The determinants of abandoned M&As in the banking sector*

Stefano Caiazza
Università degli Studi di Roma "Tor Vergata"

Alberto Franco Pozzolo
Università degli Studi del Molise, CASMEF, MoFiR and Centro d'Agliano

Abstract

Although the determinants of the consolidation of the banking industry of the last decades have been widely analyzed, few studies have investigated what caused a number of announced deals to be abandoned. To fill this gap in the literature, we analyze the characteristics of the abandoned operations in a large sample that includes all the major domestic and cross-border M&As in the banking sector announced between 1992 and 2010 worldwide. The results show that hostile operations, deals of larger size and deals implying swaps of shares are less likely to be concluded. Controlling for size, cross-border operations are more likely to be successfully concluded, contrary at the expectation that the presence of strong cultural barriers and regulations, implicit and explicit, could determine a higher abandon ratio. Finally, deals announced in countries with stronger supervisory authorities have a higher probability of failure.

JEL classification: G15, G21, G34
Keywords: M&As, bank, abandon M&As

* The paper originates from the inter-university research project "Banking mergers and acquisitions bank in Europe in the '90s. Effects of ownership structure and regulation on profitability, efficiency and internationalization of European banking groups", coordinated by Michele Bagella, granted by the Ministry of Education (protocol number 2006134152). We would like to thank Paolo Bianco for helpful research assistance, and participants at the XXI International Conference on Money, Banking and Finance, Rome 10-11 December 2012 for comments and suggestions. All remaining errors are of course our own responsibility.

1. Introduction

Corporate transactions have a critical role in market economies. The competition for corporate control is one of the main tools through which inefficient administrators can be removed and unprofitable companies can be reconverted. In the banking sector, the large wave of M&As registered in the United States during the '80s and followed a little later in Europe, fostered by the II EU Directive on the Single Market, have increased significantly the efficiency of the credit allocation mechanism.

The financial crisis of 2007-2008 has made it clear that the financial sector was not following an equilibrium path, and the process of consolidation itself had contributed to the creation of banking conglomerates that were too big and too complex to save. This has caused a sharp reduction also in the number and value of M&As in the banking sector, from 1,309 in 2007 to only 744 in 2010. Moreover, many of the deals concluded in the most recent years were required to avoid the failure of insolvent intermediaries. However, it cannot be forgotten that firms, families and entire economies, especially those of the countries of Central and Eastern Europe that had just embraced the market economy, have strongly benefited from the consolidation and reorganization of the credit market that took place in the years before the crisis.

The processes of consolidation in the banking sector has been studied extensively and there is now a broad consensus on the determinants of domestic and cross-border M&As: larger and more profitable banks typically acquire weaker financial intermediaries, with the aim to restructure and increase efficiency (Focarelli et al., 2002).[1] However, a piece of information that has not been analyzed carefully in the empirical literature relates to the determinants of the abandonment of deals that had been announced but are never finalized.

In general, the phenomenon of abandoned deals is not negligible. O'Sullivan et al. (1998), for example, show that in the United Kingdom between 1989 and 1995 almost 20% of the publicly announced transactions among all types of firms has not been concluded. Wong et al. (2001) argue that the failure may depend on several factors: the intervention of regulatory authorities; the success of defensive strategies implemented by the management of the target company; the emergence of conditions that determine a volunteer withdrawal by the acquired company. But although a number of studies has analyzed the determinants of

[1] For a recent review of the literature on bank mergers see DeYoung et al. (2009).

abandoned M&As in the case of non-financial companies, to the best of our knowledge, analyses of the banking industry are still lacking.[2] This is even more surprising since the phenomenon is quantitatively relevant also among banks: on average, slightly less than 5% of announced deals in the world are not concluded, with peaks of over 10% in more financially advanced countries. The average value of transactions not successfully completed is also more than twice that of the transactions successfully concluded.

In this paper we try to fill this gap in the literature by studying the determinants of abandoned M&As in the banking sector. Our empirical analysis is based on more than 20,000 domestic and cross-border operations, announced in over 150 countries around the world between 1992 and 2010. The results show that friendly and cash-regulated operations have a greater probability of success. Cross-border deals are also less likely to be abandoned, contrary at the expectation that the presence of strong cultural barriers and regulations, implicit and explicit, could determine a higher abandon ratio. Most likely, this is due to the fact that they are announced after a careful analysis of their costs and benefits, and of the likelihood of their success. On the contrary, operations of higher value, both in absolute term and relative to the size of the bidder, have a lower probability of success. Finally, the presence of a larger number of supervisor authorities reduces the probability that an announced deal is concluded successfully.

The rest of the paper is organized as follows. Section 2 sets the framework for the analysis, describing the process of consolidation in the banking industry and the results of the literature on abandoned deals in the non-banking sectors. Section 3 describes the sources of the data used in the empirical analysis and comments the major trends. The results of the econometric analysis are presented in Section 4. Section 5 concludes.

2. Previous evidence on M&As and abandoned deals

The determined and the effects of M&As in the banking sector have been extensively analyzed in the theoretical and empirical literature. In summary, the available evidence shows that in general it is larger and more profitable banks that acquire weaker banks, typically with the aim to restructure and increase efficiency (Focarelli et al., 2002). However, the impact on the bidder bank is often negative (DeLong, 2001).

[2] An exception is the paper of Lorenz and Schiereck (2007) described below.

The theoretical and empirical literature has identified a number of characteristics that are most probably associated with the abandonment of announced M&As in the non-financial sector. The most critical feature affecting the success of an announced deal is the reaction of management of the target company. Jensen (1988) defines as hostile acquisitions all attempts of acquiring a company in which the management of the acquirer and that of the target are competing with each other to gain control of the new entity. There are different ways to oppose an hostile takeover, both before the offer occurs (pre-bid defenses) and after it is made (post-bid defenses). In the first case, for example, a defense strategy can be put in place by organizing a block of shareholders that are in favor of the incumbent management and declare themselves unavailable to sell their stakes. In alternative, this group of shareholders could sustain the use of debt to perform buy-back operations. Post-bid defense techniques may take the form of lobbying activities with institutional shareholders, trade unions and consumer groups, that should exert their pressure on the shareholders to reject the tender. A well-known post-bid defense strategy is the organization of a counter-bid by part of buyers that are in favor of the incumbent management (also known as *white knights*). Additional post-bid defense technique include the approval of prohibitively expensive restructuring plans, that would make the reorganization of the company following the merger unprofitable. These may include the payment of extraordinary dividends or the announcements of unexpected extraordinary profits. The most effective post-bid defensive techniques have been shown to be eg, Sudarsaman, 1995; Holl and Kyriazis, 1997; Schoenberg and Thornton, 2006). Hostile takeovers are a fundamental tool in the market for corporate control (Kini et al., 2004), since they introduce an important element of competition capable of leading to the removal of inefficient or opportunist management, increasing the value of the company. But, clearly, the availability of many different defensive techniques makes hostile operations less likely to succeed than non-hostile deals (Morck et al., 1989). Holl and Kyriazias (1996), for example, estimate that the probability of success of friendly takeover bid, that is shared with the management of the target company, is 0.96%, while that of a hostile takeover is 61%. Studying mergers planned in the United Kingdom between 1989 and 1993, O'Sullivan and Wong (1998) find that in 47% of cases self-defense techniques prevent the success of hostil takeover offers. Hostile takeovers were relatively common in the United States and in the United Kingdom during the '80s, but in the following decade decreased drastically. On the contrary, they have grown significantly in continental Europe (Martynova and Renneboog,

2008). In the banking sector, however, the practice of hostile bids is far less common than in the non-financial sector, most likely because for a long time mergers took place under the more or less explicit assessment of regulatory authorities, which often sought to encourage the growth of "national champions" (Caiazza et al., 2012) or favored the bail-out of banks close to bankruptcy.[3]

A second obvious feature that has been found to affect the likelihood of success of an M&A is the price offered for the acquisition: Betton and Eckbo (2000) show that the probability of success increases with the premium offered with respect to the market stock price.

A third relevant feature is the method of payment. From the theoretical point of view, the cash payment eliminates any uncertainty over the value of the exchange, that can have instead a strong influence if the payment is through an exchange of shares. Confirming this hypothesis, Ang and Cheng (2006) show that the over-valuation of bidder's shares increases the likelihood that shares are used as a method of payment and the probability that the transaction is successfully completed. However, the empirical evidence on this issue is less neat. Asquith (1983), Jennings and Mazzeo (1993) find that in the U.S. the announcement of equity paid M&As only causes a reaction in the bidder stock price more negative than those with full cash payment, but not a higher probability of an abandonment. In the case of Europe, result are less clear. (Martynova and Renneboog, 2008; Georgen and Renneboo, 2004; Jandik and Makhija, 2005).

A fourth factor affecting the probability of success of an announced M&A is the share of capital already owned by the bidder (*the toehold effect*). Jeon (2009), in particular, shows that the probability of success increases when the percentage of the bidder already owns 5% or more of the capital of the target company.

The presence of more than one possible bidder is a fifth factor that can influence the probability that an announced deal is successful, but also in this case the evidence is not unambiguous. Betton and Eckbo (2000), for example, show that the presence of multiple potential bidders reduces the probability of success, while Cotter and Zenner (1994) show that

[3] Interestingly, some European countries do not allow the use of defensive techniques in the case of deals involving a bank, requiring explicitly the bank's management to remain neutral. Belgium, Germany, Italy, Luxembourg and the Netherlands are among the countries that have not adopted the neutrality-rule (European Commission, 2007).

competing bids increase the likelihood of success. Walkling (1985) and Holl and Kyriazis (1996) find instead no statistically significant effect.

A sixth element that can affect the outcome of the offer is the size of the target. On the one side, management of larger companies is more likely to have the capabilities and the strength to implement defensive techniques, reducing the probability of success. But, on the other side, potential buyers are typically attracted by large deals, involving targets of larger size (Sudarsanam, 1995, and O'Sullivan and Wong, 1998), and therefore tend to organize such bids more carefully, in order to maximize the probability of success. Indeed, the empirical evidence in O'Sullivan and Wong (2001) and Martynova and Renneboog (2008) suggests that the second effect prevails: M&A bids of larger corporations have a higher probability of success.

In the case of amicable deals, the probability of success is also higher for bids including a *lockup clause*, that grants to the bidder a call option on the common shares (stock lockup) or on certain assets (asset lockup) of the target, exercisable in the event of a merger with another buyer. Coates and Subramanian (2000) and Bates and Lemmon (2003) find that deals with lockup or breakup fee clause (which give the buyer the right to receive compensation in cash in the event of abandon of the operation), increase the likelihood of success. Consistent with this evidence, Betton and Eckbo (2000) also show that the probability of success is higher in presence of a previous agreements between the merging companies.

As we already mentioned in the introduction, the evidence on the causes of abandoned M&As in the banking sector is very limited, despite the well-known specificities of the industry and the large extent of the phenomenon. The only exception we are aware of is Lorenz and Schiereck (2007), who analyze 97 operations among European banks between 1996 and 2002 and show that the failure of the operation is more likely when the bidder bank is smaller, offers a higher acquiring price and the offer cause a drop in the stock price of the bidder. In the following we present the results of an empirical analysis of the of abandon of mergers and acquisitions in the banking sector based on a sample of more than 20,000 cases.

3. Data and summary statistics

The empirical analysis is conducted on a large sample of M&A operations recorded by Security Data Corporation (SDC) in the "Platinum Worldwide Merger and Acquisition Database". For each deal, SDC reports a large set of information, on the banks involved (the name, identification codes such as SEDOL and ISIN, the countries of operation), and of the deal (the dates of announcement and conclusion, the value, characteristics such as the type of operation and the method of payment).

The primary variable of interest for our analysis is the status of the transaction, which has two possible outcomes: completed or withdrawn. The most relevant explanatory variables are the characteristics of each deal, that identify: hostile operations, cross-border deals, operations with more than one potential bidder, deals including a *lockup clause,* deals regulated with different methods of payment (cash, shares, mixed). Although only for a smaller sample, SDC also reports information on the characteristics of bidder and target banks, such as the value of total and liquid assets.

One of the strength of our analysis is the availability of information on a large sample of deals from over 169 countries, that allow us verify if the probability of success of domestic and cross-border deals is systematically different. Using cross-country variability we can also verify also the impact of country specific characteristics on the probability of success of announced deals. In particular, we focus on the role of institutional and regulatory characteristics of the country where the target bank operates: the degree of risk aversion of the regulator, obtained applying the methodology of Buch and Delong (2008) to the updated version of the dataset by Barth et al. (2004), the overall degree of independence of the supervisory authorities, and the degree of independence of the banking system.

Our initial sample includes 21,521 deals announced between 1992 and 2010 and involving banks in 169 countries, of which 20,539 were completed and 982 were withdrawn (4.56% of the total).

The distribution of deals through time is not homogeneous (Figure 1). On average, 4.7% of the total number of announced operations have been withdrawn, but although the total number of M&As is evenly spread over the two periods before and after 2000 (respectively 51% and 49% of the total), the share of withdrawn operations is higher in the first part of the period (65%).

Figure 1

The number and the outcome of the deals is also different across countries (Table 1). The United States have the highest number of M&As (9,673 operations, 443 of which were abandoned), accounting for a bit less than half of the entire sample. It is followed by UK (1,278 of which 26 abandoned), Japan (920 and 29) and Germany (696 and 24). Among the countries with more than 100 operations, the ratio between the number of abandoned and concluded operations is highest in Indonesia (13.9%), Norway (12.5%), Philippines (10.7%), Malaysia (8.1%), China (6.7%) and Poland (6.4%). It is particularly low in Russia (1.1%), Singapore (1.4%), the UK (2.0%), Brazil (2.2%), Sweden (2.9%) and Switzerland (3.0%).

Table 1

Institutional and regulatory characteristics are also fairly heterogeneous across countries. Only few countries have more banking supervisors: Malaysia, Netherlands, Nigeria, United States and Zimbabwe. The index of risk aversion of the supervisory authorities ranges from 4 to 11, and it is highest in Malaysia, Pakistan and Taiwan (11), and in Hungary, Isle of Man, Moldova, Switzerland, Uganda and the United States (10). Among the larger countries, those with lower risk aversion are Austria (2), Romania (3), Belgium, Italy, the Netherlands, New Zealand and Sweden (4).

Table 2 reports some descriptive statistics of the characteristics of operations, distinguishing also between abandoned (Panels B) and concluded deals (Panels C).

Table 2

The average and median size of abandoned operations is larger than that of successful deals (367 million of US$ vs. 161 million for the mean, and 46 million vs. 26 million for the median). Abandoned operations also show a higher ratio of the value of the transaction to the bidder's total assets (0.11 vs. 0.06 for the mean and 0.03 vs. 0.01 for the median). The average size of bidders in the case of abandoned operations is larger than in the case of successful deals (55,661 million of US$ vs. 61,302), but the median is smaller (4,088 vs.

3,687). Finally, the average ratio of liquid assets of the target to the transaction value is higher in the case of positively concluded deals (4.32 vs. 4.28) but the median value is smaller (0.89 vs. 0..93).

These first evidence allows signals that the probability of abandonment of an announced M&A depends on its characteristics and on the characteristics of the banks involved. However, simple mean and median comparisons may hinder more complex patterns among possibly correlated deal and bank characteristics. For this reason, in the following we report the results of a multivariate econometric analysis aimed at verifying the combined effect of different characteristics on the probability of abandonment.

4. Econometric analysis

We study the probability of abandonment of an announced M&A operation adopting the following binomial specification:

$$\Pr(Y_{ijkst} = k) = F(X_{ijkst}, Z_{ijkst}, CC_{st}, CB_{it}, CD_{js}, TD_t), \qquad k = 0, 1 \qquad (1)$$

where $Y_{ijt} = 0$ if a deal in which bank *i* of country *j* bids for bank *k* in country *s* in year *t* completed and $Y_{ijkst} = 1$ if the deal is abandoned; X_{ijkst} is a vector of characteristics of each transaction; Z_{ijkst} are characteristics of bidder and target banks at time *t*; CC_{st} is a vector of characteristics of country *s* at time *t*; CB_{ijkst} is a categorical variable that takes value 1 if the transaction is cross-border, 0 if it involves banks of the same country; CD_{js} are country dummies; and TD_t are time dummies. The model is estimated using a probit specification, with standard errors clustered at the level of the country of the target bank.

Following the literature, we include among the explanatory variables the logarithm of the value of the deal and a set of dummies describing the following deal specific characteristics: *i)* hostile deals; *ii)* the payment of the transaction with stocks; *iii)* the presence of more than one bidder, *iv)* the presence of the lockup clause. We also include the ratio of the value of the deal to the total assets of the bidder, as a measure of the impact of the operation on the potential acquirer. Further, we consider the possibility that the acquirer plans to use part of the assets of the target to extinguish the liabilities incurred to finance the acquisition

including the ratio of the value of the liquid assets of the target to the value of the deal. Finally, we control for the specialization of the target using categorical dummies.

In addition to distinguishing domestic and cross-border deals, we control for country specific characteristics in two ways. In some specifications, we include dummies for the country of incorporation of the bidder and the target banks. In other specifications, we explicitly control for the institutional and regulatory environment of the country of incorporation of the target bank by including the measures described in Section 3. Finally, we include time dummies to control for all possible common time-varying characteristics that may affect the probability of success of the deals.

The results of the empirical analysis are reported in Tables 3 and 4. Panel A of Table 3 presents the results of the first empirical specification, which only includes the characteristics of the deals and controls for the characteristics of bidder and target countries by means of the country dummies. Dummies for the specialization of target bank are also included, although they are not reported.

Table 3

As expected, and consistent with the previous literature, hostile deals are less likely to be concluded, with a negative coefficient, statistically significant at 1% level and a marginal effect of over 12%. Also the presence of more than one potential bidder decreases the likelihood of success, clearly because only at most one among them can actually conclude the acquisition. Transactions in which the payment is made in shares have a lower probability to be completed, as evidenced by the positive coefficient, statistically significant at the 1% level, of the associated dummy variable. Although the marginal effect is in this case just 2%, this evidence is consistent with the view that a higher degree of uncertainty related to the difference between the price of exchange and the future development of the market price reduces the appeal of the deal. Finally, transactions including a lockup clause have a lower probability of abandonment, because they impose a high cost on additional potential bidders. Also in this case the estimated coefficient is statistically significant at the 1% confidence level, while the marginal effect is slightly above 4%.

Interestingly, and possibly quite surprisingly, cross-border operations have a lower probability of failure, with a negative and statistically significant coefficient, albeit only at the

10% confidence level, and a large marginal effect of 11%. This result seems to suggest that the larger explicit and implicit costs of organizing a cross-border acquisition discussed, among others, by Focarelli and Pozzolo (2005), Pozzolo (2009) and Caiazza et al. (2011), induce banks to start only those transactions that have a high probability of success.

Panel B of Table 3 presents the results of a specification similar to that in Panel A, but in which the dummy variables for each country have been replaced by the characteristics of banking supervision in the country of incorporation the target bank. Also in this case dummies for specialization of the target bank are included but not reported. This second specification confirms the results of the previous one, with the only exception of the coefficient for cross-border operations, which becomes statistically insignificant.

Interestingly, institutional and regulatory characteristics have a significant impact on the probability of success of an announced operation. The overall evidence points towards a negative impact of stricter regulation on the probability of success of announced M&As. The presence of multiple banking supervisors increases the risk of abandonment, with a positive and statistically significant coefficient at the 1% level, and a marginal effect close to 2.5%. This result is consistent with the view that a larger numbers of supervisors increases the possibility for the target to exploit the regulation as a defensive tool, while a single supervisor can be more easily captured by the bidder, especially if it is large. The presence of risk averse regulators, as measured by the indicator proposed by Buch and DeLong (2008), also reduces the probability of success, with a high statistical significance, although in this case the marginal effect is quite negligible. Consistent with the previous finding, more effective regulators typically reduce the probability of success of a deal. Finally, also the possibility that the regulator can obtain the report of the external audit increases the probability of abandonment, with a marginal effect greater than 4% and a statistical significance of 1%.

In a number of additional regressions, unreported but available from the authors upon request, we verified that other economic and institutional characteristics – the degree of concentration of the banking system, the overall degree of independence of the regulators by the government, the degree of independence of the banking system and the level of corruption – have no statistically significant effect on the probability of abandonment.

Table 4 presents the results of a number of specifications that include among the explanatory variables some characteristics not considered in the specifications of Table 3.

Unfortunately, these information are not available for the full sample of deals, leading to a significant reduction in the number of observations available for the estimation.

Table 4

Panel A shows the results of a specification with dummy variables for country, similar to that of Panel A of Table 4, which also includes the value of the transaction. The number of observations drops to 10,922, slightly more than half of those initially available. However, the results are reassuring on the robustness of the previous estimates, as shown by the broad invariance of the coefficients and the marginal effects with respect to those reported in Table 3. The only exception is the coefficient of dummy for transactions settled through share exchanges, that remains positive but becomes statistically insignificant.[4] The coefficient of the logarithm of the transaction value is positive and statistically significant at 1% confidence level. In the banking sector, larger deals have therefore a lower probability of success, contrary to what happens in the manufacturing sector, although the marginal effect is smaller than 1%.

The results presented in Panel B, obtained from an even smaller sample of 4,535 observations, confirm the importance of the size of the deal.[5] Not only deals that are larger in absolute value have a lower probability of success, but also transactions in which the size of the target bank is relatively larger with respect to that of the bidder have a higher probability of abandonment. The coefficient in this case is significant at 1% level and the marginal effect is close to 3%. Moreover, bidder banks of larger size have a higher probability of concluding positively their operations.

In the specification reported in Panel C we have added as an additional explanatory variable the value of the liquid assets of the target bank as a ratio to the total value of the deal. Consistent with our expectations, target banks with greater liquidity are able to more strongly oppose to the acquisition, determining the abandon in many cases. The effect is statistically significant at 1%, even if the impact is rather limited. The drop in the number of observations

[4] In unreported additional regressions we have verified that the loss of statistical significance is due to the reduction of the sample size, and not to the possible distortion induced by the lack of control for the size of the transaction in the previous regressions.

[5] Noticeably, in this and the following specifications of Panels C-E, the coefficient of he dummy for stock payments is again statistically significant.

to 885 determines in this specification a loss of statistical significance of some of the variables considered previously, in particular the lockup clause and, noticeably, the value of the transaction. However, also in this case we have verified that the loss of statistical significance is due to the reduction of the sample size and not to the possible distortion induced by omitting to control for the level of liquid assets of the target bank.

Finally, Panels D and E present the results of two specifications similar to those of Panels B and C, but where the country dummies have been replaced with the institutional characteristics of the country of the target bank. Also in the case of Panel D, the results confirm those of the previous specifications, with respect to the deal characteristics as well as to the country characteristics, as reported in Panel B of Table 3. Including the measure of the target's liquidity (Panel E), the number of observations drops to 969, although the signs of the estimated coefficients is the same as in the previous specifications, in this case none of them is statistically significant.

5. Conclusions

M&As in the banking sector have helped in the past three decades to radically change financial markets, becoming a characterizing element of the process of international integration generally defined as "globalization". Determinants, directions and consequences of bank M&As have been analyzed in detail, but little is known of the reasons why some operations planned and announced turned out to be unsuccessful.

This study sought to answer this question. The results of the empirical analysis are consistent with expectations and with economic rationality: the operations most likely to fail are those hostile and for which the means of payment are more uncertain in term of worth, as in the case of share swaps. More interestingly, our evidence shows that the acquisition of larger size banks have a greater chance of failure, even though they are reasonably well-organized. Even controlling for size, cross-border operations are instead more likely to be concluded successfully, contrary to the expectation that the presence of strong cultural barriers and regulations could determine a higher abandonment ratio. Greater interference of supervisory authorities, typically reluctant to accept that domestic banks are acquired by foreign investors, leads instead to a higher probability of failure.

References

Amel D., Banes C., Panetta F. and Salleo C., 2004. Consolidation and efficiency in the financial sector: a review of the international evidence. *Journal of Banking and Finance*, 28, 2493-2519.

Ang J.S. and Cheng Y., 2006. Direct evidence of the market-driven acquisition theory. *The Journal of Financial Services Research*, 39, 199- 216.

Asquith P., 1983. Merger bids, uncertainty, and stockholder returns. *Journal of Financial Economics*, 11, 51-83.

Barth J.R., Caprio G.J. and Levine R., 2004. Bank regulation and supervision: what works best? *Journal of Financial Intermediation*, 13, 205-248.

Bates T.W. and Lemmon M.L., 2003. Breaking up is hard to do? An analysis of termination fee provisions and merger outcomes. *Journal of Financial Economics*, 69, 469-504.

Betton S. and Eckbo B.E., 2000. Toeholds, bid-jumps and expected payoffs in takeovers. *The Review of Financial Studies*, 13, 841-882.

Buch BC.M. and DeLong G., 2008. Do weak supervisory systems encourage bank risk-taking? *Journal of Financial Stability*,4, 23-29.

Caiazza S., Pozzolo A.F. and Claire A., 2012. What do bank acquires want? Evidence from worldwide bank M&A targets. *Journal of Banking and Finance*, 36, 2641-2659.

Caiazza S., Pozzolo A.F. and Trovato G., 2011. Do domestic and cross-border M&As differ? Cross-country evidence from the banking sector. MoFiR, w.p. n.52.

Coates J.C. and Subramanian G., 2000. A buy side model of lockups: theory and evidence. *Stanford Law Review*, 53, 307-396.

Cotter J.F. and Zenner M., 1994. How managerial wealth affects the tender process. *Journal of Financial Economics*, 35, 63-97.

DeLong G.L., 2001. Stockholder gains from focusing versus diversifying bank mergers. *Journal of Financial Economics*, 59, 221-252.

DeYoung R., Evanoff D.D. and Molyneux P., 2009. Mergers and acquisitions of the financial institutions: a review of the post-2000 literature. *Journal of Financial Services Research*, 2-3, 87-110.

European Commission, 2007. Report on the implementation of the directive of takeover bids. Commission Staff Working Document.

Focarelli D. and Pozzolo A.F., 2005. Where do banks expand abroad? An empirical analysis? *Journal of Business*, 78, 2435-2464.

Focarelli D., Panetta F. and Carmelo S., 2002. Why do banks merge? *Journal of Money Credit and Banking*, 34, 1047-66.

Goergen, M. and Renneboog L., 2004. Shareholder wealth effects of European domestic and cross-border takeover bids, *European Financial Management*, 10, 9-45.

Holl P. and Kyriazis D., 1997. Agency, bid resistance and the market for corporate control. *Journal of Business Finance and Accounting*, 24, 1037-1066.

Holl P. and Kyriazis D., 1996. The determinants of outcome in the UK take-over bids. *International Journal of the Economics and Business*, 3, 165-184.

Jandik T. and Makhija A.K., 2005. The impact of the structure of debt on target gains. SSRN n. 679026.

Jennings R.H. and Mazzeo M.A., 1993. Competing bids, target management resistance, and the structure of takeover bids. *The Review of Financial Studies*, 6, 883-909.

Jensen M.C., 1988. Takeovers: their causes and consequences. *Journal of Economic Perspectives*, 2, 21-48.

Jeon J. Q., 2009. How much is reasonable? The size of termination fees in mergers and acquisitions. *Journal of Corporate Finance*, 17, 959-981.

Kini O., Kracaw W. and Mian, S., 2004. The nature of discipline by corporate takeovers. *Journal of Finance*, 59, 1511–1552.

Lorenz J.T. e Schiereck D., 2007. Completed versus cancelled banking M&A transactions in Europe, Working paper.

Martynova M. and Renneboog L., 2008. A century of corporate takeovers: what have we learned and where do we stand. *Journal of Banking and Finance*, 32, 2148-2177.

Morck R.M., Shleifer A. and Vishny R.W., 1989. Alternative mechanisms for corporate control. *American Economic Review*, 89, 842-852.

Morgan D., 2002. Rating banks: risk and uncertainty in an opaque industry. *American Economic Review*, 92, 874-888.

O'Sullivan N. and Wong P., 1999. Board composition. Ownership structure and hostile takeovers: some UK evidence. *Accounting and Business Research*, 29, 139-155.

O'Sullivan N. and Wong P., 1998. Internal versus external control: an analysis of the board composition and ownership in UK takeovers. *Journal of Management and Governance*, 2, 17-35.

Pozzolo A.F., 2009. Bank cross-border mergers and acquisitions (causes, consequences and recent trends). In Alessandrini P., Fratianni M. and Zazzaro A. (eds), *The changing geography of banking and finance*. Spinger.

Schoenberg R. and Thornton D., 2006. The impact of bid defences in Hostile Acquisitions. *European Management Journal*, 24, 142-150.

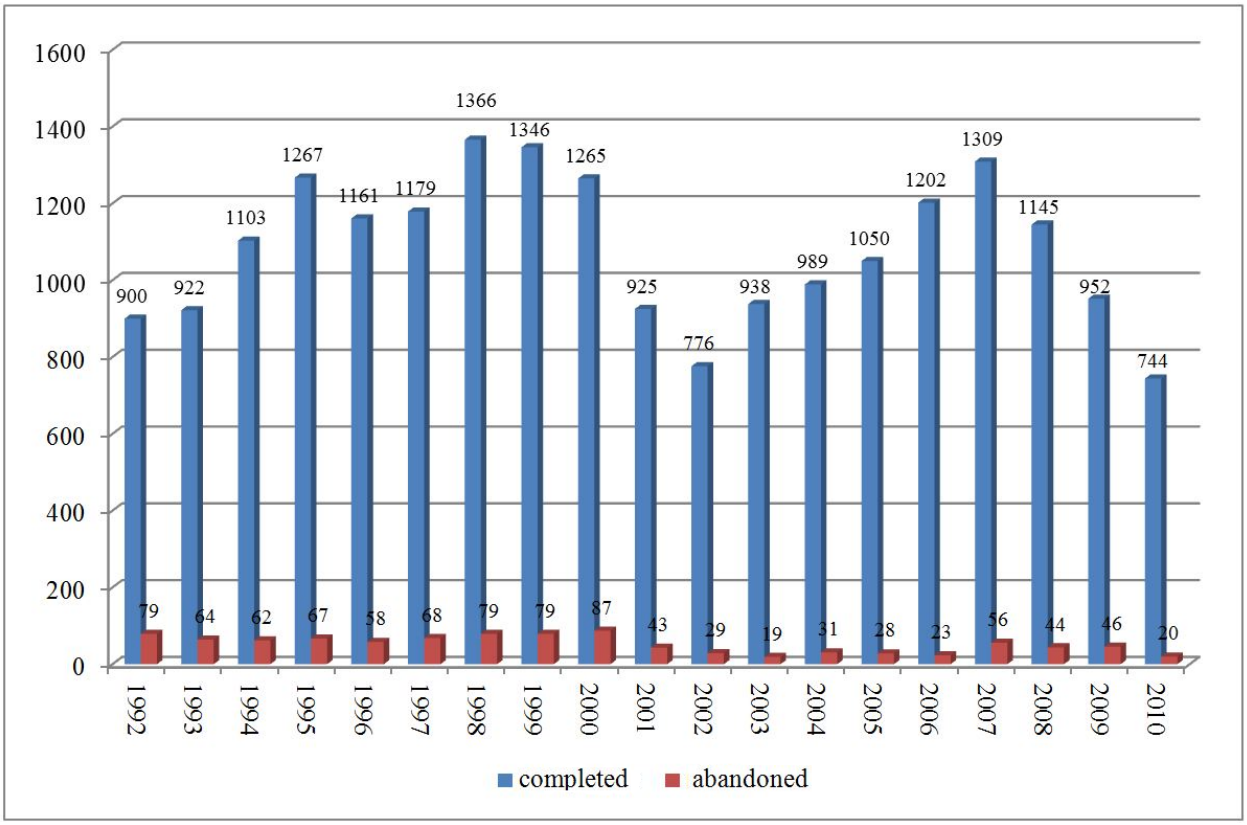
Sudarsanam, P.S., 1995, The role of defensive strategies and ownership structure of target firms: evidence from UK hostile takeover bids. *European Financial Management*, 1, 223-240.

Walking R.A., 1985. Predicting tender offer success: a logistic analysis. *Journal of Financial and Quantitative Analysis*, 20, 461-478.

Wong P. and O'Sullivan N., 2001. The determinant and consequences of abandoned takeovers. *Journal of Economic Surveys*, 15, 145-186.

Figure 1

Completed and abandoned M&As



Completed and abandoned Mergers and Acquisitions between 1992 and 2010, recorded by Platinum Worldwide Mergers and Acquisition Database, provided by Security Data Corporation (SDC).

Table 1

Completed and abandoned M&As by country

Country	completed	abandoned	abandoned /completed
United States	9230	443	4.8
United Kingdom	1278	26	2.0
Japan	920	29	3.2
Italy	703	37	5.3
Germany	696	24	3.4
Spain	618	38	6.1
Malaysia	481	39	8.1
Australia	414	15	3.6
Canada	385	12	3.1
China	373	25	6.7
Russian Federation	357	4	1.1
Sweden	307	9	2.9
Switzerland	233	7	3.0
Brazil	224	5	2.2
Hong Kong	193	11	5.7
India	177	7	4.0
Thailand	172	10	5.8
Poland	157	10	6.4
Singapore	146	2	1.4
Austria	123	6	4.9
Argentine	122	9	7.4
Philippines	122	13	10.7
Norway	120	15	12.5
Indonesia	115	16	13.9
Denmark	112	8	7.1
The Netherlands	112	6	5.4
Belgium	90	1	1.1
Portugal	83	9	10.8
Hungary	83	4	4.8
Mexico	73	3	4.1
Greece	61	6	9.8
South Africa	59	8	13.6
Czech Republic	56	4	7.1
Ukraine	56	4	7.1
South Korea	55	15	27.3
New Zeland	55	3	5.5
Colombia	54	1	1.9
Turkey	54	6	11.1
Romania	50	1	2.0
Chile	47	1	2.1
Bulgaria	39	1	2.6
Ireland	38	3	7.9
Taiwan	38	5	13.2
Luxembourg	36	1	2.8
Latvia	33	3	9.1
Nigeria	33	1	3.0
Peru	33	2	6.1
Vietnam	33	1	3.0
Venezuela	28	2	7.1
Lebanon	26	3	11.5
Slovak Republic	26	1	3.8
Croatia	25	1	4.0
Puerto Rico	24	1	4.2
Serbia and Montenegro	23	0	0.0
Lithuania	22	1	4.5
Morocco	22	0	0.0
Pakistan	22	5	22.7
Bosnia	20	0	0.0
Israel	20	4	20.0
Slovenia	20	0	0.0
Belarus	19	0	0.0

Country	completed	abandoned	abandoned / completed
Yugoslavia	15	0	0.0
Panama	16	2	12.5
Bahrain	15	1	6.7
Serbia	14	0	0.0
Uruguay	14	0	0.0
United Arab Emirates	13	3	23.1
Jordan	13	2	15.4
Sri Lanka	13	0	0.0
Cyprus	12	3	25.0
Ecuador	12	3	25.0
Macedonia	12	0	0.0
Kuwait	11	4	36.4
Iceland	10	3	30.0
Kazakhstan	10	1	10.0
Moldova	10	0	0.0
Monaco	10	0	0.0
Oman	10	5	50.0
Guatemala	9	0	0.0
Kenya	8	0	0.0
Uganda	8	0	0.0
Albania	7	0	0.0
Andorra	7	0	0.0
Armenia	7	0	0.0
Barbados	7	0	0.0
Nicaragua	7	0	0.0
Bahamas	6	0	0.0
Iraq	6	0	0.0
Jersey	6	0	0.0
Paraguay	6	1	16.7
Saudi Arabia	5	0	0.0
Macao	5	0	0.0
Malta	5	0	0.0
Mauritius	5	0	0.0
Dominican Republic	5	0	0.0
Tunisia	5	0	0.0
Zimbabwe	5	1	20.0
Bangladesh	4	0	0.0
Bolivia	4	0	0.0
Honduras	4	0	0.0
British Virgin Islands	4	0	0.0
Mozambique	4	0	0.0
Qatar	4	0	0.0
Tanzania	4	0	0.0
Netherlands Antilles	3	0	0.0
Azerbaijan	3	0	0.0
Bermuda	3	0	0.0
Botswana	3	0	0.0
Guernsey	3	0	0.0
Reunion	3	0	0.0
Cayman Islands	3	0	0.0
Kyrgyzstan	3	0	0.0
Liechtenstein	3	0	0.0
Libya	3	0	0.0
Namibia	3	1	33.3
Senegal	3	0	0.0
Syria	3	0	0.0
Sudan	3	0	0.0
Zambia	3	1	33.3
Algeria	2	0	0.0
Aruba	2	0	0.0
Bhutan	2	0	0.0
Cambodia	2	0	0.0
Ivory Coast	2	1	50.0
Costa Rica	2	0	0.0

Country	completed	abandoned	abandoned / completed
Solomon Islands	2	0	0.0
Ghana	2	1	50.0
Isle of Man	2	0	0.0
Nepal	2	0	0.0
Central African Republic	2	0	0.0
Republic of the Union of Myanmar	2	0	0.0
American Samoa	2	0	0.0
Tonga	2	0	0.0
Trinidad and Tobago	2	0	0.0
Uzbekistan	2	0	0.0
Angola	1	0	0.0
Benin	1	0	0.0
Brunei	1	0	0.0
Burkina Faso	1	0	0.0
Cameron	1	0	0.0
Cape Verde	1	0	0.0
Jamaica	1	0	0.0
Greenland	1	1	100.0
Guam	1	0	0.0
Malawi	1	0	0.0
Mali	1	0	0.0
Mauritania	1	0	0.0
Mayotte	1	0	0.0
Montenegro	1	0	0.0
Papua New Guinea	1	0	0.0
Republic del Congo	1	1	100.0
Democratic Republic of Congo	1	0	0.0
Ruanda	1	0	0.0
San Marino	1	0	0.0
Swaziland	1	0	0.0
Togo	1	0	0.0
Turks and Caicos	1	0	0.0
Vanuatu	1	0	0.0
Total	20539	982	4.8

Table 2

Deal and bank characteristics

Variables	Obs.	Mean	Median	St. Dev.	Minimum	Maximum
A. Full sample						
Value of transaction (USD millions)	11,113	160.66	25.93	465.93	0.09	5.846.10
Total asset bidder (USD billions)	7,577	61,005.59	3,695.50	163,196.10	5.90	1,266.359.00
Val of transaction / Tot ass. bidder	5,124	0.06	0.01	0.16	0.00	1.80
Liquidity target / Val. of transaction	1,846	4.28	0.93	11.24	0.00	104.04
B. Concluded deals						
Value of transaction (USD millions)	11,113	160.66	25.93	465.93	0.09	5,846.10
Total asset bidder (USD billions)	7,577	61,301.84	3,687.40	16,3816.70	5.90	1,266,359.00
Val of transaction / Tot ass. bidder	5,124	0.06	0.01	0.16	0.00	1.80
Liquidity target / Val. of transaction	1,846	4.28	0.93	11.24	0.00	104.04
C. Abandoned deals						
Value of transaction (USD millions)	533	367.32	46.33	859.01	0.16	5,677.99
Total asset bidder (USD billions)	420	55,660.99	4,087.70	151,647.00	6.40	1,207,825.00
Val of transaction / Tot ass. bidder	237	0.11	0.03	0.22	0.00	1.72
Liquidity target / Val. of transaction	114	4.32	0.89	9.41	0.00	60.28

Panel A shows statistics for the entire sample, dropping observations with a value greater than the 99th percentile and below the first percentile of the sampling distribution. Panel B shows statistics of banks involved in completed M&As. Panel C provides statistics of banks involved in abandoned M&As. The descriptive statistics are calculated for banks belonging to each reference sample and, except for the value of the transaction, refer to the year before the year of the deal. *Value of transaction* gives the amount of the deal expressed in millions of US dollars. The *total assets of the bidder bank* is the value of total asset expressed in billions of US dollars. *Value of transaction to total assets of the bidder bank* is the ratio of the transaction value and the total value of assets of the bidder. *Liquidity of target to the value of transaction* is the ratio of the value of the target bank's liquidity to the value of the transaction. The data source is SDC.

Table 3

Deal characteristics and regulatory variables

	Panel A		Panel B	
	Coefficient	Marginal Effect	Coefficient	Marginal Effect
Hostile	1.4766***	0.1272	1.4589***	0.1243
	(0.4166)		(0.4083)	
Multi-bidders	1.6672***	0.1436	1.6007***	0.1364
	(0.0586)		(0.0566)	
Cross-border	-0.1332*	-0.1147	-0.0623	-0.0053
	(0.0728)		(0.0598)	
Stocks payment	0.2566***	0.0221	0.2838***	0.0241
	(0.0664)		(0.0809)	
Lockup	-0.5593***	-0.0482	-0.5694***	-0.0485
	(0.0615)		(0.0682)	
Multi-regulators			0.2865***	0.0244
			(0.0878)	
Regulator risk aversion			0.0420***	0.0035
			(0.0156)	
Audit to regulator			0.5403***	0.0460
			(0.0674)	
Observations	20,659		20,769	

The dependent variable takes the value of one if the deal was abandoned and zero if it was successful. The model is estimated using the probit specification. *Multi-regulators* is a dummy variable that takes value 1 if there are more banking supervisory authorities. *Multi bidders* is a dummy variable that takes value 1 if there are multiple bidders. *Cross-border* is a dummy variable that takes value 1 if the deal involves banks from different countries. *Lockup* is a dummy variable that takes value 1 if bidder has a call option on the common shares or on certain assets of target bank, exercisable in the event of a merger with another buyer. *Regulator risk aversion* is an index that measures the sensitivity to the assumption of risk of the supervisory authorities and it varies from 0 to 12 (higher value corresponds to a greater risk sensitivity). *Audit to regulators* is a dummy variable that takes value 1 if the auditor's report must also be delivered to the supervisory authority. In Panel A, dummies for bidder and target countries are included. In Panel B the specification does not include country dummies. Standard errors are adjusted considering the cluster at the country level. The symbol *** indicates a level of significance equal to 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 percent. The marginal effects show the partial change in the likelihood with respect to the variation of each independent variable, evaluated at the sample mean value of each variable.

Table 4

Deal characteristics, banks and regulatory variables

	Panel A		Panel B		Panel C		Panel D		Panel E	
	Coefficient	Marginal Effect	Coefficient	Marginal Effect	Coefficient	Marginal Effect	Coefficient	Marginal Effect	Coefficient	Marginal Effect
Hostile	1.5569***	0.1342	1.6874***	0.1419	3.2602***	0.2089	1.5346***	0.1189	1.9915***	0.1423
	(0.4387)		(0.5482)		(1.4545)		(0.5093)		(0.9582)	
Multi-bidders	1.5155***	0.1307	1.5575***	0.1309	2.1318***	0.1366	1.4494***	0.1123	1.7778***	0.1270
	(0.0535)		(0.1788)		(0.0400)		(0.1939)		(0.1941)	
Cross-border	-0.4053***	-0.0349	-1.1890***	-0.1000	-5.8573***	-0.3754	0.0136	0.0010	0.7520***	0.0537
	(0.0977)		(0.4095)		(0.7060)		(0.1514)		(0.3442)	
Stocks Payment	0.0806	0.0069	0.3354***	0.0282	0.5488***	0.0352	0.3115***	0.0241	0.4359***	0.0311
	(0.0901)		(0.0844)		(0.1695)		(0.0671)		(0.1099)	
Lockup	-0.6181***	-0.0532	-0.6311***	-0.0531	-0.0923	-0.0059	-0.6027***	-0.0467	-0.1082*	-0.0077
	(0.0638)		(0.1233)		(0.0715)		(0.0861)		(0.0651)	
Deal value (log)	0.0957***	0.0082	0.1339***	0.0112	0.0789	0.0051	0.1226***	0.0096	0.0972***	0.0069
	(0.0084)		(0.0475)		(0.0637)		(0.0358)		(0.0458)	
Deal value/ total assets bidder			0.3487**	0.0293	0.6262*	0.0401	0.1555	0.0120	-0.0526	-0.0038
			(0.1783)		(0.3778)		(0.2005)		(0.3614)	
Total assets bidder (log)			-0.1089***	-0.0091	-0.1450***	-0.0093	-0.1235***	-0.0096	-0.1414***	-0.0101
			(0.0148)		(0.0430)		(0.0192)		(0.0412)	
Liquidity target/ deal value					0.0154***	0.0010			0.0196***	0.0014
					(0.0016)				(0.0063)	
Multi-regulators							0.1956	0.0151	0.3193	0.0228
							(0.1327)		(0.7231)	
Regulators risk aversion							0.0950***	0.0074	0.0568	0.0040
							(0.0349)		(0.1237)	
Audit to regulators							0.4887***	0.0379	0.6278	0.0449
							(0.0667)		(0.5689)	
Observations	10,921		4,535		885		5,184		969	

The dependent variable takes the value of one if the deal was abandoned and zero if it was successful. The model is estimated using the probit specification. *Multi-regulators* is a dummy variable that takes value 1 if there are more banking supervisory authorities. *Multi bidders* is a dummy variable that takes value 1 if there are multiple bidders. *Cross-border* is a dummy variable that takes value 1 if the deal involves banks from different counties *Lockup* is a dummy variable that takes value 1 if bidder has a call option on the common shares or on certain assets of target bank, exercisable in the event of a merger with another buyer. *Deal value* is the log of transaction value. *Deal value to total asset bidder* is the ratio between the value of transaction and the total asset of bidder. *Total asset bidder* is the value of total asset of bidder bank. *Liquidity target to deal value* is the ratio between the liquidity of target with respect to the value of transaction. *Regulator risk aversion* is an index that measures the sensitivity to the assumption of risk of the supervisory authorities and it varies from 0 to 12 (higher value corresponds to a greater risk sensitivity). *Audit to regulators* is a dummy variable that takes value 1 if the auditor's report must also be delivered to the supervisory authority. In Panel A, B and C, dummies for bidder and target countries are included. In Panel D and E the specification does not include country dummies. Standard errors are adjusted considering the cluster at the country level. The symbol *** indicates a level of significance equal to 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 percent. The marginal effects show the partial change in the likelihood with respect to the variation of each independent variable, evaluated at the sample mean value of each variable.