WHAT DO FOREIGNERS WANT? EVIDENCE FROM TARGETS IN BANK CROSS-BORDER M&AS

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Abstract

Given the recent traumatic events in the world's banking industry it is important to understand what drives bankers to create larger and larger, often multinational, banking groups. In this paper we investigate whether the targets in cross-border bank M&As are materially different from those banks targeted in domestic M&A deals. To address this question we use a sample of over 24,000 banks from more than 100 countries. We begin by estimating the probability that a bank will be a M&A target; this probability is based upon both bank specific and country specific characteristics. The sample also naturally includes banks that were not involved in any M&A deal, this set of banks acts as a control sample for the study. We then estimate a multinomial model that distinguishes between (i) targets in domestic operations, (ii) targets in cross-border operations and (iii) non-targets. The main message of the paper is that, with few exceptions, domestic and foreign investors target similar banks. In particular, contrary to what one might expect, bank size does not affect differently the probability of being a domestic or a cross-border target, but it has a positive and highly significant effect in both cases. What differs between national and international M&As are the characteristics of the countries where banks operate. On average, banking systems characterized by lower leverage, higher cost inefficiency and lower liquidity are more likely to be targets of cross-border acquisitions, while none of this characteristics affects the likelihood of being acquired domestically.

JEL classification: G15, G21, G34
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1. Introduction

The events in the global banking industry since the summer of 2007, that have included widespread bank bailouts and both full and part nationalisation of many banks, should cause us to question the banking industry's desire over the past three decades to create larger and larger institutions, often multinationals. Their desire to merge with and to acquire other banks has arguably led to the creation of an increasing number of large banking groups that are clearly too big to fail. However, it is possible that this creation of "*too big to fail*" entities is just a by-product of a competitive environment for corporate control rather than a deliberate policy on behalf of bank executives, and normally one would deem such competition as being essential for the well being of any corporate sector. But given recent events it is perhaps more important than ever to try to understand what drives Mergers and Acquisitions (M&A) activity in this crucial sector of the global economy.

The pre-credit crunch academic literature on bank M&A activity has already analysed many different aspects of this market, ranging from the determinants of a merger or acquisition, the effects that such deals might have on the restructured company and its markets, the role that advisers play and the different means by which funding is obtained for these transactions. M&A activity increased substantially over the last three decades leading up to the start of the credit crisis in 2007. This increase in corporate deals in this sector began in the US in the early 1980s, but only took off in Europe around ten years later after the EU's directive on financial market integration (Amel *et al* 2004, DeYoung *et al* 2009, Pozzolo 2009). Prior to the impact of the global credit crunch the consensus was that this consolidation in the banking sector had been driven by a combination of technological and financial innovation and the pre-credit crunch trend towards financial deregulation (for example, see Berger *et a*l 1999).

Although the majority of M&A activity in the banking sector has been domestic in nature, cross-border deals were twice as common in the years immediately preceding the credit crunch as they were in the early 1990s. As the credit bubble inflated them it seems that more and more banks were looking overseas for partners and targets (Figure 1). Various aspects of this internationalisation in the banking sector have been studied in recent research. Researchers have analysed the nature of the expansion of cross-border banking deals, the characteristics of the bidding banks and the impact that these deals have had upon the subsequent performance of the new corporate entity.[1] However, perhaps surprisingly, with the exception of Correa (2009) there has been very little research that has focused on the characteristics of the target banks in these

[1] See for example Berger *et al* (2000), Focarelli and Pozzolo (2001), Vander Vennet (2002).

cross-border M&As. In this paper, our main aim is to focus on this particular aspect of M&A activity by investigating whether the targets in cross-border bank M&As are materially different from those banks targeted in domestic M&A deals.[2] Are the sorts of banks targeted in a domestic deal different from those targeted in a cross-border deal? As such, our research contributes to the wider understanding of the pre-credit crunch drive for consolidation in the banking industry.

To answer these and related questions we use a sample of over 24,000 banks from more than 100 countries between 1992 and 2006. We begin by estimating the probability that a bank will be a M&A target; this probability is based upon both bank specific and country specific characteristics. The sample also naturally includes banks that were not involved in any M&A deal, this set of banks acts as a control sample for the study. We then estimate a multinomial model that distinguishes between (i) targets in domestic operations, (ii) targets in cross-border operations and (iii) non-targets.

Our results show that banks incorporated in countries that are larger and that are supervised by a larger number of regulatory authorities are significantly less likely to be targets in cross-border operations. In addition to these two variables, there are a number of other differences between the characteristics of domestic and cross-border takeover targets, but none of them turns out to be statistically significant. The size of the banking sector, for example, has a negative effect on the probability that a bank is a M&A target, but such effect is statistically significant only in the case of domestic operations. Similarly, bank specific characteristics such as profitability, specialization and cost-efficiency have in general very similar effects in the case of domestic and cross-border deals.

The rest of the paper is organised as follows: in Section 2 we briefly review the empirical literature on bank mergers and acquisitions that is relevant for work here; in Section 3 we describe the data set, while in Section 4 we present the empirical specification of the model used in our estimation, in Section 5 we present our results, and we conclude the paper in Section 6 with final thoughts and suggestions for future research in this area.

2. Relevant literature

The empirical literature that has focused on the characteristics of banks that have been involved in M&A activity has come to the general conclusion that more 'efficient' banks tend to buy smaller, less efficient ones (DeYoung *et al* 2009). These less efficient targets tend to have poor capital ratios (Wheelcok and Wilson 2000), lower levels of profitability (Akhibe *et al* 2004) and a lower

[2] There is a related literature on the characteristics of targets in the manufacturing sector; for example see Palepu (1986) and Shleifer and Vishny (2003).

level of efficiency (Pasiouras *et al* 2007).[3] As a result, the pre-2007 empirical evidence appeared to suggest that this M&A activity tended to improve the efficiency of target banks, and therefore also tended to have a positive effect on shareholder value overall, although this is more evident in European-based M&A deals.[4]

With regard to cross-border M&A activity the available empirical evidence reveals a number of stylised facts. First, banks are more likely to target overseas banks where the links between the relevant countries are stronger, both in economic, cultural and institutional terms (see for example, Buch and DeLong 2004, Claessens and Van Horen 2007, or Focarelli and Pozzolo 2008). Second, the targets in these cross-border deals are more likely to be located in countries with higher expected growth (see Focarelli and Pozzolo 2005). And finally, the presence of specific regulations and the degree of concentration in the banking sector have significant but unclear effects on the pattern of these cross-border expansions (see for example, Hernando *et al.* 2008, Correa 2009, Pasiouras *et al* 2007, Focarelli and Pozzolo 2005, or Hannan and Pilloff 2006). Correa (2009), which represents the only study to our knowledge that compares domestic and cross-border targets in bank M&A operations, finds that banks that are acquired by foreign investors tend to be larger and have poorer performance than those acquired by domestic institutions. However, the empirical analysis might be compromised because the control sample used in the study only includes banks that were either domestic or cross-border M&A target over the sample period.

More broadly, our work is related to the role of economic borders on cross-border banking activities. On the one hand, as suggested by Carbò Valverde *et al* (2009), the informational asymmetries that make it more difficult to organize cross-border M&As may be one of the reasons at the root of the policy pursued by many European banks, in many cases encouraged by national authorities, of creating large "national champions". This can be seen as a defensive policy, since large domestic banks might be less likely to be targets in cross-border M&As. However, as suggested by Degryse *et al* (2009), once domestic banks increase their size and focus on larger and more transparent borrowers, they might become more transparent and therefore be more easy targets also in cross-border M&As, as some recent experiences such as the acquisition of the German HVB by the Italian Unicredit or of the UK Abbey National by the Spanish Santander have shown.

[3] For research relating to the characteristics of these targets see Focarelli *et al.* (2003), Hernando *et al.* (2008), Correa (2009), Lanine and Vander Vennet (2007).
[4] See for example Cybo-Ottone and Murgia (2000) and Campa and Hernando (2006).

3. Data and summary statistics

In this paper we attempt to identify whether banks targeted by other domestic banks are materially different from those that are targeted by overseas banks. To this end we make use of a substantial data set. The initial sample of data includes all those bank mergers and acquisitions that were announced and completed between 1988 and 2006 and that have a record in the *Platinum Worldwide Mergers and Acquisition Database*, which is a commercial database provided by Security Data Corporation (SDC). Each record includes information about the name, main sector of operation and country of residence of the bidder and of the target, several identification codes (such as ISIN and SEDOL), the announced and effective dates of the deal, and details about the deal status. In our sample, we only include completed M&As and we take as our reference the effective date of realisation. We define domestic M&As as those where the nationalities of the bidder and of the target banks are identical; we define cross-border M&As as those where they differ.[5] Our initial data set comprises over 19,000 deals. We obtained bank balance sheet data from Bankscope, which is a commercial database provided by Bureau van Dijk. We then merged the M&A data set from SDC with the balance sheet information from Bankscope using company SEDOL code, which is the only identifier common to the two databases. Having done this our data set comprised 185,962 observations on 24,325 banks between 1992 and 2006, which involved in 1,474 M&A deals, of which 1,176 were domestic and 298 cross-border. The incidence of domestic deals is nearly four times that of operations involving banks from different countries, confirming once again that national borders matter. We gathered data on GDP and the ratio of private credit to GDP for each country from the IMF World Economic Outlook database and from the World Bank database, respectively. Further, following the literature on the determinants of M&As, we include in our analysis two key indices of the institutional characteristics of a country: the extent of disclosure of corporate decisions and the strength of legal rights, which measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending.[6] Both indices are produced within the Doing Business Project by the International Finance Corporation, a corporation part of the World Bank.[7] Finally, data on the number of bank supervisors is from Barth *et al* (2001), updated to 2008.

Table 1 shows a full summary of the deals that comprise our database by country. Domestic deals are widespread over our sample. The highest number of domestic operations over this sample

[5] As is typical for research in this area, we do not distinguish between mergers and acquisitions.
[6] The extent of disclosure is one of the three components of the index of investor protection used by Rossi and Volpin (2004); in unreported analyses available upon request we verified that this component is the only one with a robust and significant effect in our framework.
[7] See http://www.doingbusiness.org/Downloads/.

period were seen in USA, where 337 deals were completed representing 29% of the domestic deal sample (shown in column 3 of Table 1). There were also a large number of deals in Italy and Japan, 138 and 123 respectively. In total, targets located in G10 countries accounted for nearly 70% of all the domestic deals in our sample.[8] German targets represented a significant proportion of our sample of cross-border deals, 17 in total representing 6% of the total of cross-border deals. Banks from Italy (14), Brazil (13) and France (13) were also frequent targets in cross-border M&A transactions. In total, targets located across G10 countries accounted for nearly one quarter of all cross-border deals. The relative higher incidence of domestic as opposed to cross-border M&As signals that banks in larger countries are, all else equal, less likely to be acquired by foreign investors.

Figure 1 plots the number of both domestic and cross-border bank M&A deals on an annual basis from 1992 to 2006. Clearly, domestic operations are much more frequent than cross-border deals, a fact well known in the empirical literature (see, e.g., Focarelli and Pozzolo, 2001). Both domestic and cross-border deals are evenly distributed across our sample period with slightly more than half of the deals being completed before 2000, both for domestic and cross-border operations. Both types of deal peaked before the collapse in the stock market in 2001, before recovering again as the equity markets recovered too.[9]

In Table 2 we present some descriptive statistics for the data used in the empirical analysis. The average value of total GDP is $236 billion, expressed in purchasing power parity terms. The smallest value in our sample is for Albania ($4.18 billion) and the largest, naturally, for the USA ($10,235 billion). Private sector credit expressed as a proportion of GDP is very high for a number of countries including many of those that have since suffered severely from the effects of the credit crunch. The average of this variable for the G10 countries is just above unity. The data on bank concentration were calculated by summing the market share of the five largest banks in each country. The average level of concentration, according to this measure, is 67%; Sweden is highly concentrated, with an index of 95% while Luxemburg (23%) and USA have the lowest concentration (25%). The average value for the G10 countries is 56%. The number of authorities responsible for bank supervision does not change with the development of the financial markets. More than one authority is present in less developed countries (e.g., Malaysia) as well as among the G10s (USA). The Extent of disclosure index, that measures investor protection considering the degree of disclosure of corporate decisions to third parties, ranges from 0 in countries such as Laos

[8] G10 countries are Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom, United States. Our sample does not include operations with Canadian target banks.
[9] Pozzolo (2009) analyses more in detail the patterns of bank M&As providing some explanations of the drop registered at the beginning of the decade.

and Sudan, to 10 in France and UK, but also in Malaysia and Thailand. It is 7 in USA. Finally, the Strength of legal rights index, that measures the degree to which laws protect the rights of borrowers and lenders, ranges from 1 in countries such as Bolivia and Syria, to 10 in Malaysia and Singapore. It is 9 in UK and 8 in USA.

Table 3 reports summary statistics for the individual banks in our sample. Panel A provides average values for the indicators for those banks that were not involved in M&As, while Panels B and C provide the same information for those involved in domestic and cross-border M&As respectively. Summary statistics are calculated for the sample of banks in each category in the year before the M&A event took place. In other words, each bank contributes to the average value of total assets of domestic targets with its asset value in the year before it has merged or has been acquired. Bank summary statistics are calculated by excluding values larger than the 99th or smaller than the 1st percentile.

Perhaps surprisingly, targets in cross-border and domestic M&As are larger on average than those banks that have not been involved in any M&A deal. The average and median total assets of targets not involved in M&A activity are $1,920 million and $260 million respectively (panel A); for those banks involved in domestic M&As they are, respectively, $5,207 million and $942 million (panel B); and for cross-border deals the numbers are respectively $4,193 million and $1,143 million (panel C). The findings of Akhige *et al*. (2003) that targets are less profitable than average is also confirmed in the case of cross-border M&As. The return on assets is higher for the set of cross-border target banks than for the domestic banks and very similar to the return on assets achieved by those banks not involved in M&A activity over this period. Also interest margin is higher for cross-border targets (4.3%), and it is lower for non targets (3.8%) and domestic targets (3.6%). On average cross-border and non targets have the same share of revenues coming from non traditional banking activities (13%), as opposed to 12% for domestic targets. Banks that have not been targets have higher capitalization (11.3%) than those of domestic operations (9.8%); while cross-border targets have an intermediate level (10.9%). Both domestic and cross-border targets are on average less cost efficient: the cost to income ratio of target banks it respectively 71.6% and 68.6% for those involved in domestic and cross-border deals, higher than for those not involved in M&A over this period (67.3%). Finally, the ratio of liquid to total assets is higher for target banks, more so for those involved in cross-border (23.9%) than domestic deals (20.2%).

4. The Empirical model

In Section 3 we presented descriptive statistics that showed that there appeared to be differences in the characteristics of banks that have not been involved in any M&A deal, and those that have

been involved in either a domestic or a cross-border deal. Further, some differences emerged between domestic and cross-border targets. We now approach this issue in a more formal context by specifying a model to test the null hypothesis that the two sets of targets have the same characteristics. We conduct this analysis in two stages. We begin by using a binomial model to estimate the probability that a bank is an M&A target. The binomial model specification that we estimate is shown as follows:

$$\Pr(Y_{ijt} = 1) = F(X_{ijt-1}, C_{jt-1}, TD_t) \qquad (1)$$

where Y_{ijt} takes the value of one if bank *i* from country *j* at time *t* is involved in an M&A and zero otherwise; X_{it-1} is a set of bank specific characteristics at time *t*-1, expressed as differences from year and country averages;[10] C_{jt} represents a set of country specific characteristics; and TD_t are a set of time dummies. Since some of the explanatory variables only vary at the country level, our estimates might be affected by the aggregate regressor problem, i.e. by possible within-class disturbance correlation (Moulton, 1990). For this reason, the standard errors are clustered at the country level.

We then estimate a multinomial model that distinguishes between (i) targets in domestic operations, (ii) targets in cross-border operations and (iii) non-targets. Employing the same set of explanatory variables used to estimate expression (1), we therefore estimate:

$$\Pr(Y_{ijt} = k) = F(X_{it-1}, C_{jt-1}, TD_t) \qquad k = 0, 1, 2 \qquad (2)$$

where $Y_{ijt} = 0$ if bank *i* of country *j* at time *t* is not a target; $Y_{ijt} = 1$ if it is a target in a domestic M&A; and $Y_{ijt} = 2$ if it is a bidder in a cross-border M&A.

While the binomial specification could be estimated either using logit or probit, multinomial choice models estimated using a logistic specification impose the independence of irrelevant alternative hypothesis, that is rejected in our sample. For this reason we estimate both models using a probit specification.

[10] We chose this specification since we did not want to include country fixed effects because this would have made impossible to estimate the between-countries effects of country characteristics and, at the same time, we wanted to account separately for the effect of average characteristics of banks in each country and for the impact of bank individual characteristics. Besides, in most cases, maximization of the likelihood function for multinomial probit estimates including country fixed effects did not reach converge.

5. Empirical results

Baseline specification

Table 4 presents the results of the estimates of the baseline specification. The columns headed (1) and (2) in Table 4 respectively report the coefficients and the marginal effects (multiplied by 10,000) evaluated at the sample median of the binomial specification of the model in expression (1). The columns headed (3) to (6) report instead the coefficients and the marginal effects of the multinomial specification of the model in expression (2). Column (7) shows the statistical significance of the test for the difference in the coefficients for domestic and cross-border M&As in the multinomial specification. As already mentioned above, in all specifications, individual bank-specific characteristics are expressed as differences from year and country means. In each column, Panel A reports the results for general country-specific characteristics, Panel B shows the results for year and country averages of bank characteristics, and Panel C for the individual bank levels, expressed as differences from year and country averages.

Binomial choice model

Column (1) of Panel A shows that banks operating in countries with more developed credit markets (a higher credit to GDP ratio), higher bank concentration, a larger number of supervisors of banking activities, represented by the dummy variable "multiple sup", and where collateral and bankruptcy laws provide a stronger protection of the rights of borrowers and lenders (Strength of legal rights) are less likely to be M&A targets. The coefficients on the size of the economy (total GDP) and the transparency of related-party transactions, a key measure of investor protection, are instead statistically insignificant.

Next, in Panel B of Table 4, we consider the effect of year and country averages of bank-specific characteristics. Column (1) shows that banks are more likely to be M&A targets in countries where the average size of credit institutions is larger and where cost efficiency is lower. None of the other characteristics is statistically significant.

Finally, in Panel C of Column (1) we report the coefficients of the bank specific characteristics. M&A targets are larger than non-targets, as confirmed by the positive and highly significant coefficient on Total assets. Recall that we calculated all bank specific variables as differences with respect to year and country means, and these results show therefore that targets are on average larger than their country peers. Furthermore, they are less profitable and less innovative, as shown by the negative and significant coefficients on Returns on assets and on the share of Other operative income over total income (a standard measure of the incidence of more non-traditional banking activities). And finally, they are less cost efficient, as shown by the positive coefficient of

the Cost to income ratio. By contrast, net interest margins and capitalization seem to have little impact on the likelihood of being a target or not. Overall, these results provide additional support for the results of previous research on bank M&As (see, e.g., Akhigbe et al., 2003) and on bank internationalisation based on country level characteristics (see, for example, Focarelli and Pozzolo 2005), showing that target banks are typically more traditional and less profitable and efficient than average.

Column (2) presents the marginal effects of each explanatory variable, evaluated at the sample median and multiplied by 10,000. The two variables with the largest influence are the individual bank share of other operative income over total income and the number of authorities involved in supervision. The marginal effects of size and profitability are smaller than that of specialisation, and that of cost efficiency is negligible.

Multinomial choice model

As argued above, cross-border deals are far less frequent than domestic deals, suggesting that investors may see them as different types of operations, organized possibly for very different purposes.[11] It is therefore not obvious why domestic and foreign investors would choose to buy or merge with the same types of banks. To test this hypothesis we have then estimated the multinomial choice model of expression (2). The results are presented in Columns (3) to (6). The most noticeable finding is that only four coefficients are significantly different between domestic and cross-border targets; and three of them represent country level characteristics. Specifically, banks incorporated in countries that are smaller are significantly less likely to be targets in cross-border operations, while the size of the country has no significant effect in the case of domestic operations. The presence of multiple bank supervisors has a negative effect on the probability that a bank is a target in both domestic and cross-border deals, but such effect is much larger in the latter case. Banks operating on countries with a higher average share of revenues coming from non-traditional banking activities are also significantly less likely to be targets in cross-border M&As. But although the sign of the coefficient of other operative income over total income is positive in the case of domestic deals and negative in the case of international operations, none of them is statistically significant per se. Finally, less profitable banks are more likely to be targets in domestic operations, but this is not the case for cross-border operations. In other words, investors at home buy banks that are relatively less profitable on average, while this result is not robust for investors from abroad.

[11] Barba *et al* (2010), for example, show that multinational banks can use more efficiently their internal capital markets than domestic banks to smooth the correlation between deposits and loans, and Gulamhussen *et al* (2010) show that bank international diversification augments corporate value.

In addition to the previous four characteristics, some additional features differ between targets of domestic and cross-border takeovers, although they do not turn out to be statistically significant. The index for Strength of legal rights in protecting borrowers and lenders has a negative and statistically significant effect in the case of domestic M&As, but not for cross-border deals. Countries in which banks are on average more capitalized and less liquid are more likely to host cross-border M&A targets, but these country characteristics have no statistically significant impact on the likelihood of domestic operations. Among bank specific variables, in addition to the different effect of profitability, we find that bank specialisation towards less traditional activities, proxied by the share of other operative income over total income, has a negative effect on the probability that it is a target in a domestic M&A, but no statistically significant impact in the case of cross-border deals, although the sign and the magnitude of the coefficients are comparable. Finally, and most remarkably, it is confirmed that larger and less cost efficient banks are more likely to be targets in both domestic and cross-border M&As.

In synthesis, these results show that domestic and foreign investors target similar banks, and what differs mostly between national and international M&As are the characteristics of the countries where banks operate, and the average country characteristics of each banking system. Most interestingly, and contrary to what one might expect, size has a positive and highly significant effect on the probability that a bank is a domestic as well as a cross-border target, shedding some doubts on the hypothesis that the "national champions" policy succeeded in limiting foreign entry. In the following, we will verify if and how the results of the baseline specification change when we consider different samples of banks and countries.

Alternative specifications

Tables 5 to 9 have the same structure of Table 4, but present the results obtained using different specifications with respect to the baseline model. In particular, we focus on larger banks, banks in developed (G10) and less developed countries, and banks in economically integrated areas (EU15 and EMU).[12]

Large banks

Columns (1) and (2) of Table 5 present the coefficients and the marginal effects obtained from the estimates of expression (1), but where the smaller banks (defined as those with total assets below our sample median of slightly more than 25 billions of US$) have been excluded, thereby reducing the number of observations from 136,183 to 68,335. The overall results are qualitatively unchanged, although some coefficients have different significance. In particular two previously

[12] In unreported regressions we also focused on the subsample of deals that led to the acquisition of 50% or more of the target's equity, obtaining very similar results as those of the baseline specification.

statistically significant coefficients on country specific characteristics (Bank concentration and the dummy for multiple supervisors) and two on individual bank characteristics (Return of asses and Cost to income ratio) become statistically insignificant, and one bank specific coefficient becomes significant (liquid assets over total deposits). They all maintain the same sign and a similar magnitudes. Also the marginal effects (column (2)) show little changes with respect to the baseline specification.

Also the results of the multinomial model, reported in columns (3) to (6), broadly confirm those of the baseline specification. For three of the four variables that had a significantly different effect on domestic and cross-border targets in the baseline specification – GDP, the dummy for multiple supervisors and the average ratio of other operative income to total income – we obtain the same result also in the subsample of larger banks. In addition, in the sample of larger banks also the coefficients for the individual ratio of bank equity over total assets (the inverse of leverage) are significantly different from each other, although only that for cross-border M&As is positive and statistically significant, suggesting that more capitalized banks are less likely to be acquired by foreign investors. On the contrary, the coefficients on individual bank profitability, that significantly differed in the baseline specification, are both statistically insignificant, as well as their difference.

Finally, Column (3) shows that the negative coefficients of Other operative income over total income and of liquidity in the binomial specification are entirely explained by domestic deals, suggesting that bidders are less likely to acquire a foreign bank with the intent to innovate its activities or to inject liquidity.

G10 and non-G10 countries

In Table 6 we present results for the sub-sample of banks in the G10 countries. With respect to the baseline specification, the number of observations slightly drops to 122,215. In the binomial specification the results change in many respects (Column (1)). First, the coefficients of Private credit over GDP and of bank concentration become smaller and statistically insignificant. Second, the coefficient on the index for the Extent of disclosure becomes positive and statistically significant. Third, the coefficient on average bank capitalization in the country (Equity over total assets) becomes negative and statistically significant. And fourth, the coefficient of average Other operative income over total income, our measure of banks specialization, becomes statistically significant, while that at the individual bank level becomes insignificant.

In the multinomial specification (Columns (3) and (4)), the coefficients differ between domestic and cross-border M&As in six cases, and none of them coincides with those of the baseline specification. Among general country characteristics, the indexes of the institutional characteristics

in corporate activities have a statistically significant effect only on the probability that a bank is a target in a domestic deal, and the difference with respect to the effect on cross-border deals is also statistically significant (Panel A). Similarly, the average size and capitalization of the banks in each country only have a significant effect in the case of domestic deals, and the difference with respect to the coefficient for cross-border deals is also statistically significant (Panel B). The effect of individual bank innovativeness, proxied by the share of other income over total income, is significantly different from zero for both domestic and cross-border M&As, but it has a negative impact on domestic operations and a positive impact on international deals, although none of the two coefficients is individually significant (Panel C). Finally, less liquid banks in the G10s have a lower probability of being targets in domestic operations, and a higher probability in the case of foreign acquisitions, suggesting that foreign investors might be interested in acquiring foreign intermediaries to inject them liquidity.

The picture is different when we consider non-G10 countries. The results in column (1) of Table 7 shows that banks are more likely to be M&A targets in countries with lower bank concentration and fewer bank supervisors (Panel A), and where on average credit institutions are larger, are more profitable in the traditional banking activities (i.e., have a higher Net interest margin) and are less liquid (Panel B). Among individual bank characteristics, targets in non G10 countries are typically larger, have a higher profitability from traditional activities and a lower incidence of revenues from innovative activities, and they are less cost efficient. In other words, large, traditional and low efficient banks are more likely to be targets (Panel C).

The multinomial specification (Columns 3 and 4) shows that country size has a significantly different effect on the probability that a bank is a target in a domestic and in a cross-border M&A (Panel A).[13] The difference between the two coefficients is statistically significant, although none of them is individually so. Moreover, the size of the credit market has a negative effect on the probability that a bank is a target in a cross-border deal, suggesting that foreign investors prefer to enter less financially developed countries, possibly to export their superior skills, consistent with Focarelli and Pozzolo (2005). It has no effects on domestic deals. The results in Panel B show that banks operating in countries where on average Net interest margins are higher are more likely to be domestic targets. Low average cost efficiency has instead a significant impact only on the probability of being a foreign target. At the individual bank level (Panel C), a higher Net interest margin increases the probability of being a domestic target, stronger specialization towards more innovative banking activities increases the probability of being a cross-border target, and cost

[13] In the multinomial specification it was not possible to include the dummy for multiple supervisors because our sample does not include instances in which the target bank in a cross-border deal is hosted in a non-G10 country where multiple authorities are responsible for bank supervision.

efficiency has a similar impact on the probability of being acquired by either domestic or foreign investors.

EU15 countries

In Tables 8 and 9 we focus on a subset of countries with stronger economic, financial and institutional integration: The European Union before the recent enlargement (EU15) and the European Monetary Union (EMU). In the case of EU15 countries, the results of the binomial specification model, reported in Columns (1) and (2), show that targets are less likely to be located in countries that are large, have more developed banking markets and have a stronger protection of legal rights (Panel A). Among average bank characteristics, only liquidity has a statistically significant effect, reducing the probability that a bank is an M&A target (Panel C). With respect to individual bank characteristics (Panel C), consistent with previous results, we find that targets are larger, less cost efficient and less liquid. Moreover, within the EU15, they are also more capitalized, as shown by the positive sign of the coefficient on Equity over total assets.

The multinomial specification shows a large number of general country characteristics that have a significantly different effect in the case of domestic and cross-border deals (Column (3), (4) and (7)).[14] Banks in larger countries are less likely to be targets in a domestic deal, while the effect is not statistically significant in the case of cross-border deals (Panel A). Moreover, although none of the two coefficients is individually significant, banks in countries with a more developed credit market are more likely to be targets in a domestic deal and less likely in a cross-border deal, and the difference is statistically significant. A higher index of the Extent of disclosure also reduces the likelihood that banks are targets in cross-border deals, although it has no significant effect in the case of domestic operations. On the contrary, the strength of legal rights has a negative effect on the probability of being a target in a domestic deal, but has no effects in the case of cross-border deals.

Average bank characteristics also have significantly different effects (Panel B). Average bank size and average cost efficiency only matter in the case of domestic deals, increasing the probability that a bank is a target. On the contrary, average specialization towards more innovative banking activities only affects the probability that a bank is a target in a cross-border operation, reducing its likelihood. Moreover, average profitability in traditional lending activities (Net interest margin) and average capitalization have an opposite effect on domestic and international operations. Banks in countries with higher average profitability in traditional activities and lower a equity to capital

[14] As in the case of the G10s, it was not possible to include in the multinomial specification the dummy for multiple supervisors.

ratio are significantly more likely to be domestic targets, and significantly less likely to be cross-border targets.

Finally, apart from size, that affects equally domestic and cross-border deals, all the other individual bank characteristics only impact on the probability that a bank is a target in a domestic deal, although only in the case of cost efficiency the coefficients are significantly different in the two cases (Panel C). In particular, more capitalized, less cost efficient and less liquid banks are more likely to be domestic targets.

EMU countries

In Table 9 we consider the case of banks operating in a very integrated area, such as the European Monetary Union. In the binomial specification (Column 1) only four explanatory variables turn out to have a statistically significant effect. In addition to credit market development, that reduces the probability of being an M&A target (Panel A), the other three are all individual bank characteristics – size, equity to total assets and cost to income – with a positive effect on the probability (Panel C).

What is more striking is that in many cases country and bank characteristics have a significantly different effect on the probability that a bank is a target in a domestic or in a cross-border operation (Columns (3), (4) and (7)). General country characteristics are only relevant in the case of cross-border deals, with banks located in larger countries, with less developed credit markets and higher banks concentration being more likely to be targets of foreign investors (Panel A). Not surprisingly, within a strongly integrated area, institutional characteristics such as the extent of disclosure of corporate decisions and the strength of legal rights have no significant effects.

With the exception of the share of income from non-lending activities, that has a negative effect on the probability of being both a domestic and a cross-border a target, all other average bank characteristics only impact on international deals (Panel B). Countries that on average have larger, more cost efficient, more liquid and more profitable banks in the traditional lending activities are significantly less likely to be targets of cross-border M&As. This results are not surprising, since these characteristics describe healthy banking sectors, that are more capable of defending themselves from foreign acquisitions.

Finally, among individual bank characteristics, larger size, higher capitalization, lower specialization in innovative banking activities and lower liquidity increase the probability of being acquired by a domestic investor (Panel C). Larger size and lower cost efficiency increase that of being a cross-border target.

6. Summary

In this paper we have provided more insight into global bank mergers and acquisitions. The probability that a bank is the target of a cross-border M&As is on average much smaller than that it is the target in a domestic operation, which confirms that borders have a relevant impact on corporate activities. However, we find that, with few exceptions, domestic and foreign investors target fairly similar banks. What differs between national and international M&As are the characteristics of the countries where banks operate. Banks incorporated in countries that are smaller and where a fewer number of authorities is in charge of bank supervision are significantly more likely to be targets in cross-border operations. Within the more heterogeneous subset of the non-G10 countries, we also find that foreign investors prefer to acquire banks in countries where the extent of disclosure of corporate operations is higher and where the strength of legal rights, which measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending, is lower.

On average, banking systems characterized by lower leverage, higher cost inefficiency and lower liquidity are more likely to be targets of cross-border acquisitions, while none of this characteristics affects the likelihood of being acquired domestically. However, the picture is different in the case of acquisitions within EU15 and EMU, where countries that are most frequently targets of cross-border deals have also lower Net interest margins and a larger share of income from traditional lending activities.

As for bank specific characteristics, contrary to what one might expect, bank size does not affect differently the probability of being a domestic or a cross-border target, but it has a positive and highly significant effect in both cases.

Overall, these results make perfect sense. First, they are not too dissimilar form those of the manufacturing sector, where country specific characteristics also have a significant effect on the probability that a firm is a target in a domestic or in a cross-border deal.[15] Second, they confirm the trend amongst banks to create larger and larger financial institutions over the last two to three decades. Other things equal, large banks in large countries are those that have been more often targets of cross-border bank deals.

[15] Erel *et al* (2009), for example, find evidence that currency depreciation and stock market returns play an important role in determining the fur's choices, and Rossi and Volpin (2004) show that shareholder protection and the transparency of accounting standards in the host country affect the probability that a firm is a target in a cross-border M&A. In unreported specifications we verified that these variables have no significant effects in the case of bank M&As.

References

Akhigbe, A., McNulty, J. E., 2003. The profit efficiency of small US commercial banks. *Journal of Banking and Finance* 27, 307-325.

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

Barba Navaretti, G., Calzolari, G., Pozzolo, A.F., Levi, M., 2010. Multinational Banking in Europe: Financial Stability and Regulatory Implications Lessons from the Financial Crisis. *Economic Policy*, forthcoming.

Barth, J.R., Caprio, G.J., Levine, R., 2001. The regulation and supervision of banks around the world: a new database. World Bank Policy Research Working Paper No. 2588, World Bank, Washington, D.C.

Berger, A. N., DeYoung, R., Genay, H. , Udell, G. F., 2000. The globalization of financial institutions: evidence from a cross-border banking performance. Brookings-Wharton Paper on Financial Service, 23-120.

Berger, A. N., Demsetz, R.S., Strahan, P.E., 1999. The consolidation of the financial services industry: causes, consequences, and implications for the future. *Journal of Banking and Finance* 23, 135-194.

Buch, C.M., DeLong, G.L., 2004. Cross-border bank mergers: what lures the rare animal?. *Journal of Banking and Finance* 28, 2077-2102.

Claessens, S., van Horen, N., 2007. Location decisions of foreign banks and competitive advantage. Available at SSRN: http://ssrn.com/abstract=904332.

Campa, J.M., Hernando, I., 2006. M&As performance in the European financial industry. *Journal of Banking and Finance* 30, 3367-3392.

Carbó Valverde, S., Humphrey, D., Maudos, J., Molyneux, P., 2009. Cross-country comparisons of competition and pricing power in European banking. *Journal of International Money and Finance* 28, 115-134.

Correa, R., 2009. Cross-border bank acquisitions: is there a performance effect?. *Journal of Financial Services Research* 36, 169-197.

Cybo-Ottone A., Murgia M., 2000. Mergers and shareholder wealth in European banking. *Journal of Banking and Finance* 24, 831-859.

Degryse, H., Ongena, S., Tümer-Alkan, G., 2009. Lending technology, bank organization and competition. *Journal of Financial Transformation* 26, 24-30.

DeYoung, R., Douglas E., Molyneux P., 2009. Mergers and acquisitions of financial institutions: a review of the literature. *Journal of Financial Services Research* 36, 87-110.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. *Journal of Financial Economics* 88, 430–466.

Djankov, S., McLiesh, C., Shleifer, A., 2007. Private credit in 129 countries. *Journal of Financial Economics* 84, 299–329.

Erel, I., Liao, R.C., Weisbach, M.S., 2009. World markets for mergers and acquisitions. NBER Working Paper no. 15132.

Focarelli, D., Panetta, F., 2003. Are mergers beneficial to consumers? Evidence from the market for bank deposits. *American Economic Review* 93, 1152-1172.

Focarelli, D., Pozzolo, A.F., 2008. Cross-border M&As in the financial sector: is banking different from Insurance?. *Journal of Banking and Finance* 32, 15-29.

Focarelli, D., Pozzolo, A.F., 2005. Where do banks expand abroad? An empirical analysis. *Journal of Business* 78, 2035-2065.

Focarelli, D., Pozzolo, A.F., 2001. The patterns of cross-border bank mergers and shareholdings in OECD countries. *Journal of Banking and Finance* 25, 2305-2337.

Gulamhussen, M.A., Pinheiro, C.,Pozzolo, A.F., 2010. Do multinational banks create or destroy economic value?. Mo.Fi.R. Working Papers 36, 2004, Money and Finance Research group (Mo.Fi.R.).

Hannan, T.H., Pilloff, S.J., 2006. Acquisition targets and motives in the banking industry. Federal Reserve Board Finance and Economics Discussion Series 2006-40.

Hernando, I., Nieto, I., Wall, L.D., 2009. Determinants of domestic and cross-border bank acquisitions in the European Union. *Journal of Banking and Finance* 33, 1022-1032.

Lanine, G., Vander Vennet, R., 2007. Microeconomic determinants of acquisitions of Eastern European banks by Western European banks. *Economics of Transition* 15, 285-308.

Moulton, B., 1990. Illustration of a pitfall in estimating the effects of aggregate variables on micro units. *The Review of Economics and Statistics* 72, 334–338.

Palepu, K.G., 1986. Predicting takeover targets. A methodological and empirical analysis. *Journal of Accounting and Economics* 8, 3-35.

Pasiouras F., Tanna S., Gaganis C., 2007. What drives acquisitions in the EU industry? The role of bank regulation and supervision framework, bank specific and market specific factors. Coventry University Working Paper Series, 3/2007.

Pozzolo, A.F., 2009, *Bank cross-border mergers and acquisitions (causes, consequences and recent trends)*, in: Alessandrini, P., Fratianni, M., Zazzaro, A., (Eds.), The Changing Geography of Banking and Finance, Norwell, Springer.

Rossi, F., Volpin, P.F., 2004. Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics* 74, 277-304.

Shleifer, A., Vishny, R.W., 2003. Stock market driven acquisitions. *Journal of Financial Economics* 70, 295-311.

Vander Vennet, R., 2002. *Cross-border mergers in european banking and bank efficiency*, in: Herrmann, H., Lipsey, R. (Eds.), Foreign direct investment in the real and financial sector of industrial countries. Springer, Heidelberg and New York.

Wheelock, D., Wilson, P., 2000. Why do banks disappear: the determinants of US bank failures and acquisitions. *Review of Economics and Statistics* 82, 127-138.

Figure 1

Domestic an cross border deals par years

This graph reports the number of domestic and cross borders deals per year in our sample. Data are from the Platinum Worldwide Mergers and Acquisition Database of the Security Data Corporation (SDC).

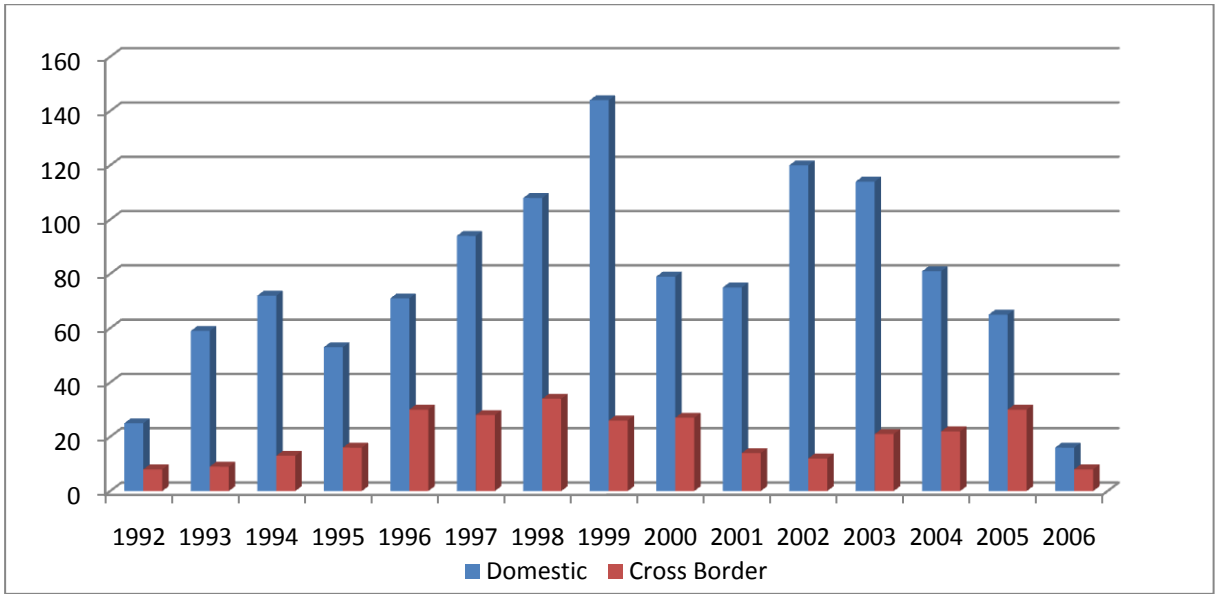

Table 1

Number of Domestic and Cross border M&As by country

This table presents the number of domestic and cross border deals for each country from 1991-2006. Data are from Platinum Worldwide Mergers and Acquisition Database of the Security Data Corporation (SDC).

	Domestic	*Cross border*	*Total*
Albania	1	3	4
Argentina	23	12	35
Armenia	0	2	2
Australia	20	5	25
Austria	13	4	17
Bahrain	1	1	2
Belarus	0	1	1
Belgium	12	8	20
Bermuda	2	0	2
Bhutan	1	0	1
Bolivia	0	3	3
Botswana	1	0	1
Brazil	26	13	39
Bulgaria	3	8	11
Cameroon	0	2	2
Chile	10	5	15
Colombia	8	6	14
Croatia	1	7	8
Czech Republic	2	4	6
Denmark	10	1	11
Ecuador	3	0	3
Egypt	1	5	6
El Salvador	0	3	3
Estonia	4	2	6
Fiji	0	1	1
Finland	0	3	3
France	50	13	63
Germany	88	17	105
Greece	10	3	13
Guatemala	1	0	1
Honduras	1	0	1
Hong Kong	5	6	11
Hungary	7	10	17
Iceland	2	0	2
India	12	5	17
Indonesia	3	8	11
Iraq	0	1	1
Israel	1	0	1
Italy	138	14	152
Japan	123	0	123
Jordan	1	1	2
Kazakhstan	1	1	2
Kenya	1	2	3
Kuwait	1	0	1
Kyrgyzstan	0	1	1
Latvia	2	4	6
Lebanon	7	1	8
Lithuania	2	1	3
Luxembourg	6	6	12
Malawi	1	0	1
Malaysia	6	0	6
Mali	1	0	1
Malta	0	2	2
Mexico	7	2	9
Morocco	4	5	9
Mozambique	0	3	3
Namibia	1	1	2
Netherlands	2	2	4
New Zealand	2	0	2

Table 1 (continued)

	Domestic	*Cross border*	*Total*
Nicaragua	2	0	2
Nigeria	2	0	2
Norway	5	4	9
Oman	3	1	4
Pakistan	0	3	3
Panama	4	1	5
Paraguay	0	1	1
Peru	5	4	9
Philippines	12	5	17
Poland	19	9	28
Portugal	16	7	23
Romania	1	4	5
Saudi Arabia	2	0	2
Singapore	5	1	6
Slovenia	6	3	9
South Africa	1	0	1
Spain	40	9	49
Sri Lanka	4	0	4
Sudan	1	0	1
Sweden	4	0	4
Switzerland	33	7	40
Tanzania	1	0	1
Thailand	7	6	13
Tunisia	1	1	2
Turkey	9	1	10
Uganda	1	2	3
Ukraine	1	6	7
United Kingdom	13	5	18
Uruguay	4	0	4
USA	337	4	341
Venezuela	5	4	9
Vietnam	4	2	6
	1,176	**298**	**1,474**

Table 2

Summary Statistics for Country-specific Variables

This table presents the mean value of country-variables entered in the regressions. GDP is the Gross Domestic Product based on purchasing-power parity (PPP) expressed in billions of dollars. *Private Credit to GDP* is the ratio between the total amount of credits supplied and GDP. *Concentration* is the market share of the five largest banks. *Multiple supervisory authority* is a dummy that takes the value of one if more than one authority is responsible for bank supervision. *Extent of disclosure index* measures investor protection measured considering disclosure to third party. The index ranges from 0 to 10, with larger values indicating greater information. *Strength of legal rights index* measures the degree to which laws protect the rights of borrowers and lenders. The index ranges from 0 to 10, with higher scores indicating better protection. Data on GDP and Private Credits are from the World Bank database. Bank concentration, measured as the market share of the five largest banks (C5), is based on our elaboration from Bankscope. Multiple supervisory authority is from Barth et al (2001), updated to 2008. The Extent of disclosure index is from Djankov et al. (2008). The Strength of legal rights is from Djankov et al. (2007).

Country	GDP	Private credit to GDP	Concentration	Multiple superv. authority	Extent disclosure index	Strength of legal right
Albania	4.18	0.08	0.80	.	8	9
Algeria	59.02	0.08	0.86	0	6	3
Argentina	263.93	0.18	0.37	0	6	4
Armenia	2.62	0.07	0.79	0	5	6
Australia	368.57	0.79	0.67	0	8	9
Austria	189.38	1.02	0.68	0	3	7
Azerbaijan	6.67	.	0.85	.	7	8
Bahamas	5.41	.	.	.	2	9
Bahrain	7.98	0.44	0.83	0	8	4
Bangladesh	48.90	0.26	0.53	0	6	7
Barbados	2.34	0.52	0.99	.	.	.
Belarus	11.14	.	0.80	0	5	2
Belgium	219.13	0.74	0.74	0	8	7
Bermuda	.	.	0.95	.	.	.
Bhutan	0.49	0.11	.	0	5	2
Bolivia	8.04	0.48	0.53	0	1	1
Botswana	5.68	0.16	0.90	0	7	7
Brazil	638.12	0.32	0.43	0	6	3
Bulgaria	13.96	0.25	0.67	0	10	8
Cameroon	4.20	0.07	0.67	.	5	8
Chile	72.26	0.55	0.48	0	7	4
Colombia	95.21	0.29	0.39	0	8	5
Costa Rica	16.31	0.24	0.65	0	2	5
Croatia	21.81	0.40	0.61	0	1	6
Cyprus	9.23	1.45	0.87	0	4	9
Czech Republic	57.46	0.50	0.69	0	2	6
Denmark	151.76	0.87	0.77	0	7	9
Ecuador	16.85	0.29	0.76	.	1	3
Egypt	91.82	.	.	0	8	3
El Salvador	13.09	0.40	0.79	0	5	5
Estonia	5.80	0.31	0.89	0	8	6
Fiji	1.54	0.33	.	0	3	7
Finland	117.88	0.63	0.94	0	6	7
France	1269.05	0.87	0.50	0	10	7
Gabon	5.30	0.09	0.98	0	6	3
Germany	1,838.42	1.09	0.61	0	5	7
Ghana	5.23	0.10	0.86	0	7	7
Greece	123.73	0.40	0.87	0	1	3
Grenada	0.37	0.67	.	0	4	8
Guatemala	16.73	0.20	0.36	0	3	8
Guyana	0.69	0.43	1.00	0	5	4
Haiti	3.72	0.13	0.98	.	2	3
Honduras	7.46	0.34	0.43	0	0	6
Hong Kong	161.37	.	.	0	10	10
Hungary	47.82	0.31	0.64	0	2	7
Iceland	9.25	1.26	1.00	0	5	7
India	448.97	0.27	0.36	0	7	8
Indonesia	169.90	0.36	0.50	0	10	3
Iran	108.49	.	.	.	5	4
Iraq	.	.	.	.	4	3
Israel	108.83	0.71	0.76	0	7	9
Italy	1,080.36	0.69	0.54	0	7	3

Table 2 (continued)

Country	GDP	Private credit to GDP	Concentration	Multiple superv. authority	Extent disclosure index	Strength of legal right
Ivory Coast	10.04	.	.	.	6	3
Jamaica	9.18	0.20	0.82	0	4	8
Japan	4,691.42	1.49	0.36	0	7	7
Jordan	8.56	0.68	0.88	0	5	4
Kazakhstan	23.79	0.17	0.66	0	7	5
Kenya	12.71	0.23	0.57	0	3	10
Kuwait	39.81	0.42	0.68	0	7	4
Kyrgyzstan	1.47	0.05	0.83	0	8	10
Laos	1.96	0.07	0.96	.	0	4
Latvia	8.68	0.27	0.53	0	5	9
Lebanon	16.21	.	0.35	0	9	3
Lesotho	0.78	0.13	1.00	0	2	7
Lithuania	12.87	0.19	0.80	0	5	5
Luxembourg	18.32	1.02	0.23	0	6	7
Madagascar	3.90	0.09	0.79	.	5	2
Malawi	1.68	0.05	0.89	0	4	8
Malaysia	92.69	1.21	0.43	1	10	10
Mali	3.00	0.14	0.81	0	6	3
Malta	4.02	0.99	0.82	0	.	.
Mauritania	1.16	0.21	0.82	.	3	5
Mauritius	4.48	0.56	0.81	0	6	5
Mexico	586.99	0.19	0.63	0	8	4
Morocco	39.36	0.40	0.63	0	6	3
Mozambique	4.89	0.11	0.81	0	5	2
Namibia	3.94	.	0.87	.	5	8
Nepal	6.13	0.27	0.61	.	6	5
Netherlands	365.51	1.24	0.72	1	4	6
New Zealand	54.16	1.07	0.91	0	10	9
Nicaragua	3.68	.	0.56	0	4	3
Nigeria	52.68	0.12	0.46	1	5	8
Norway	169.44	0.69	0.91	0	7	7
Oman	18.88	0.34	0.71	0	8	4
Pakistan	75.64	0.23	0.58	0	6	6
Panama	11.07	0.76	0.35	0	1	6
Paraguay	7.19	0.25	0.42	.	6	3
Peru	51.84	0.19	0.67	0	8	7
Philippines	74.59	0.35	0.76	0	2	3
Poland	158.29	0.23	0.59	0	7	9
Portugal	104.32	1.00	0.67	0	6	3
Qatar	17.70	0.29	0.92	.	5	3
Romania	42.60	0.11	0.70	0	9	8
Rwanda	1.82	0.09	0.85	.	7	8
Saudi Arabia	184.89	0.25	0.56	1	9	4
Senegal	4.89	0.18	0.70	0	6	3
Singapore	76.83	0.97	0.82	0	10	10
Slovenia	19.10	0.32	0.64	0	3	6
South Africa	129.79	0.62	0.87	0	8	9
Spain	554.77	0.90	0.74	0	5	6
Sri Lanka	16.13	0.25	0.70	0	4	4
Sudan	13.72	0.04	0.67	.	0	5
Swaziland	1.56	0.15	0.84	.	0	6
Sweden	254.51	0.83	0.95	0	6	5
Switzerland	245.55	1.59	0.84	0	0	8
Syria	21.84	0.11	0.97	0	6	1
Tanzania	11.05	0.05	0.60	0	3	8
Thailand	126.97	1.11	0.49	0	10	4
Togo	1.26	0.16	0.95	0	6	3
Tonga	0.18	0.54	.	.	.	.
Tunisia	19.10	0.54	0.48	.	5	3
Turkey	246.81	0.15	0.66	.	9	4
Uganda	6.44	0.05	0.64	0	2	7
Ukraine	39.50	.	0.55	.	5	9

Table 2 continued

Country	GDP	Private credit to GDP	Concentration	Multiple superv. authority	Extent disclosure index	Strength of legal right
United Kingdom	1,441.73	1.25	0.64	0	10	9
Uruguay	21.47	0.46	0.51	0	3	5
USA	10,235.14	0.52	0.25	1	7	8
Uzbekistan	15.43	.	0.89	.	4	2
Vanuatu	0.23	0.39	.	0	5	9
Venezuela	119.84	.	.	0	3	2
Vietnam	34.02	0.40	0.83	.	6	8
Zambia	3.54	0.06	0.67	.	3	9
Zimbabwe	5.69	.	0.74	1	8	7
Total Average	236.41	0.46	0.67	0.05	5.40	5.73

Table 3

Summary Statistics for Bank-specific Variables

This table presents summary statistics of bank-specific variables entered in the regressions. Panel A reports statistics for banks not involved in any deals. Panel B reports statistics for banks involved in domestic deals (the years before the deal). Panel C reports statistics for banks involved in cross border deals ((the years before the deal). *Total Asset* is the total amount of bank's asset expressed in million of dollars. *Return on Asset* is the ratio between return and Asset. *Net Interest Margin* is the net interest income to earning assets. *Other Operative Income to Total Income* is the ratio between the sum of the non-traditional activity /net fees and commission, net trading income, net other income) and total operative income. *Equity to Tot. Asset* is the ratio between equity and total Asset. *Cost to income* is the ratio between total costs and total income. *Liquid Assets to Deposit* is the ratio between Liquidity and Deposits. Data are from Bankscope.

Variable	Obs	Mean	Median	SD	Minimum	Maximum
A. Banks not involved in M&As						
Total Asset	180,825	1,919.97	259.85	6,183.37	8,38	73,600.00
Return on Asset	178,790	0.94	0.83	1.29	-5.72	10.25
Net Interest Margin	175,899	3.75	3.65	1.91	0.01	16.44
Other Op. Inc to Tot. Income	155,770	0.13	0.10	0.13	0.00	0.88
Equity to Asset	180,680	11.25	8.75	10.69	1.28	88.61
Cost to Income	174,737	67.31	66.04	19.62	15.46	205.30
Liquid Asset to Deposits	164,386	19.11	11.90	20.07	0.42	125.86
B. Banks involved in Domestic M&As						
Total Asset	1,141	5,207.48	941.63	11,400.00	9.42	73,300.00
Return on Asset	1,133	0.61	0.59	1.35	-5.48	8.19
Net Interest Margin	1,127	3.57	3.27	2.07	0.01	16.31
Other Op. Inc to Tot. Income	963	0.12	0.08	0.12	0.00	0.85
Equity to Asset	1,134	9.75	7.97	9.11	1.37	86.20
Cost to Income	1,116	71.56	69.00	22.96	16.52	205.10
Liquid Asset to Deposits	1,009	20.22	15.56	17.95	0.44	112.18
C. Banks involved in Cross border M&As						
Total Asset	285	4,192.79	1,142.62	9,425.94	14.04	72,200.00
Return on Asset	289	0.98	0.87	1.55	-5.69	6.21
Net Interest Margin	281	4.30	3.71	2.93	0.09	16.29
Other Op. Inc to Tot. Income	231	0.13	0.07	0.16	0.00	0.87
Equity to Asset	293	10.86	9.01	8.48	1.58	66.11
Cost to Income	278	68.60	65.87	25.74	17.57	202.12
Liquid Asset to Deposits	233	23.92	19.53	19.19	0.72	97.10

Table 4

Bank M&A targets: baseline specification

The dependent variable takes the value of one if the bank is a target in an M&A, zero otherwise. The model is estimated using a probit specification. All independent variables are lagged one period. For variable definitions see the notes to Tables 1-3. Robust standard errors adjusted for in clustering at the bank level are reported in parentheses. The symbol *** indicates a significance level of 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 per cent. Marginal effects are the partial change in the probability with respect to the change of each independent variables, evaluated at median. Values are multiplied by 10,0000.

	Binomial specification		Multinomial specification				
	Coefficients	Marginal effects	Coefficients		Marginal effects		
			Domestic	Corss-border	Domestic	Corss-border	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A - Country characteristics				
GDP (log)	-0.0219	-3.5240	0.0201	-0.1267**	2.3610	-0.1620	**
	(0.0323)		(0.0518)	(0.0527)			
Private Credit /GDP	-0.2873***	-46.1380	-0.3257**	-0.6405***	-37.7640	-0.7660	
	(0.0782)		(0.1291)	(0.1948)			
Bank Concentration	-0.32066**	-51.4890	-0.394*	-0.1088	-45.7710	-0.0888	
	(0.1482)		(0.2345)	(0.3049)			
Multiple sup. (dum.)	-0.29812*	-70.2750	-0.3399	-1.3272***	-52.4130	-13.6440	**
	(0.1799)		(0.3038)	(0.3578)			
Extent of disclosure	0.0063	1.0160	0.0143	0.0049	1.6710	0.0044	
	(0.0176)		(0.0287)	(0.0275)			
Strength of legal rights	-0.0391*	-6.2850	-0.0707*	-0.0213	-8.2110	-0.0183	
	(0.0232)		(0.0387)	(0.0243)			
			Panel B - Country averages				
Roa	-0.0074	-1.1910	0.0162	-0.1049	1.8980	-0.1340	
	(0.0710)		(0.1218)	(0.1153)			
Total assets (log)	0.2090***	33.5690	0.3044***	0.1671**	35.3490	0.1730	
	(0.0379)		(0.0513)	(0.0714)			
Net interest margin	0.0362	5.8090	0.0647	-0.012	7.5280	-0.0230	
	(0.0336)		(0.0542)	(0.0483)			
Equity / tot. Assets	0.0126	2.0190	0.0104	0.0256*	1.2090	0.0309	
	(0.0089)		(0.0147)	(0.0142)			
Other op. / tot. Income	0.1120	17.9770	0.4573	-0.8418	53.2420	-1.1150	*
	(0.5337)		(0.8973)	(0.6238)			
Cost / income	0.0133***	2.1480	0.0184**	0.0121*	2.1410	0.0131	
	(0.0049)		(0.0079)	(0.0064)			
Liquid ass. / deposits	-0.0037	-0.5970	-0.0029	-0.0106***	-0.3460	-0.0131	
	(0.0027)		(0.0045)	(0.0039)			
			Panel C - Bank characteristics				
Roa	-0.0514*	-8.2670	-0.1019**	0.0108	-11.8460	0.0260	*
	(0.0303)		(0.0473)	(0.0505)			
Total assets (log)	0.1238***	19.8880	0.1681***	0.1829***	19.5150	0.2100	
	(0.0194)		(0.0286)	(0.0393)			
Net interest margin	0.0133	2.1510	0.0229	0.0199	2.6650	0.0223	
	(0.0166)		(0.02686)	(0.0239)			
Equity / tot. assets	0.0043	0.7050	0.0036	0.01049*	0.4220	0.0128	
	(0.0039)		(0.0065)	(0.0062)			
Other op. / tot. income	-0.6315**	-101.4150	-0.811*	-0.7219	-94.1390	-0.8090	
	(0.2979)		(0.4782)	(0.574)			
Cost / income	0.0039***	0.6310	0.0052***	0.0042*	0.6120	0.0047	
	(0.0009)		(0.0013)	(0.0022)			
Liquid ass. / deposits	-0.0010	-0.1720	-0.0024	0.0018	-0.2800	0.0026	
	(0.0010)		(0.0017)	(0.0028)			
Observations	136,183		136,183	136,183			
Predicted probabilità (x 1,000)	5.63		5.77	0.04			

Bank M&A targets: large banks

The dependent variable takes the value of one if the bank is a target in an M&A, zero otherwise. The model is estimated using a probit specification. All independent variables are lagged one period. For variable definitions see the notes to Tables 1-3. Robust standard errors adjusted for in clustering at the bank level are reported parentheses. The symbol *** indicates a significance level of 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 per cent. Marginal effects are the partial change in the probability with respect to the change of each independent variables, evaluated at median. Values are multiplied by 10,0000.

	Binomial specification		Multinomial specification				
	Coefficients	Marginal effects	Coefficients		Marginal effects		
			Domestic	Corss-border	Domestic	Corss-border	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A - Country characteristics				
GDP (log)	-0.0209	-3.3520	0.0583	-0.1343**	4.662	-0.0157	***
	(0.0359)		(0.0634)	(0.0545)			
Private Credit /GDP	-0.2869**	-45.9410	-0.325	-0.5773**	-25.939	-0.0606	
	(0.1146)		(0.2046)	(0.2471)			
Bank Concentration	-0.1630	-26.0940	0.0123	-0.0427	0.9830	-0.0049	
	(0.1808)		(0.2954)	(0.3269)			
Multiple sup. (dum.)	-0.3722	-96.3320	-0.5931	-1.4209***	-83.8120	-2.2020	*
	(0.2664)		(0.4656)	(0.2925)			
Extent of disclosure	0.0187	3.0080	0.0192	0.0285	1.5350	0.0030	
	(0.0204)		(0.0335)	(0.0369)			
Strength of legal rights	-0.0602**	-9.6500	-0.0997**	-0.0535	-7.9580	-0.0048	
	(0.0276)		(0.0466)	(0.0321)			
			Panel B - Country averages				
Roa	-0.0254	-4.0700	0.0555	-0.1942*	4.4340	-0.0223	
	(0.0833)		(0.1668)	(0.115)			
Total assets (log)	0.1344**	21.5240	0.1866**	0.0648	14.8950	0.0051	
	(0.056)		(0.076)	(0.0813)			
Net interest margin	0.0238	3.8130	0.0337	-0.01	2.6930	-0.0015	
	(0.0437)		(0.0751)	(0.0573)			
Equity / tot. Assets	0.0097	1.5640	-0.0014	0.0255	-0.0120	0.0029	
	(0.0112)		(0.019)	(0.017)			
Other op. / tot. Income	0.3709	59.3900	0.8941	-0.7235	71.3690	-0.0911	*
	(0.6731)		(1.0936)	(0.8628)			
Cost / income	0.0128**	2.0510	0.0175*	0.0119	1.3980	0.0011	
	(0.0058)		(0.0095)	(0.0078)			
Liquid ass. / deposits	-0.0057	-0.9190	-0.0056	-0.0135***	-0.4510	-0.0014	
	(0.0035)		(0.0061)	(0.0048)			
	-0.0247	-3.9650	-0.0675	0.005	-5.3930	0.0013	
	(0.0387)		(0.0591)	(0.066)			
			Panel C - Bank characteristics				
Roa	-0.0247	-3.9650	-0.0675	0.005	-5.3930	0.0013	
	(0.0387)		(0.0591)	(0.066)			
Total assets (log)	0.1415***	22.6650	0.1876***	0.1398**	14.9750	0.0134	
	(0.0202)		(0.0334)	(0.0565)			
Net interest margin	-0.0070	-1.1310	-0.016	0.0062	-1.2840	0.0009	
	(0.0243)		(0.039)	(0.0336)			
Equity / tot. assets	0.0015	0.2550	-0.0079	0.0169**	-0.6320	0.0020	***
	(0.0052)		(0.0079)	(0.0074)			
Other op. / tot. income	-0.6929***	-110.9280	-1.0042***	-0.2334	-80.1480	-0.0144	
	(0.2599)		(0.3749)	(0.6361)			
Cost / income	0.0012	0.2080	0.0008	0.0021	0.0654	0.0002	
	(0.0014)		(0.0026)	(0.0032)			
Liquid ass. / deposits	-0.0022***	-0.3540	-0.0044***	0.0001	-0.3520	0.0001	
	(0.0008)		(0.0015)	(0.0043)			
Observations	68,335		68,335	68,335			
Predicted probability (x 1,000)	5.61		3.79	0.003			

Bank M&A targets: G10 countries

The dependent variable takes the value of one if the bank is a target in an domestic M&A, two if target in a cross border M&A, zero otherwise. The model is estimated using a multinomial probit specification. All independent variables are lagged one period. For variable definitions see the notes to Tables 1-3. Robust standard errors adjusted for clustering at the country level are reported in parenthesis. The symbol *** indicates a significance level of 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 per cent. Marginal effects are the partial change in the probability with respect to the change of each independent variables, evaluated at median. Values are multiplied by 10,0000.

	Binomial specification		Multinomial specification				
	Coefficients	Marginal effects	Coefficients		Marginal effects		
			Domestic	Corss-border	Domestic	Corss-border	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A - Country characteristics				
GDP (log)	-0.0348	-5.5050	-0.084	-0.3954	-5.2810	-0.6030	
	(0.2092)		(0.3038)	(0.3072)			
Private Credit /GDP	-0.0804	-12.7270	-0.1541	-0.2212	-9.7330	-0.3260	
	(0.1444)		(0.2165)	(0.3132)			
Bank Concentration	0.1784	28.2230	-0.0811	0.3071	-5.1710	0.4850	
	(0.5277)		(0.787)	(1.0987)			
Multiple sup. (dum.)	0.7478*	50.2690	0.7332	-0.2628	23.9970	-0.6980	
	(0.3956)		(0.6801)	(0.37395)			
Extent of disclosure	0.1734**	27.4360	0.2444**	-0.0814	15.4830	-0.1520	*
	(0.0857)		(0.1155)	(0.1087)			
Strength of legal rights	-0.2422***	-38.3150	-0.3115***	-0.0202	-19.7220	0.0022	**
	(0.0376)		(0.0426)	(0.1074)			
			Panel B - Country averages				
Roa	0.2069	32.7280	0.1911	0.4016	12.0590	0.6010	
	(0.333)		(0.456)	(0.446)			
Total assets (log)	0.1245***	19.7070	0.1918***	-0.1085	12.1590	-0.1890	**
	(0.0377)		(0.0473)	(0.1569)			
Net interest margin	-0.1593	-25.2010	-0.0219	-0.2531	-1.3630	-0.3900	
	(0.1177)		(0.1717)	(0.3719)			
Equity / tot. Assets	-0.1464***	-23.1630	-0.2302***	-0.026	-14.5710	-0.0156	**
	(0.0561)		(0.0846)	(0.0433)			
Other op. / tot. Income	3.5709*	564.7970	6.1452**	-0.3137	389.0780	-1.1470	
	(1.9122)		(2.9755)	(3.8963)			
Cost / income	0.026***	4.1130	0.0342***	0.0125	2.1650	0.0158	
	(0.0084)		(0.012)	(0.0213)			
Liquid ass. / deposits	0.0134	2.0640	0.0197	0.0187*	1.2500	0.0270	
	(0.0111)		(0.0146)	(0.011)			
			Panel C - Bank characteristics				
Roa	-0.1094**	-17.3060	-0.1683**	-0.1287	-10.6450	-0.1810	
	(0.0538)		(0.0714)	(0.1341)			
Total assets (log)	0.1092***	17.2860	0.1494***	0.1966***	9.4380	0.2880	
	(0.0225)		(0.0491)	(0.0587)			
Net interest margin	0.0013	0.2070	-0.034	0.0402	-2.1600	0.0659	
	(0.0376)		(0.0425)	(0.0377)			
Equity / tot. assets	0.0008	0.1350	-0.0023	0.0183	-0.1500	0.0287	
	(0.008)		(0.0101)	(0.0117)			
Other op. / tot. income	-0.5819	-92.0440	-1.0268	0.4202	-65.0520	0.7610	*
	(0.4594)		(0.7217)	(0.5157)			
Cost / income	0.0027*	0.4280	0.0037**	0.0001	0.2400	-0.0005	
	(0.0014)		(0.0018)	(0.0037)			
Liquid ass. / deposits	-0.0009	-0.1500	-0.0035*	0.0045*	-0.2240	0.0074	***
	(0.0014)		(0.0018)	(0.0027)			
Observations	122,215		122,215	122,215			
Predicted probabilità (x 1,000)	5.53		2.93	0.05			

Bank M&A targets: non-G10 countries

The dependent variable takes the value of one if the bank is a target in an domestic M&A, two if target in a cross border M&A, zero otherwise. The model is estimated using a multinomial probit specification. All independent variables are lagged one period. For variable definitions see the notes to Tables 1-3. Robust standard errors adjusted for clustering at the country level are reported in parenthesis. The symbol *** indicates a significance level of 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 per cent. Marginal effects are the partial change in the probability with respect to the change of each independent variables, evaluated at median. Values are multiplied by 10,0000.

	Binomial specification		Multinomial specification				
	Coefficients	Marginal effects	Coefficients		Marginal effects		
			Domestic	Corss-border	Domestic	Corss-border	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A - Country characteristics				
GDP (log)	-0.0055	-2.1940	0.0447	-0.0831	10.3410	-8.4840	*
	(0.0431)		(0.0674)	(0.0543)			
Private Credit /GDP	-0.1353	-53.7630	-0.0843	-0.6389***	-13.7460	-62.0770	*
	(0.1227)		(0.1889)	(0.2363)			
Bank Concentration	-0.4035*	-160.3400	-0.4265	-0.4401	-89.6000	-40.1160	
	(0.2116)		(0.3258)	(0.2766)			
Multiple sup. (dum.)	-0.4108**	-106.0960					
	(0.1694)						
Extent of disclosure	-0.0158	-6.2860	-0.0423	0.0076	-9.2720	1.0570	
	(0.0198)		(0.0306)	(0.0293)			
Strength of legal rights	0.0122	4.8660	0.0274	-0.0033	5.9880	-0.5240	
	(0.0214)		(0.0340)	(0.0286)			
			Panel B - Country averages				
Roa	-0.0594	-23.8430	-0.0721	-0.1252	-14.7890	-11.7740	
	(0.0648)		(0.103)	(0.1134)			
Total assets (log)	0.1991***	79.1230	0.2784***	0.1519	59.4640	12.9090	
	(0.0621)		(0.1059)	(0.0995)			
Net interest margin	0.0594*	23.6030	0.0904*	-0.0086	19.7300	-1.4970	*
	(0.0338)		(0.047)	(0.0568)			
Equity / tot. Assets	0.0145	5.7750	0.01467	0.0216	3.0360	2.0220	
	(0.0097)		(0.0141)	(0.0143)			
Other op. / tot. Income	0.1443	57.3390	0.2462	-1.0587*	61.1690	-105.6420	**
	(0.4471)		(0.6355)	(0.6487)			
Cost / income	0.0062	2.4890	0.0058	0.01505**	1.1580	1.4350	
	(0.0043)		(0.005)	(0.0066)			
Liquid ass. / deposits	-0.0088***	-3.5130	-0.0128***	-0.0142***	-2.6820	-1.3030	
	(0.0029)		(0.0046)	(0.0045)			
			Panel C - Bank characteristics				
Roa	0.0025	1.0280	-0.0362	0.0519	-8.2620	5.3570	
	(0.0249)		(0.0380)	(0.052)			
Total assets (log)	0.1181***	46.9340	0.1581***	0.1769***	33.1290	16.2240	
	(0.0301)		(0.0530)	(0.0413)			
Net interest margin	0.0399**	15.8690	0.0675***	0.0094	14.6180	0.4460	**
	(0.0166)		(0.0254)	(0.0276)			
Equity / tot. assets	0.0016	0.6540	0.0029	0.0032	0.6170	0.2960	
	(0.0037)		(0.0064)	(0.0079)			
Other op. / tot. income	-0.416**	-165.2870	-0.0421	1.554**	2.0000	-152.1610	*
	(0.1978)		(0.3160)	(0.6527)			
Cost / income	0.0042**	1.6820	0.005**	0.0056*	1.0680	0.5160	
	(0.0016)		(0.0024)	(0.003)			
Liquid ass. / deposits	-0.0004	-0.1810	0.0004	-0.0039	0.1360	-0.3940	
	(0.0019)		(0.0027)	(0.0037)			
Observations	13,968		14,525	14,525			
Predicted probabilità (x 1,000)	15.86		11.61	4.62			

Bank M&A targets: EU15 countries

The dependent variable takes the value of one if the bank is a target in an domestic M&A, two if target in a cross border M&A, zero otherwise. The model is estimated using a multinomial probit specification. All independent variables are lagged one period. For variable definitions see the notes to Tables 1-3. Robust standard errors adjusted for clustering at the country level are reported in parenthesis. The symbol *** indicates a significance level of 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 per cent. Marginal effects are the partial change in the probability with respect to the change of each independent variables, evaluated at median. Values are multiplied by 10,0000.

	Binomial specification		Multinomial specification				
	Coefficients	Marginal effects	Coefficients		Marginal effects		
			Domestic	Corss-border	Domestic	Corss-border	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A - Country characteristics				
GDP (log)	-0.0858***	-1.1140	-0.1811***	0.5257	-2.9920	1.2290	***
	(0.0293)		(0.0499)	(0.0751)			
Private Credit /GDP	-0.3581*	-4.6490	1.4465	-0.7582	3.6380	-11.8460	***
	(0.2099)		(0.1535)	(0.4031)			
Bank Concentration	0.3601	4.6750	0.9354	4.7708	2.0080	10.6380	
	(0.2954)		(0.3673)	(0.5230)			
Multiple sup. (dum.)	0.3150	7.1540					
	(0.2143)						
Extent of disclosure	0.0359	0.4660	0.4736	-0.0964**	1.1470	-1.5180	***
	(0.0254)		(0.0396)	(0.0342)			
Strength of legal rights	-0.089***	-1.1560	-0.1960***	-0.0414	-3.2020	-0.5860	***
	(0.0222)		(0.0291)	(0.0438)			
			Panel B - Country averages				
Roa	-0.1938	-2.5160	1.8306	-0.4740	4.4620	-7.4440	
	(0.1846)		(0.1976)	(0.4539)			
Total assets (log)	0.0578	0.7510	0.1917*	0.3056	3.1310	0.6270	**
	(0.0492)		(0.0785)	(0.0906)			
Net interest margin	0.0829	1.0770	0.2655*	-0.3405**	4.4540	-5.3700	***
	(0.0685)		(0.1154)	(0.1276)			
Equity / tot. Assets	-0.0016	-0.0213	-0.0796**	0.0973*	-1.3340	1.5350	***
	(0.0297)		(0.0275)	(0.0430)			
Other op. / tot. Income	-0.3341	-4.3380	-0.1345	-3.7309*	-1.1140	-57.9470	*
	(1.2447)		-18735.0000	-15369.0000			
Cost / income	0.0068	0.0895	0.0271**	-0.0070	0.4470	-0.1170	**
	(0.0053)		(0.0104)	(0.0136)			
Liquid ass. / deposits	-0.0042*	-0.0557	-0.0078	-0.0032	-0.1260	-0.0471	
	(0.0022)		(0.0047)	(0.0053)			
			Panel C - Bank characteristics				
Roa	-0.0137	-0.1780	-0.0461	-0.0361	-0.7460	-0.5480	
	(0.0322)		(0.0301)	(0.1055)			
Total assets (log)	0.1562***	2.0290	0.2577***	0.2056***	4.1660	3.1210	
	(0.013)		(0.0292)	(0.0549)			
Net interest margin	0.0067	0.0871	0.2431	0.1236	0.5690	0.2670	
	(0.0377)		(0.0722)	(0.0401)			
Equity / tot. assets	0.0112***	0.1460	0.0165**	0.1201	0.2650	0.2650	
	(0.0041)		(0.0050)	(0.0111)			
Other op. / tot. income	-0.3945	-5.1220	-0.8156	-0.2903	-13.2880	-4.2730	
	(0.338)		(0.5880)	(0.5954)			
Cost / income	0.0053***	0.0693	0.0074***	0.0038	0.1200	0.0563	*
	(0.0012)		(0.0017)	(0.0023)			
Liquid ass. / deposits	-0.0032***	-0.0418	-0.0053*	0.0008	-0.0869	0.0140	
	(0.0009)		(0.0021)	(0.0028)			
Observations	35,676		35,676	35,676			
Predicted probabilità (x 1,000)	1.83		0.66	0.62			

Bank M&A targets: EMU countries

The dependent variable takes the value of one if the bank is a target in an domestic M&A, two if target in a cross border M&A, zero otherwise. The model is estimated using a multinomial probit specification. All independent variables are lagged one period. For variable definitions see the notes to Tables 1-3. Robust standard errors adjusted for clustering at the country level are reported in parenthesis. The symbol *** indicates a significance level of 1 per cent or less; ** between 1 and 5 per cent; * between 5 and 10 per cent. Marginal effects are the partial change in the probability with respect to the change of each independent variables, evaluated at median. Values are multiplied by 10,0000.

	Binomial specification		Multinomial specification				
	Coefficients	Marginal effects	Coefficients		Marginal effects		
			Domestic	Corss-border	Domestic	Corss-border	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A - Country characteristics				
GDP (log)	0.1820	15.0320	0.7069	0.5731**	3.6870	42.1630	**
	(0.1180)		(0.1584)	(0.2011)			
Private Credit /GDP	-1.6380**	-135.2660	-0.5168	-4.7054***	-15.2810	-346.7790	***
	(0.5605)		(0.7733)	(0.9980)			
Bank Concentration	0.1570	12.9610	-0.7269	2.6729***	-39.2480	198.9340	***
	(0.4539)		(0.8259)	(0.4094)			
Multiple sup. (dum.)							
Extent of disclosure	-0.0425	-3.5060	0.2896	-0.0209	1.9970	-1.6230	
	(0.0371)		(0.0282)	(0.0782)			
Strength of legal rights	-0.0622	-5.1350	0.1090	-0.1760	1.0730	-13.0360	
	(0.0437)		(0.1306)	(0.1039)			
			Panel B - Country averages				
Roa	-0.1678	-13.855	4.5563	-0.5831	31.9300	-44.3500	*
	(0.3330)		(0.5077)	(0.3562)			
Total assets (log)	-0.0732	-6.0430	-0.1715	-1.2554***	-5.6560	-92.4580	**
	(0.1682)		(0.3889)	(0.2860)			
Net interest margin	-0.4107	-33.9130	-0.0364	-2.0636***	2.2340	-152.4480	***
	(0.3006)		(0.3158)	(0.4694)			
Equity / tot. Assets	0.0219	1.8080	-0.0121	-0.0347	-0.5020	-2.5430	
	(0.0383)		(0.0354)	(0.0658)			
Other op. / tot. Income	-3.5357	-291.9890	-9.8521**	-14.3562**	-435.3050	-1042.2120	
	(2.2299)		-34927.0000	-54281.0000			
Cost / income	-0.0071	-0.5870	0.1090	-0.1250***	0.9750	-9.2700	***
	(0.0156)		(0.0229)	(0.0265)			
Liquid ass. / deposits	0.0029	0.2390	0.0096**	-0.0135*	0.4740	-1.0120	***
	(0.0016)		(0.0036)	(0.0069)			
			Panel C - Bank characteristics				
Roa	-0.0029	-0.2410	-0.0559	-0.0002	-2.6270	0.0942	
	(0.0466)		(0.0547)	(0.1445)			
Total assets (log)	0.1564***	12.9200	0.2728***	0.2683***	12.3020	19.3070	
	(0.0220)		(0.0385)	(0.0608)			
Net interest margin	0.0188	1.5490	0.1076	-0.0028	0.7320	-0.2360	
	(0.0366)		(0.0677)	(0.0611)			
Equity / tot. assets	0.0133*	1.0980	0.0201*	0.1528	0.9000	1.5880	
	(0.0056)		(0.0079)	(0.0136)			
Other op. / tot. income	-0.8007	-66.1240	-1.5303*	-0.0264	-71.8280	0.9720	***
	(0.5347)		(0.6352)	(0.8806)			
Cost / income	0.0053**	0.4390	0.0060	0.0056*	0.2700	0.4030	
	(0.0019)		(0.0037)	(0.0028)			
Liquid ass. / deposits	-0.0024	-0.1980	-0.0051**	0.0002	-0.2400	0.0212	*
	(0.0014)		(0.0019)	(0.0042)			
Observations	21,269		21,412	21,412			
Predicted probability	2.68		2.07	3.44			