Bank M&A in Central and Eastern Europe

Markus Fritsch[1], Fabian Gleisner[2], Markus Holzhäuser[3]

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We study abnormal returns for bidding banks of 56 cross-border M&A transactions that occurred between 1990 and 2005 that involved target banks from Central and Eastern European (CEE) and bidder banks from Western European countries and the US. Furthermore we determine success factors of the M&A deals with a special focus on emerging market characteristics. Our results show that country and deal specific factors have significant explanatory power for excess returns to the bidding bank's shareholder. Low economic freedom and thus high regulation as well as low GDP growth in the target markets are key factors for value creation.

[1] Johann Wolfgang Goethe-University & E-Finance Lab, Mertonstrasse 17, 60054 Frankfurt / Main, Germany.
    Email: mfritsch@wiwi.uni-frankfurt.de, phone: +49 69 42726018, fax.: +49 69 42726988
[2] Johann Wolfgang Goethe-University & E-Finance Lab, Mertonstrasse 17, 60054 Frankfurt / Main, Germany.
    Email: gleisner@wiwi.uni-frankfurt.de, phone: +49 69 42726021, fax.: +49 69 42726988
[3] Johann Wolfgang Goethe-University & E-Finance Lab, Mertonstrasse 17, 60054 Frankfurt / Main, Germany.
    Email: holzhaeu@wiwi.uni-frankfurt.de, phone: +49 69 42726019, fax.: +49 69 42726988

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JEL Classification: G14, G24, G21, G34

1 Introduction

The European financial sector underwent tremendous change over the past decade. Banking concentration increased in all important banking markets. Thus, especially banks stemming from countries that reached a high level of concentration started to look abroad and engaged in first cross border M&A activities (e.g. Fortis or KBC in Benelux or Nordea in Northern Europe).

Another important trigger for the internationalization of European banks in the last decade was the break down of the communist regimes in the Eastern European countries, which led to an opening of these markets and offered new opportunities for European banks. A number of Western European banks started to buy banks in the Central and Eastern European countries (CEE) in order to gain attractive new business in these markets. This trend proliferated when the first countries from this region applied for membership and finally joined the European Union in 2004.

From 1990 to 2005, the value of mergers and acquisitions in the banking industry in Europe reached a deal volume of nearly 794bn USD as can be seen in Table 1. The share of cross-border M&A deals increased from roughly 25% at the beginning of the 1990s to over 40% in 2004 and 2005. The total volume of cross-border M&A amounted to 203bn USD from 1990 to 2005. Around 4.1% or 32bn USD of the entire transaction volume between 1990 and 2005 is related to M&A in Eastern European countries. Looking at the frequency of deals approximately one-third of the number of bank M&A deals in Europe over the last 10 years involved banks in Western Europe acquiring all or parts of banks in CEE. Especially after the year 2000 with the joining of several Eastern European states in the European Union the importance of acquisitions in CEE increased (to 11.5% in 2005, see Table 1).

Cross-border M&A activity in CEE may further increase within the next years. Within the European Union the European Commission will continue to remove the remaining barriers to cross-border consolidation (The European Commission (2005)). Furthermore, new markets are opening up in the Commonwealth of Independent States where M&A opportunities exist among the private and state-owned banks (PricewaterhouseCoopers (2006)).

In the academic world however, not much research has been conducted regarding Eastern European bank mergers and acquisitions. So far, three papers by Tourani-Rad and Van Beek (1999), Cybo-Ottone and Murgia (2000) and Beitel, Schiereck et al. (2004) apply event study methodology in order to analyze announcement effects of M&A activities in the European banking sector. Only Beitel, Schiereck and Wahrenburg (2004) analyze drivers of the value creation process. None of these studies is centered on transactions into emerging markets.

This paper focuses on understanding the drivers of successful M&A activities in emerging markets. We measure the announcement effects for the bidding banks of transactions in the emerging markets of CEE: Central Europe (CE), South East Europe (SEE), and the Commonwealth of Independent States (CIS). Other than prior research applying event study methodology we do not observe the abnormal return of the targets and the combined entity as most of the targets were not listed: 40 % of the target banks in our sample were state owned and taken over in the process of bank privatization. In a second step we test 13 drivers of M&A success applying OLS regressions. The results indicate that cross border mergers into emerging markets do not yield significant announcement effects for the bidders on average, which is in line with most of the studies researching cross-border mergers in banking. We find strong evidence that drivers for successful M&A in emerging markets in CEE are primarily country specific characteristics: a high degree of regulation and thus a low degree of economic freedom in the target countries market as well as a low GDP growth. Further, bidders that bought their targets in governmental auctions were more successful than those that acquired their target in private negotiations. We find that standard factors explaining M&A value creation in developed markets, such as profitability, efficiency of the target, and relative size of bidder to target have almost no explanatory power to valuate bank M&A in CEE.

The paper is organized as follows: In section 2 we give an overview of prior event studies conducted to analyze M&A in the financial industry. In section 3 we define 13 variables that are associated with successful market entry via M&A into emerging markets. Section 4 provides an explanation of how we constructed our sample and presents the descriptive statistics. Section 5 gives an overview on the

applied event study methodology. Finally, in section 6 we try to break down the value drivers. We conclude the paper in section 7.

2 Literature review

Over the last years many researchers analyzed the announcement effects of M&A transactions in the banking industry. Most of the studies found significant positive value effects for the target bank (e.g. Wall and Gup (1989), Hawawini and Swary (1990), Houston and Ryngaert (1994), Madura and Wiant (1994), and Hudgins and Seifert (1996)). The results for the bidders however are not so clear. Most of the studies report slightly negative value effects (e.g. Wall and Gup (1989), Hawawini and Swary (1990), Houston and Ryngaert (1994), Madura and Wiant (1994), and Hudgins and Seifert (1996), Kane (2000), Ongena, Smith et al. (2000) and Cornett, Hovakimian et al. (2003)). The combined effect in most studies is slightly positive but not significantly different from zero.

Some of the conducted event studies also analyze the effects of cross-border mergers. For example DeLong (2001) examines US bank mergers with a geographic focus and finds that mergers that diversify geographically do not create value. This evidence is also supported by a more recent event study of Cornett, Hovakimian, Palia and Tehranian (2003) which finds significant negative abnormal return for interstate and no abnormal returns for intrastate activities for the bidders in a sample of 423 bank acquisitions in the US between 1988 and 1995. These early studies however do not allow drawing conclusions regarding the value creation of cross-border mergers in Europe.

Only in the past years researchers conducted event studies with a European focus on cross border mergers. Tourani-Rad and Van Beek (1999) analyze a sample of 58 different bidding banks in acquisitions between 1989 and 1996 in Europe. They do not find a significant difference in cross-border activity compared to domestic transactions. The shareholders of the acquiring bank do not experience a significant abnormal return. Cybo-Ottone and Murgia (2000) study 54 European M&A deals between 1988 and 1997 and find mixed and insignificant results regarding the returns for the acquiring bank's shareholders. Their results show that cross-border deals do not capture positive expectations from the market. Furthermore, they are able to show that country effects do not drive their results.

Beitel, Schiereck and Wahrenburg (2004) also include a geographical aspect in their analysis of 98 European M&A transactions between 1987 and 2000. Using regression analyses, they test different potential value drivers regarding their influence on the cumulative abnormal return (CAR). Their findings indicate that cross border deals seem to increase the CAR of the target bank, while the bidders create values in domestic transactions. For the combined entity the geographic focus however is not an important value driver.

Campa and Hernando (2004) look at European M&A in various industries over the period 1998 until 2000. They find that in the case of cross-border deals targets as well as acquiring firms from financial industries receive significant lower cumulative abnormal returns. Their evidence suggests that an acquisition of a firm operating in a regulated industry such as the financial service industry diminishes returns both for target and for acquiring companies.

The existing literature regarding cross border merger activity in Europe seems to be largely consistent with US-experience in that the target bank's shareholders experience abnormal returns. Results for the acquiring bank's shareholders vary but mostly they are not significantly different from zero. However, the presented studies also have in common that they mainly focus on transactions in the large banking markets in the European Union and Switzerland or that they incorporate emerging markets but do not focus on the banking industry. Given the increased M&A activities in the CEE countries in the banking industry, research focusing on these developing countries is of high interest.

Besides calculating the abnormal return of transactions in these countries we also want to study the value drivers of transactions in these countries. Thus, we will first formulate and then test various hypotheses. These theories are partly based on existing research on event studies of M&A in banking industry. Furthermore we test specific value drivers which capture the special nature of transactions in emerging markets.

3   Factors explaining M&A success

We look at 13 variables from five categories and test those variables regarding their impact on M&A value creation. The first category measures *profitability and efficiency* and consists of six variables

based on accounting data. Following prior research (Beitel, Schiereck and Wahrenburg (2004)) we look at the target banks' absolute profitability and efficiency and its profitability and efficiency relative to the acquiring bank. The second category captures the *relative size* of the target in relation to the bidder. Category 3 consists of a variable measuring the *experience* of the acquiring bank regarding M&A in emerging markets.

With respects to the specific attributes of emerging markets we incorporate two further categories of variables. Category 4 is related to *deal specific* factors in emerging markets and consists of three dummy variables: state-ownership of the target bank, the process of selling the target bank in an auction, and whether the acquiring bank already held a sizable stake in the target firm prior to the M&A announcement. Category 5 contains two variables related to target *country specific* factors. We look at the target countries GDP growth and an index that measures the degree of economic freedom in the target bank's home country (Buch (2000)).

We measure the *profitability* of the target using the return on equity (ROE) and the relation of the target's ROE to the bidder's return on equity as a relative profitability measure. We expect that transactions are more successful if bidders are more profitable than targets respectively if the target has a low profitability. In these transactions bidders may be able to realize efficiency potentials by transferring their superior management skills to the target assets (Hawawini and Swary (1990) and Pilloff (1996)).

As a measure of value creation potential of the transaction we look at the *cost efficiency* with two variables: the cost-to-income-ratio (CIR) and the cost-to-asset-ratio (C/A). We use both variables to measure the cost efficiency of the target. To compare the cost structure of the target in relation to the cost structure of a bidder we then look at the relative cost-to-income-ratio and the relative cost-to-asset-ratio. Following a similar line of arguments used to explain the impact of profitability we anticipate a low cost efficiency of the target bank as well as a large relative difference between target and bidder to positively influence excess returns for the bidder. Pilloff (1996) studying the combined entity's returns for 48 US-bank mergers and acquisitions between 1982 and 1991 finds that the improvement of the cost efficiency after the transaction is positively correlated to the value creation of M&A transactions in banking. Hawawini and Swary (1990) find that mergers create more value for

bidders and targets when the difference in efficiency between the two is larger (efficiency hypothesis). Houston and Ryngaert (1994) and Madura and Wiant (1994) find that higher efficiency of the target has a negative impact on value creation.

We analyze the *relative asset size* of a target in relation to the bidder to test whether the size of the target has an impact on the M&A success. The acquisition of smaller targets is less complex and, also the scale effects might be smaller, the realization of potential for value creation may be easier (Beitel, Schiereck and Wahrenburg (2004)). Hawawini and Swary (1990) find a positive impact of the bidders relative size to the bidders M&A success analyzing 579 US-bank mergers and acquisitions between 1977 and 1998. Thus we assume that the transaction is more successful for the bidder if the difference in size to the target is larger.

Concerning the *experience of a bidder*, DeYoung (1997) conducts a dynamic efficiency study of 348 US-bank M&As from 1987 to 1988 and finds a positive impact of bidder experience which is measured by the frequency of conducted M&A transactions. Zollo and Leshchinkskii (2000) also uncover a significantly positive correlation between a codification of experience related to M&A transactions and the bidder CAR. However, Beitel, Schiereck and Wahrenburg (2004) measuring the experience of a bidding bank by the M&A frequency, find that experience does not have any significant influence on M&A success. We follow the former findings and expect that more experienced bidders are able to generate higher synergies and therefore may easier capture value creation potential. To measure the experience of the bidding bank we apply the M&A frequency of cross border deals.

To be able to describe the special character of M&A transactions in emerging markets further variables are necessary. Apart from the efficiency of the target and the acquirer deal specific factors have to be taken into account. We examine whether a target bank is state owned or whether a target bank is sold in an auction. Furthermore we observe whether the acquiring bank already holds a stake in the target firm.

Most of the countries in CE, SEE and CIS only started to privatize firms and thus banks in the early nineties. More than a third of the target banks in our sample were still *state owned* at the time they were acquired. To control for the influence of state ownership we observe whether a bank is privately

or state owned at the time of the transaction. Campa and Hernando (2004) look at shareholder wealth creation from M&A activity in various industries in Europe and find that mergers in industries that had previously been under government control generate lower value than M&A announcements in unregulated industries. We thus estimate that state ownership of the target bank has a negative influence on the M&A success.

About half of the state owned banks were sold in an auction where several interested acquirer bid for a state owned target firm. Bonin and Wachtel (1999) look at the process of bank privatization in European emerging markets and argue that privatization by auctions runs the risk of establishing too low a selling price because prospective buyers may be cautious. In the case of a privatization of a bank through auctions we would expect positive abnormal returns for the successful acquiring bank's shareholders.

Prior research shows that gaining majority control over a target firm in an emerging market is key to a successful investment (Chari, Ouimet et al. (2004)). In this paper we only examine acquisitions were the acquirer holds the majority of voting rights after the transaction. As restrictions on foreign investments in most emerging markets countries in the early stage of privatization did not allow to acquire a majority stake in local firms, almost two third of the banks had already held a *minority stake* of the firm they take control over. On the one hand it can be expected that the market rewards a bank that acquires majority control at once without engaging in a minority investment. On the other hand finally taking control over a minority investment could be seen as making the investment profitable. We think of the latter effect as being dominant and thus expect to see a higher abnormal return for banks increasing their stake in a emerging market target.

Finally, specific factors in the target bank's home countries influence the success of a merger. The political environment, specifically the regulation of the local market as well as macro-economic factors have to be taken into account for a valuation of cross-border bank mergers.

Profit opportunities in the destination market are seen as a driver for cross-border acquisitions (Focarelli (2003)). While the Gross Domestic Product (GDP) or the GDP per capita can be found in the literature as a proxy for profit opportunities (Buch (2000)), in emerging markets the prospect of

growth seems to be more important than the actual level of total output of these countries. Instead of the absolute GDP we use the annual *GDP growth rates*, indicating the pace of the development of a country. As rapid growth of an economy promises excellent profit opportunities in the future, we expect GDP growths rates to have positive influence on the valuation of a merger.

Empirical literature finds that regulation of the local market has a significant impact on bank mergers. A high degree of regulation in the target countries tends to prevent foreign banks from acquiring local players, while deregulation and privatization often leads to increasing M&A activities (Buch and DeLong (2001)). On the other hand they also argue that regulations can be an incentive for market entry by lowering the efficiency of the incumbent banks. We follow the latter argumentation as we expect low efficiency of the target banks being a driver for excess returns of the bidders. Thus we postulate that a high degree of regulation will be positively related to the bidder's CAR. As a proxy for the regulation of the economy in the target countries we use the index of *economic freedom* published by the Heritage Foundation (Heritage Foundation (2006)). The index comprises factors measuring economic freedom such as government intervention, fiscal burden, regulation, property rights, capital flows, foreign investments, and monetary stability.

4 The data

In order to construct our sample of M&A transactions in Eastern Europe we obtained data from the Thomson Financial M&A Database. We restricted our search to all transactions after 1990. All mergers had to be completed by the end of 2005. The included countries are presented in Table 3. All in all, the database contains 822 M&A transactions where the target operates in the TF Mid Code "banks" and "credit institutions". As we are interested in the announcement effects of cross border transactions we further excluded inner-country transactions (427 remaining transactions). Then we limited the sample only to those transactions which led to a change of control (>50% of voting rights after the transaction). As we are not interested in M&A activities within the CEE region we also excluded these deals. This further decreased the sample to 160.

To measure the announcement effect we matched the list of bidder names with DataStream. We obtained 28 acquirers which were listed at least 100 days before the event date that also had a full set of accounting data in the year before the transaction (56 acquisitions). We used accounting data taken from Fitch IBCA Bankscope, and where necessary from annual reports. An overview of the 56 transactions is given in Table 2.

We controlled the event dates obtained from the Thomson Financial M&A Database by screening news clippings from the lexisnexis database. Regarding the determination of the event dates we slightly deviate from the standard event study methodology. In the sample 39.3% of the banks were formerly state owned. Screening the news flow before the actual signing of the transaction shows that in many cases the final buyer entered in exclusive negotiations with the seller some weeks earlier. In nearly all cases these exclusive talks led to a finalizing of the transaction. The news frequently included an approximation of the deal value. If these negotiations were officially announced either by the government or the bidding bank we used the date of the beginning of these exclusive negotiations as event date.

The geographical distribution of the identified transactions is presented in Table 3. Italy (12 transactions), Greece (9), and Austria (8) are the three countries with the most frequent bidders. The most active M&A markets in our sample are Poland (9 transactions), Serbia & Montenegro (6), and the Czech Republic (5). Especially four banks play a predominant role in the acquisition of CEE banks in our sample: Erste Bank (Austria, 6 transactions), Unicredit (Italy, 6), and Societe Generale (France, 5). All in all, our sample consists of 28 different acquiring banks.

Table 4 shows the distribution of events by year. Especially after the successful accession talks, of the new member states to the EU the number of transactions significantly increased (1999-2001). Roughly 49% of the deals involve banks in the CE-region. Only three takeovers of banks in the CIS region are included in the sample. Here only recently Western European banks started to buy banks.

In Table 5 we give an overview of selected key figures of the identified transactions in the sample. With regard to total assets bidders on average are over a hundred times and with regard to total equity over fifty times larger then their targets. Bidders are on average a lot more profitable than the average

target. The average bidder has a ROE of 12.5%, compared to a negative ROE (-12.1% on average) of the targets. The average bidder has a cost-to-income-ratio (CIR) of 78.9% and a cost-to-asset-ratio of 2.2%. Targets on average have a similar cost-to-income-ratio of 80.2%, but a much higher cost-to-asset-ratio of 6.1%. 17 target banks report a negative income the year prior to the acquisition. In four cases the loss exceeds the value of the equity (ROE < -1).

This simple comparison of bidders and targets in cross border bank mergers and acquisitions seems to support the hypothesis that bidding banks tend to acquire less efficient or almost bankrupt banks in order to realize efficiency potentials. Further, the comparison seems to indicate that the purpose of an acquisition in CEE is not obtaining an efficient banking operation in the target country but rather a method of market entry.

5 Methodology

In order to analyze the value effects of cross border acquisitions we use the standard event study methodology with the market model

$$(1)\quad R_{jt} = \alpha_j + \beta_j R_{Mt} + \varepsilon_{jt}.$$

In order to estimate the intercept (α_i) and slope (β_i) we use daily returns of the stock collected 100 to 50 days before the event date. Deviating from the approach of prior event studies (Brown and Warner (1985) and Beitel, Schiereck and Wahrenburg (2004)) we use a shorter estimation window as we find bidding banks in our sample completing several transactions within one year. We were not able to place larger estimation windows between the deals to measure the market parameters of the stock free of influence of other M&A transactions.

The market return is the return of the corresponding local index of the acquirer as provided by Data-Stream. In cases DataStream did not offer a local index we rely on an appropriate index provided by Morgan Stanley Capital International (MSCI). The cumulated abnormal returns are compiled for different event windows. Expected returns $\hat{R}_{jt}$ are calculated as follows:

(2) $\hat{R}_{jt} = \hat{\alpha}_j + \hat{\beta}_j R_{Mt}$

Abnormal returns of a stock j in the event window are calculated by subtracting the expected stock return $\hat{R}_{jt}$ from the observed stock return R_{jt} in the event window

(3) $AR_{it} = R_{it} - (\alpha_i + \beta_i R_{Mt})$,

in which AR_{it} is the abnormal return for stock i at time t, R_{it} is the return on stock i at time t, and R_{Mt} represents the market return at time t.

The event window is T=[-t_1;t_2] days, where t=0 determines the announcement day of a transaction. Within the event windows several periods, e.g., [-1;+1], [-20,+1] etc. are studied. Calculated abnormal returns then are averaged:

(4) $\overline{AR_t} = \frac{1}{n} \sum_{i=1}^{n} AR_{it}$, with

n= number of analyzed stocks, and

t=point of time to analyze, $t \in T$

Cumulated abnormal returns (CAR) for any interval [-t_1;t_2] during the event window T are calculated as follows:

(5) $CAR_{[t_1;t_2]} = \sum_{[t_1;t_2]} \overline{AR_t} = \sum_{[t_1;t_2]} \frac{1}{n} \sum_{i=1}^{n} AR_{it}$.

To test for significance for both the abnormal and the cumulated abnormal returns tests are employed following the suggestions by Dodd and Warner (1983), which were also applied by DeLong (2001), Siems (1996), Hudgins and Seifert (1996), and Palia (1994). The test statistic further more is adjusted to reflect cross-sectional independence (Brown and Warner (1985) and Dodd and Warner (1983)).

Besides measuring the overall value creation for the bidder of cross border bank M&A transaction in CEE countries we analyze the drivers of the M&A success in bank mergers and acquisitions. For this purpose we test several variables that may explain the value creation following prior research and the

hypothesis we formulated in section 3. Table 6 gives a short definition of the variables tested. The variables were chosen to best reflect the factors which were derived from empirical literature. To determine whether a variable has an impact on the M&A success we apply multivariate cross-sectional regression analysis. The dependent variable in the multivariate cross-sectional regression analysis is the abnormal return of the bidders. All regressions performed are OLS-regressions that assume a linear relationship between the dependent and the independent variables.[4] The regressions follow the basic model:

$$(6) \quad CAR = \beta_o + \sum_{i=1}^{n} \beta_i \cdot F_i + \varepsilon, \text{ with}$$

CAR = CAR for bidder,
   β_0 = regression constant,
   F_i = independent variable, $i \in \{1,...,n\}$,
   β_i = coefficient for independent variable, $i \in \{1,...,n\}$,
   n = number of independent variables, and
   ε = error term.

6   Results

6.1   Event study results

Applying the event study methodology described above for the bidders in the entire sample (N=56) leads to the results presented in Table 8. In line with prior event studies of bank cross border M&A we find no significant (positive or negative) abnormal return for the bidding banks on average. We find 33 bidders yielding positive abnormal returns and 23 bidders yielding negative returns.

For event windows [-20;+1] and [-20;+20] we find slightly positive yet not significant CARs. For large event windows we had to reduce our sample due to one bidder acquiring three targets within one month. These deals had to be excluded to avoid overlapping event windows.

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[4] We also applied random effects models which led to similar results.

6.2 Cross-sectional OLS regression

To determine the influence of the drivers identified in section 3 on individual M&A success we conduct several cross-sectional OLS regressions. The variables we used are described in Table 6, an overview of the characteristics is given in Table 7. The results of these regressions are shown in Table 9. We analyze the CAR of the bidders using the [-3;+3] event window. We did not include all variables in one model as this did not help to better explain M&A success. We also included dummy variables for the transaction year, for the region of the target (CE, SEE, or CIS), for the target country, and for the bidder country. However these variables had no explanatory power at all and are therefore not shown in our analysis.

Profitability and efficiency. In all regression models neither the target ROE nor the relative ROE has any explanatory power. The profitability of the target bank does not seem to be a driver for a successful bank acquisition in CEE. This contradicts the findings of prior research (Hawawini and Swary (1990), Pilloff (1996), and Beitel, Schiereck and Wahrenburg (2004)) where a strong negative correlation of relative ROE and bidder CAR was observed. Thus our results do not support the hypotheses that bidders acquiring an unprofitable target exhibit a significant higher CAR. The target CIR as well as the relative CIR are positively correlated in all regression models to the bidder CAR. This result is in line with prior research finding that acquiring a less cost efficient target is value creating implying that gains in cost efficiency can easily be achieved by the acquirer when taking over control (synergy hypothesis; Hawawini and Swary (1990) and Pilloff (1996)). However, we find that cost efficiency when measured as cost-to-asset ratio of the target is negatively correlated to the bidder's CAR. This somewhat contradicts the synergy hypothesis. Despite of the significance of our variables in our regression models no clear conclusion for the influence of cost efficiency can be derived. With no significance of the ROE for the success of a M&A transaction this might indicate that profitability and efficiency factors or even the accounting data of the target do not play a prominent role when an acquisition in an emerging market is valued.

Size. The relative asset size of bidder to target has no explanatory power in our regression models. This finding is in line with prior research reporting ambiguous results on the influence of relative as-

set size on the bidder CAR (Hawawini and Swary (1990) finding positive influence of relative size, and Beitel, Schiereck and Wahrenburg (2004) finding no significant influence of relative size on bidder CAR). Var 7 measures the relative logarithmic asset size. Looking at the absolute relative asset size (Table 5), one will notice that the average target is about 0.9 % of the size of the bidder. Only two targets were lager then 10% of the bidder asset size. This huge difference in size may explain the insignificance of the relative asset size in our sample.

Experience. We find that the experience of the bidders (measured by the number of cross-border M&A transactions before the deal) does not have any significant influence on the M&A success. Though we expected that especially in emerging markets acquirers could benefit from their cross border M&A experience, this result is conform with prior research, finding that experience measured as number of transactions does not influence the bidder CAR (Beitel, Schiereck and Wahrenburg (2004)).

Deal specific variables. The deal specific dummy variables "stake" and "auction" are significant in every model they are included in while the dummy variable for state owned banks has no explanatory power. The "stake" dummy, indicating whether the bidder held a minority stake of the target prior to the deal, is positively correlated to the bidder's CAR. This finding supports our hypothesis that the market values a transaction where acquirer take over control over banks they hold a minority stake in higher than a transaction where acquirers hold no stake in the target prior to the deal. The positive correlation of the dummy variable "auction" confirms the arguments of Bonin and Wachtel (1999) in that it is seen positively when a state owned bank is sold in an auction.

Country specific variables. The GDP-growth in the target country is negatively related to the bidder's CAR. This contradicts our expectations as we considered a high GDP-growth in the target country as an indicator for high profit opportunities for the banks in the future. The Freedom of Market index is positively related to the CAR. Higher index values indicate highly regulated markets with little economic freedom. The results show that acquiring a bank in a more regulated market creates more value for the bidder. This supports the hypothesis of Buch and DeLong (2001) that high regulation increases the incentives for a market entry by lowering the efficiency of the target banks in those countries. All

in all it is rewarding for a bidding bank to acquire a bank in a country with a highly regulated market and a low economic growth. The less "developed" a market is the better the chances for a profitable investment are seen by the capital market.

7 Conclusions

This paper empirically addresses the factors that influence announcement effects of bank mergers and acquisitions in Central and Eastern Europe. Using an event study approach we calculate the abnormal returns for the bidding banks in 56 transactions between 1990 and 2005. In a second step we analyze the impact of 13 variables on M&A success of bidding banks using a multivariate cross-sectional regression analysis. Based on our analysis we are able to identify a number of factors explaining M&A success.

We find that on average the bidding bank does not exhibit a positive or negative cumulative abnormal return. The main drivers for successful transactions in European emerging markets are country specific factors. A higher degree of regulation and thus a lower degree of economic freedom as well as a lower GDP-growth of the target market drive excess returns for the bidder. The results further indicate that the way a bank is sold by the local government plays a decisive role. Bidders that bought their targets in an auction were more successful than those that acquired their target though private negotiations. Standard factors explaining M&A success in developed market, specifically profitability, efficiency and size of the target respectively the relative indicators are not the main explanatory variables in bank M&A in CEE.

Valuing the market entry into European emerging banking markets shareholders of the acquiring bank seem to take more into account in which country the target bank is domiciled and through which mechanism the target bank is acquired than what type of bank is bought. Our results show that stock market reactions to M&A announcements by banks from developed markets bidding for targets in CEE can at least partly be forecasted which may be very helpful to bank managers that will perform M&As in this region.

Further research has to prove whether the findings of this paper can be applied to bank M&As in other emerging markets and thus be a guidance for a successful market entry in those regions.

8 Literature

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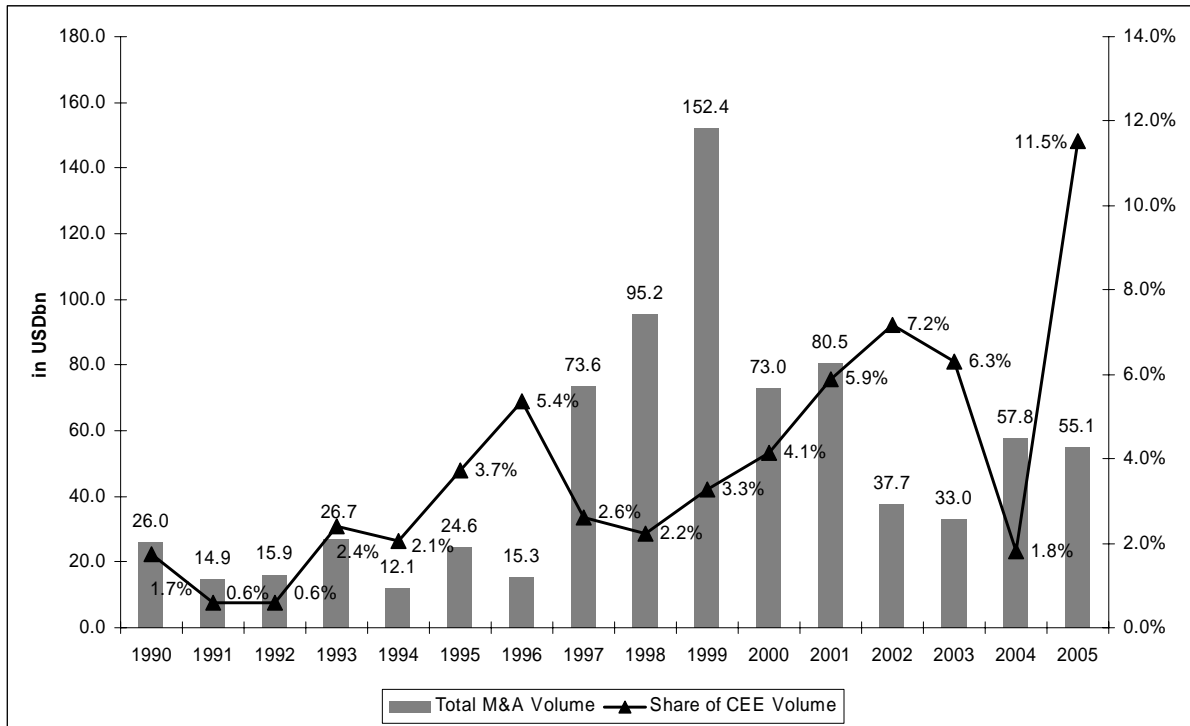**Table 1: M&A-Deal Volume in Europe**

Table 2: Summary of transactions

Year	Bidder name	Bidder nation	Target name	Target nation	% acquired	% after deal
1996	Internationale Nederlanden	Netherlands	Bank Slaski w Katowicach	Poland	20.95%	54.10%
1997	Banca Commerciale Italiana SpA	Italy	Central-European Intl Bank	Hungary	81.80%	95.00%
1998	Societe Generale SA	France	Romanian Bank for Development	Romania	51.00%	51.00%
1999	Fortis AG	Belgium	Pierwszy Polko-Amerykanski Bk	Poland	58.80%	68.50%
1999	Unicredito Italiano SpA	Italy	Bank Polska Kasa Opieki SA	Poland	52.10%	52.10%
1999	AIB European Investment Ltd	Ireland-Rep	Bank Zachodni SA	Poland	80.00%	80.00%
1999	KBC Bancassurance Holding NV	Belgium	CSOB	Czech Republic	65.70%	65.70%
1999	Bayerische Hypo- und Vereins	Germany	Bank Przemyslowo-Handlowy SA	Poland	27.85%	55.60%
1999	Skandinaviska Enskilda Banken	Sweden	Latvijas Unibanka	Latvia	2.30%	50.34%
1999	Alpha Credit Bank	Greece	Kreditna Banka	Macedonia	65.00%	65.00%
1999	Erste Bank	Austria	Trgovacka Banka DD	Croatia	94.30%	94.30%
1999	Societe Generale SA	France	Expressbank(Bank Consolidat)	Bulgaria	97.90%	97.90%
1999	Deutsche Bank AG	Germany	Bank Wspolpracy Regionalnej SA	Poland	89.20%	89.20%
1999	Skandinaviska Enskilda Banken	Sweden	EUP	Estonia	5.07%	50.15%
1999	Erste Bank	Austria	Ceska Sporitelna Savings Bank	Czech Republic	52.07%	50.20%
1999	National Bank of Greece	Greece	Stopanska Banka AD(Bank Conso)	Macedonia	65.00%	65.00%
1999	Bank of Piraeus SA	Greece	Pater Bank of Romania	Romania	100.00%	100.00%
2000	KBC Bancassurance Holding NV	Belgium	Hungarian Coml and Credit Bank	Hungary	30.06%	62.68%
2000	Bankgesellschaft Berlin AG	Germany	Zivnostenska Banka AS	Czech Republic	1.13%	51.00%
2000	Unicredito Italiano SpA	Italy	Splitska Banka	Croatia	63.00%	63.00%
2000	Unicredito Italiano SpA	Italy	Bulbank AD	Bulgaria	98.00%	98.00%
2000	Citigroup Inc	United States	Bank Handlowy SA	Poland	56.00%	66.00%
2000	Unicredito Italiano SpA	Italy	Polnobanka as	Slovak Rep	51.20%	62.00%
2000	National Bank of Greece	Greece	United Bulgarian Bank	Bulgaria	89.90%	89.90%
2000	Danske Bank A/S	Denmark	Polsko-Kanadyjski Bank Sw	Poland	83.00%	83.00%
2000	Wuestenrot Holding AG	Germany	Lakaskassza	Hungary	22.00%	51.00%
2000	Skandinaviska Enskilda Banken	Sweden	Vilniaus Bank	Lithuania	60.00%	100.00%
2000	Egnatia Bank	Greece	BNP-Dresdner Bank(Romania)	Romania	100.00%	100.00%
2000	Commerzbank AG	Germany	Bank Rozwoju Eksportu	Poland	1.30%	50.00%
2000	Erste Bank	Austria	Slovenska Sporitelna(Slovak)	Slovak Rep	87.18%	87.18%
2000	BNP Paribas SA	France	BNP-Dresdner Bank(Bulgaria)	Bulgaria	50.00%	100.00%
2000	Dresdner Bank AG	Germany	BNP-Dresdner Bank(Russia)	Russian Fed	50.00%	100.00%
2001	Societe Generale SA	France	SKB Banka dd	Slovenia	96.46%	96.46%
2001	Unicredito Italiano SpA	Italy	Zagrebacka Banka	Croatia	59.10%	77.92%
2001	IntesaBci SpA	Italy	Vseobecna Uverova Banka AS	Slovak Rep	94.47%	94.47%
2001	Societe Generale SA	France	Komercni Banka AS	Czech Republic	60.00%	60.00%
2001	BNP Paribas SA	France	Finansbank AS	Turkey	55.00%	55.00%
2001	HSBC Bank PLC	United Kingdom	DemirBank TAS	Turkey	100.00%	100.00%
2001	San Paolo Bank, Italy	Italy	Banka Koper	Slovenia	47.10%	62.10%
2001	Novabank SA	Greece	Sitebank AS	Turkey	100.00%	100.00%
2002	Erste Bank	Austria	Rijecka Banka	Croatia	85.02%	85.02%
2002	Unicredito Italiano SpA	Italy	Zivnostenska Banka AS	Czech Republic	85.16%	85.16%
2003	Sanpaolo IMI Bank Intl SA	Italy	Inter-Europa Bank RT	Hungary	52.75%	85.26%
2003	Bank of Piraeus SA	Greece	Tirana Bank	Albania	15.00%	62.19%
2003	Erste Bank	Austria	Postabank Rt	Hungary	99.97%	99.97%
2003	National Bank of Greece	Greece	Bank Romaneasca	Romania	81.60%	81.60%
2004	Bayerische Hypo- und Vereins	Germany	International Moscow Bank	Russian Fed	9.88%	52.88%
2004	Creditanstalt AG	Austria	Eksimbanka	Yugoslavia	58.70%	58.70%
2004	Alpha Bank AE	Greece	Jubanka AD	Serb. & Mont.	88.64%	88.64%
2005	Banca Intesa SpA	Italy	Delta Bank	Serb. & Mont.	90.00%	90.00%
2005	Fortis Group	Belgium	Turk dis Ticaret Bankasi	Turkey	89.34%	89.34%
2005	Banca Intesa SpA	Italy	KMB-Bank	Russian Fed	75.00%	75.00%
2005	Erste Bank	Austria	Novosadska Banka	Serb. & Mont.	83.28%	83.28%
2005	Credit Agricole SA	France	Meridian Bank AD	Serb. & Mont.	71.00%	71.00%
2005	Societe Generale SA	France	Podgoricka banka ad Podgorica	Yugoslavia	64.44%	64.44%
2005	Bank Austria Creditanstalt AG	Austria	Nova Banjalucka Banka	Bosnia	83.27%	83.27%

Table 3: Geographical distribution

Target country	AU	BE	DE	FR	GE	GR	IR	IT	NL	SE	UK	US	Total
AL						1							**1**
BK	1												**1**
BU				2		1		1					**4**
CR	2							2					**4**
CS	2			2		1		1					**6**
CZ	1	1		1	1			1					**5**
EE										1			**1**
HU	1	1			1			2					**5**
LT										1			**1**
LV										1			**1**
MK					2								**2**
PL		1	1		3		1	1	1			1	**9**
RO				1		3							**4**
RU					2			1					**3**
SI				1				1					**2**
SK	1							2					**3**
TU		1		1		1					1		**4**
Total	**8**	**4**	**1**	**8**	**7**	**9**	**1**	**12**	**1**	**3**	**1**	**1**	**56**

Legend: AU=Austria, BE=Belgium, DE=Denmark, FR=France, GE=Germany, GR=Greece, IR=Ireland, IT=Italy, NL=Netherlands, SE=Sweden, UK=United Kingdom, US=USA, AL=Albania, BK=Bosnia and Herzegovina, BU=Bulgaria, CR=Croatia, CS=Serbia and Montenegro, CZ=Czech Republic, EE=Estonia, HU=Hungary, LT=Lithuania, LV=Latvia, MK=Macedonia, PL=Poland, RO=Romania, RU=Russia, SI=Slovenia, SK=Slovakia, TU=Turkey

Table 4: Overview of identified transactions

Year	Number of transactions	Geographic focus		
		CE	SEE	CIS
1996	1	1		
1997	1	1		
1998	1		1	
1999	14	9	5	
2000	15	9	5	1
2001	8	4	4	
2002	2	1	1	
2003	4	2	2	
2004	3		2	1
2005	7		6	1
Total	**56**	**27**	**26**	**3**

Legend: CE=Central Europe, SEE=South East Europe, CIS=Commonwealth of Independent States

Table 5: Key figures of identified transactions

Characteristics	Bidders (N=56)	Targets (N=56)	Ratio targets/bidders
Total assets in Euro, millions			
Mean	235,000.0	2,060.0	0.88%
Standard deviation	213,000.0	3,270.0	
Min.	742.0	0.2	
Max.	815,000.0	13,400.0	
Total equity in Euro, millions			
Mean	10,000.0	180.0	1.80%
Standard deviation	9,590.0	263.0	
Min.	118.0	0.0	
Max.	55,900.0	1,250.0	
Return on Equity			
Mean	12.5%	-12.1%	-96.41%
Standard deviation	7.3%	72.5%	
Min.	-14.5%	-433.3%	
Max.	34.3%	35.0%	
Cost-to-income ratio (CIR)			
Mean	78.9%	80.2%	101.64%
Standard deviation	43.1%	87.4%	
Min.	47.6%	-335.1%	
Max.	385.0%	391.7%	
Total operating costs/total assets			
Mean	2.2%	6.1%	279.08%
Standard deviation	1.2%	6.5%	
Min.	0.8%	0.5%	
Max.	9.2%	43.0%	

Table 6: Definition of variables

Var	Description	Definition
		Target profitability/efficiency [a]
Var 1	Target ROE	Return on equity of the target bank.
Var 2	Target CIR	Cost to income ratio of the target bank
Var 3	Target total operating cost/total assets	Total operating cost divided by total assets of the target bank
		Relative profitability/efficiency (target/bidder) [a]
Var 4	Relative ROE	ROE of target divided by ROE of bidder
Var 5	Relative CIR	CIR of target divided by CIR of bidder
Var 6	Relative total operating cost/total assets	Total operating cost/total assets of the target bank divided by total operating cost/total assets of bidder
		Relative size [a]
Var 7	Relative size	Logarithm of total assets of the target divided by the logarithm of total assets of the bidder
		Experience
Var 8	Cross border M&A experience bidder (number of transactions)	Number of cross border M&A transactions a bidder completed until the year before event date
		Deal specific variables
Var 9	Dummy for stake	Binary dummy variable: 1 for bidders that hold a minority stake in the target bank, 0 for bidders with no stake in the target they acquire
Var 10	Dummy for auction	Binary dummy variable: 1 auction, 0 otherwise
Var 11	Dummy for state owned	Binary dummy variable: 1 for state owned, 0 for privately owned
		Target country specific variables
Var 12	GDP growth in target country (in %)	GDP growth rate in target country at constant 1990 prices (in %). Source: United Nations Statistics Divisions
Var 13	Freedom of Market	Index of economic freedom that ranges from 1 to 5 with a higher value indicating a more restrictive system. Source: Heritage Foundation (2006)

[a]Per December 31 of the year prior to the announcement year

Table 7: Characteristics of independent variables

Var	Description	N	Average	Median	Std.dev	Min.	Max.
Var 1	Target ROE	56	-0.1209	0.0932	0.7247	-4.3333	0.3496
Var 2	Target CIR	56	0.8021	0.7440	0.8737	-3.3514	3.9167
Var 3	Target total operating costs/total assets	56	0.0608	0.0402	0.0645	0.0047	0.4303
Var 4	Relative ROE	56	0.6991	0.6386	9.9366	-24.0245	67.0526
Var 5	Relative CIR	56	1.1022	0.9980	1.1538	-3.5907	6.9208
Var 6	Relative total operating costs/total assets	56	3.2820	2.0419	3.6646	0.2805	23.1827
Var 7	Relative size	56	0.7763	0.7975	0.0934	0.4409	0.9391
Var 8	Cross border M&A experience bidder	56	5.0714	4	4.3479	0	21
Var 9	Dummy for stake	56	-	-	-	0	1
Var 10	Dummy for auction	56	-	-	-	0	1
Var 11	Dummy for state owned	56	-	-	-	0	1
Var 12	GDP growth in target country (in %)	56	3.2480	4.1000	3.4446	-7.5000	10.0500
Var 13	Freedom of Market	56	3.1344	3.1675	0.5761	2.1000	4.2750

Table 8: Results of the Event Study

The table shows the results for the event study analyzing 56 M&A targets out of 17 Central and Eastern European countries (CEE) acquired by 28 bidding banks out of 12 western countries between 1996 and 2005. Abnormal returns are calculated using OLS-regression. OLS-parameters have been estimated for a period of 50 trading days prior to the event windows. As market returns we applied national country indices. Tests for significance are according to Dodd and Warner (1983) and Hawawini and Swary (1990).

Event Window	N	CAR in %	t-test	p-value	Pos.	Neg.	Wilcoxon
[-20:1]	54	1.49%	1.205	0.134	31	23	0.154
[-10:1]	55	0.38%	0.412	0.346	34	21	0.231
[-3:3]	56	0.63%	0.901	0.199	35	21	0.149
[-1:1]	56	-0.15%	-0.324	0.378	31	25	0.909
{0:0}	56	0.34%	1.286	0.120	35	21	0.110
[-10:10]	54	0.76%	0.569	0.293	33	21	0.157
[-20:20]	53	2.50%	1.337	0.112	31	22	0.220

*=significant at the 10% level, **=significant at the 5% level, ***=significant at the 1% level

Table 9: Cross-sectional OLS-regressions of bidder-CAR [-3;+3]

This table shows the results of several OLS-regression models run for the CAR of the targets. The bidder CARS are measured in a 5 day interval [-3;+3] around the announcement day. F- and T-values are given in brackets.

| | | Independent variables | | | | | | | | | | | | |
| | | Target specific variables | | | Relative variables (Target/Bidder) | | | | Exp. | Deal specific variables | | | Target country | |
Adj R2 (F-val.)	Cons. (t-val.)	ROE (t-val.)	CIR (t-val.)	C/A (t-val.)	ROE (t-val.)	CIR (t-val.)	C/A (t-val.)	Size (t-val.)	Acq exp (t-val.)	State owned (t-val.)	Auction (t-val.)	Stake (t-val.)	GDP growth (t-val.)	Free Market (t-val.)
8.1% (1.61)	-0.069 ** (-2.31)	0.001 (0.09)	0.015 ** (2.25)	-0.163 (-1.65)					-0.001 (-0.72)	0.013 (1.08)		0.025 * (1.92)	-0.002 (-1.16)	0.030 *** (2.8)
12.2% (1.84) *	-0.022 (-0.33)				0.000 (-0.15)	0.009 * (2)	-0.002 (-1.45)	-0.046 (-0.75)	-0.001 (-0.72)		0.033 ** (2.32)	0.032 ** (2.55)	-0.003 * (-1.91)	0.029 ** (2.63)
16.9% (2.39) **	-0.074 ** (-2.58)	0.002 (0.31)	0.016 ** (2.47)	-0.184 * (-1.95)					-0.001 (-0.85)		0.034 ** (2.5)	0.030 ** (2.49)	-0.003 * (-1.7)	0.034 *** (3.24)
19.7% (3.25) ***	-0.078 *** (-2.77)			-0.205 ** (-2.23)		0.013 ** (2.69)					0.032 ** (2.45)	0.033 ** (2.75)	-0.003 ** (-2.06)	0.035 *** (3.37)

*=significant at the 10% level, **=significant at the 5% level, ***=significant at the 1% level