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Do announcements of bank acquisitions in emerging markets create value?

Farouk Soussa and Tracy Wheeler

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Farouk Soussa[*]

and

Tracy Wheeler[**]

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[*] Formerly of the Bank of England, now of Standard and Poors.
Email: farouk_soussa@standardandpoors.com

[**] Bank of England, Threadneedle Street, London, EC2R 8AH
Email: tracy.wheeler@bankofengland.co.uk

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Abstract

The latter half of the 1990s saw a sharp rise in entry of banks from developed countries into emerging market financial systems. This was motivated by, among other things, the belief that expansion into underdeveloped financial markets would result in diversification and efficiency gains, and thus prove to be value creating. This paper uses a standard event-study methodology to determine the reaction of the acquirer's stock price to announcements of acquisitions in emerging financial markets (EFMs). Under the assumption of efficient markets, a positive reaction is interpreted as supporting the hypothesis that expansion into EFMs is value creating. However, in line with the literature on cross-border banking acquisitions in developed countries, announcements are found to be associated with negative abnormal returns for the acquirer, suggesting that potential downsides, such as operational risk, legal and social barriers, and political risk, are judged by markets to outweigh the potential benefits. Moreover, the value destruction from an acquisition was found to be bigger in all regions in the 18 months following the Asian crisis.

Summary

The liberalisation of emerging financial markets (EFMs) in the mid-to-late 1990s paved the way for a marked rise in the number of emerging market acquisitions by banks in developed countries. This paper examines the net benefits of these acquisitions for the acquiring bank using an event-study methodology to indicate whether value was created by the merger. If the value of the acquiring bank increases following the acquisition then expansion into EFMs is considered to have had net benefits. The results show that acquisition announcements are generally associated with a loss in value for the acquirer, but this persists for only one week. Losses in value are found to have been greater during and immediately after the East Asian crisis but (i) the size of the acquisition, (ii) the region of the target, and (iii) whether the target is a bank or non-bank financial institution are found to have no impact. It should be noted that this study analyses the effects of acquisition only on the acquiring bank. Acquisitions in aggregate may still create value if the value of the target bank increases sufficiently as a result.

The fact that banks still make acquisitions in EFMs despite the resulting value losses found in this study presents a puzzle. Two explanations are offered. The first is that markets are not perfect, and hence that equity price movements do not reflect the full impact of the acquisition on future profits. The second is that there could be a so-called principal-agent problem, whereby managers have greater incentives to pursue EFM acquisitions than stockholders. While stockholders can benefit from any associated increase in profits, they also bear the full financial exposures associated with the acquisition. The managers, however, have less financial exposures and can improve their future wage prospects if the acquisition provides a positive signal to the labour market regarding their ability.

1 Introduction

During the second half of the 1990s there was a strong surge of portfolio and foreign direct investment (FDI) inflows into emerging financial markets (EFMs), and in particular, into their banking sectors. In some EFMs, this has resulted in most financial sector assets being controlled by foreign investors, typically banks from developed countries. The reasons behind this surge in FDI are discussed in Soussa (2004). They include the additional opportunities created by deregulation as EFMs opened themselves up to foreign investors in the mid-1990s, usually in a bid to recapitalise ailing banking sectors. Moreover, technological innovation and the reduction of information costs allowed expansion into EFMs with less cost and less risk.

Ultimately, the motivation for entry into EFMs is the pursuit of higher profits, geographical diversity and efficiency gains, which in an efficient market increase the value of the acquiring bank. However, these benefits need to be weighed against the potential downside risks, including operational and political risk, and cultural and legal barriers.

Whether the potential benefits of participating in EFMs outweigh the costs is ultimately an empirical question. This paper adopts an event-study methodology to test whether announcements of bank acquisitions in EFMs create value for the acquiring bank. The premise is that in efficient markets, a positive reaction of the share price to news of an acquisition for the acquiring bank indicates that markets expect the benefits of the acquisition to outweigh the potential downside risks. Thus the movement in the acquirer's stock price to the acquisition announcement (once trends in the home and world market are controlled for) is used as a summary statistic for the value creation of the merger.

This paper finds that banking acquisitions in EFMs tend to be associated with value losses for the acquirer in the immediate aftermath of an announcement. Evidence from the Asian crisis suggests that the value destruction is most severe in the 18 months following a financial crisis in an emerging market.

2 Theoretical context and previous literature

The literature on cross-border mergers and acquisitions highlights the economic benefits that may motivate strategic investors. The first of these is the geographical diversification which arises from carrying out business in distinct markets. This allows an improved risk-reward trade-off (Vander Vennet (1996); Berger (2000)) and a lower variability of income (Zhang (1995)). Beyond this, another benefit from cross-border mergers is the potential efficiency gains that may result from economies of scale, scope and product mix (Berger, DeYoung, Genay and Udell (2000)).[(1)] Moreover, it is argued by Amihud, DeLong and Saunders (2002) that cross-border mergers can increase the implicit guarantee provided by safety-net arrangements, such as deposit insurance and the lender of last resort, as authorities consider larger, more complex institutions a greater systemic risk. However, the domestic regulator will only extend this guarantee if the size of the acquisition is large enough such that losses from the acquired bank threaten the whole banking group. The benefits from this effect are thus skewed towards larger banks and bigger acquisitions. Similarly, the target's regulator will only provide a bailout if losses to the target bank are considered systemically important, and if the target is in an emerging market with underdeveloped regulation, it may not provide any protection at all.

Chari, Ouimet and Tesar (2004) highlight the specific advantages for developed country firms of targeting firms in emerging markets rather than in other developed countries. The acquiring firm may benefit from having better bargaining power than its emerging market target allowing it to underpay for its stake in the target firm. This is particularly applicable if the target is uncertain about its true standalone value and consequently undervalues its assets. This situation is more likely to arise in a period of crisis when beliefs about future profits may be irrationally dampened. If a crisis results in liquidity shortages and higher costs of capital this may also increase the incentives of the target to seek a merger. Thus, if the acquirer has greater confidence in fundamentals, is better able to assess the positive synergies from the merger that could increase the profitability of the target,[(2)] and can provide the capital needed it should be able to select and execute only those transactions that result in significant gains for itself.

(1) Guillèn and Tschoegl (1999), who interviewed senior management at Spanish banks to ascertain the motivations behind their aggressive expansion into Latin America during the latter part of the 1990s found that geographical diversification and expected efficiency gains were indeed significant factors.
(2) The synergies include transfer of technology and skills to the emerging market target, the reduced cost of capital through the internal market of the combined firm and the cost reduction that result from efficiency gains.

Differences in legal protection and accounting standards may also influence the decision to target firms in emerging markets rather than in developed countries. Bris and Cabolis (2005) find that in a merger where the acquirer wants to take a 100% stake,[3] then the bigger the difference in shareholder protection and accounting standards between the target's and acquirer's countries, the higher the premium the acquirer must pay the existing shareholders in the target bank. They suggest that this higher premium is consistent with the target's shareholders attaching a positive valuation effect to the improvement in shareholder protection offered by the change in the nationality of the target resulting from the acquisition. Despite this higher premium, Rossi and Volpin (2003) find that the volume of cross-border M&A is higher the bigger the difference in investor protection between the acquirer's and target's countries.

Acquisitions of financial targets in emerging markets may offer greater opportunities than acquisitions of firms in other sectors. An underdeveloped banking system offers greater potential for market growth.[4] It may also allow developed country banks to have a competitive advantage over local banks through greater expertise and financial resources (Tschoegl (2003)).

There are though a number of potential downside risks of expanding into foreign financial systems in general, and into EFMs in particular. First, cross-border mergers and acquisitions result in larger, more complex institutions in which the risk of communication and other operational errors increases. This risk is accentuated where business lines differ substantially between the domestic and foreign operations.[5] Moreover, cultural, political, legal and social differences, which are generally greater in emerging markets, present a further risk to the smooth operation of the combined institution. The business environment can also be more risky in emerging markets where (i) macroeconomic cycles are usually more pronounced, (ii) financial systems are usually less liquid and lack markets in some of the key financial products which developed banks rely on to manage their risks, (iii) weaker legal frameworks, particularly in the area of property rights, make security harder to realise, and (iv) regulatory frameworks can sometimes be more lax.

(3) In a cross-border merger where the acquirer buys 100% of the target, the target becomes a national of the country of the acquirer. This change in nationality implies a change in the accounting and investor protection standards to which the target firm must comply.

(4) For example, in new EU countries the ratio of banking sector assets to GDP varies between 30% and 100%, compared to an average of 265% in the euro area. This limited level of banking intermediation highlights the potential for growth in the sector (Bednarski and Osinski (2002)).

(5) In the case of acquisitions, it usually takes some time for the acquirer to realign the target's business to fit a 'global' strategy.

A strand of the empirical literature that attempts to quantify the incentives for banks to expand overseas suggests that it is motivated by profit opportunities and growth potential. Brealey and Kaplanis (1996), Yamori (1998), and Buch (2000) all find a positive relationship between host country per capita GDP and bank FDI, suggesting potential profits are an important driver. Similarly, Claessens, Demirgüç-Kunt and Huizinga (2000) use data for 80 countries between 1988-95 and find that foreign bank penetration is greatest when foreign bank profitability is highest. They also find that foreign banks are more efficient and profitable in EFMs than local banks. Focarelli and Pozzolo (2000) test the importance of the profitability of the host sector (using such variables as return on assets and cost-income ratios). Their results are consistent with the notion that banks choose where to invest on the basis of profitability. They also find that the main driving factor behind the location of bank FDI is the expected rate of economic growth of the host country.(6)

Making a judgement on whether the benefits of cross-border bank mergers and acquisitions are likely to exceed the costs is difficult. Empirical analysis can help quantify the issue, although the current empirical literature is rather limited and offers no firm conclusions. Most of the literature concentrates on banking acquisitions within the United States and explores the benefits of the easing of US regulations that limited inter-state banking. Berger *et al* (2000), summarise this literature, and conclude that there is little empirical evidence to support the notion that consolidation leads to gains in diversification or efficiency. In a European study Altunbas, Molyneux and Thornton (1997) use a theoretical method to simulate mergers between major EU banks by combining their balance sheets. They find that the aggregate cost base is more likely to increase than decrease. Amihud *et al* (2002) analyse international bank mergers and acquisitions in developed and developing countries using stock price data to test the resulting diversification benefits. They find evidence that for the acquiring bank the impact on value tends to be negative, but the effect on risk is highly variable.(7) On the basis of these results, they make the recommendation that regulators should not have a systemic policy to limit cross-border acquisitions, but instead should monitor the risks created by an acquisition using a case-by-case approach. However, this study does not consider EFM acquisitions separately. BIS (2001) reports that the main finding of event studies looking at banks' stock price movements around the time of

(6) They measure expected economic growth by assuming that countries with a low level of initial output, low inflation, higher levels of schooling and more developed financial markets are those most likely to grow.
(7) To measure risk they compare the ratio of the variance of the acquirer's daily stock returns to the variance of a benchmark series in the year before and after the acquisition.

a merger is that, on average, total stockholder value (ie the combined value of the bidder's and the target's stock) is not affected by the announcement of an acquisition. Although, on average the stock price of the bidder tends to fall, this is offset by an increase in the stock price of the target. Therefore acquisitions imply a transfer of wealth between the stockholders of the bidder and target banks.

There are a limited number of studies that focus specifically on acquisitions involving emerging market targets, and no studies that focus exclusively on acquisitions of EFM targets. Chari *et al* (2004) use stock price data for firms in a range of industries to assess the benefits of emerging markets acquisitions by developed country firms. They find that the value creation is positive for both the acquirer and target firm, with the affect on the target firm being approximately twice as large. They note that their results are robust across the sample period (1988-2002) suggesting that returns are invariant to the state of financial markets. In their sample the magnitude of the acquirer bank's value creation is bigger in East Asia than Latin America, and larger when the acquisition gives the acquirer majority control. In an investigation of other factors affecting the value creation from an acquisition they find that none of the following factors influence the value creation resulting from an acquisition: a prior relationship between the firms; the size of the target or acquirer; the liquidity of the target; whether the target's country is facing a currency crisis; and whether the target and acquirer are in the same industry.

Hence, the limited evidence from the empirical literature suggests that in general national and international bank acquisitions do not create value for the acquirer, although acquisitions of emerging market firms across all sectors generally do. There are no empirical studies that focus specifically on the value creation from banking acquisitions in EFMs. This is despite the fact that entry into EFMs involve an additional set of considerations and the opening up of EFMs over the past decade has greatly increased the volume of entry. This paper attempts to address this issue using a method similar to that used by both Chari *et al* (2004) and Amihud *et al* (2002) but concentrating on the value effects for the acquiring bank.

3 Methodology and data

3.1 Methodology

This paper employs a simple, but well-established event-study methodology to determine the benefits of acquisitions. The premise is that if markets are efficient, an abnormally positive return on stock prices following the announcement of an EFM acquisition implies that markets consider the potential benefits of the merger to outweigh the costs. That is, the acquisition creates positive value. The benefit of using stock prices is that they offer the market's forward-looking estimates of the change in discounted expected future cash flows from the merger. Unlike *ex-post* performance measures, these are less sensitive to the choice of sample.

This event study is based on a model under which cumulative abnormal returns (CARs) are calculated for the 'event window'. The abnormal return is defined as the return over and above the expected return, where the latter is calculated through the year prior to the event window using the following market-based model:

$$R_{jt} = \alpha_j + \beta_{hj} RB'_{ht} + \beta_{wj} RB_{wt} + \varepsilon_{jt} \qquad \textbf{(1)}$$

Where R_{jt} is the return on the acquiring bank *j*'s stock at time *t*, *h* and *w* denote home and world respectively and *t* represents one day. RB_{wt} is the world market stock index , and RB'_{ht} is the residual of a regression of the home banking stock index (RB_{ht}) on the world market stock index. This removes the impact of the world stock market on the home banking stock market thus eliminating multicollinearity in the regression.[8] The effect of this on equation **(1)** is shown in more detail in Appendix A. The two stock market indices act as benchmarks against which abnormal returns are calculated for each individual stock (and proxy the market indices in the CAPM model). The β_{hj} and β_{wj} coefficients represent the correlation between the individual acquiring bank's stock index with its home banking and the world market stock indices. Both of these coefficients are statistically significant, so excluding either one of the indices would reduce the explanatory power of the model and may cause an omitted variable bias.

Equation **(1)** is estimated daily from one year to ten days prior to the acquisition. The abnormal

(8) Amihud *et al* (2002) use the same method to remove the effect of the world market stock index on both the home and target banking stock indices.

returns (AR) for stock *j* from the acquisition are then simply the residual of equation **(1)** for each of the days in the event window (the period around the announcement over which the CARs are calculated) ie:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_{hj} RB'_{ht} + \beta_{wj} RB_{wt}) \qquad \textbf{(2)}$$

Finally, the CAR is calculated as the sum of these abnormal returns for the entire event window (equation **(3)**), which begins at $T - z$ days and lasts until $T + x$ days,[9] T being the day of the acquisition announcement.

$$CAR_j = \sum_{t=T-z}^{T+x} AR_{jt} \qquad \textbf{(3)}$$

When the cross-sample average CAR is statistically significant and positive (as tested by simple t-statistics), the inference is that acquisitions create value and the benefits of expanding into EFMs are deemed by market agents to outweigh the costs. The impact of various factors on the value creation is estimated by comparing CARs calculated from different subsamples using difference-of-means tests. This method is chosen for simplicity, and to avoid any specification problems that could occur using regressions.[10]

3.2 Data

There are 215 bank acquisition announcements that took place between January 1990 and April 2003 that fitted the criteria for inclusion in the data set. The criteria are that: a) the acquisition is completed, b) the stake bought and the resulting stake following the purchase are reported, c) the acquirer was publicly traded (with available price data) a year prior to purchase to ten days after, d) the acquirer was domiciled in a developed country and the target domiciled in an emerging market, e) both parties were commercial banks (except for Section 4.5, where acquisitions of non-bank financial institutions are considered), and f) the acquirer country's banking stock index is available. Equity price data for individual acquisitions, and data for the world and home banking stock indices are from Datastream. Data on the individual mergers are from Factiva[11]

(9) The determination of *z* and *x* is discussed in Section 4.1.
(10) Using regression techniques to estimate the impact of various factors on CARs gives the same results as those found in the main part of this study.
(11) www.factiva.com.

and data on the balance sheets of individual banks are from Bankscope.

In total there were 66 developed country banks that made acquisitions and 164 different EFM target banks[12] from 43 different emerging markets. Acquirers spent an average US$380 million, or 0.75%, of their assets on the acquisition, although the distribution is skewed with a small number of very large acquisitions in the data set.

Table A shows the geographical dispersion of acquiring banks.[13] In total 89% of the acquisitions were made by European banks. Spanish and German banks were the most aggressive, while Belgian and Dutch banks were also relatively active, perhaps due to limited opportunities for expansion at home.[14]

Table C shows the geographical dispersion of target banks by country. Polish banks were the most popular targets (accounting for 15% of the acquisitions). All the acquisitions of Polish banks occurred in 1996 or after, following an acceleration in the privatisation process which began in the early 1990s. Hungary and the Czech Republic are the other emerging European countries that saw a large number of acquisitions. Stakes in Latin America were chiefly taken in banks in Brazil, Mexico, Argentina and Chile. Five of the eleven acquisitions of Argentine banks were in 1997 and 1998, a period when output and stock market growth were relatively strong. Acquisitions of Asian banks were predominantly on banks based in Hong Kong and Indonesia.

Table B examines how the regional dispersion of the target banks changes over time. The total number of acquisitions picked up strongly in the mid-1990s, reaching a peak in 2000. Acquisitions on Asian banks picked up significantly in 1997 and 1998, both in absolute terms and as a proportion of total acquisitions. This could have resulted from both regulatory and economic factors. The market for corporate control was fairly restricted in East Asian countries prior to the 1997/8 financial crisis and in many countries foreign investors were explicitly prohibited from gaining a controlling share in local banks. However, IMF bailout packages to Indonesia, Thailand

(12) An EFM bank can be the target on numerous occasions as the data set covers equity purchases of all sizes and stakes may also be sold and re-purchased.

(13) However, the domicile of the acquiring bank does not neccessarily indicate the location of the decision or funding. For example, if a German bank decides that its subsidiary in London is to make an acquisition, then this will appear in the data as an acquisition by a UK bank.

(14) BIS (2001) reports that financial sector concentration in Europe is much greater in the smaller countries, particularly in the Nordic countries and the Netherlands. According to their survey one reason why banks from small developed countries acquire EFM banks is that they have reached the limits of concentration at home. This is because further expansion is either associated with negative gains, or restricted by regulators to protect competition.

and Korea following the crisis imposed conditions including the restructuring of the domestic capital markets to allow greater foreign competition and corporate control (Chari *et al* (2004)). The rise in acquisitions may also have been accentuated by the undervaluation of banks in crisis countries following the collapse in their stock prices and the increased incentives for banks to merge in order to gain access to capital needed to restructure their balance sheets. Since 1999 over half of the acquisitions have been on banks in emerging Europe, mostly in countries that have since become EU members.

Table D shows the change in corporate control resulting from acquisition. The average stake purchased was 38% of the target's assets, and resulted in the acquiring firm holding 57% of the target's assets. Nearly two thirds of all acquisitions were on targets which the acquiring bank had little existing ownership (less than a 20% stake) and 8% were on targets in which the acquirer already had majority control (over a 50% stake). Over half the cases left the acquirer with majority control and 20% of acquisitions resulted in a complete (100%) transfer of control to the acquirer.

Chart 1 shows the average daily percentage change in the raw returns of the acquiring bank, its home banking stock index, and the world market stock index for the 30 days before to 30 days after the acquisition. The returns of the acquiring bank tend to fall significantly the day before the acquisition announcement. The acquirer's home banking stock index also falls the day before the acquisition announcement, probably due to the impact of the bank making the EFM acquisition. There are other periods when there are large changes in returns, for example at 15 days before the acquisition announcement. However, because this is a long time before the actual merger announcement it would be difficult to argue that this is related to the merger. Studies in the corporate finance literature tend to use windows that extend at most to 10 days before the acquisition announcement.

4 Results

4.1 General results

Chart 2 plots the average abnormal returns (ARs) of acquiring banks for the period from ten days prior to an announcement of an acquisition to ten days afterwards. It would appear that abnormal returns start to fall significantly the day before an announcement, and remain negative for some

days afterwards. However, the effect is short-lived and ARs return to positive territory around one week after the announcement.

Rather than simply assume that the impact on CARs of the acquisition announcement persists for the three days immediately surrounding the merger,[15] as suggested in the corporate finance literature,[16] the duration over which CARs are significant is tested empirically by running the model over 16 different event windows. The results are reported in Table E. The top line of each cell shows the coefficient, or cross-sample average of the acquiring banks CARs for the event window. The probability that this coefficient is equal to zero (the p-value), is shown underneath (the associated standard error and t-statistics are omitted from the table for ease of exposition). The CARs were negative, although not always significantly so, in 14 of the 16 tested event windows. The windows that yield the most statistically significant results are those that begin one day prior to an announcement, suggesting some leaking of information. The affect of the acquisition appears to last for seven days. As this period (T-1 to T+7) is the event window during which news of the merger has the strongest impact on the acquirers' stock price it is used to compare and analyse CARs from acquisitions under different conditions.[17]

Beginning the window at one day before the official announcement is consistent with the observation that information leaks tend to prompt firms to release the official merger announcement as soon as possible in an attempt to stabilise the market. Hence data from one day before the official announcement may hold valuable information. However, the end date of the window is selected purely on the basis of statistical significance in order to minimise noise in the data.

This event window differs significantly to those used in the studies by Amihud *et al* (2002) and Chari *et al* (2004). Amihud *et al* (2002) use an event window which starts ten days before the announcement and ends one day after. They argue that this start date allows the full impact of possible leakages of information before the merger announcement to be captured, but offer no theoretical reason for ending the window so soon. However, Table E indicates this window

(15) That is, from one day before the merger until one day afterwards.
(16) See Andrade, Mitchell and Stafford (2001).
(17) Acquisitions under different conditions were also compared using alternative event windows as a robustness check on the results (see Appendix B). The results from the alternative event windows tend to suggest that either the value effects are in the same direction as those found using the T-1 to T+7 window, or that they are statistically insignificant and hence do not contradict the findings in the main part of the study.

produces no significant value effects, and Chart 2 suggests that not until one day prior to an announcement are the abnormal returns affected by information leaks. Chari *et al* (2004) use weekly data from a three-week event window (from one week before the merger to one week after) and a five-week window (from two weeks before the merger to two weeks after). The large event window is required because weekly data is used to compensate for thin trading in emerging markets.[18] However, the authors offer no theoretical or statistical explanation for this size of the window. Chart 2 suggests that the value losses associated with an acquisition persist for a much more limited period than that used by Chari *et al* (2004), and the results shown in Table E suggest that windows beginning more than one day before the acquisition announcement yield no significant value effects.

Using the chosen event window (T-1 to T+7), Table E presents the first result of this analysis: *acquisition announcements result in statistically significant value losses of 0.4% on average.*

4.2 Does size matter?

The results above do not take account of the possibility that acquisitions of different sizes may be perceived differently by the market – the sample includes outright takeovers of EFM banks as well as purchases of stakes as small as 1%. Shareholders may also react differently to purchases of stakes of the same size but which leave the acquirer with different levels of ownership. For example, shareholders may respond differently to a 20% equity purchase where the acquirer previously had no exposure to the target than if it previously owned 80%. *A priori*, the impact of the size of the acquisition on the value creation is ambiguous. While owning a larger stake gives greater operational control to the acquirer thus enhancing profitability and reducing (in theory) operational risks, it also increases the exposure of the acquirer to risks in the EFM.[19] Ideally the impact of the size of the acquisition, measured by both the size of stake purchased and the stake held following the acquisition should be considered together.

The impact of acquisition size on CARs was examined by splitting the data into acquisition size ranges and calculating the CARs for each subgroup. Table F shows the impact of the size of the equity stake purchased on CARs, and Table G shows the impact of the stake in the target held after

(18) Since this study does not analyse the effect of the acquisition on the target's return index it is not affected by thin trading in emerging markets.
(19) Although the size of the stake relative to the acquirer's total assets should be assessed in order to examine this.

the acquisition. Table F suggests that the value loss tends to increase as the stake purchased increases, although this relationship is not strong, and only when the stake purchased exceeds 90% is this result statistically significant. Table G suggests there is no evidence of the stake held after the acquisition affecting the value loss.

Regressions were carried out to analyse the combined impact of the two size variables. Table H shows the result of a simple cross-sectional regression of the two size variables on CARs. Neither size variable is statistically significant.[20]

Hence the results from this section suggest that there is not a strong relationship between acquisition size and the impact on acquirer's returns. However, because purchases of less than 20% of the targets equity show a very high P-value these acquisitions were filtered out of the sample.

4.3 Does the location of target matter?

Stockholders may discriminate in their perceptions of the net benefits of an acquisition depending on the market in which the target operates. Differences in the competitiveness and growth potential of the banking sector, and expectations of economic growth in general, may influence the market's assessment of the potential benefits of entry. Similarly, certain emerging market regions may be associated with higher risk, particularly if there have been recent instances of market turbulence or outright crises. Countries may also be perceived to have greater risk if their capital markets have only recently been liberalised and there are fewer experiences of developed bank entry from which markets can assess the potential benefits.

The top panel of Table I gives a breakdown of CARs by region while the lower panel shows formal difference-of-means tests between the subsample (regional) CARs and the CARs of the rest of the sample. The comparison of CARs between regions indicates that emerging Asia is where the net benefits of bank entry are perceived to be the least,[21] though the value destruction from entry in to the Latin American market is also significant. The average value destruction from acquisition of emerging European banks is only slightly less than that for Latin American banks,

(20) As a robustness check on this result, separate regressions for each size variable were also run. The coefficients were also statistically insignificant.

(21) The CARs for emerging Asia are not affected if acquisitions on targets in the financial centres of Hong Kong and Singapore are excluded from the sample.

although this is not significantly different from zero. Acquisitions of Middle East and African banks result in no statistically significant share price reaction, although there are only 15 of these in the sample, making any conclusions here hard to draw.

Despite the differences in CARs across the region the difference-of-means tests suggest that there is no statistical evidence of any regional variation in value effects. The results of this section are robust to the use of different event windows (see Appendix B).

4.4 Did the Asian and Argentine crises affect stockholders' attitudes?

An explanation for the greater negative market reaction to acquisition of Asian and Latin American banks might be that economic turbulence during the Asian and Argentine crises increased stockholders' perceptions of risk in the regions' financial systems.[(22)] Although sample sizes are too small to statistically test whether value effects from acquisitions in certain regions were affected by a crisis in that region (see Table B), whether crises make markets more risk-averse of investing in EFMs altogether can be tested. To do this, the whole sample is split by time periods and the CARs and difference-of-means tests are then calculated. To test the affect of the Asian crisis, the sample is broken down into three time periods: acquisitions that occurred prior to June 1997 (pre-crisis), acquisitions that occurred between June 1997 and December 1998 (crisis), and acquisitions that occurred from January 1999 onwards (post-crisis). To test for the Argentine affect, the sample is simply broken down into acquisitions that occurred before and after December 2000. Tables J and K show the breakdown of CARs according to the crisis periods in the top panel and the difference-of-means tests on these CARs in the bottom panel.

In the case of the Asian crisis (Table J), there is strong evidence that investor perceptions of the risks associated with investment in EFMs increased during this period. A difference-of-means test shows that CARs during the crisis period were on average 2.3 percentage points lower than any other time in the sample period. This is confirmed by the subsample split, which shows that announcements of acquisitions in the crisis period resulted in CARs of -2.9%, when prior to the Asian crisis there was no significant market reaction. The adverse affect appears to have continued in the remainder of the sample period, although this result is not significant.

(22) Indeed, many African nations also endured banking crises during the period analysed. However, as these tended to be more localised and did not have systemic impacts they are not analysed.

The fall in CARs during and after the Asian crisis does not support the hypothesis that the crisis resulted in EFM banks being sold at undervalued prices. In fact, the results suggest that at the time market agents believed acquiring banks were paying too high a premium for these assets.

As for the Argentine crisis (Table K), the difference-of-means test shows that CARs are significantly lower in the pre-crisis period. The result is counterintuitive, but there are two caveats in its interpretation. First, the pre-Argentine crisis sample includes the East Asian crisis, so the result may be interpreted as the latter dominating the former. Second, the post-crisis period only includes 14 data points, hence caution in drawing any strong conclusions is advisable. However, a minimal affect of the Argentine crisis on CARs is consistent with the fact that there was limited contagion from this crisis, perhaps demonstrating to shareholders a fall in the correlation between emerging markets.

4.5 Does the type of acquisition matter?

This section investigates whether bank acquisitions of non-bank financial institutions in EFMs have different value effects to acquisitions of banks. This would be consistent with banks aiming to build a conglomerate that allows greater benefits from diversification and product scope. However, acquisitions involving different types of institutions may be regarded more risky than acquisitions of similar types of institutions, as the operational risk involved in running a new and potentially unknown business may be greater.

The CARs of the two subsamples are shown in the top panel of Table L while a formal difference-of-means test is shown in the bottom panel. The CARs show significant value loss of 0.8% for acquisitions of banks, but no significant value loss for acquisitions of non-banks. However, the difference of means tests suggest that there is no significant difference in value loss between the two types of acquisitions.

The results of this section are robust to the use of different event windows (see Appendix B).

4.6 Discussion of results

4.6.1 Explanation of findings

The general finding of this study is that acquisition announcements on EFM targets are associated with negative value effects for the acquiring bank. This poses the question of why banks continue to make acquisitions of EFM targets. One explanation is that markets are not perfect and stock price movements are an inaccurate indicator of the impact of the acquisition on future profits. However, evidence from the literature suggests that there are no significant reductions in costs or increases in profits from consolidation in the banking industry.[23]

Another explanation for this finding relates to neoclassical industrial organisation theory, and suggests that there is a principal-agent problem stemming from different utility functions of the stockholders and managers under asymmetric information.[24] While the maximisation of risk-weighted stock returns will maximise the stockholders' utility, the manager's utility function may be more complex. If the manager wishes to maximise his current and future wages he will want to signal his ability to the labour market. While pursuing the stockholders' objectives will be largely consistent with this, the manager may also want to demonstrate his ability through increasing the size of the bank in terms of employees, revenue and geographical diversification.[25] [26] These intermediate objectives could all be met through an acquisition, which may be disliked by stockholders if they believe any resulting increase in profit is inadequate to compensate for the associated increase in risk. However, if managers have greater information than the stockholders this protects them against the threat of dismissal as the stockholders cannot prove that the acquisition will have negative consequences for the firm.[27] Indeed, as BIS (2001) suggests, despite the consensus that acquisitions on average do not result in gains for the acquiring bank, some banks do still make gains. Given a manager's inside knowledge of the bank he may be justified in believing that his bank will be among those that do benefit from an acquisition. However, stockholders may judge the potential impact of the acquisition on the experiences of the

(23) See BIS (2001).
(24) See Tirole (1988).
(25) A manager may also pursue an acquisition in order to avoid his bank being acquired if he fears this would result in his dismissal, despite the fact that acquisitions often increase the stock price of the target.
(26) Increasing the size of the bank may also improve the manager's job security as it will take any new manager more time to become competent if the job is more complex.
(27) These informational asymmetries are likely to be greater when the target bank is in an emerging market where accounting procedures and transparency are weaker.

market as a whole.

Theory suggests that stockholders can find a partial solution to this problem by transferring some of the risk associated with the bank's operations to the managers. This could be through either rewarding them with stock options, or indexing their pay to changes in the stock price. The extent to which this only provides a partial solution could explain why the trend of value destroying EFM acquisitions is still observed.

4.6.2 Comparison with previous literature

Put together, the results from this study and Amihud *et al* (2002) suggest that banking acquisitions in both developed and emerging financial markets result in negative value effects for the acquirer. Although it is not possible to compare these two studies directly, it would be interesting to know whether there is any significant difference between the size of the value effects from acquisitions in the two markets. Any significant difference would indicate whether markets assess the *additional* risks associated with entry into EFMs to outweigh the *additional* potential gains.

The results of this study conflict with those of Chari *et al* (2004) which looks at a wider range of industries (although including banks) but finds positive value effects for acquisitions of institutions in emerging markets. The most obvious reason for the differences in results between these two studies is that markets perceive acquisitions of banks in emerging markets differently to acquisitions in other sectors. Banks may be thought to carry greater risks, particularly as the underdeveloped financial infrastructure in EFMs and high levels of government interference can restrict operations, and EFMs can be more volatile.

Another reason could be the longer event window used by Chari *et al* (2004) to assess the market's response to the acquisition. While this study analyses daily market movements from one day before the acquisition to seven days after, Chari *et al* (2004) use weekly data over a three-week event window (from one week before the acquisition to one week after) and a five-week window (from two weeks before the acquisition to two weeks after). They find positive value effects for the acquiring firm over the shorter window, but not the longer window. The top line of Table M replicates the shorter window used by Chari *at al* (2004) using this study's data set.[28] However,

(28) The results for Chari *et al*'s three-week window were replicated using the window T-10 to T+10 ie the 21 days surrounding the acquisition announcement.

the value effects are insignificant. The breakdown of the data by week is shown in the lower panel of Table M. The CARs for the week of the acquisition announcement (ie three days before the announcement to three days after) are negative, while those for the week before (ie ten days to four days before the announcement) and after (ie four to ten days after the announcement) the acquisition are positive, but all CARs are statistically insignificant. This indicates that there is more noise in the data during periods that are further away from the acquisition announcement and one should be hesitant about attributing any market movements to the acquisition.

The difference in our results using the same event window suggests that there is fundamental differences in the data sets of our study and that of Chari *et al*.

Both Amihud *et al* (2002) and Chari *et al* (2004) also examine the value effects for the target, arguing that the value effects of the acquirer alone may understate the synergies of cross-border mergers. Interestingly, in a sample of acquisitions of banks in developed countries and EFMs, Amihud *et al* (2002) find that the combined value effects for the acquirer and target bank are also negative, indicating that in general any value creation for the target is insufficient to counteract the value destruction for the acquirer.[(29)] In contrast, Chari *et al* (2004) find the value effects for emerging market targets of acquisitions' from developed countries to be positive (and approximately twice as big as for the acquirer). There are two major differences in the studies that could contribute to the difference in results. If the result is driven by Amihud *et al*'s (2002) use of data on targets in developed countries as well as emerging markets then the difference could indicate that synergies from an acquisition are greater when the target is in an emerging market rather than a developed country. This could be because an emerging market target has more to gain from its acquirer in terms of technology and skills transfer than a developed country target. However, if the result is driven by the broader range of industries in Chari *et al*'s (2004) data then it may indicate that while bank-bank acquisitions are associated with negative returns for the target, this does not necessarily generalise to acquisitions of other EME sectors.

5 Conclusion

This paper examines the net benefits of EFM banking acquisitions for the acquiring bank using an event-study methodology. It finds that acquisition announcements are generally associated with a

(29) However, this finding is drawn from a sample of only twelve acquisitions.

loss in value for the acquirer. The results also suggest that the value loss for the acquirer were greater in the period surrounding the Asian crisis, thus offering no support to the hypothesis that EFM banks, particularly those in Asia, were sold at undervalued prices during the crisis.

The main result of this study presents a puzzle as to why EFM banking acquisitions still occur. One explanation is that this is a principal-agent problem under which managers have greater incentives to pursue EFM acquisitions than stockholders.

Appendix A: Dealing with multicollinearity in the market model

The market model used in this paper takes the form of equation **(A-1)**, where R_{jt} is the return on acquiring bank *j*'s stock at time *t*, *h* and *w* denote home and world respectively and *t* represents one day. RB_{wt} is the world market stock index, and RB'_{ht} is the residual of equation **(A-2)**, where RB_{ht} is the home banking stock index.

$$R_{jt} = \alpha_j + \beta_{hj} RB'_{ht} + \beta_{wj} RB_{wt} + \varepsilon_{jt} \quad \textbf{(A-1)}$$

$$RB_{ht} = \alpha_h + \beta_{wh} RB_{wt} + \varepsilon_{ht} \quad \textbf{(A-2)}$$

Substituting RB'_{ht} in equation **(A-1)** with the residual of equation **(A-2)** gives:

$$R_{jt} = \alpha_j + \beta_{hj} \left(RB_{ht} - \alpha_h - \beta_{wh} RB_{wt} \right) + \beta_{wj} RB_{wt} + \varepsilon_{jt} \quad \textbf{(A-3)}$$

expanding the brackets gives

$$R_{jt} = \alpha_j - \alpha_h \beta_{hj} + \beta_{hj} RB_{ht} + (\beta_{wj} - \beta_{hj} \beta_{wh}) RB_{wt} + \varepsilon_{jt} \quad \textbf{(A-4)}$$

and abnormal returns are

$$AR_{jt} = R_{jt} - (\alpha_j - \alpha_h \beta_{hj} + \beta_{hj} RB_{ht} + (\beta_{wj} - \beta_{hj} \beta_{wh}) RB_{wt}) \quad \textbf{(A-5)}$$

Appendix B: Does the choice of event window matter?

This section replicates the results of Sections 4.3 and 4.5 using alternative event windows to assess the robustness of results. The windows used in the robustness test attempt to replicate those used by other authors: the window *T*-10 to *T*+10 days covers approximately the same time span as the shorter window used by Chari *et al* (2004) (although they use weekly data rather than daily), and the window *T*-10 to *T*+1 is used by Amihud *et al* (2002). The window *T*-1 to *T*+5 is also tested as this yielded significant results when tested over the whole sample, the window *T*-1 to *T*+7 used throughout the study is shown in bold in the results tables.

Does location of target matter? – robustness test

Table N shows the breakdown of CARs by region of target for the alternative event windows and Table O shows the difference-of-means tests on these CARs. Three of the four event windows support the findings of Section 4.3 that the value destruction from acquisitions on Latin American targets is significant, and the alternative event windows do not reject this finding for Asian targets. The difference-of-means tests in Table O support the finding that there is no statistical evidence of regional variation in value effects.

Does the type of acquisition matter? – robustness test

Table P shows the CARs from bank acquisitions on both bank and non-bank financial sector targets in the top panel and the difference-of-means tests on these results in the bottom panel. The CARs over the windows *T*-1 to *T*+5 and *T*-1 to *T*+7 are the most significant for both subgroups. These tell a consistent story of negative value effects for acquisitions of banks as well as non-banks, and the difference-of-means tests for these two windows supports the result of no statistical difference between subgroups. The CARs over the larger event windows generally support the result of negative value effects in both types of acquisition but are less significant.

Hence the results from these two sections suggest that the CARs from the event window *T*-1 to *T*+5 generally support the result of the selected event window used throughout the study, while the results for the larger event windows are generally much less significant. This is likely due to a

higher noise to signal ratio in the data for observations that are further away from the acquisition announcement.

The findings of this section suggest that the use of an alternative event window throughout the study would produce either similar results to those found, or results that are statistically insignificant. Hence there is little evidence to suggest that an alternative event window should have been used.

Appendix C: Charts and tables

Chart 1: Actual returns on bank, home and world indices

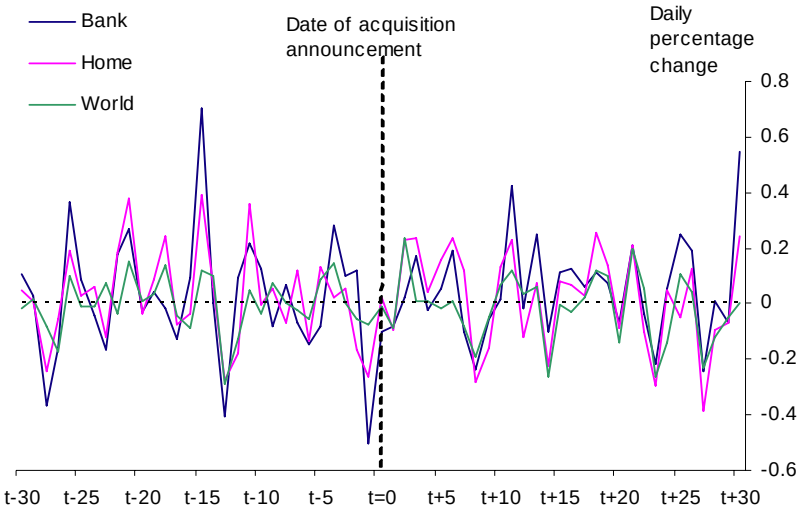

Chart 2: Abnormal returns

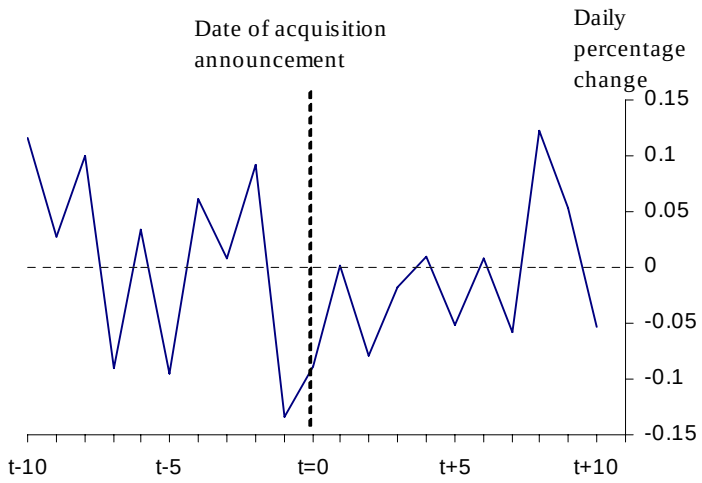

Table A: Domicile of acquiring banks

Country	Number of acquisitions
Australia	7
Austria	10
Belgium	22
Canada	5
France	25
Germany	30
Greece	5
Ireland	3
Italy	8
Netherlands	22
Portugal	5
Spain	33
Sweden	10
Switzerland	3
United Kingdom	6
United States	11
Total	**215**

Table B: Acquisitions by target region and year

	Number of acquisitions in:				
Year	**Asia**	**Latin America**	**Middle East and Africa**	**Emerging Europe**	**Total**
1990	1	0	0	0	**1**
1991	0	1	2	0	**3**
1992	1	2	0	0	**3**
1993	1	1	0	0	**2**
1994	2	1	0	3	**6**
1995	2	5	1	2	**10**
1996	4	8	4	8	**24**
1997	7	9	2	7	**25**
1998	10	7	1	2	**20**
1999	5	7	0	15	**27**
2000	5	11	2	22	**40**
2001	7	2	3	15	**27**
2002	3	7	0	15	**25**
2003	0	1	0	1	**2**
Total	**48**	**62**	**15**	**90**	**215**

Data for 2003 covers only the January to April period.

Table C: Domicile of target banks

Country	Number of acquisitions	Country	Number of acquisitions
Albania	2	Mexico	13
Argentina	11	Morocco	2
Bolivia	1	Mozambique	1
Brazil	14	Oman	1
Bulgaria	4	Panama	1
Chile	10	Paraguay	1
China	3	Peru	1
Colombia	5	Philippines	1
Croatia (and former Yugoslavia)	6	Poland	33
Czech Republic	10	Romania	3
Egypt	5	Russia	2
El Salvador	1	Singapore	1
Estonia	5	Slovak Rep.	4
Hong Kong	11	Slovenia	3
Hungary	12	South Africa	5
India	3	Sri Lanka	1
Indonesia	8	Taiwan	6
Israel	2	Thailand	5
Korea	4	Tonga	1
Latvia	3	Turkey	2
Lebanon	2	Uruguay	1
Malaysia	2	Venezuela	3
		Total	**215**

Table D: Acquisitions by pre and post-ownership stake

	Pre-acquisition ownership (%)					
Post-acquisition ownership (%)	**0-20**	**21-40**	**41-60**	**61-80**	**81-100**	**Total**
0-20	30	0	0	0	0	**30**
21-40	33	6	0	0	0	**39**
41-60	26	14	11	0	0	**51**
61-80	10	5	7	2	0	**24**
81-100	37	1	17	9	7	**71**
Total	**136**	**26**	**35**	**11**	**7**	**215**

Table E: CARs over various event windows

Start of window	**T+1**	**T+ 5**	**T+7**	**T+10**
T	-0.0009	-0.0022	-0.0027	-0.0015
	0.455	0.231	0.174	0.523
T-1	-0.0022*	-0.0036*	-0.0041*	-0.0029
	0.089	0.069	0.052	0.248
T-3	-0.0026	-0.0026	-0.0031	-0.0019
	0.247	0.246	0.181	0.283
T-10	0.0003	-0.001	-0.0015	0.0004
	0.891	0.713	0.597	0.897

The top line of each cell shows the coefficient (sample average CARs). The bottom line shows the probability that the coefficient is statistically significant (the p-value). *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.

Table F: CARs by stake purchased

Proportion purchased (%)	**Coefficient**	**P-value**
<20	-0.002	0.633
>20	-0.004	0.156
>30	-0.004	0.171
>40	-0.003	0.358
>50	-0.003	0.484
>60	-0.005	0.230
>70	-0.006	0.124
>80	-0.005	0.177
>90	-0.008*	0.064

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.

Table G: CARs by stake held after acquisition

Stake held after acquisition (%)	Coefficient	P-value
<20	-0.003	0.194
>20	-0.003	0.267
>30	-0.001	0.575
>40	-0.002	0.555
>50	-0.003	0.322
>60	-0.004	0.246
>70	-0.002	0.660
>80	-0.002	0.653
>90	-0.002	0.653

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.

Table H: Regression of size variables on CARs

Size variable	Coefficient	P-value
Stake purchased	-0.0001	0.293
Stake held after acquisition	0.0001	0.255

The table shows the results of the regression
$CARs_j = \alpha + \beta_1$Stake purchased$+\beta_2$Stake held after$+\varepsilon$
The coefficients are the regression Betas. The P-values are the probability that the coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.

Table I: CARs by region

CARs		
	Coefficient	**P-value**
Emerging Europe	-0.007	0.109
Latin America	-0.009*	0.052
Emerging Asia	-0.015***	0.008
Middle East and Africa	-0.001	0.916
Difference-of-means tests		
	Coefficient	**P-value**
Emerging Europe	0.003	0.566
Latin America	0.000	0.938
Emerging Asia	-0.008	0.228
Middle East and Africa	0.009	0.341

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.

Table J: Impact of the East Asian crisis on CARs

CARs		
	Coefficient	**P-value**
Pre-Asian crisis	0.005	0.195
Asian crisis	-0.029***	0
Post-Asian crisis	-0.009**	0.048
Difference-of-means tests		
	Coefficient	**P-value**
Pre-Asian crisis	0.006	0.279
Asian crisis	-0.023***	0.004
Post-Asian crisis	0.001	0.884
Pre-Asian crisis - January 1990 to May 1997. Asian crisis - June 1997 to December 1998. Post-Asian crisis - January 1999 to April 2003.		
The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.		

Table K: Impact of Argentine crisis on CARs

CARs		
	Coefficient	**P-value**
Pre-Argentine crisis	-0.011***	0
Post-Argentine crisis	0.005*	0.073
Difference-of-means tests		
	Coefficient	**P-value**
Pre v post-Argentine crisis	-0.016*	0.073
Pre-Argentine crisis - January 1990 to November 2001. Post-Argentine crisis - December 2001 to April 2003.		
The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.		

Table L: CARs by acquisition type

CARs		
	Coefficient	**P-value**
Bank	-0.008**	0.022
Non-bank	-0.012	0.105
Difference-of-means tests		
	Coefficient	**P-value**
Bank v non-bank	0.005	0.377
The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.		

Table M: CARs over event window used by Chari et al

Event window	Coefficients	P-value
T-10 to T+10	-0.0001	0.918
T-10 to T-4	-0.002	0.430
T-3 to T+3	-0.0003	0.286
T+4 to T+10	0.0004	0.880

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively.

Table N: CARs across region - robustness test

	CARs		
	Event window	**Coefficient**	**P-value**
Emerging Europe	T-10 to T+10	0.003	0.238
	T-10 to T+1	0.004	0.508
	T-1 to T+5	-0.004	0.470
	T-1 to T+7	**-0.007**	**0.109**
Latin America	T-10 to T+10	-0.009*	0.070
	T-10 to T+1	-0.002	0.661
	T-1 to T+5	-0.008**	0.029
	T-1 to T+7	**-0.009***	**0.052**
Emerging Asia	T-10 to T+10	-0.008	0.309
	T-10 to T+1	0.001	0.739
	T-1 to T+5	0.007	0.269
	T-1 to T+7	**-0.015*** **	**0.008**
Middle East and Africa	T-10 to T+10	-0.004	0.890
	T-10 to T+1	-0.003	0.881
	T-1 to T+5	-0.004	0.502
	T-1 to T+7	**-0.001**	**0.916**

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively. The results for the window T-1 to T+7 used throughout the study are shown in bold.

Table O: Difference-of-means tests across regions - robustness tests

	Difference-of-means tests		
	Event window	**Coefficient**	**P-value**
Emerging Europe	T-10 to T+10	0.010	0.327
	T-10 to T+1	0.005	0.455
	T-1 to T+5	0.003	0.646
	T-1 to T+7	**0.003**	**0.566**
Latin America	T-10 to T+10	-0.007	0.356
	T-10 to T+1	-0.005	0.483
	T-1 to T+5	-0.003	0.511
	T-1 to T+7	**0.000**	**0.916**
Emerging Asia	T-10 to T+10	-0.005	0.646
	T-10 to T+1	0.001	0.911
	T-1 to T+5	-0.001	0.917
	T-1 to T+7	**-0.008**	**0.228**
Middle East and Africa	T-10 to T+10	0.001	0.966
	T-10 to T+1	-0.005	0.798
	T-1 to T+5	0.003	0.886
	T-1 to T+7	**0.009**	**0.346**

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively. The results for the window T-1 to T+7 used throughout the study are shown in bold.

Table P: CARs by acquisition type - robustness test

CARs			
	Event window	**Coefficient**	**P-value**
Bank	T-10 to T+10	-0.005	0.406
	T-10 to T+1	-0.002	0.910
	T-1 to T+5	-0.005	0.151
	T-1 to T+7	**-0.008****	**0.022**
Non-bank	T-10 to T+10	-0.003	0.627
	T-10 to T+1	-0.007	0.182
	T-1 to T+5	-0.008*	0.069
	T-1 to T+7	**-0.012**	**0.105**
Difference-of-means tests			
Bank v non-bank	T-10 to T+10	-0.002	0.852
	T-10 to T+1	-0.010	0.126
	T-1 to T+5	0.003	0.556
	T-1 to T+7	**0.005**	**0.377**

The coefficients are the sample average CARs. The P-values are the probability that these coefficients are statistically significant. *,**,*** indicate statistical significance at the 10%, 5% and 1% level respectively. The results for the window T-1 to T+7 used throughout the study are shown in bold.

References

Altunbas, Y, Molyneux, P and Thornton, J (1997), 'Big mergers in Europe – an analysis of the cost implications', *Economica*, Vol. 64(3), pages 17-29.

Amihud, Y, DeLong, G and Saunders, A (2002), 'The effects of cross-border bank mergers on bank risk and value', *Journal of International Money and Finance*, Vol. 21, pages 857-77.

Andrade, G, Mitchell, M and Stafford, E (2001), 'New evidence and perspectives on mergers', *The Journal of Economic Perspectives*, Vol. 15(2), pages 103-20.

Bednarski, P and Osinski, J (2002), 'Financial sector issues in Poland', in *Financial sectors in EU accession countries*, ECB.

Berger, A (2000), 'The big picture of bank diversification', Proceedings, *Federal Reserve Bank of Chicago*, May, pages 162-74.

Berger, A, DeYoung, R, Genay, H and Udell, G (2000), 'Globalisation of financial institutions: evidence from cross-border banking performance', *Brookings Papers on Economic Activity*, Vol. 2, pages 23-158.

BIS (2001), *G10 consolidation report*. Available at www.bis.org.

Brealey, R and Kaplanis, E (1996), 'The determination of foreign banking location', *Journal of International Money and Finance*, Vol. 15, pages 577-97.

Bris, A and Cabolis, C (2005), 'The value of investor protection: firm evidence from cross-border mergers', *mimeo*, Yale School of Management.

Buch, C (2000), 'Why do banks go abroad – evidence from German data', *Financial Markets, Institutions and Instruments*, Vol. 9(1), pages 33-67.

Chari, A, Ouimet, P and Tesar, L (2004), 'Cross border mergers and acquisitions in emerging markets: the stock market valuation of corporate control', *EFA 2004 Maastricht Meetings, Paper No. 3479.*

Claessens, S, Demirgüç-Kunt, A and Huizinga, H (2000), 'How does foreign entry effect the domestic banking market?', *Journal of Banking and Finance*, Vol. 25, pages 891-911.

Focarelli, D and Pozzolo, A (2000), 'Where do banks expand abroad? An empirical analysis', available at SSRN: http://ssrn.com/abstract=301644.

Guillèn, M and Tschoegl, A (1999), 'At last the internationalisation of retail banking? The case of the Spanish banks in Latin America', *Wharton Financial Institutions Center Working Paper*, 99-41.

Rossi, S and Volpin, P (2003), 'Cross-country determinants of mergers and acquisitions', *ECGI - Finance Working Paper No. 25/2003.* Available at SSRN: http://ssrn.com/abstract=395020.

Soussa, F (2004), 'A note on banking FDI in emerging markets: literature review and evidence from M&A data', available at www.bis.org/publ/cgfs22cbpapers.htm.

Tirole, J (1988), *The theory of industrial organisation*, MIT Press.

Tschoegl, A (2003), 'Financial crises and the presence of foreign banks', *Wharton School Working Paper*, 03-05.

Vander Vennet, R (1996), 'The effect of mergers and acquisitions on efficiency and profitability of EC credit institutions', *Journal of Banking and Finance*, Vol. 20(9), pages 1,532-58.

Yamori, N (1998), 'A note on the location choice of multinational banks: the case of Japanese financial institutions', *Journal of Banking and Finance*, Vol. 22, pages 109-20.

Zhang, H (1995), 'Wealth effects of US bank takeovers', *Applied Financial Economics*, Vol. 5(5), pages 329-36.