

## **Strategic Alliances and Joint Ventures Results in Banking**

### **Abstract**

A large number of studies (DeYoung et al., 2009) analyze merger outcomes in the financial industry, while other forms of business cooperation are still poorly investigated. Our paper examines results of strategic alliances and joint ventures in European and US banking over the period 1999 and 2009. First, we estimate Abnormal Returns around the deal announcement date and then these are regressed on a large set of explanatory variables. We show that joint ventures create shareholder value when involve non-banking financial partners and allow banks to expand abroad; domestic strategic alliances also lead banks to create shareholder value.

*Very preliminarily draft*

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## **1.Introduction**

Most industries have experienced worldwide a trend towards greater integration and consolidation during the last 20 years. Looking at the volume of mergers and acquisition (M&A) transactions, this has boosted over the last few years: according to Thomson Financial (2007), the volume of worldwide M&As during 2007 reached US\$ 4.5 trillion in announced deals and US\$3.8 trillion in completed deals, i.e. a 24% increase over the previous record set in 2006. From 2000, the volume of M&A deals has increased by 32%, despite the falloff during the third quarter of 2007 caused by concerns in the credit markets. The M&As phenomenon concerns all countries worldwide (table 1): in 2007, M&A deals increased by 25% in North America (reaching a volume of almost US\$2.0 trillion over 2007, i.e. 52% of M&A deals value worldwide), by 18% in Europe (reaching a volume of almost US\$1.3 trillion over 2007, i.e. 34% of M&A deals value worldwide) and they strongly increased also in the Asian-Pacific area by 61% (reaching a volume of almost US\$0.4 trillion over 2007, i.e. 10% of M&A deals value worldwide). Regarding the type of deals, the M&A cross-border activity accounted for 47% of worldwide activity in 2007 as global consolidation continued to drive activity in various sectors. Given the importance of the consolidation phenomenon, it is not surprising that there is an extensive literature: most papers dealing with consolidation and integration have focused on M&As (Campa and Hernando, 2004; Martynova and Renneboog, 2008), but there is also a substantial literature assessing results of other forms of cooperation for non-financial companies, such as strategic alliances and joint ventures (Koh and Venkatraman, 1991; Merchant and Schendel, 2000; Meschi and Cheng, 2002; Gulati et al., 2009).

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The consolidation and integration phenomena have been particularly intense in the financial industry. In 2007, M&A transactions among financial institutions worldwide were more than 7,000 for an overall value of more than USD 700 billion (see *Thomson Financial*, 2007, p. 2) making this sector one of most important sector for M&A deals. As such, it is not surprising that there is a specific literature focusing on consolidation and integration in the financial industry: most papers have dealt on M&As focusing on insurance (Cummins and Weiss, 2004) and, especially, on banking (for a comprehensive review of these studies, see De Young et al., 2009). However, it is surprising that there is only a handful of studies providing empirical evidence of the outcomes of strategic alliances and joint ventures focusing on the US (Gleason et al., 2003; Gleason et al. 2006; Marciukaityte et al., 2009) and Japanese financial firms (Chiou and White, 2005). As far as we are aware, there are no studies assessing the results of strategic alliances and joint ventures in European banking. This lack of studies in banking is surprising since European banks expanding abroad, especially in the Eastern Europe, have often used these forms of cooperation.

Do strategic alliances create shareholder value? Do joint ventures create shareholder value? What determines value creation in strategic alliances and joint ventures? The purpose of this paper is to empirically address these questions for banks.

Our main finding is that investors do not have a strong preference between strategic alliances and joint ventures, but ARs are lead by different value drivers. Specifically, joint ventures create shareholder value when involve non-banking financial partners and allow banks to expand abroad; domestic strategic alliances lead banks to create shareholder value. Our results are obtained by analyzing 208 alliances (either strategic alliances or joint ventures) signed by European and US banks between January 1999 and December 2009, involving 219 European and US listed banks. First, we estimate

shareholder value creation through an event study that estimates abnormal returns (ARs) for banks involved in the alliance around its announcement date. In a second step, the AR is assumed as the dependent variable of a multivariate analysis considering as covariates a large set of possible determinants of shareholder value created: specifically, we consider characteristics of the alliance, the origin and the destination country, and various control variables at the bank and macroeconomic levels.

Our paper contributes to the existing literature in various ways. First, our paper is the first to analyze the outcome of strategic alliances and joint ventures in European banking, as far as we are aware of. Second, we provide empirical evidence of the determinants of value creation through strategic alliances and joint ventures through a multivariate analysis, while most of (the few) previous papers propose only a univariate analysis of ARs (Gleason et al., 2003; Gleason et al. 2006; Marciukaityte et al. 2009). Third, we provide empirical evidence about the shareholder value created by diversifying into both financial and non-financial sectors: specifically, our dataset enable us to distinguish the case of alliances with non-banking financial firms from that of non-financial partners. In final, we analyze a very updated sample of alliances (from 1999 to 2009), while the most recent paper (Marciukaityte et al., 2009) consider alliances signed up to the year 2003.

The remainder of the paper is organized as follows: section 2 provides a review of the existing literature; section 3 define our testable hypotheses; section 4 describes the adopted methodology, a sample selection criteria and the definition of all variables included in our regression model. Section 5 discusses results and some robustness checks while section 6 concludes, outlining main study limitations and directions for future research.

## **2. Literature Review**

Gulati (1998) defines strategic alliances as voluntary arrangements between firms involving exchange, sharing, or co-development of products, technologies, or services. These cooperative strategies enable firms to work together without relinquishing control of their own operations and activities (BIS, 2001) and acquiring lacking resources or capabilities from the marketplace (Chan et al., 1997). Alliances can result from a large variety of motives and goals, ranging from simple contractual agreements to more formal arrangements involving equity ties. As outlined by BIS (2001), joint ventures may be considered a type of strategic alliances, resulting in the creation of a separate legal entity.

In this study, following Gleason et al. (2003), we focus on cooperative activities distinguishing strategic alliances and joint ventures. Strategic alliances are defined as cooperation activities between two or more independent firms involving allocation of ownership, operational responsibilities, financial risks and rewards (Marciukaityte et al., 2009). This definition includes both equity and non-equity arrangements between partners that remain absolutely independent one from each other (i.e. contractual agreements and minority stakes). Joint ventures, occurring when partners jointly control a new business entity specifically devoted to the common business, are separately considered.

The existing literature dealing with strategic alliances and joint ventures essentially focus on non-financial industries (Merchant and Schendel, 2000; Zollo et al., 2002; Moeller et al., 2004; Sampson, 2005; Goerzen, 2007; Chang et al., 2008; and Gulati et al. 2009). Surprisingly, there are only a handful papers providing empirical evidence of this phenomenon in the financial service industry. The small number of papers focusing on the financial industry is probably due to a lack of publicly available information regarding cooperation agreements (different from M&As).

As far as we are aware, there are four papers (Gleason et al., 2003; Chiou and White 2005; Gleason et al., 2006; and Marciukaityte et al., 2009) analyzing strategic alliances in the financial industry focusing on the US and Japan.

These papers use an *event study* methodology to analyze whether the stock returns of financial firms involved in strategic alliances display abnormal returns (ARs) around the announcement date ( $t$ ). The only study performing a multivariate regression analysis is Chiou and White (2005), focusing on the Japanese market and excluding alliances involving both financial and non-financial firms. These papers show that abnormal returns (ARs) are usually positive and statistically significant after the strategic alliances and joint ventures: specifically, the strategic alliance announcement increases the value of firms (Marciukaityte et al., 2009); international and horizontal deals outperform, respectively, domestic and cross-products deals (Gleason et al., 2003); ARs are higher for joint ventures than for M&As and for complementary expansion deals with respect to scale expansion ones (Gleason et al., 2006). At our knowledge, there are no studies focusing on Europe: this lack of literature is surprising since European banks are largely diversified and internationalized, especially after the deregulation process and the creation of a single European market in the 1990s.

Our paper is the first focusing on European banking and using a very updated dataset: our sample is composed of 208 deals (either strategic alliances or joint ventures) signed by 219 European and US banks between 1999 and 2009. Previous papers analyzed US banking over the 1990s: specifically, Gleason et al. (2003) analyze 638 agreements (385 joint ventures and 253 strategic alliances) involving US banks, insurance companies and security firms over the period 1985-1998; Gleason et al. (2006) focus on 459 internationalization deals (226 joint ventures and 233 M&As) signed by 88 US banks between 1984 and 1998; Marciukaityte et al. (2009) analyze 795 strategic alliance deals between 1986 and 2003 signed by 861 US financial firms

(banks, insurance companies, security firms). Chiou and White (2005) is the only study assessing strategic alliances outside the US: this paper analyzes 109 deals signed by 169 Japanese financial firms over the period 1997-1999.

Previous studies took into account for a small number of factors that may positively influence strategic alliances outcomes. Specifically, previous papers usually focused on the type of agreement and equity commitment (e.g. joint ventures, equity or non-equity strategic alliances), the business relatedness of companies involved and their domestic/international nature. However, the diversification pattern has not been deeply investigated: some papers (e.g. Gleason et al. 2006) compare the result of deals joining banking or non-banking partners, while others (e.g. Marciukaityte et al. 2009) contrast the case of financial and non-financial partners. Our paper is the first that assess the deals results by distinguishing three types of deals: banks with other banks, banks with non-banking financial firms; and banks with non-financial companies. In addition, our paper also takes into account for firm specific factors (e.g. the level of profitability, efficiency or leverage) that could play a role in explaining market reaction, while previous paper usually control only for the company size. Finally we also account for some characteristics of both the home and the destination countries.

### **3. Research hypothesis**

In this section, we formulate the hypotheses that we test.

First, we posit that the type of collaboration agreement may influence the outcome of the deal. Specifically, we compare joint ventures (*JV*) and strategic alliances (*SA*) and test whether they influence the shareholder value created for participant banks in a different way. In the case of joint ventures, there is a new independent entity devoted to the alliance business and jointly controlled by partners. This kind of agreement enables firms to develop strong ties: every participant remains independent,

but contributes with its own resources and capabilities, directly participating to risk and rewards of the common business. Strategic alliances, compared to joint ventures, are generally more flexible and reversible forms of cooperation, in which the level of integration is limited to a well-defined set of activities, especially in the case of contractual agreements in which there are no equity ties. Since these two types of deals are substantially dissimilar implying different level of business integration, we formulate the following research hypothesis:

*H<sub>1</sub> Joint ventures and strategic alliances differently influence on shareholder value created for bank shareholders.*

Second, following previous studies (e.g. Gleason et al., 2003, 2006; Marciukaiyte et al., 2009), we believe that business relatedness between the bank and the other participants in the transaction is likely to influence value creation for bank shareholders. As outlined in Gleason et al. (2006), diversification can be a viable strategy for commercial banks to create shareholder value, because of the maturity of their core business and the opportunity to exploit risk reduction benefits deriving from the combination of activities that are not perfectly correlated. Specifically, we posit the existence of a direct relationship between shareholder value creation and diversification. We define two types of diversification as follows<sup>1</sup>: the “correlated diversification” is the case when a bank signs an agreement with a non-bank financial company; the “uncorrelated diversification” is the case when a bank signs an agreement with a non-financial company. The first type of diversification (i.e. alliance with non-banking financial firms, e.g. insurance companies and security firms) can allow banks to achieve

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<sup>1</sup> Previous studies in the financial industry define diversification in a simpler way than that in this paper. Specifically, Gleason et al. (2003) analyze alliances involving both banking and non-banking financial firms. They define as “integrating or horizontal” all alliances in which both the financial parent and the cooperative activity are in the same industry, while “diversifying or cross product” strategies occur when the financial parent and the cooperative activity operate in different businesses. In a more recent paper, Gleason et al. (2006) focus on banking firms, classifying transactions by whether they involve other banks (scale expansion) or non-banking firms (complementary expansion). Marciukaiyte et al. (2009) consider financial firms and distinguish “within industry” vs. “cross industry” alliances (i.e. all partners are financial firms or at least one operates in another industry).

cost and revenue scope economies by exploiting similarities and complementarities between banking and other financial activities. The second type of diversification (i.e. alliance with non-financial firms) can allow banks to achieve cost economies in the case of outsourcing agreements (i.e. alliances with IT firms for the provision of online financial services) or risk diversification benefits (i.e. alliances with utility firms or municipalities to finance infrastructures or other specific projects). We formulate the following research hypotheses with reference to the whole sample of both strategic alliances and joint ventures:

*H<sub>2</sub> Correlated diversification positively influences shareholder value created for bank shareholders.*

*H<sub>3</sub> Uncorrelated diversification positively influences shareholder value created for bank shareholders.*

We also posit that correlated and uncorrelated diversification have a different result in joint ventures and strategic alliances given their specific nature and level of integration between partners. We test the following two second-level hypotheses:

*H<sub>2B</sub> Correlated diversification joint ventures and strategic alliances differently influence on shareholder value created for bank shareholders.*

*H<sub>3B</sub> Uncorrelated diversification joint ventures and strategic alliances differently influence on shareholder value created for bank shareholders.*

Finally, consistently with previous literature (e.g. Chiou and White, 2005) we expect that international deals may have a different influence on shareholder value created than domestic deals. As outlined in Gleason et al. (2003) strategic alliances and joint ventures are a viable internationalization strategy when the firms lack the experience and the resources to implement growth with more traditional integrated organizational forms. Specifically, we posit that international deals outperform domestic ones, because investors value the opportunity to expand in new markets, especially in emerging countries where the financial system is still developing and there are more growth

opportunities, as pointed out in Gleason et al. (2006). As such, we formulate the following hypothesis with reference to the whole sample:

*H<sub>4</sub> International deals and domestic deals differently influence on shareholder value created for bank shareholders.*

Consistently with the diversification case, we also test the possible different effect of expanding abroad for the two types of deal, implying different levels of business integration. We posit that international joint ventures and international strategic alliances may have a different influence on value created for bank shareholders, formulating the following second-level hypothesis:

*H<sub>4B</sub> International joint ventures and international strategic alliances differently influence on shareholder value created for bank shareholders.*

#### **4. Empirical approach**

This section describes the data we use in our analysis, the event study methodology applied and the econometric approach adopted to test our hypotheses.

##### **4.1 Data**

Our sample included strategic alliance and joint venture selected according to the following criteria: 1) a strategic alliance is defined as a cooperative business activity, formed by two or more separate organizations for strategic purpose(s), which does not create an independent business entity, but allocates ownership, operational responsibilities, and financial risks and rewards to each member, while preserving each member's separate identity/autonomy; 2) a joint venture occurs when two or more

independent firms form and jointly control a different entity, which is created to pursue a specific objective; 3) the deal was announced between 1 January 1999 and 31 December 2009; 3) there is (at least) one bank involved in the transaction, together with financial or non-financial firms; 4) the bank involved in the deal is located in one of the 27 European Union countries (EU-27) or in the U.S.; 5) the bank involved in the deal has been publicly quoted on a stock exchange for an entire year prior to the announcement date and at least 20 days after the announcement day; 6) the status of the agreement is completed and signed.

Strategic alliances and joint ventures data were obtained from a privately available database managed by the observatory “European Banking Report” (EBR) of the Italian Banking Association (*Associazione Bancaria Italiana*, ABI)<sup>2</sup>. Financial market data were obtained from the Datastream databases (e.g. the daily total return time series for both the acquirer and the target banks and for the national MSCI benchmarks). Dropping illiquid shares, our sample comprises of 219 banks, involved in 208 different deals (Table 2).

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Our data show that alliances involving at least a US or European bank were intensive in 1999 and 2000, slow down between 2001 and 2006, sharply increased between 2007 and 2008. Looking at the banks’ country of origin, most banks are based in the US and the UK, followed by Germany, Spain, France and Italy.

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<sup>2</sup> The European Banking Report (EBR) is an observatory which registers all corporate finance transactions undertaken by European banks since 1998 by collecting information from Thomson Reuters databases (Thomson Banker One and SDC Platinum), Factiva database, media sources, company accounts, and financial analyst reports.

## 4.2 Event study

We run an event study to analyze whether the stock returns of participating banks display abnormal returns (ARs) around the news date ( $t$ ). The first step is the estimation of the AR, that is the forecast error of a specific normal return-generating mode. We adopt the market model (MacKinlay, 1997) to estimate normal returns for every  $i$ -th firm ( $R_{it}$ ) as a function of the market portfolio return ( $R_{Mt}$ ):

$$R_{it} = \alpha_i + \beta_i R_{Mt} + \varepsilon_{it} \quad E(\varepsilon_{it}) = 0, \quad \text{var}(\varepsilon_{it}) = \sigma^2_{\varepsilon_i} \quad (1)$$

Market model parameters are obtained with daily log returns of stocks and broad country indexes, able to represent the market portfolio over a 252-day estimation period, ending 20 days before the announcement. Abnormal Returns (ARs) are then obtained as the difference between the actual stock return and the return predicted by the market model:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{Mt}) \quad (2)$$

ARs are cumulated over a time period (Cumulative Abnormal Return, CAR) around the announcement date ( $t=0$ ). Following previous studies dealing with strategic alliances and joint ventures in financial firms (Gleason et al., 2003 and 2006; Chiou and White, 2005; Marciukaityte et al. 2009), we focus on the following short event windows: (-1; 0) and (-1;1). As robustness check, we also take into account the possibility that the event may be either forecasted by investors or stock reaction may last more days: as such, we also estimate CARs using event windows with different length: (-15;+15), (-10;+10), (-5;+5) and (-3;+3). For each event window, CARs are obtained as follows:

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{it} \quad (3)$$

where  $t_1$  and  $t_2$  are the start and the end date of the considered window. ARs can be aggregated on a time or a cross section basis for a portfolio of  $N$  firms. The Cumulative Average Abnormal Return (CAAR) is calculated as:

$$CAAR_i(t_1, t_2) = \frac{1}{N} \sum_{i=1}^N CAR_i(t_1, t_2) \quad (4)$$

After the calculation of CAARs, we test the hypothesis of a market reaction significantly different from zero. As noted in Cummins and Weiss (2004), various studies have documented a variance increase in ARs during the days near to the event, with respect to the estimation period, as an effect of the announcement. If hypothesis testing is conducted without considering this increase in variance, results can be biased in the direction of a too frequent rejection of the null hypothesis in favor of the alternative one. In order to overcome this limitation and avoid to consider as significant a null value creation or destruction, we follow the approach adopted in some recent studies (Harrington and Shrider, 2007; Mentz and Schierek, 2008), suggesting to use the Boehmer et al. (1991) test statistics. First of all, we calculate a standardization factor:

$$SR_{it} = \frac{CAR_i(t_1, t_2)}{\hat{\sigma}_{\varepsilon_i} \sqrt{T_s + \frac{T_s^2}{T} + \frac{\sum_{t=t_1}^{t_2} (R_{Mt} - T_s \bar{R}_M)^2}{\sum_{t=1}^T (R_{Mt} - \bar{R}_M)^2}} \quad (5)$$

where  $\hat{\sigma}_{\varepsilon_i}$  is the standard deviation of abnormal returns estimated with the market model;  $T_s$  is the number of days in the considered event window ( $t_1, t_2$ );  $T$  is the number of days in the estimation period;  $R_{Mt}$  is the market portfolio return and  $\bar{R}_M$  is the average

market portfolio return during the estimation period. Then, the Z statistics (with a t-distribution with T-2 degrees of freedom and converging to a unit normal) is determined as follows:

$$Z = \frac{\frac{1}{N} \sum_{i=1}^N SR_i}{\sqrt{\frac{1}{N(N-1)} \sum_{i=1}^N \left( SR_i - \frac{1}{N} \sum_{i=1}^N SR_i \right)^2}} \quad (6)$$

### 4.3 Variable definitions

Various factors may influence the shareholder value created through strategic alliances and joint ventures.

A first group of factors relates to the characteristics of the announced operation. First, we use a dummy variable, *JV*, to distinguish between strategic alliances and joint ventures taking the value of one for joint ventures and zero for strategic alliances. Second, we recognize that the level of business relatedness between the bank and the other participants in the transaction may play a role in the deal results. We use a group of dummy variables to properly capture if diversification in non-financial sectors produces a different effect from diversification within the financial industry. Specifically, we use the following dummy variables: the first one (*Banks*), omitted in the model to avoid multicollinearity, assumes a value equal to one in the case of strategic alliances and joint ventures involving only banking institutions, and it equals to zero otherwise; the second variable (*Other\_fin*) assumes a value equal to one in the case of correlated diversification, i.e. strategic alliances and joint ventures involving banks and other financial firms (e.g. security firms or insurance companies), and it equals to zero otherwise; the third variable (*No\_fin*) assumes a value equal to one in the case of uncorrelated diversification, i.e. strategic alliances and joint ventures involving banks

and non-financial companies, and it equals to zero otherwise. As shown in table 3, diversifying alliances with both other financial and non financial partners are more frequent than integrating alliances involving only banks. This does not mean that banks do not pursue external growth objectives through horizontal alliances, but it is likely that they use M&As in this case. Third, we use a dummy variable to account for domestic and international operations, named *Intern*, that takes the value of one in the case of strategic alliances and joint ventures where participants come from different countries, and it is zero otherwise (i.e. all participants are from the same country).

<<< INSERT TABLE 3 >>>

We also include some other alliance characteristics, not directly related to our testable hypotheses. First, we use a dummy variable to account for the role that the geographical area (in which the alliance is expected to operate) may have on the alliance outcomes. Specifically, this variable (*Cross\_border*) takes the value of one if the business undertaken through the strategic alliance or the joint venture will occur in more than a country, and it equals to zero otherwise

Most of joint ventures generate a business expected to operate within the borders of one country (table 3), while strategic alliances are often devoted to a cross border activity. In addition, we include a variable accounting for the equity quota held in the new business entity (*Eq\_Part*) by the bank in order to quantify its level of commitment.

A second group of variables that may influence the shareholder value created through strategic alliances and joint ventures are related to specific factors at the bank level. Specifically, we believe that ARs can be influenced by bank's asset size (*Size*, measured by the natural log of total assets), financial leverage (*Leverage*, measured by

the ratio between total liabilities to total equity), operating efficiency (*Cost income*, measured by the ratio between total operating cost and total operating income) and profitability (Roe, i.e. Return on Equity, measured by the ratio between net income and total equity).

We control for various factor variables that may strongly influence the relationship between the above-mentioned variables and the outcomes of strategic alliances and joint venture. First of all, we consider the origin of the participant bank in continental Europe or Anglo-Saxon countries: at this aim we include two dummies, *UK* (taking the value of one for UK banks and zero otherwise) and *US* (taking the value of one for US banks and zero otherwise). In addition, we include various variables capturing features of domestic financial systems for deals participants (obtained from the World Bank Financial Structure dataset: Beck and Demirgüç-Kunt, 2009). First, we use the ratio between overall market capitalization value of listed shares in the stock exchange to Gross Domestic Product (*Stmktcap\_home*) to control for the development of financial systems and the country orientation toward either capital markets or banking institutions. Second, we account for the banking industry concentration (*Concen\_home*) measured by the total assets of the three largest banks as a share of assets of all commercial banks in the country. This variable enables to control for competition in the banking market: investors may prefer operations promoted by firms operating in either highly competitive markets (where it is crucial to find new opportunities) or in a less competitive environment (where banks have more market power to exploit). We also use the Return on Assets (*ROE\_home*) to control if stock prices react more favorably to operations signed by either more or less profitable banks.

We also include various variables capturing macroeconomic features of the alliance destination country (obtained from the World Bank database of Development Indicators). Specifically, we control for the country richness (*GDP\_host*), measured by the natural log of GDP per capita (constant 2000 US\$) in the country. Following

Gleason et al. (2006), who distinguished developed from developing countries using a dummy variable, we control for the country development using the average of all World Bank governance indicators (*Govern\_host*), including the Voice and accountability, Political stability and absence of violence/terrorism, Government effectiveness, Regulatory quality, Rule of law, Control of corruption (see Kaufmann et al., 2010). Finally we include a set of year dummies to account for a possible time trend in market reaction to the investigated deals.

The definition of all variables included in our analysis is reported in Table 4.

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#### 4.1 Econometric framework

To investigate how strategic alliances and joint ventures result is influenced by the deal and participant bank features, other than the characteristics of the home and host countries, a straightforward approach is to use ordinary least squares regressions (OLS). Following some previous studies (e.g. Chiou and White, 2005), we estimate the following multivariate linear model:

$$CAR = \alpha + \sum_{j=1}^6 \beta_j DF_j + \sum_{j=1}^4 \gamma_j BF_j + \sum_{j=1}^5 \delta_j CV_{homej} + \sum_{j=1}^2 \theta_j CV_{hostj} + \sum_{j=1}^{10} \theta_j CV_{timej} + \epsilon_{it} \quad (4)$$

where CAR is the cumulative abnormal return for the i-th bank calculated for the event window (-1,0), DF are the features of the deals investigated (i.e. *Jv*, , *Other\_fin*, *No\_fin*,

*Intern*, *Cross\_border*, and *Eq\_Part*), *BF* are control variables at the bank level (i.e. *Size*, *Leverage*, *Cost\_income*, *Roe*); *CV\_Home* are control variables referring to the participant bank's origin and features of the domestic financial system in the home country (*UK*, *US*, *Stmkcap\_home*, *Concen\_home*, and *Roe\_home*), *CV\_Host* are control variables to control for macroeconomic features of the alliance destination country (*Gdp\_host*, and *Govern\_host*), and *CV\_time* are dummy variables to control for the influence of time (i.e. *y\_2000*, *y\_2001*, *y\_2002*, *y\_2003*, *y\_2004*, *y\_2005*, *y\_2006*, *y\_2007*, *y\_2008*, *y\_2009*).

In order to test our second-level hypotheses ( $H_{2B}$ ,  $H_{3B}$  and  $H_{4B}$ ) we run a multivariate linear model including also some cross terms: *Jv\_of*, that is the product of the dummy identifying joint ventures (*JV*) times the dummy indicating the presence of a non-banking financial partner (*Other\_fin*), so that we can test the effect of correlated diversification in joint ventures vs. strategic alliances; *Jv\_nf*, that is the product of the dummy identifying joint ventures (*JV*) times the dummy indicating the presence of a non-financial partner (*No\_fin*) for the uncorrelated diversification; and, *Jv\_int*, that is the product of the dummy identifying joint ventures (*JV\_int*) times the dummy indicating international operations (*Intern*), to test the effect of expanding abroad with the two types of agreements.

Following various studies using the event study to measure the results of corporate actions (Merchant and Schendel, 2000; Gleason et al. 2003; Chiou and White, 2005; Gleason et al. 2006; Marciukaityte et al. 2009), we focus on the event window (-1;0). As outlined in Chiou and White (2005) abnormal returns are themselves estimated values so that their use as dependent variables of a regression model can cause a problem of heteroskedasticity. In order to overcome this limitation, it is possible to consider standardized abnormal returns or to use weighted least squares (defining weights equal to the inverse of the standard deviation of the estimation period residuals). We run both models to double check our results. . In addition, we also run an

ordered logit model, where the dependent variable takes the value of 1 if the bank experienced a standardized cumulated abnormal return (-1; 0) that is in the bottom third of the distribution, 2 if it is in the middle third and 3 if it is in the top third.

## ***5. Results***

This section presents our findings. First, we present the event study results. Second, we discuss our econometric model results to investigate the link between strategic alliance outcomes and its various determinants.

### **5.1 Do strategic alliances created shareholder value?**

Table 5 shows estimated CAARs for the whole sample and for the two subsamples (i.e. joint ventures and strategic alliances).

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Focusing on the whole sample, estimated CAARs are positive in all event windows, but there are rarely statistically significant at the 10% confidence level or less. By distinguishing between joint ventures and strategic alliances, we show that the former achieve more favorable CAARs (positive and statistically significant at the 10% level in both the 7-day and the 11-day event windows) than strategic alliances that do not generate shareholder value creation. Our results provide new evidence and cannot be compared with previous studies. First of all, we consider a wider range of event windows for both European and US banks, while past studies have considered 2 or 3-day periods for US or Japanese financial firms. In addition, the type of agreement investigated is different. Marciukaityte et al. (2009) find positive CAARs for US

strategic alliances, but do not examine joint ventures. Chiou and White (2005) find evidence of shareholder value creation for Japanese financial firms, using a wide definition of strategic alliances, including also joint ventures, but excluding deals involving non-financial firms.. Gleason et al. (2003) analyze both strategic alliances and joint ventures, but do not report separate results for the two categories. Gleason et al. (2006) compare joint ventures and M&As, concluding in favor of the former. The preference for joint ventures with respect to strategic alliances resulting from our event study could be due to the higher level of integration attained between participant firms and so to the opportunity to obtain greater synergies when a new jointly controlled entity is created. Otherwise, this finding could be due to other characteristics of the agreement, such as the level of partners business relatedness (see Table 6) and/or the domestic or international scope of the deal (see Table 7).

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Consistently with previous results, we do not show statistically significant CAARs for strategic alliances. In the case of joint ventures, we show that deals aiming to expand and diversify the portfolio of banks' activities enable banks to create shareholder value. Specifically, shareholder value creation appears positive and significant for both non-banking financial partners and non-financial partner, consistently with previous papers. Gleason et al. (2006) outline as agreements allowing to expand the banking core business (i.e. complementary transaction) are appreciated because able to generate risk diversification benefits. In the case of deals involving companies in the same industry (i.e. scale transactions), we show that these do not create value: this is perhaps because commercial banking is a mature business and there are few cost and revenue synergies in scale transactions.

<<< INSERT TABLE 7 >>>

In Table 7, we report estimated CAARs by distinguishing alliances involving companies from the same country (i.e. domestic deals) and different countries (i.e. international deals). In the case of joint ventures, we show positive CAARs in international deals, while do not find shareholder value creation in domestic deals. This result is consistent with Gleason et al. (2003) and Chiou and White (2005). Focusing on strategic alliances, we find that domestic deals create shareholder value creation, while international alliances destroy value, consistently with Marciukaityte et al. (2009). Our conclusions relative to our testable hypotheses are drawn in the next section, when we present our results from multivariate linear models.

## **5.2 The determinants of value creation in strategic alliances**

In order to further investigate the determinants of shareholder value creation, we run a second step by a multivariate regression. In table 8, we report our results for both models excluding or including cross variables (columns 1 and 2, respectively).

<<< INSERT TABLE 8 >>>

First, we focus on coefficient estimates signaling the main alliance characteristics and directly related to our testable hypotheses. We find that the dummy variable identifying joint ventures (*JV*) is not statistically significant at the 10% level or less, in both models run (columns 1 and 2, Table 8). This result does not confirm the disadvantage observed in the univariate analysis for strategic alliances. This suggests that once we consider in a multivariate analysis both various determinants of value

creation and various control factors, joint venture and strategic alliances do not show different results in terms of created shareholder value. As such, it is then possible to reject hypothesis H<sub>1</sub> (*Joint ventures and strategic alliances differently influence on shareholder value created for bank shareholders*).

Regarding the business relatedness, our model without cross variables shows that in the case a non-banking financial company is involved in the alliance (*Other\_fin*), this has a positive and statistically significant impact on ARs, while the presence of a non-financial company (*No\_fin*) has not a statistically significant relationship with shareholder value created. As such, we can accept hypothesis H<sub>2</sub> (*Correlated diversification positively influences shareholder value created for bank shareholders*), while we can reject hypothesis H<sub>3</sub> (*Uncorrelated diversification positively influences shareholder value created for bank shareholders*). Looking at the model with cross variables (column 2 in Table 8), the coefficient for *Other\_fin* is not statistically significant, while the estimate for the cross term *Jv\_of* is positive and significant at the 10% confidence level. These results suggest that, if there is a non-banking financial company is involved in the deal, this leads banks to create shareholder value in joint ventures, but not in strategic alliances (consistently with our previous findings in the univariate analysis). In the case of uncorrelated diversification, we do not find a substantial impact on shareholder value since coefficient estimates for both *No\_fin* and *Jv\_nf* variables are not statistically significant at the 10% confidence level or less. As such, our results support the hypothesis H<sub>2B</sub> (*Correlated diversification joint ventures and strategic alliances differently influence on shareholder value created for bank shareholders*) because correlated diversification results to be value creating in joint ventures, but not in strategic alliances. Our results do not enable us to support hypothesis H<sub>3B</sub> (*Uncorrelated diversification joint ventures and strategic alliances differently influence on shareholder value created for bank shareholders*), since

uncorrelated diversification is not value creating either in joint ventures and strategic alliances.

Third, we show that estimated coefficient for the international nature of companies involved in the deal (*Intern*) is not statistically significant at the 10% level or less in the model without the inclusion of cross variables. As such, the hypothesis H<sub>4</sub> (*International deals and domestic deals differently influence on shareholder value created for bank shareholders*) has to be rejected. After the inclusion of cross product terms (column 2 in Table 8), we find that international deals are value destroying in the case of strategic alliances (i.e. the coefficient for *Intern* is negative and statistically significant) and value creating in the case of joint ventures (i.e. the coefficient for the cross term *JV\_int* is positive, statistically significant and greater in absolute value than *Intern*). Consistently with our previous findings obtained in the univariate analysis, we support the hypothesis H<sub>4B</sub> (*International Joint ventures and international strategic alliances differently influence on shareholder value created for bank shareholders*). As such, if there are companies involved in the deal holding a different culture and institutional background, this leads investors to perceive as problematic a strategic alliance, while this is favorable perceived in the case of joint venture.

Focusing on the internalization of deals, the *Cross\_border* variable is not statistically significant at the 10% confidence level or less suggesting that the extension of the geographical area in which the alliance is expected to occur does not influence the shareholder value creation. The amount of equity participation in the new business unit (*Eq\_part*) is negatively related to ARs suggesting that investors prefer joint ventures in which the equity commitment is not too high with respect to other partners.

Regarding our control variables, we first focus on variable at the bank-level. We show that firm size has a positive influence on value creation, while the level of debt (leverage) exhibit a negative relationship with ARs. Surprisingly, cost efficiency and

bank profitability do not exhibit a statistically significant role with shareholder value created through cooperation agreements.

With reference to the home country, estimated coefficients for *US* and *UK* dummies are negative and statistically significant. This suggests that investors are more favorable to operations concluded by non-Anglo Saxon banks (i.e. banks located in continental Europe). This is perhaps due to the fact that banks are more central in financial systems of continental Europe or that investors consider more favorably operations signed by institutions operating in countries part of the Monetary Union that have been interested by a relevant deregulation and harmonization process during the observed period.

Looking at variables at the financial industry level, the level of capital markets development and the banking industry concentration do not exhibit a substantial impact on shareholder value creation. The level of profitability in the home banking industry assumes a positive coefficient, indicating that investors appreciate operations signed by institutions with high margins, that probably have excess liquidity to invest and a high market power. The considered regressors for the alliance host country are both significant: there is a positive relationship with the pro capita GDP (in natural logs) and a negative relationship with the average of the World Bank development indicators. This means that the market values the expansion in rich areas but, being equal the level of wealth, in countries that are still emerging where the financial systems is probable less mature and with greater opportunities. This result is consistent with Gleason et al. (2003) showing a significant value creation only for international alliances aimed at operating in developing countries.

In finally, we focus on year dummies. Our results show a positive market reaction during the period 2000-2002 and a negative effect in 2008. Our results reveal that investors reaction on the announcement of strategic alliances and joint ventures is

strongly influenced by trends in capital markets, as suggested by the positive tendency during the euphoric phase of the Internet bubble and the negative one due to the global financial crisis triggered by US subprime mortgages.

As robustness check, table 9 show results from two alternative models. First, we run a weighted least squares (WLS) regression, where dependent variables are represented by cumulated abnormal returns (not standardized) and weights are the inverse of the standard deviation of abnormal returns during the estimation period. Second, we run a ordered logit model, where the dependent variable takes the value of 1 if the bank experienced a standardized cumulated abnormal return  $(-1; 0)$  that is in the bottom third of the distribution, 2 if it is in the middle third and 3 if it is in the top third.

<<< INSERT TABLE 9 >>>

Both WLS and ordered logit results are similar to the OLS model. In terms of time trend, the negative impact of the financial crisis is anticipated since 2007 for both models. For the WLS regression, we notice that a lower value creation with respect to alliance signed in 1999 is already visible in 2005. For other variables, the sign of the relationship between various regressors and value creation are always consistent. In some cases, coefficient have no the same level of statistical significance, but it is possible to affirm that conclusions remain substantially the same.

## ***6. Conclusions***

Do strategic alliances create shareholder value? Do joint ventures create shareholder value? What determines value creation in strategic alliances and joint ventures? The purpose of this paper is to empirically address these questions for banks.

Our paper shows that investors do not have a strong preference between strategic alliances and joint ventures in banking, but shareholder value created by these cooperation agreements is lead by different drivers. Specifically, joint ventures lead banks to create shareholder value when these involve non-banking financial partners and allow banks to expand abroad. Strategic alliances lead banks to create shareholder value when deals are domestic, but not international. In addition, we show that investors are influenced by capital market trends and appreciate more deals signed by European banks than by UK and US banks.

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**Table 1.****Worldwide Completed Merger and Acquisition deals in 2007**

<b>Region</b>	<b>Rank Value (in USD billion)</b>	<b>No of deals</b>	<b>Change in rank value (in %)</b>
America	1,979.3	11,567	27.1
- North America	1,862.1	10,575	24.7
- Central America	49.7	181	404.7
- South America	58.1	707	41.3
- Caribbean	9.3	104	-26.3
Africa/Middle East	39.9	443	-27.6
Asia – Pacific	378.4	5,504	61.1
Europe	1,298.7	9,915	18.2
- Eastern Europe	112.4	1,212	21.1
- Western Europe	1,186.3	10,575	18.0
Worldwide	3,784.1	28,729	23.9

*Source of data: Thomson Financial (2007, p. 3)*

**Table 2****Distribution of participant banks by year of the alliance and country of origin**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	1	0	1	0	0	0	0	0	0	0	0	2
Belgium	0	0	0	0	0	0	0	1	1	0	0	2
Bulgaria	0	0	0	0	0	0	0	0	1	0	0	1
Cyprus	0	0	1	0	0	0	0	0	0	1	0	2
Denmark	0	1	0	0	0	0	0	0	0	0	0	1
France	6	3	1	1	2	0	0	1	3	1	0	18
Germany	7	12	2	1	0	0	1	2	1	2	1	29
Greece	0	0	0	0	0	0	0	0	1	0	0	1
Ireland	0	0	0	0	0	0	1	0	1	0	0	2
Italy	1	7	1	1	0	0	1	0	3	1	1	16
Norway	1	0	0	0	0	0	0	0	0	1	0	2
Poland	1	0	0	0	1	0	1	0	3	1	0	7
Portugal	3	0	1	0	0	0	0	1	0	0	0	5
Romania	0	0	0	0	0	0	0	0	1	0	0	1
Spain	4	10	2	0	1	0	0	1	3	1	1	23
Sweden	0	0	0	0	1	0	2	0	0	0	0	3
Switzerland	0	1	1	1	1	0	2	2	4	5	1	18
UK	9	13	14	6	1	4	1	1	2	4	0	55
US	9	5	1	1	1	1	1	0	1	2	1	23
<b>Total</b>	<b>42</b>	<b>52</b>	<b>26</b>	<b>13</b>	<b>8</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>25</b>	<b>21</b>	<b>5</b>	<b>219</b>

*Source: Authors' elaboration on EBR data*

**Table 3****Distribution of participant banks by characteristics of the alliance**

	<b>Joint ventures</b>	<b>Strategic alliances</b>
<i>Level of partners business relatedness</i>		
- Only banks	22	19
- Only financial firms	40	35
- Financial and non-financial firms	44	59
<i>Domestic/international scope of the alliance</i>		
- Domestic	40	30
- International	66	83
<i>Operating area of the alliance</i>		
- Cross Border	3	39
- Within Border	103	74
<b>Total</b>	<b>106</b>	<b>113</b>

*Source: Authors' elaboration on EBR data*

**Table 4****Definition of variables included in the regression model for CAARs determinants**

<b>Variable name</b>	<b>Variable definitions</b>
Jv <sup>a</sup>	dummy variable taking the value of 1 for joint ventures, 0 for strategic alliances
Other_fin <sup>a</sup>	dummy variable taking the value of 1 if there is a non-banking financial partner, 0 otherwise
No_fin <sup>a</sup>	dummy variable taking the value of 1 if there is a non-financial partner, 0 otherwise
Intern <sup>a</sup>	dummy variable taking the value of 1 if partners come from different countries, 0 otherwise
Jv_of <sup>a</sup>	cross product of Jv and Other_fin
Jv_nf <sup>a</sup>	cross product of Jv and No_fin
Jv_int <sup>a</sup>	cross product of Jv and Intern
Cross_border <sup>a</sup>	dummy variable taking the value of 1 if the alliance operates in more than one country, 0 otherwise
Eq_part <sup>a</sup>	ownership participation in the joint ventures (0 for strategic alliances)
Us <sup>a</sup>	dummy variable taking the value of 1 for US participants, 0 otherwise
Uk <sup>a</sup>	dummy variable taking the value of 1 for UK participants, 0 otherwise
Size <sup>b</sup>	natural log of total asset for the participant bank in the announcement year
Leverage <sup>b</sup>	liabilities to equity ratio for the participant bank in the announcement year
Cost income <sup>b</sup>	operating expenses to operating income ratio for the participant bank in the announcement year
Roe <sup>b</sup>	net income to equity ratio for the participant bank in the announcement year
Stmktcap_home <sup>c</sup>	ratio of listed shares value to GDP in the participant country of origin for the announcement year
Concen_home <sup>c</sup>	CR3 concentration ratio in the participant country of origin for the announcement year
Roe_home <sup>c</sup>	average Roe for banks operating in the participant country of origin for the announcement year
GDP_host <sup>c</sup>	natural log of GDP per capita in the alliance host country for the announcement year
Govern_host <sup>c</sup>	average of all governance indicators in the alliance host country for the announcement year
y_2000 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2000, 0 otherwise
y_2001 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2001, 0 otherwise
y_2002 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2002, 0 otherwise
y_2003 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2003, 0 otherwise
y_2004 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2004, 0 otherwise
y_2005 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2005, 0 otherwise
y_2006 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2006, 0 otherwise
y_2007 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2007, 0 otherwise
y_2008 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2008, 0 otherwise
y_2009 <sup>a</sup>	dummy variable taking the value of 1 for operations announced in 2009, 0 otherwise

*a Data source: EBR*

*b Data Source: Bankscope*

*c Data Source: World Bank*

**Table 5**

**Cumulative Average Abnormal Returns for joint ventures and strategic alliances**

Source: Authors elaboration on ABI data.

+ Percentage values

\*\*\*, \*\*, \* indicate statistical significance at the 1, 5 and 10% level.

The statistical significance of CAARs is tested using the Boehmer et al. (1991) procedure to capture the event-induced increase in returns volatility.

*Panel A – Total sample (219 obs)*

	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive CAR
(-15,+15)	0.36%	-0.5711	-37.03%	56.63%	51.14%
(-10,+10)	0.13%	-0.1467	-20.76%	40.57%	45.21%
(-5,+5)	0.41%	1.1576	-17.77%	32.74%	52.51%
(-3,+3)	0.52%	1.6745*	-13.27%	30.25%	46.12%
(-1,+1)	0.12%	0.4656	-22.31%	24.85%	47.03%
(-1,0)	0.13%	0.3178	-9.87%	15.57%	50.23%

*Panel B – Banks participating in joint ventures (106 obs)*

(-15,+15)	0.17%	-0.6485	-18.44%	21.81%	50.00%
(-10,+10)	0.33%	0.2896	-14.55%	24.21%	46.23%
(-5,+5)	0.82%	1.9461*	-9.69%	17.84%	53.77%
(-3,+3)	0.86%	2.0917**	-7.69%	18.94%	47.17%
(-1,+1)	0.53%	1.4304	-10.12%	24.85%	47.17%
(-1,0)	0.21%	1.0865	-8.12%	6.43%	50.94%

*Panel C- Banks participating in strategic alliances (113 obs)*

(-15,+15)	0.53%	-0.1946	-37.03%	56.63%	52.21%
(-10,+10)	-0.06%	-0.4332	-20.76%	40.57%	44.25%
(-5,+5)	0.02%	-0.0363	-17.77%	32.74%	51.33%
(-3,+3)	0.21%	0.5519	-13.27%	30.25%	45.13%
(-1,+1)	-0.26%	-0.5344	-22.31%	15.66%	46.90%
(-1,0)	0.06%	-0.4028	-9.87%	15.57%	49.56%

**Table 6**

**Cumulative Average Abnormal Returns of joint ventures and strategic alliances by the level of partners business relatedness**

Source: Authors elaboration on ABI data. \*\*\*, \*\*, \* indicate statistical significance at the 1, 5 and 10% level. + Percentage values

The statistical significance of CAARs is tested using the Boehmer et al. (1991) procedure to capture the event-induced increase in returns volatility.

*Panel A – Banks participating in alliances involving only banks*

	Joint Ventures					Strategic Alliances				
	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive CAR	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive CAR
(-15,+15)	1.07%	1.1412	-9.01%	18.44%	54.55%	-0.48%	-0.5974	-17.27%	12.64%	36.84%
(-10,+10)	0.75%	1.1036	-6.94%	16.15%	54.55%	-1.65%	-1.1552	-13.93%	10.24%	31.58%
(-5,+5)	-1.14%	-0.302	-9.69%	14.17%	31.82%	0.08%	-0.0675	-10.70%	11.62%	52.63%
(-3,+3)	-0.30%	-0.8855	-4.64%	12.93%	31.82%	0.60%	0.7933	-3.62%	8.87%	36.84%
(-1,+1)	-0.82%	-1.7625*	-4.85%	4.59%	36.36%	0.36%	0.2712	-4.64%	4.26%	57.89%
(-1,0)	-0.57%	-1.5153	-4.92%	3.64%	40.91%	-0.19%	-0.8033	-4.32%	3.22%	68.42%

*Panel B - Banks participating in alliances involving banks and other (non-banking) financial firms*

	Joint Ventures					Strategic Alliances				
	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive CAR	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive CAR
(-15,+15)	-0.40%	-1.1378	-18.44%	18.47%	55.00%	-2.11%	-1.2789	-37.03%	21.29%	48.57%
(-10,+10)	0.39%	-0.0674	-12.06%	13.15%	47.50%	-1.46%	-0.7797	-20.76%	17.89%	42.86%
(-5,+5)	0.74%	1.0155	-9.19%	12.68%	55.00%	-1.27%	-0.7936	-17.64%	19.28%	48.57%
(-3,+3)	0.46%	0.8273	-7.69%	10.52%	50.00%	-0.61%	-0.2764	-13.27%	13.43%	48.57%
(-1,+1)	0.95%	2.1347**	-3.24%	7.08%	60.00%	-0.65%	-0.8749	-16.35%	10.97%	42.86%
(-1,0)	0.90%	2.1619**	-3.88%	6.43%	62.50%	0.00%	-0.4618	-9.87%	10.07%	48.57%

*Panel C - Banks participating in alliances involving at least one non-financial company*

	<b>Joint Ventures</b>					<b>Strategic Alliances</b>				
(-15,+15)	0.23%	-0.6316	-14.44%	21.81%	43.18%	2.43%	1.4189	-18.95%	56.63%	59.32%
(-10,+10)	0.06%	-0.2204	-14.55%	24.21%	40.91%	1.28%	0.7408	-16.15%	40.57%	49.15%
(-5,+5)	1.88%	2.4008**	-6.43%	17.84%	63.64%	0.77%	0.6748	-17.77%	32.74%	52.54%
(-3,+3)	1.80%	2.5882***	-6.53%	18.94%	52.27%	0.57%	0.6007	-13.26%	30.25%	45.76%
(-1,+1)	0.83%	1.2454	-10.12%	24.85%	40.91%	-0.23%	-0.105	-22.31%	15.66%	45.76%
(-1,0)	-0.03%	0.3697	-8.12%	6.19%	45.45%	0.18%	0.1959	-5.17%	15.57%	44.07%

**Table 7**

**Cumulative Average Abnormal Returns of joint ventures and strategic alliances of joint ventures and strategic alliances by domestic/international**

Source: Authors elaboration on ABI data. \*\*\*, \*\*, \* indicate statistical significance at the 1, 5 and 10% level. + Percentage values

The statistical significance of CAARs is tested using the Boehmer et al. (1991) procedure to capture the event-induced increase in returns volatility.

*Panel A – Banks participating in domestic alliances*

	Joint ventures					Strategic alliances				
	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive AR	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive AR
(-15,+15)	-1.16%	-1.295	-18.44%	16.36%	47.50%	0.06%	0.1316	-37.03%	15.45%	50.00%
(-10,+10)	-1.40%	-1.3897	-14.55%	14.37%	42.50%	-0.27%	0.0819	-20.76%	16.63%	46.67%
(-5,+5)	0.29%	0.4675	-9.69%	17.13%	52.50%	-0.46%	0.2756	-17.64%	16.40%	46.67%
(-3,+3)	0.61%	1.4133	-6.53%	15.47%	40.00%	0.70%	1.2583	-13.27%	15.18%	46.67%
(-1,+1)	-0.06%	-0.0044	-10.12%	24.85%	37.50%	1.34%	1.5532	-8.48%	15.66%	60.00%
(-1,0)	-0.51%	-1.4118	-8.12%	5.42%	37.50%	0.78%	1.9205*	-7.13%	6.13%	60.00%

*Panel B - Banks participating in international alliances*

	Joint ventures					Strategic alliances				
	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive AR	CAAR <sup>+</sup>	Z-stat	Minimum <sup>+</sup>	Maximum <sup>+</sup>	Percentage of Positive AR
(-15,+15)	0.98%	0.1454	-15.15%	21.81%	51.52%	0.70%	-0.311	-18.95%	56.63%	53.01%
(-10,+10)	1.37%	1.5451	-7.48%	24.21%	48.48%	0.01%	-0.5206	-16.15%	40.57%	43.37%
(-5,+5)	1.14%	2.1516**	-9.23%	17.84%	54.55%	0.20%	-0.2084	-17.77%	32.74%	53.01%
(-3,+3)	1.01%	1.5447	-7.69%	18.94%	51.52%	0.03%	-0.2374	-13.26%	30.25%	44.58%
(-1,+1)	0.89%	2.0842**	-4.41%	14.53%	53.03%	-0.84%	-2.2209**	-22.31%	12.85%	42.17%
(-1,0)	0.64%	2.4724**	-4.92%	6.43%	59.09%	-0.19%	-1.5927	-9.87%	15.57%	45.78%

**Table 8**

**The determinants of shareholder value creation in banking strategic alliances and joint ventures**

*The dependent variables of the ordinary least squares (OLS) regression are standardized CARs for the period -1;0. t- values are in brackets. \*\*\*, \*\*, \* indicate statistical significance at the 1, 5 and 10% level Source of data: Authors elaboration on EBR data*

<b>Variable</b>	<b>(1)</b>	<b>(2)</b>
Jv	0.41 (1.36)	-0.412 (-0.91)
Other_fin	0.429** (2.55)	-0.104 (-0.37)
No_fin	0.065 (0.41)	-0.108 (-0.44)
Intern	0.043 (0.25)	-0.808*** (-3.28)
Jv_of		0.611* (1.72)
Jv_nf		0.105 (0.32)
Jv_int		1.166*** (3.87)
Cross_border	-0.029 (-0.13)	0.17 (0.73)
Eq_part	-0.976 (-1.56)	-1.113* (-1.74)
Size	0.132** (2.36)	0.138** (2.45)
Leverage	-0.031*** (-3.12)	-0.031*** (-3.14)
Cost_income	-0.792 (-0.97)	-0.291 (-0.35)
Roe	-0.792 (-0.67)	-0.372 (-0.31)
Us	-1.3*** (-3.11)	-0.897** (-2.15)
Uk	-0.862*** (-3.54)	-0.554** (-2.25)
Stmkcap_home	0.105 (0.81)	-0.06 (-0.47)
Concen_home	-0.837 (-1.33)	-0.503 (-0.8)
Roe_home	2.968* (1.69)	4.901*** (2.76)
Gdp_host	0.264* (1.87)	0.347** (2.43)
Govern_host	-0.348 (-1.46)	-0.468* (-1.94)
y_2000	0.403** (2.05)	0.115 (0.56)
y_2001	0.687*** (2.87)	0.483** (1.98)
y_2002	0.684** (2.33)	0.623** (2.11)
y_2003	-0.036 (-0.09)	0.034 (0.09)
y_2004	0.589 (1.44)	0.093 (0.21)
y_2005	-0.083 (-0.25)	-0.37 (-1.09)
y_2006	0.000 (0.000)	-0.336 (-0.96)
y_2007	-0.118 (-0.45)	-0.392 (-1.45)

y_2008	-0.441 (-1.47)	-0.697** (-2.28)
y_2009	0.477 (0.52)	0.163 (0.18)
intercept	-3.264** (-2.09)	-3.755** (-2.37)
Adj R-squared	13.66%	18.65%

**Table 9****Alternative WLS and Ologit models for the determinants of shareholder value creation**

*The dependent variables of the ordinary least squares (OLS) regression are standardized CARs for the period -1;0. The weighted least squares (WLS) regression is used with (-1;0) CARs as dependent variables and the inverse of the standard deviation of the estimation periods abnormal returns as weight. The dependent variable of the ordered logit (Ologit) model takes the value of 1 if the bank experienced a standardized cumulated abnormal return (-1; 0) that is in the bottom third of the distribution, 2 if it is in the middle third and 3 if it is in the top third. t-values are in brackets. \*\*\*,\*\*,\* indicate statistical significance at the 1, 5 and 10% level*  
*Source: Authors elaboration on EBR data*

Variable	OLS Regression	WLS Regression	Ologit
Jv	-0.412 (-0.91)	-0.004 (-0.43)	-0.727 (-0.69)
Other_fin	-0.104 (-0.37)	-0.001 (-0.08)	-0.449 (-0.71)
No_fin	-0.108 (-0.44)	0.001 (0.13)	-0.294 (-0.54)
Intern	-0.808*** (-3.28)	-0.015*** (-2.9)	-1.793*** (-3.09)
Jv_of	0.611* (1.72)	0.007 (1.00)	1.828** (2.27)
Jv_nf	0.105 (0.32)	-0.002 (-0.27)	0.044 (0.06)
Jv_int	1.166*** (3.87)	0.027*** (4.22)	2.473*** (3.45)
Cross_border	0.17 (0.73)	0.004 (0.95)	0.702 (1.27)
Eq_part	-1.113* (-1.74)	-0.028** (-2.15)	-2.368 (-1.45)
Size	0.138** (2.45)	0.002* (1.93)	0.219 (1.64)
Leverage	-0.031*** (-3.14)	-0.001*** (-3.11)	-0.072*** (-3.08)
Cost_income	-0.291 (-0.35)	0.007 (0.44)	-1.183 (-0.59)

Roe	-0.372 (-0.31)	0.002 (0.09)	-2.08 (-0.77)
Us	-0.897** (-2.15)	-0.023** (-2.51)	-2.517** (-2.57)
Uk	-0.554** (-2.25)	-0.01* (-1.89)	-1.559*** (-2.7)
Stmkcap_home	-0.06 (-0.47)	-0.001 (-0.23)	-0.065 (-0.22)
Concen_home	-0.503 (-0.8)	0.001 (0.08)	-1.327 (-0.92)
Roe_home	4.901*** (2.76)	0.105*** (3.07)	13.041*** (2.92)
Gdp_host	0.347** (2.43)	0.008*** (3.04)	1.203*** (3.48)
Govern_host	-0.468* (-1.94)	-0.01** (-2.31)	-1.65*** (-2.87)
y_2000	0.115 (0.56)	0.003 (0.67)	0.258 (0.54)
y_2001	0.483** (1.98)	0.007 (1.3)	1.332** (2.37)
y_2002	0.623** (2.11)	0.013*** (2.9)	1.808** (2.54)
y_2003	0.034 (0.09)	-0.001 (-0.1)	0.167 (0.21)
y_2004	0.093 (0.21)	0.002 (0.24)	1.002 (0.93)
y_2005	-0.37 (-1.09)	-0.008* (-1.96)	-0.918 (-1.21)
y_2006	-0.336 (-0.96)	-0.011** (-2.33)	-0.574 (-0.71)
y_2007	-0.392 (-1.45)	-0.011** (-2.4)	-1.293** (-2.06)
y_2008	-0.697** (-2.28)	-0.016*** (-2.78)	-1.316* (-1.84)
y_2009	0.163	(dropped)	1.181 (0.66)

	(0.18)		
intercept	-3.755**	-0.094***	
	(-2.37)	(-3.03)	0.258 (0.54)
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R-squared	30.86%	29.72%	-
Adj R-squared	18.65%	-	-
Pseudo R2	-	-	16.80%
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