/4/2002	2/4/2002	Coface	Natexis Banques Populaires	France	France	Public	Public	248,45
30/1/2002	31/1/2002	Hermes Kreditversicherungs AG	Euler SA	Germany	France	Sub.	Public	460,74
8/1/2002	31/5/2002	Skandia Asset Management	Den Norske Bank Holding ASA	Sweden	Norway	Sub.	Public	308,00
24/12/2001	18/2/2002	Antfactory Holdings Ltd	Seymour Pierce Group PLC	United Kingdom	United Kingdom	Priv.	Public	132,75
20/12/2001	20/12/2001	Slovenska Poistovna	Allianz AG	Slovak Rep	Germany	Govt.	Public	127,21
14/12/2001	1/7/2002	Rolo Banca 1473(Credito Italiano)	Unicredito Italiano SpA	Italy	Italy	Public	Public	4.169,18
14/11/2001	1/6/2002	Banca Popolare di Novara Scarl	Banca Popolare di Verona	Italy	Italy	Public	Public	1.777,52
31/10/2001	20/3/2002	Hellenic Industrial Development Bank	Bank of Piraeus SA	Greece	Greece	Public	Public	798,67

30/10/2001	13/8/2002	Rheinische Hypothekenbank AG (	Deutsche Hypothekenbank Frankfurt Hambur.	Germany	Germany	Public	Public	1.831,94
30/10/2001	13/8/2002	Eurohypo AG(Deutsche Bank AG)	Deutsche Hypothekenbank Frankfurt Hambur.	Germany	Germany	Public	Public	2.084,40
23/10/2001	4/3/2002	Zagrebacka Banka dd	Investor Group	Croatia	Italy	Public	Priv.	404,70
18/10/2001	25/2/2002	Banka Koper	San Paolo Bank, Italy	Slovenia	Italy	Public	Public	102,40
17/10/2001	1/6/2002	Cardine Banca SpA	SanPaolo IMI SpA	Italy	Italy	Priv.	Public	5.323,57
27/9/2001	17/12/2001	Fortis(NL)NV	Fortis (B)	Netherlands	Belgium	Public	Public	12.469,95
5/9/2001	2/10/2001	Kredyt Bank PBI SA	KBC Bank & Insurance Holding NV	Poland	Belgium	Public	Public	205,50
2/7/2001	14/12/2001	Finansbank AS	BNP Paribas SA	Turkey	France	Public	Public	180,80
28/6/2001	5/10/2001	Komercni Banka AS	Societe Generale SA	Czech Republic	France	Public	Public	1.020,00
27/6/2001	27/6/2001	Vseobcna Uvervo Banka AS	IntesaBci SpA	Slovak Rep	Italy	Public	Public	473,06
25/6/2001	16/5/2002	AKB Privat & Handelsbank AG	Banco Santander Central Hispano SA	Germany	Spain	Sub.	Public	876,67
1/6/2001	1/10/2001	IntesaBCI SpA-Branches(60)	Banca Carige SpA	Italy	Italy	Sub.	Public	254,04
29/5/2001	26/7/2001	Interamerican SA	Eureko BV	Greece	Netherlands	Public	Priv.	840,15
22/5/2001	19/7/2001	Kempen & Co NV	Dexia SA	Netherlands	Belgium	Public	Public	921,39
4/5/2001	10/9/2001	Bank of Scotland PLC	Halifax Group PLC	United Kingdom	United Kingdom	Public	Public	14.904,44
12/4/2001	11/4/2002	Versicherung Holding der Deutsche	Zurich Financial Services AG	Germany	Switzerland	Sub.	Public	1.067,42
11/4/2001	14/5/2001	Midtbank A/S	Svenska Handelsbanken AB	Denmark	Sweden	Public	Public	262,77
6/4/2001	31/5/2001	Calve-Delft Bel Mij	Fortis(NL)NV	Netherlands	Netherlands	Public	Public	918,56
4/4/2001	31/7/2001	Sorema SA.	Societe Commerciale de Reassurance SA	France	France	Priv.	Public	285,43
1/4/2001	13/7/2001	Dresdner Bank AG	Allianz AG	Germany	Germany	Public	Public	19.655,94
16/3/2001	3/12/2001	Telesis Investment Bank	EFG Eurobank Ergasias SA	Greece	Greece	Public	Public	339,72
13/3/2001	3/7/2001	Artesia Banking Corp NV/SA	Dexia SA	Belgium	Belgium	Sub.	Public	297,69
2/2/2001	13/3/2001	Friends Provident Life Office Group	Friends Ivory & Sime PLC	United Kingdom	United Kingdom	Sub.	Public	191,01
20/1/2001	20/4/2001	SKB Banka dd	Societe Generale SA	Slovenia	France	Public	Public	133,57
20/12/2000	12/2/2001	SPP Livforsakring AB,SPP Fonder	Svenska Handelsbanken AB	Sweden	Sweden	Priv.	Public	728,46
20/12/2000	26/6/2001	Banca di Legnano	Banca Popolare di Milano Scarl	Italy	Italy	Public	Public	600,60
19/12/2000	19/12/2000	Germany-Housing Trust Receivables	Bayerische Hypotheken & Vereinsbank AG	Germany	Germany	Sub.	Public	830,01
13/12/2000	11/1/2001	Slovenska Sporitelna AS	Erste Bank der Oesterreichischen Sparkassen	Slovak Rep	Austria	Govt.	Public	367,32
5/12/2000	20/4/2001	TSB Bank(Ireland)	Irish Life & Permanent PLC	Ireland-Rep	Ireland-Rep	Govt.	Public	382,48
5/12/2000	13/2/2001	ICC Bank PLC	Bank of Scotland PLC	Ireland-Rep	United Kingdom	Public	Public	308,82
4/12/2000	5/12/2001	Mandatum Pankki	Vakuutusosakeyhtio Sampo	Finland	Finland	Public	Public	297,85
21/11/2000	29/6/2001	Banca Carime SpA	Banca Popolare Commercio e Industria Scrl	Italy	Italy	Sub.	Public	1.003,11
13/11/2000	13/4/2001	Euralux SA(Eurafrance)	Mediobanca-Banca di Credito Finanziario SpA	Luxembourg	Italy	Sub.	Public	1.064,81
19/10/2000	7/12/2000	Perpetual PLC	Amvescap PLC	United Kingdom	United Kingdom	Public	Public	1.513,05
11/10/2000	30/11/2000	Murray Johnstone Holdings Ltd	Aberdeen Asset Management PLC	United Kingdom	United Kingdom	Sub.	Public	218,31

9/10/2000	14/12/2000	ASR Verzekeringsgroep	Fortis(NL)NV	Netherlands	Netherlands	Public	Public	3.689,07
2/10/2000	28/3/2001	RealDanmark A/S	Danske Bank A/S	Denmark	Denmark	Public	Public	3.079,53
21/9/2000	22/12/2000	Zwolsche Algemeene NV	Assurances Generales de France SA{AGF}	Netherlands	France	Sub.	Public	553,47
20/9/2000	29/11/2000	Powszechne Towarzystwo Emerytalne	Vakuutusosakeyhtio Sampo	Poland	Finland	Sub.	Public	160,72
13/9/2000	8/11/2000	Cie Parisienne de Reescompte	Banque Indosuez(CNCA)	France	France	Public	Sub.	295,05
7/9/2000	1/8/2001	Scottish Provident Institution	Abbey National PLC	United Kingdom	United Kingdom	Priv.	Public	2.589,12
28/8/2000	22/11/2000	Vilniaus Bank	Skandinaviska Enskilda Banken AB	Lithuania	Sweden	Public	Public	115,76
17/8/2000	1/12/2000	Bayerische Vita(BBV)	Ergo Versicherungsgruppe AG	Italy	Germany	Public	Public	589,13
11/8/2000	25/10/2000	Woolwich PLC	Barclays PLC	United Kingdom	United Kingdom	Public	Public	7.962,51
22/7/2000	1/2/2001	Bank Austria AG	Bayerische Hypo-und Vereinsbank AG	Austria	Germany	Public	Public	7.317,01
21/6/2000	31/10/2000	Banco di Napoli Holding SpA	SanPaolo IMI SpA	Italy	Italy	Priv.	Public	892,55
20/6/2000	20/6/2000	Apax Partners & Co Ltd	Gold-Zack AG	United Kingdom	Germany	Sub.	Public	268,01
5/6/2000	20/7/2000	United Bulgarian Bank	National Bank of Greece SA	Bulgaria	Greece	Priv.	Public	207,00
29/5/2000	5/9/2000	Berliner Effektenbank AG	ConSors Discount Broker AG	Germany	Germany	Priv.	Public	226,33
29/4/2000	10/5/2000	Duomo Assicurazioni	Cia Assicuratrice Unipol SpA	Italy	Italy	Priv.	Public	121,68
19/4/2000	30/3/2001	Banco di Sardegna SpA	Banca Popolare dell' Emilia Romagna{BPER}	Italy	Italy	Public	Public	257,24
19/4/2000	2/12/2000	Banca Popolare di Crema	Banca Popolare di Lodi Scarl	Italy	Italy	Public	Public	366,93
17/4/2000	16/10/2000	Allied Zurich PLC	Zurich Allied AG	United Kingdom	Switzerland	Public	Public	19.399,10
6/4/2000	31/12/2000	Aurora Assicurazioni	Cia Assicuratrice Unipol SpA	Italy	Italy	Priv.	Public	237,12
1/4/2000	18/7/2000	Credit Commercial de France {CCF}	HSBC Holdings PLC{HSBC}	France	United Kingdom	Public	Public	11.100,00
31/3/2000	19/6/2000	Banco Pinto & Sotto Mayor SA	Banco Comercial Portugues SA	Portugal	Portugal	Public	Public	1.857,56
14/3/2000	2/8/2000	Labouchere NV(Aegon NV)	Dexia SA	Netherlands	Belgium	Public	Public	867,09
6/3/2000	28/4/2000	Unidanmark A/S	MeritaNordbanken	Denmark	Finland	Public	Sub.	4.425,78
22/2/2000	19/4/2000	United Assurance Group	Royal London Mutual Insurance Society Ltd	United Kingdom	United Kingdom	Public	Priv.	2.462,57
21/2/2000	30/5/2000	Norwich Union PLC	CGU PLC	United Kingdom	United Kingdom	Public	Public	11.858,33
17/1/2000	19/4/2000	Alpinvest Holding NV	NIB Capital NV	Netherlands	Netherlands	Public	J.V.	832,18
12/1/2000	12/1/2000	Banco Mello SA(Grupo Mello)	Banco Comercial Portugues SA	Portugal	Portugal	Public	Public	466,80