Consolidation and performance in the EU banking industry

Urio, H.N. and Tanna, S.

Author post-print (accepted) deposited in CURVE May 2012

Original citation & hyperlink:
Urio, H.N. and Tanna, S. (2012) 'Consolidation and performance in the EU banking industry' in Meryem Duygun Fethi and Chrysovalantis Gaganis and Fotios Pasiouras and Constantin Zopounidis (Eds). *Financial Services: Efficiency and Risk Management* (pp: 1-40). Hauppauge, NY: Nova.
https://www.novapublishers.com/catalog/product_info.php?products_id=29131

Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

This document is the author's post-print version, incorporating any revisions agreed during the peer-review process. Some differences between the published version and this version may remain and you are advised to consult the published version if you wish to cite from it.

CURVE is the Institutional Repository for Coventry University
http://curve.coventry.ac.uk/open

Consolidation and Performance in the European Banking Industry: A Survey*

Hodian N Urio[1]
Mount Meru University, Arusha, Tanzania

Sailesh Tanna[2]
Coventry University, UK

ABSTRACT

This chapter reviews the literature associated with the recent wave of bank mergers and acquisitions in Europe and analyses the evidence with regard to shareholder wealth creation and efficiency. The review provides an understanding of the main motives associated with bank mergers and acquisitions, addresses the main issues driving shareholder wealth creation, discusses the key developments and barriers associated with banking sector consolidation, and highlights the importance of cross-border consolidation in Europe. The literature is reviewed in conjunction with developments in US banking sector consolidation to provide a comparative account of what has occurred over the past twenty years or so.

*To appear in M. Duygun-Fethi, C. Gaganis., F. Pasiouras, C. Zopounidis (ed.), *Global Trends in the Efficiency and Risk Management of Financial Services*, Nova Publishers, 2012.

[1] Email: hodianurio@yahoo.com

[2] Corresponding author, Email: s.tanna@coventry.ac.uk

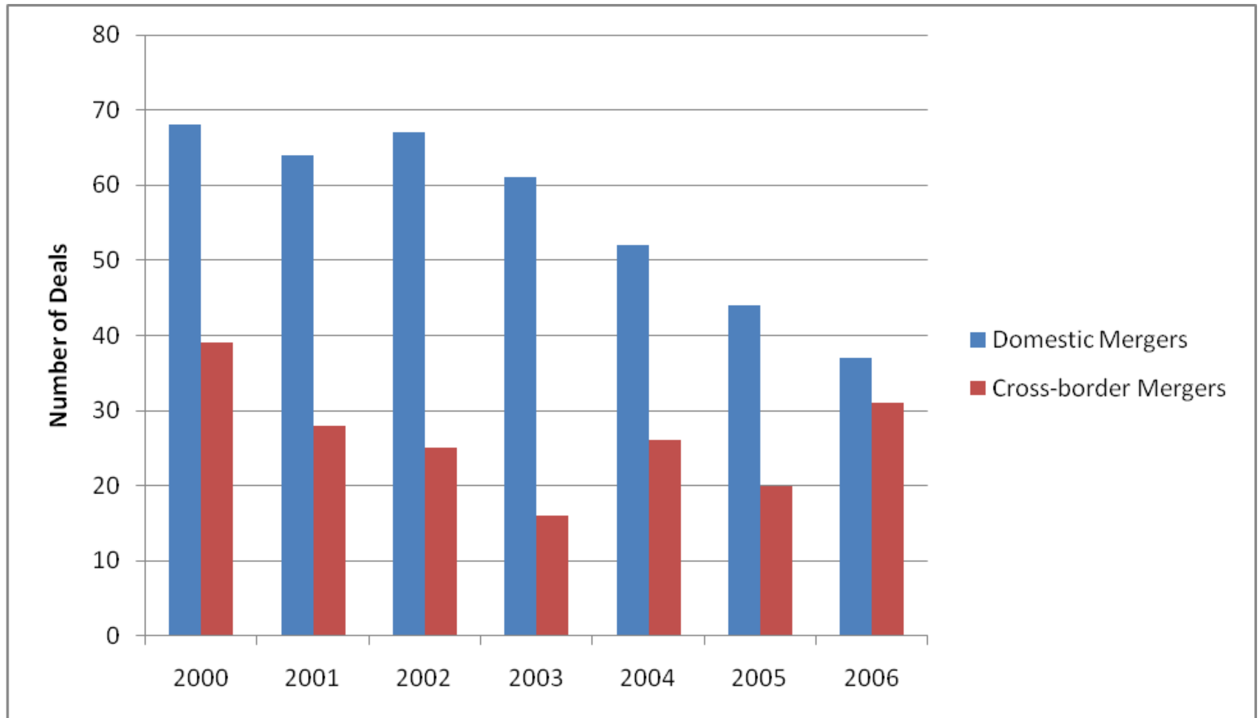
1. INTRODUCTION

The banking industry throughout the world has experienced considerable changes in the past two decades, owing to factors such as globalization, the spread of information technology, deregulation and the easing of restrictive legislation that previously had left banks without flexibility in the way they have recently conducted their operations across the globe. In the European Union (EU), a wave of bank mergers[3] and acquisitions that began in the 1980s and intensified in the 1990s led to a decline in the number of EU banks from around 9600 to just over 7400 in the period 1997-2003 (ECB, 2004a). This consolidation process in the European banking industry resulted in a decrease of almost 23% in the number of banks and has been attributed to technological development, deregulation, launching of the Euro, and enhanced competition (Campa and Hernando, 2006). Most of these mergers occurred among domestic banks which aimed to consolidate their competitive positions within national borders. Other firms in the financial services industry, particularly in the insurance sector, similarly consolidated their positions nationally by engaging in transactions that were mainly domestic. Some merger deals have also taken place amalgamating banks, securities firms and insurance companies to form financial conglomerates (Cabral *et al*., 2002).

However, bank merger activity declined after 2000 as a result of the slowdown in economic growth and the downward valuation of firms by the stock markets. Mergers in the financial services sector followed almost the same pattern of the consolidation wave, peaking in the late 1990s and then declining after 2000. Between 1997 and 2000, however, the number of merger transactions in the financial services sector rose by more than 47%. As noted above, this period marked a significant change in the economic environment leading up to the launch of the Euro and altered the structure of the financial sector. For instance, Cabral *et al.* (2002) point out that most mergers prior to this time involved small firms which aimed at lowering their costs to improve efficiency. As economic integration deepened among the EU countries, institutions involved in mergers changed focus to pursue market power strategy in order to consolidate their competitive position. Towards the end of the 1990s, banks overtook other financial sector institutions in accounting for most domestic mergers especially in the Euro zone countries.

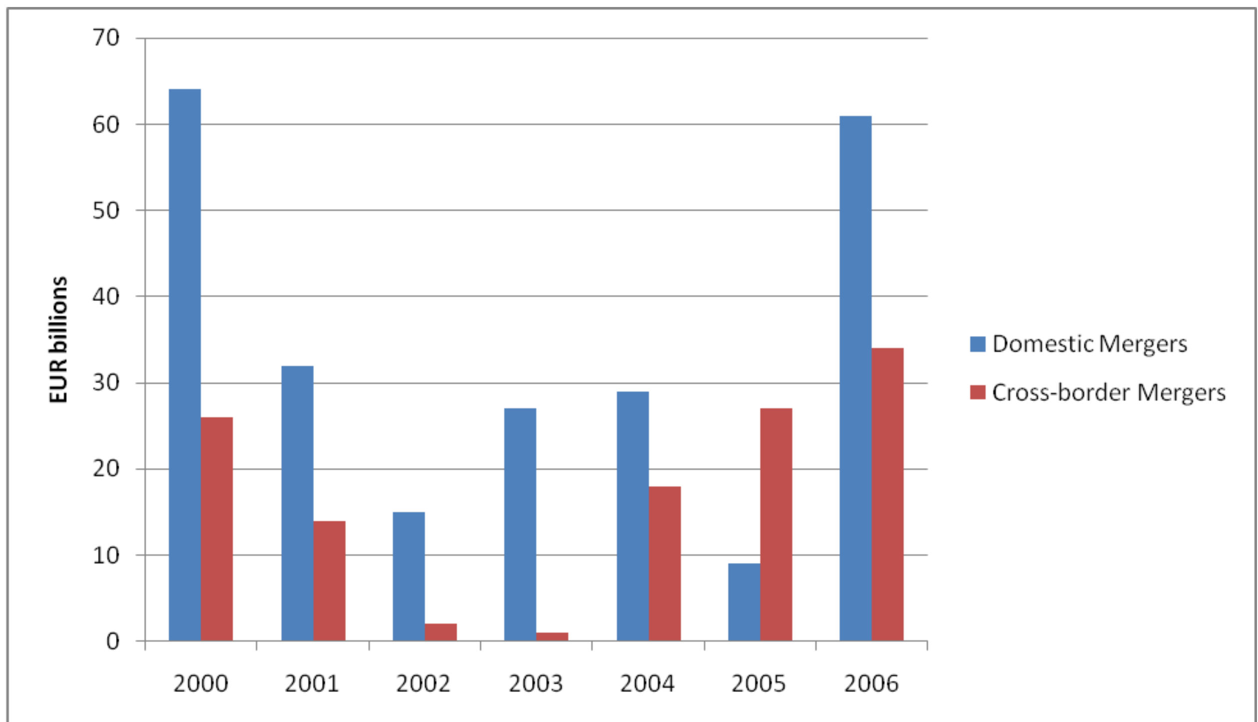
[3] Throughout this chapter the term merger is used to also mean acquisition, takeover or amalgamation. A wave of such activity is taken to imply consolidation of the industry.

Figure 1: EU Bank Mergers: Controlling and Minority Stakes (Numbers)



Source: ECB (2010)

Figure 2: EU Bank Mergers: Controlling and Minority Stakes (Values)



Source: ECB (2010)

Figures 1 and 2, taken from ECB (2010), show the trend in both domestic and cross-border bank mergers by number and value respectively for the EU-27 countries in the period 2000-2006.[4] Cross-border mergers have been far fewer than domestic mergers within Europe and concern about this was raised by the European Central Bank in a report which observes that international mergers in the EU often involved an institution from outside the Union rather than between banks from different countries of the EU (ECB, 2000). In the single European market banks were expected to establish their presence in a larger geographical region but they focused on consolidating their positions in the domestic market as they faced an increasingly competitive environment (Campa and Hernando, 2006). This meant that cross-border transactions were fewer although this activity has increased more recently (ECB, 2010). In a different report, ECB (2006) documents the number of credit institutions in the EU-25 as having declined from 9,747 in 2001 to 8,684 in 2005, due mostly to domestic mergers which outnumbered cross-border deals.

Increased consolidation of the banking market within national borders is seen by many observers as an attempt by EU countries to create "national champions" before they can compete at the international level. While this may be advantageous for the banks, it is a matter of concern for European policy makers as concentration increases in the banking market. According to ECB (2006), the average five-firm concentration ratio in the EU-25 rose from 33% in 2001 to 45% in 2004. Where concentration has been high and anti-trust issues have been raised, a natural response from European Commission has been to discourage domestic mergers and promote cross-border deals. In reality, domestic mergers that have created large banking institutions have also attracted cross-border bidders seeking to gain market power in the host nation. Typically, bidders find it more efficient to acquire one relatively large bank with a sizeable domestic market share than take over several small banks in order to achieve market power.

Many banks have sought to engage in mergers expecting to gain in efficiency through lower costs and higher profits, enhance their competitive position, cross-sell products upon gaining a larger customer base, and/or diversify risk geographically. Evidence pertaining to the performance aspects of banking consolidation and its impact on shareholder wealth creation

[4] The figures include all deals with controlling and minority stakes. Cross-border mergers are intra-EU27 deals involving a non-domestic acquirer. Original source: Zephyr Bureau Van Dyjk database.

is generally wide-ranging and mixed, given the various motives and implications associated with bank mergers. The purpose of this chapter is to review the broad literature on the subject and provide an understanding of the main motives and issues associated with the consolidation process that has been taking place in the banking industry, together with evidence on performance relating to shareholder value and efficiency. While the primary focus is on the EU banking industry, evidence is also drawn from US and international studies which typically serve as benchmark for comparison purposes. Comparison of the EU evidence with that of US seems particularly appropriate owing to the ongoing process of consolidation in the US banking industry and the fact that the majority of bank merger evidence is based on US data. Thus, the review of the literature offers a broader perspective of what has occurred in both the US and European banking markets over the past twenty years or so.

In an attempt to address a broad set of issues discussed in the literature, the rest of this chapter is organised as follows. Section 2 presents an overview of the motives for mergers in the banking industry, distinguishing between internally and externally driven motives as well as providing a perspective from the European Central Bank and the broader literature highlighting efficiency and diversification motives behind bank mergers. Section 3 turns attention to the performance implications and discusses a number of merger success factors associated with value creation for targets and bidders. Section 4 outlines theories that predict shareholder value gains from mergers. Section 5 focuses on key issues that have fostered European bank mergers and the evidence relating to shareholder value creation. Section 6 then looks at broader issues and evidence pertaining to cross-border bank mergers which represent an important part of the banking sector consolidation process in the EU. Section 7 discusses some of the regulatory issues and further developments associated with the process of banking sector consolidation in the EU. Section 8 complements the preceding discussion by providing a comparative account and evaluation of US and EU evidence on shareholder value and efficiency aspects of bank merger performance. Section 9 finally concludes and the two appendices at the end of the chapter provide additional source of information on empirical studies and legislative measures associated with banking sector deregulation in the EU and US.

2. MERGER MOTIVES

Merger motives may be grouped into internally-driven and externally-driven motives, but can also be classified in other ways. The European Central Bank, for example, puts merger motives into four main groups as reported below. Merger motives are also seen as either efficiency-enhancing or resource-pooling in some of the management strategy literature.

2.1 Internally-driven motives

Synergy

This is the concept that implies that when two firms combine, the resulting entity acquires a greater value than the sum of its parts and is an argument advanced most often to justify mergers. According to Tourani-Rad and Van Beek (1999), synergy is achieved when the costs of the combined entity are less than the sum of those of the individual firms, and the reduction in costs is attributed to economies of scale and scope, although they also cite gains from reduced management inefficiencies and from reduced risk due to diversification.

Economies of Scale

Banks merge in order to benefit from economies of scale. These occur where one or more of the consolidating banks are operating at less than their optimal level. Economies of scale may be present in any part of the banking business including finance, marketing, management, and operations, and the combined entity benefits from exploitation of these economies. The evidence from studies that have examined economies of scale from bank mergers is generally mixed. Some early studies (Miller and Noulas, 1996; Vander Vennet, 1998) found economies only in small banks, while others (Molyneux *et al.,* 1996; Vander Vennet, 2002) find scale economies even in large European banks. Berger and Mester (1997) find scale economies in large US banks.

Economies of Scope

For institutions in the financial services industry, these occur where the merged entity is able to offer a broader range of financial products using the same assets the former firms owned separately. These are cost-based scope economies. Revenue-based scope economies are realized when, using combined inputs, the same or more financial products than before are now distributed to a larger customer base. Economies of scope are also cited quite frequently as a motive for mergers (Amel *et al.*, 2004).

Market Power

A bank with market power can either raise the price of its products, suffering a loss in sales but not profit, or it can increase its sales by having to lower its price and not affect profit adversely. The bank also has the flexibility to differentiate its products, and by exercising its market power it can act as a barrier to entry, a situation that encourages the incumbent to charge higher prices for its services. This is often a concern for regulators who are always mindful of attempts by two of the largest banks in a market to merge, as the resulting bank would then wield immense market power. Typically, a bank with a small degree of market power may be the target of acquisition by a larger bank, with the purpose of deploying the combined assets more profitably (Moore, 1996).

Inefficient Management

The inefficient management hypothesis suggests that a firm led by an inefficient management will be taken over by another with a management that can run it more efficiently (Berger *et al.*, 2000b). Non-maximization of shareholders' wealth is often cited as the basis for this takeover. Proponents of the hypothesis argue that shareholders, unable to change the management through other means, will seek or agree to a merger by selling off their shares at a profitable price to facilitate the takeover. A counter argument is that some shareholders expecting better future performance, and therefore greater value for themselves, will seek to extract a high enough price from the bidder in order to compensate them for the future gains they will be foregoing, and this process may render the acquisition ultimately unattractive to the bidder. Results from studies that have investigated the inefficient management hypothesis are mixed (Pasiouras *et al.*, 2011).

In terms of yielding efficiency, there are two specific cases of the inefficient management hypothesis, namely, the *Relative Efficiency Hypothesis* and the *Low Efficiency Hypothesis*. The former proposes that following acquisition of a less efficient target, the bidder can implement value-enhancing changes including removal of the target's management. This view also suggests that the lower the efficiency of the target the greater the potential for post-merger efficiency improvement. The latter proposes improved efficiency for the merged firm if either the target or both the bidder and the target were less efficient than their industry peers. It also suggests that improvement is likely to be greater depending on the gap in inefficiency between either or both the bidder and the target and their peers (Akhavein *et al.*, 1997; Berger *et al.*, 1999).

Diversification of Risk

Banks generally diversify their assets in an attempt to minimize credit and other risks (e.g. interest rate, liquidity, etc) which could have adverse impact on profits. Diversification of risk is also achieved through mergers by expanding geographically and by taking on different products and developing new ones using newly-acquired capability. Diversification is often the main driver of cross-sector conglomerates and cross-border mergers in banking (Berger *et al*., 2000).

Agency-related Motives

Most pre-2000 literature especially for the US indicates that bank mergers are value-destroying. This persistent finding led to studies that sought to explain why bank mergers happen when they were not beneficial to shareholders. The prevailing view has been that mergers are motivated by management seeking to enhance their own utility at the expense of shareholders. The existence of agency costs in organizations where ownership is separated from management allows the latter with the opportunity to fix their compensation according to the size of the organization rather than value, which motivates them to engage in mergers even if they are not value creating from the shareholders' perspective. Proponents of this hypothesis believe that management will pursue those goals that enhance their compensation or prestige through empire-building. US studies investigating this hypothesis have shown a positive correlation between firm size and executive compensation. Bliss and Rosen (2001), for example, find merger-related changes correlated to increases in compensation, the latter occurring irrespective of any value creation or efficiency improvements. Rosen (2004) also reports that the likelihood that CEOs will receive higher compensation through acquisitions motivates them to engage in mergers. Hughes *et al*. (2003) find that banks where managements have large ownership stake are casual in choosing merger partners and end up with value destroying acquisitions. Anderson *et al*. (2004) find that post-merger CEO compensation is correlated with anticipated merger gains in shareholder value as measured by announcement day effects. Other compensation packages are structured to take account of post-merger productivity.

A slightly different hypothesis but which also points to managements making decisions in their own interests posits that managers may wish to lead a "quiet life" upon achieving a large size for their firm. This allows them to relax from the pressures of competition by exercising

market power to maintain the firm's well-being, and avoid the anxieties of having to improve efficiency and performance (Berger and Hannan, 1998).

In contrast to the pre-2000 US literature, evidence of value-destruction from managerial entrenchment is somewhat less supportive in European banks. The emerging view from early European research that produced less strong evidence of negative merger performance than reported by US studies has been reinforced by more recent evidence (discussed below) that is actually suggestive of positive gains from bank mergers. The results of Corvoisier and Gropp (2002), who examined bank mergers in ten European countries, suggest some evidence of management seeking the "quiet life" as increased banking sector concentration gave rise to less competition in the pricing of demand deposits. On the other hand, in their study of post-merger deposit pricing in Italy, Focarelli and Panetta (2003) report long-term increases in deposit rates especially for more efficient banks, a result which suggests the absence of managerial motives in that market.

Hubris
Sometimes managements are less careful in their decisions, particularly in times of record good performance or when the economic prospects are promising. If opportunities arise for mergers in such periods, managements may blunder due to over-optimism (Roll, 1986) and might therefore engage in mergers that turn out to be value-destroying.

2.2 Externally-driven Motives

Three major factors are recognized as the external drivers of merger activity in the financial services industry.

Deregulation
Individually, countries have done a lot to liberalize the financial services sector and to remove barriers to greater competition. At the international level, various legislations have been passed in order to increase competition and promote integration in Europe, and to encourage diversification across state borders in the U.S. (Berger *et al.*, 1999; Group of Ten, 2001).

Technological Advances
Changes in technology have affected remarkably the way banks operate, and the speed at which they transact business across the globe, making it easier to engage in mergers. Overall,

the impact of technology has been positive, with larger banks having benefited more (Goddard *et al*., 2001).

Globalization

Globalization has led to increased competition in banking (Goddard *et al*., 2001). Greater competition has in turn led to consolidation, as institutions sought to increase in size or avoid failure. With a larger size a firm benefits from economies of scale, increases in efficiency and can therefore compete better. Both deregulation and technological development have helped the globalization process.

2.3 The ECB on Merger Motives

According to the European Central Bank (ECB, 2000), there have been four main motives for mergers in the financial services industry.

Improvement in Efficiency and Profitability

Some analysts believe that a merger automatically results in higher profitability. Although this is mostly the case, it is not always so. Not all mergers succeed in achieving their intended goal in the short period immediately following merger. Even when an efficient institution takes over a less efficient one the combined firm may go through a difficult period for a number of years before it attains the previous efficiency level of the bidder.

Expansion of Product Range and Client Base

This applies more to domestic mergers, with bancassurance transactions offering the typical example. Usually the insurer decides to ensure continued loyalty of existing customers and attraction of new ones by introducing bank products.

Expansion to Other Geographical Locations

For many organizations, acquiring a local business in another country is the only way of establishing business in that market. However, such deals do not always succeed. Different corporate cultures, language barriers, and environmental factors beyond the control of the new organization may lead to failure of the consolidation.

Maximization of Shareholder Value

This is often put forward in the literature as a key motivational factor for consolidation (Berger *et al*. 1999). However, there is also the view that top management are usually

concerned with only the major shareholders, most of whom show little interest in the finer details of the deal, and generally avoid involvement in any decision-making.

2.4 Efficiency Enhancement

Although in the literature efficiency is often taken as being embedded in synergy, it is also considered by some as deserving to stand on its own as a motive for merger irrespective of the role of management. It is a value-maximizing motive due to gains that can be realized through cost savings from removal of overlapping operations, streamlining of back-office functions, shedding-off workers, and so on. Generally, efficiency ranks high as a motive for value maximization in bank mergers, considering the potential benefits that can be derived from economies of scale/scope, risk reduction by product/geographical diversification, and taxation. Vander Vennet (1996) finds that efficiency gains can be achieved in both domestic and cross-border mergers where bidder and target are of equal size. However, some studies report that post-merger operating efficiency, profitability, and staff productivity of both bidder and target do not improve significantly relative to non-merging institutions (Berger and Humphrey, 1992; Rhoades, 1993).

2.5 Resource Pooling

Combining special skills and resources by two partners to achieve goals common to both or specific to each one individually is a major motive of strategic alliances (Varadarajan and Cunningham, 1995). Mergers are in fact a tool for expansion and improvement of the resources pool in order to achieve rapid growth or fast-track diversification. For example, where the bidder has an advantage in corporate banking matters, while the targets is well endowed in retail banking and its branch network, then combining these complementary assets is consistent with the desire to promote the universal bank concept. Post-merger challenges at the strategic level include the need to adjust continuously in order to reposition the institution, build the flexibility necessary for developing new products in shortened lead-times, and keep up with the fast pace of technological growth.

3. MERGER SUCCESS: FACTOR EXPLAINING VALUE CREATION

Since it is generally accepted that mergers create value for targets, the focus of many recent studies has been to identify how value is created for bidders. Studies for the EU and the US,

the two regions where most investigation has been carried out, have approached the subject with this assumption. Five categories of factors are identified in the literature as having a positive impact on merger value creation in the sense of generating abnormal returns around the date of the announcement of the merger deal.[5] These are considered separately below.[6]

Profitability and Efficiency

Included in this category are the two main cases of the inefficient management hypothesis explained above. The *Relative Efficiency Hypothesis*, which states that efficiency gains (in profit or cost) arise from better management skills of the bidder, can be applied to manage the assets of the less efficient target. The hypothesis suggests that if before acquisition the bidder is more efficient than the target, it can bring the latter's efficiency up to its own level after merger (Berger *et al*., 2000b). On the other hand, the *Low Efficiency Hypothesis* proposes that the merger event may "wake up" the bidder's management by providing it the "excuse" for carrying out improvements that can lead to higher profitability for the combined institution. These hypotheses have been tested by Pilloff (1996) who finds that post-event improvement in profitability and cost efficiency is positively associated with the value creation of bank merger transactions. Also, Hawawini and Swary (1990) observe that mergers create value for both bidders and targets when there is a considerable gap in their efficiencies, and that greater value will be created with a larger efficiency gap. As the efficiency gap closes, value creation declines and may approach zero. In fact, some studies find that the higher efficiency of a target has a negative influence on value creation (Houston and Ryngaert, 1994; Madura and Wiant, 1994).

A standard measure of efficiency used in most studies is the Cost to Income Ratio (CIR) which is also sometimes interpreted as a measure of cost efficiency. Another commonly used cost-based accounting measure of efficiency is the Cost to Asset Ratio (CARA), while the most widely used measure of profitability is the Return on Equity (ROE). Frontier and other value-based measures have also been used (Kohers *et al*, 2000; Aggarwal et al, 2006; Fiordelisi, 2008; Chronopoulos *et al*, 2010; Urio, 2011). Irrespective of the measure of performance used, most studies find that lower pre-merger profitability and efficiency of the

[5] The abnormal return is the amount by which an actual share price exceeds the share price predicted by an asset-pricing model, and is determined by an event-study methodology.

[6] In addition, agency related factors have been used (mainly in US studies) to explain value destruction or other non-value maximising objectives linked to managerial motives, as noted further below.

target (or higher the relative difference in the bidder's favour) improve post-transaction excess returns for the bidder. In their investigation of the poor performance of foreign bank subsidiaries, Peek *et al*. (1999) also find that the target's post-transaction profitability gains are largely influenced by the pre-transaction profitability difference between the target and the bidder, and that cost efficiency gains as measured by CIR are determined largely by the CIR difference between the firms before the transaction.

Relative Size

The asset size of the target relative to that of the bidder is also considered to be a driver of merger success. For the bidder, smaller targets are easier to acquire and value creation is more assured, despite the smaller scale effects (Beitel *et al*., 2004). Hawawini and Swary (1990) find that the bidder's merger success is positively associated with the bidder's relative size with the target. It is therefore generally assumed that for the bidder the merger is likely to be more successful the larger the difference in its size with that of the target.

Bidder's Experience

An experienced bidder is considered to be better at generating post-merger synergies and therefore more likely to create value. Experience in this case is determined on the basis of minority stake in the target, frequency of involvement in cross-border mergers, and other operations in the (host) country. A bidder with prior experience of the target through minority ownership is better able to value the target through superior knowledge of its financial performance, and is in a better bargaining position to avoid overpayment. DeYoung (1997) finds that the experience of the bidder as measured by the frequency of merger involvement has a positive impact on their cumulative abnormal returns (CARs). Similarly, Zollo and Leshchinkskii (2000) observe a significantly positive association between the bidder's experience and its success determined by significantly positive CARs. Beitel *et al*. (2004), measuring experience by frequency of involvement in mergers, also find its effect statistically significant and positive on merger success of European banks. On the other hand, Kaufman (1988) finds that, for those bidders with prior minority interest, the more a bidder's ownership interest increases the less the premium it pays in subsequent acquisitions. Research also shows that turning from minority to majority control leads to successful investment in emerging markets (Chari *et al*., 2004). The rationale for this is that, where an institution is underperforming, the market rewards the minority owner who by majority acquisition takes the risk of turning that institution around. These and other results by

previous studies have led to the hypothesis that having a minority ownership in a target prior to a merger, and therefore particular experience in the target and the country, increases the chances of the bidder realizing positive value creation upon merger announcement.

Target-Country Characteristics

Some studies find that cross-border mergers with targets in developing countries create greater bidder value (Madura and Wiant, 1994; Kiymaz and Mukherjee, 2000) because mergers there appear to be driven more by potential profit opportunities which are greater than in developed markets where competition is higher. In the literature, both Gross Domestic Product (GDP) and the GDP per capita have been used as proxies for profit opportunities (Buch, 2000), although other researchers prefer to use the annual GDP growth rate as it reflects the prospects for future growth and reveals a country's pace of current development.

In a study of the influence of macroeconomic factors on wealth gains from cross-border US mergers, Kiymaz (2004) seeks to explain bidders' significant excess returns using the target country's GDP growth rate. He argues that the target country's high GDP growth rate influences the bidder's excess returns positively as prospects exist for the bidder to gain market share and improve cash flow. On the other hand, as Kiymaz (2004) suggests, it may compel the bidder to pay an unwarranted high premium for the target. An interesting hypothesis that arises from this study is that higher growth potential in the target market, which may be due to the target country being less well developed, will offer higher bidder wealth gains on merger announcement. In the case of EU cross-border mergers with banks from Western Europe taking over other banks or credit institutions in Eastern European countries, Fritsch *et al* (2006) confirm that the GDP growth rate of the target country is a significant driver explaining bidder success.

Regulation in the local market is another factor considered in the literature, as foreign banks typically avoid countries with too much regulation, while merger activity thrives where there is deregulation and privatization. Buch and DeLong (2004) argue that regulations can lower the efficiency of local banks and therefore attract foreign buyers set to improve it. Where previously banks were state-controlled, the extent of market deregulation and liberalization may be seen as representing economic progress and can be used as driver for merger success. This reasoning leads to the hypothesis that a low level of economic freedom or a high level of regulation will be positively associated with bidder's excess returns when bank assets are

disposed under privatization. Fritsch *et al* (2006) confirm this finding for bank mergers with targets in CEE countries using an index of economic freedom.

Deal-specific Factors

A number of deal-specific variables are considered in the literature. The most commonly used is the mode of payment indicating whether the merger is paid for by the bidder in cash or by offer of stock to the shareholders of the target. An offer of stock payment is often interpreted to mean that the bidder's management perceives their firm's stock as overvalued and the target's shareholders will see this as a loss to them. In contrast, the bidder's ability to pay cash may demonstrate its own liquidity and confidence of the benefits anticipated from the merger, and thus interpreted positively by the market. For these reasons, payment in cash is expected to lead to positive excess returns to the bidder on merger announcement.

As many banks were state-owned prior to privatization, some of which were auctioned to the public and others acquired in the 1990s, ownership and method of selling have also been used as deal-specific variables in evaluating the success of mergers in CEE countries (Bonin and Wachtel, 1999; Fritsch *et al*, 2006). Campa and Hernando (2004) find that mergers in government-controlled industries created lower value for bidders than deals in unregulated industries, implying that state-ownership of the target has a negative effect on merger success. One argument, particularly for banks that are auctioned for sale, is that there can be several bidders interested in the deal, and the possibility of overpaying to win the auction renders the process favoring the target rather than the bidder. Also, selling a bank through an auction may suggest that the owners are confident of the superior value of the target, since ordinarily, for a lower quality firm, they would prefer private negotiation. However, investigating privatization in the CEE countries, Bonin and Wachtel (1999) contend that auctioning may expose the target to the possibility of attracting a lower price than it is worth if prospective buyers are too cautious. As arguments over the issue of auctioning are somewhat balanced, there does not seem to be a clear-cut hypothesis on how buying a bank through an auction influences the bidder's excess returns. However, Fritsch *et al* (2006) find that the dummies for auction sale and minority stake in target's shareholding are significant drivers in explaining bidders' success, suggesting that disposal of bank assets by public auction (as opposed to private negotiation) and owning a minority stake before the merger transaction creates value to the bidder.

4. THEORIES OF SHAREHOLDER GAIN IN MERGERS

The preceding section highlights the factors that are used in explaining the impact of mergers on value creation. This section discusses relevant theories that identify the sources of such gains. Lensink and Maslennikova (2008) discuss four categories in which most of the above factors may be grouped.

Theories That Predict Gains for Bidder and Target

Under this category, which encompasses most of the above factors, gains may come through four possible ways: operating synergy, financial economies, enhanced market power, and efficiency improvements. First, with operating synergies, it is assumed that economies of scale and scope exist in the financial services industry. It is assumed further that before the merger, one or both firms involved in the transaction are operating at a level which is inadequate for realizing full economies of scale. Scale economies are also realizable where vertical integration takes place, as activities at different stages of the industry's life cycle become organized under better coordinated supervision. It is possible to achieve economies of scope if the merging institutions make full use of each other's unique specializations. Operating synergies achieved usually by cost cuts have often been cited as the main motive for bank mergers. In the late 1990s for example, US banks saw cost cuts as well as economies of scope as potential sources of merger gains as they considered consolidation (Berger *et al.*, 1999; Hughes *et al.*, 1999).

Second, with financial economies, it is predicted that internal financing becomes available through stronger cash flows of the bidder which render unnecessary any external financing of the target. Also, the combined institution can sustain an increased debt capacity, which can lead to tax savings on any income generated from investments. Additionally, the combined firm may realize economies of scale in issuing securities (Levy and Sarnat, 1970). It is also possible for the combined entity to realize financial synergies through the acquisition of new assets at reduced prices. The assumption here is that a more efficient firm has taken over a less efficient one, and the combined entity has the potential to be highly efficient through bidder's management competence (Copeland *et al.*, 2003).

Third, increased market power arises where, due to competitive pressures, a firm decides to engage in a merger or acquisition to diversify by product or expand geographically. This is

likely to lead to substantial gains, although in some cases it could increase costs initially. Hughes *et al*. (1999) cite a diversified product portfolio and promotion of non-traditional financial services as major sources of gains for US bank mergers that took place in the 1990s.

Finally, with regard to efficiency, improvement is expected where a more efficient firm bids for a less efficient one. Value is created through restructuring of operations by the more efficient management. Copeland *et al*. (2003) suggest also that synergies could be achieved through better growth opportunities, leading to a critical size at which economies of scope can be utilized. This view is consistent with the evidence reported by Hughes *et al*. (1999) that economies of scope arising from multiple but related products managed by one firm provided a strong motive for bank mergers in the US in the 1990s. As for improvement in efficiency *per se*, evidence is scant. Houston *et al*. (2001), for example, report that managers engage in mergers expecting to cut costs rather than improve efficiency.

Theories That Predict Gains for the Target at Bidder's Expense

These are based on the *hubris* hypothesis. The suggestion here is that what the target gains the bidder loses so that net gains are zero. Due to *hubris* (or self-confidence), the bidder attaches the target a higher value than the market's evaluation. This leads to an overpayment which translates into a loss for the bidder and a gain for the target.

Theories That Predict Negative Gains

These theories relate to those mergers occasioned by management's self-interest. As agents, managers are expected to act in the best interests of the firm's shareholders. However, in practice this is not always the case. Although with management acting in their own interests the shareholders might also benefit, this gain would be less than it could potentially have been and any loss suffered could have been avoided if the management had acted in the shareholders' interest. A number of US studies have used various proxies of managerial-shareholder conflict as determinants of abnormal shareholder returns to explain not only the negative short term market reaction (value destruction) but also related issues such as how managerial motives is linked to CEO remuneration and other aspects of firm performance (Anderson et al, 2004; Bliss and Rosen, 2001; Cornett et al, 2003; Olson and Pagano, 2005; DeLong and DeYoung, 2007).

Theories that Predict Gains for Conglomerate Mergers

Conglomerate mergers are complex and of a scale that almost ensures a wide variety of gains. For example, management functions are spread over a wider range of activities in the resulting larger and diversified organization. Savings in tax and labour costs may be substantial, although Copeland *et al.* (2003) point out that these may not be the primary motives for such combinations.

5. DEREGULATION AND BANK MERGER PERFORMANCE IN EUROPE

Europe's financial system was for many years different from that of the US where most studies on shareholder gains have been carried out. In the light of the preceding discussion, examining how Europe's financial sector has evolved in the last two decades helps to assess the evidence relating to performance of European bank mergers in comparison with US studies.

Regulatory Changes

As the wave of US bank mergers began to take hold in the 1980s, the banking industry in Europe was subject to regulatory barriers restricting foreign entry and competition (ECB, 1999). Gardener *et al.* (2001) point out that the 1980s ended with the banking sector characterized by low concentration, overcapacity, and operating efficiency below par. Since then most of the protective barriers have been removed with the implementation of measures like the Second Banking Directive (1989), completion of the Single Market (1992), the establishment of economic and monetary union (1999) and the subsequent introduction of the Euro (2002).

As a consequence of these changes, competition increased, profit margins dropped, and banks had to devise measures for improving cost efficiency. Traditional banking has seen a decline and the market-based financial system has been embraced. There has been a trend towards disintermediation and securitization. Financial services traditionally carried out by banks are now increasingly provided by mutual funds, insurance companies and pension funds. With greater competition and disintermediation banks have been taking greater risks by leveraging their capital and transforming loans into marketable securities. This has given rise to products like derivatives and asset-backed securities, increasing the pressure on banks to innovate, improve performance and enhance shareholder value.

Thus, deregulation, disintermediation, increased competition and the drive for new products and services have provided scope for banking sector consolidation allowing banks to increase their size and improve efficiency. As noted earlier, protecting one's domestic market before seeking cross-border expansion became the primary goal for many banks to compete in Europe. It has been suggested that in the 1980s banks sought to expand in size, while in the 1990s the focus was more on gaining a share in the European market (Campa and Hernando, 2006). Hence, product and geographical diversification have been important motives for market expansion apart from banks seeking to preserve domestic market share through horizontal mergers.

Geographical Diversification

Financial deregulation across Europe has provided banks with the opportunity to expand geographically and utilize economies of scope. At the same time, establishment of the Single Market in the EU opened the door for banks previously protected by anti-takeover legislation to be targeted for merger. The *excess demand theory* hypothesizes that when restrictions on cross-border mergers are removed, bidders for a given target will increase, and so will the premium paid for the target (Brewer *et al*., 2000). On the other hand, as Brewer *et al.* (2000) point out, the *barrier to entry theory* predicts a fall in prices for foreign targets when merger restrictions are removed. The reasoning here is that, while protected, the target may earn excess profits, which then disappear with entry barriers removed. Substitutability increases between target institutions, and this leads to lower merger premiums. Overvaluation becomes less likely, and this may lead the market to respond by recording positive excess returns for bidders.

The evidence in support for geographical diversification, however, is weak. In a study of the US banking industry, Houston and Ryngaert (1994) and DeLong (2001a) find that the market favours intrastate against interstate mergers. They attribute this to the possibility of greater cost savings for banks operating in the same economic environment. Tourani-Rad and Van Beek (1999), analyzing a sample of 17 targets and 56 bidding financial institutions (not just banks) for Europe find that cross-border mergers do not yield returns that are significantly different from domestic ones. Cybo-Ottone and Murgia (2000), studying 54 large European financial deals (including 18 cross-border) find that domestic deals create more shareholder value while cross-border deals reveal positive but insignificant abnormal returns. In an EU-15

study of 98 large mergers between 1985 and 2000, Beitel *et al.* (2004) find that target and bidder returns are not significantly influenced by whether the merger is cross-border or domestic but overall they find abnormal returns higher for domestic mergers, particularly for bidders who are involved in previously less merger activities and when the targets show poor past performance. Campa and Hernando (2004) investigate financial and non-financial mergers over the period 1998-2000 and find that, in the case of cross-border deals, both targets and bidders receive significantly lower cumulative abnormal returns and they report higher value creation from domestic mergers in the more regulated financial industry. In another study, Campa and Hernando (2006), investigating bank and financial institution mergers in the EU-15 over the period 1998-2002, find positive returns for targets and slightly negative for bidders but otherwise no significant variations between cross-border and domestic mergers. Lensink and Maslennikova (2008), analysing value gains to bidders using a sample of 75 banks from 19 European countries over the period 1996-2004, do find positive gains from both domestic and cross-border mergers. They observe that in the decade spanning the mid 1990s to the mid 2000s, the larger Northern European banks from concentrated financial sectors were able to target banks in Southern Europe with greater margins. However, Nnadi and Tanna (2011), using a sample of 62 bank mega-mergers that occurred within the EU during the period 1997-2007, find that cross border mergers are value-destroying while domestic mergers yield relatively better returns, citing that potential downside risks in the bidders' ability to implement restructuring for cost management and profitability on the target banks could explain significantly negative market reaction in cross-border mergers. In general, it appears from the above evidence that shareholder value gains from cross-border mergers are not any higher than domestic mergers although the potential for gains are greater in target markets that are less well developed.

Diversification by Product

The more varied a bank's activities the more types of risk it is exposed to. Perceiving this, the market will expect a risk premium on such bank mergers. DeLong (2001b) reports negative returns for US bank-to-bank mergers but value-creation for diversifying US banks, pointing out that the market evaluates each category of risk differently and expects a higher return from diversifying mergers than from focused mergers. As more non-bank financial institutions engage in traditional banking services the likelihood is that more product market diversification will take place. Market participants (including customers and shareholders)

look positively at the availability of multiple services from a single institution. The market in turn will perceive positively any product market diversification, resulting in merger gains.

Some European studies that distinguish between domestic and cross border mergers have also investigated the scope for value gains from product/activity diversification. Cybo-Ottone and Murgia (2000) report statistically significant abnormal returns for both cross product and vertical mergers among European banks for the period 1989-1997. They report that the market views bank to insurance company mergers favorably yielding an abnormal return of 7.03% on average. Lepetit et al (2004) examine value gains from bank mergers between 1991 and 2001 covering 13 European countries and find support for mergers involving cross-product diversification and geographic specialization. Ismail and Davidson (2005) find higher abnormal returns in bank-to-bank compared to cross-product deals, and mixed evidence of abnormal returns in domestic and cross border deals, thus providing weak support for geographical diversification. Similarly, Lensink and Maslennikova (2008) find positive value gains which are significant in diversifying domestic deals, but not in diversifying cross-border deals.

Differences in Merger Performance

Most of the US studies analysing merger gains have observed positive gains for target banks, but negative or statistically insignificant returns for bidders (Berger and Humphrey, 1997; Piloff and Santomero, 1998; Houston *et al.*, 2001). However, DeLong (2003b) finds non-US bank mergers earn 2% more than their US counterparts while targets earn comparatively 7% less, attributing the difference to the regulatory settings in the two regions.

The universal banks in Europe have been able to perform diversification operations which in the US were restricted by law until a decade ago, and the institutional differences between the two banking sectors have been cited as accounting for the varying results. Cybo-Ottone and Murgia (2000), who find significant announcement period excess returns in European bank mergers, examine two important aspects worth mentioning. First, they show that the difference in their results between domestic/cross-border deals is not driven by country-specific effects as their announcement period returns are similar across the countries. Second, their value creating result for domestic deals is attributed to a sub-sample (one-third) of mergers between banks and product diversification of banks into insurance and investment firms. Thus, they argue that more liberal regulations allowing product diversification and the

more flexible anti-trust laws in Europe provide banks with the opportunity to achieve economies of scope and improve performance.

Scholtens and de Wit (2001) also compare shareholder wealth effects of bank mergers in Europe to the US. In their sample of 17 European targets and 20 bidders, they find significant positive excess returns for targets, but small though significant returns for bidders. More recently, Hagendorff *et al*. (2008) analyse the value effects of large bank mergers in EU-15 and Switzerland (in relation to US) for the period 1996-2004, and find that bidder returns are significantly more positive than in US, attributing the difference to the existence of lower investor protection economies in Europe.

6. CROSS-BORDER BANK MERGERS

Due to their nature and importance to both bidder and target nations, cross-border mergers are often given special attention in the literature as noted from the evidence presented in the last section. This section discusses some of the issues associated with banks expanding their operations abroad and presents evidence that is by nature more international before examining the issues and comparative evidence in Europe and US.

Cross-border mergers in banking are the inherent consequence of the on-going globalization of economic activities. Banks have been expanding their operations abroad for more than a century by opening branches or establishing a subsidiary. The current wave of cross-border financial mergers in Europe can be seen as the alternative and more viable means to acquire greater market share elsewhere in the single market. Empirical evidence shows that banks that expand abroad are generally larger and managed better than those that do not, and come from countries that are more open to international trade with a well developed financial sector. Large banks also tend to follow their clients abroad. Focarelli and Pozzolo (2001), studying bank mergers and shareholdings in OECD countries, find a positive relationship between size and the probability that a bank operates abroad. They also find that highly profitable banks and those whose non-interest income forms a large proportion of their total income are also very likely to have a foreign presence. Tschoegl (2004), investigating subsidiaries of foreign banks in the US, suggests that banks with international operations are usually the larger institutions in their home countries, and going abroad may be the result of

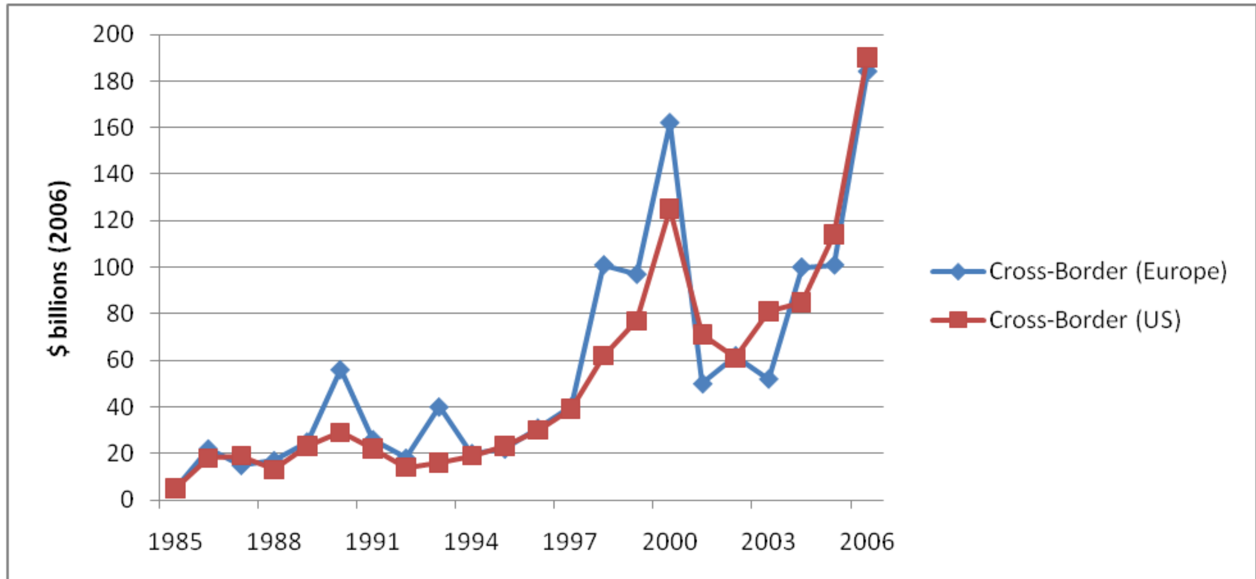
lack of further expansion opportunities at home, in addition to antitrust restrictions. Although banks that go abroad are often among the most efficient in their home country, this does not guarantee that they will be equally efficient in the foreign country, compared to their local competitors (Berger *et al.*, 2000b).

Banks, like other firms, are selective in choosing where to expand. Countries with common language and similar legal systems are more likely to engage in cross-border bank mergers than those without (Focarelli and Pozzolo, 2008; Buch and DeLong, 2004). The likelihood of cross-border bank mergers also increase when countries share a currency union (Focarelli and Pozzolo, 2005; Allen and Song, 2005). Similarly, the presence of high quality institutions increases the likelihood of cross-border bank mergers, although firms from a country with institutions of moderate quality find that expanding to a country of a lower institutional environment works to their advantage (Claessens and van Horen, 2007). Studies that examine target countries find that banks prefer to go where competition is low, the environment is bank-friendly, legal institutions are of a high standard, bank activity disclosure requirements are high, and bank supervision is dependable (Focarelli and Pozzolo, 2005; Berger *et al.* 2004). Explicit regulatory barriers aimed to discourage competition also impede cross-border bank mergers (Focarelli and Pozzolo, 2008) and implicit government barriers may also act to restrict entry (Berger, 2007a).

The increased trend in cross-border banking consolidation would not have come about without supportive legislation. In the US, the Riegle-Neal Interstate Banking and Branching Efficiency Act, 1994 allowed banks to operate and acquire banks across state lines, removing restrictions that had been imposed by the McFadden Act of 1927. The Gramm-Leach-Bliley Financial Services Modernization Act, 1999 also removed restrictions to product diversification imposed by the Glass-Steagall Act, 1933, giving banks the freedom to operate as universal banks. In the EU, universal banking was formally enacted into law by completion of the Single Market in 1992. These legislations allowed financial institutions not only to engage in geographical but also product diversification. As a result, there has seen substantial increases in cross-border mergers of financial institutions. Figure 3 compares the transaction values of cross-border bank mergers for both US and EU, showing an increasing trend in both countries over the years leading to 2000. As with domestic bank mergers, cross-border merger activity declined in both regions after 2003 with the global economic

slowdown but this trend soon reversed after 2003 and by 2006 the merger activity had not yet peaked.

Figure 3: Cross-border Bank Merger Values for US and Europe



Source: DeYoung *et al.* (2009)

Considerable research has been undertaken in both US and Europe to study the performance effects of cross-border mergers. Studies that have examined the efficiency implications of such mergers among financial institutions tend to find mixed results. For example, cost efficiency is not found to have improved as a result of financial mergers in either the US (Berger *et al.*, 2000b) or Europe (Vander Vennet, 2002) although evidence is found of slight improvements in profit efficiency and in accounting measures of performance (Vander Vennet, 2002; Elsas *et al.*, 2006).

Studies that examine shareholder value gains in cross-border bank mergers also generally report mixed results. In the US, Cornett *et al.* (2003) find that significant returns accrue to the bidder's shareholders in mergers that are focused both geographically and by product, but not in diversified mergers. DeLong (2003a) reports that the market is found to favour focused rather than diversifying bank mergers. On the other hand, Hendershott *et al.* (2002) report that cross-border mergers are found to yield statistically significant returns in insurance firms and investment banks but not in commercial banks. US studies that have examined bank-non-bank mergers also find that cross-border and product diversifications are both beneficial (Emmons *et al*. 2004; Estrella, 2001; Lown *et al.*, 2000). In Europe, as noted above, bank

merger studies have similarly found results mixed results, some reporting that domestic bank mergers are more value-creating than cross-border mergers (Cybo-Ottone and Murgia, 2000; Beitel *et al*., 2004; Goergen and Renneboorg, 2004; Campa and Hernando, 2004, 2006) while others reporting the opposite (Lepetit *et al*., 2004; Ekkayokkaya *et al*., 2009).

7. BARRIERS TO EU BANKING SECTOR CONSOLIDATION

As the single market for financial services strengthened in the 1990s with the introduction of the Euro, the expectation was that the universal banking market in the EU would stimulate financial integration and competition, leading to lower costs of financial intermediation. However, as noted earlier, cross-border mergers have generally been far fewer than domestic mergers and this has accounted for the slow pace of financial integration in retail banking. Although it is possible for international banks to expand by branch network in the foreign country, experience shows that *de novo* operations are an expensive and slow way of capturing a new market. Cross-border mergers are therefore seen as the more viable way of strengthening the single market in financial services but regulatory and political barriers have hindered this process of cross-border integration (Hernando *et al*, 2009). In particular, misuse of supervisory powers and political interference have been identified as two specific barriers to cross-border bank mergers, explaining the preference for domestic over cross-border deals and resulting in some cases to "domestic champions" (European Commission, 2005). In response to this situation, the European Parliament and the Council issued Directive 2007/44/CE, improving procedures and evaluation standards for prudential appraisal of mergers and increases in share ownership. The directive requires, among other things, that upon reaching thresholds of 20%, 30%, and 50% share ownership be notified to the host country supervisor, and clarifies on the timings of the various stages to acquisition, including the conditions for stopping the merger.

The European Commission (2005) also points to another barrier in cross-border mergers being the inability to pay for the deal out of reduced costs, due to limited scope for cost savings out of pre-merger duplicated operations. Government restrictions and institutional barriers have made it hard to realize cost savings through staff layoffs. This experience has led Carbo-Valverde *et al.* (2007) to caution against dependence on scale for enhancing cost efficiency and achieving dominance in the EU market. Such a merger goal may only be

achieved with labour market reforms which will allow institutions to reduce their staff costs and better control their input mix.

Some studies report results that are more positive about other aspects of financial integration. For example, Ayuso and Blanco (2001) report that as banking sector consolidation picked up speed in the 1990s, European stock markets moved closer in integration. It has also been observed that there is increasing integration in inter-bank and wholesale banking but not in retail banking. The European Central Bank blames the nature of traditional banking for the slow progress in cross-border expansion of commercial banking (ECB, 2004b). Degryse and Ongena (2004) offer a similar view, and caution that current technologies and regulations are inadequate for removing the obstacles still left before retail banking markets are effectively integrated. Language and distance barriers, brand, reputation, branch networks, and existence of local as opposed to national regulations, are cited by Gual (2004) as contributing to the delay in integration of the retail banking markets. According to Campa and Hernando (2006), lack of integration in the retail markets is reflected in the continued offer of some traditional products by commercial banks in some EU countries. For example, checking accounts contribute more than 50% of retail banking profits in Europe, while in the Anglo-Saxon and Nordic countries traditional products contribute less than 20% of sector profits. In the UK, asset management and related products make up 32% of bank profits, but they account for less than 15% of bank profits in France and Germany. These examples indicate that banking markets function differently across the European Union, and suggests that it may take a long time before the EU market is fully harmonized.

8. US AND EUROPEAN BANK MERGER PERFORMANCE

The majority of studies that have examined the merger phenomenon in banking have analyzed 1980s and 1990s data, and most research for these decades investigated the US banking industry. In contrast, European research took time to take off in earnest (with little done on 1980s data) and most studies here have used data on mergers that occurred during 1990s and 2000s.[7] Research done on 1980s and 1990s merger transactions, especially for US deals, reveals that bank mergers are value-destroying (e.g. Siems, 1996; Scott-Frame and

[7] Appendix 1 lists the studies on bank merger performance for the EU, US and other countries, together with a summary of the findings of each study.

Lastrapes, 1998). This has lent credence to the assertion that managements engage in mergers for their own benefits and not that of their shareholders. On the other hand, early European studies indicated that mergers were beneficial though no definitive conclusions could be made with limited research done. More recent US research, however, reveals the possibility of efficiency gains from mergers and, similarly, European studies also increasingly find banks mergers to be beneficial (DeYoung *et al*, 2009).

One of the reasons for the difference in the early US and European results is that the two financial systems were fundamentally different for many years until two key legislations were passed in the US. In 1994 the Riegle-Neal Act allowed geographic deregulation so that banks could operate and acquire other banks across state lines. Subsequently, in 1999, the Gramm-Leach-Bliley Act allowed banks to operate the way universal banks had been allowed to operate in Europe for many years before, engaging in commercial banking, insurance, securities, and so on[8]. These two legislative measures have moved the US banking industry much closer to the European model. However, with respect to merger performance there still remains differences, particularly to do with how the combined entity operates after merger. For example, Hagendorff and Keasey (2008) suggest that whereas post-merger European banks focus initially on cost-cutting to improve efficiency, US banks direct most of their effort to enhancing revenue to boost profitability. To support their argument, they find evidence suggesting that the European strategy generates gains, although it takes some years for them to be realized, while the US strategy of revenue enhancement does not show that mergers are beneficial. Increasingly, more studies on 2000s data are finding results that point to positive merger benefits exceeding what was found for studies using 1990s mergers.

While the above evidence reflects the outcome of bank merger studies that typically have used data relating to 1980s and 1990s, there is new interest to look more closely at post-2000 research as recent studies seem to produce results that are supportive of the view that mergers are beneficial (DeYoung *et al.*, 2009). The following discussion reviews merger performance by looking first at the pre-2000 studies before considering how findings of post-2000 studies are changing the general perception on bank merger performance. Most studies have examined the reaction of the stock market to merger announcements as determined by the

[8] Appendix 2 lists additional information on European and U.S. legislative measures on financial sector consolidation.

event study method and post-merger improvements in efficiency as measured by accounting performance ratios or frontier techniques.

Pre-2000 Abnormal Returns

The event study method is used to determine whether a merger announcement leads to a positive reaction by the market as observed in a rise in the share price of the parties to the merger. A rise in the share price above what would have been the price without the merger is said to create an abnormal return and therefore value to the shareholder. In general, a share price is said to represent the net present value of future cash flows from that share; hence the creation of value through an abnormal return. Most studies that have examined abnormal returns conclude that the 1980s and 1990s mergers led to positive gains for the target shareholders but negative returns for the bidder shareholders (DeLong, 2001a; Pilloff, 1996; Houston and Ryngaert, 1994). In many cases studies that report gains for target shareholders and losses for bidder shareholders report, on balance, zero net gains for the combined firm as the two cancel each other. However, some studies report positive gains to both shareholders leading to a positive gain for the combined entity (Houston *et al*., 2001; Cybo-Ottone Murgia, 2000; Beitel et al, 2004; Brewer *et al*., 2000).

Post-2000 Studies on Abnormal Returns[9]

Studies examining US evidence continue to find mixed results with regard to shareholder returns from merger announcements. Knapp *et al*. (2005) find negative gains to shareholders and post-merger reductions in profitability, non-interest income and credit quality. On the other hand, Olson and Pagano (2005) report shareholder gains, although they associate these with growth that had started before the merger. Positive gains are also reported by DeLong and DeYoung (2007), which as they point last only for a short while. Penas and Unal (2004) examine and find support for bondholders gain in merger announcements and post-merger decreases in the cost of debt. Hart and Apilado (2002) find that post-1994 US bank mergers after geographic deregulation generated greater returns than mergers before.

In Europe the results are more positive than those of US studies. Even on pre-2000 mergers, Cybo-Ottone and Murgia (2000) and Beitel *et al*. (2004) report positive shareholder returns. Lepetit *et al*. (2004) and Lensink and Maslennikova (2008) examine a range of mergers deals

[9] It should be noted that some of the post-2000 studies investigate pre-2000 mergers.

and find positive shareholder returns even for diversifying (bank-non-bank) mergers. Campa and Hernando (2006), one of the few studies to analyze both market reaction and efficiency, investigate 244 European bank mergers over the period 1998-2002 and find announcement period gains for target shareholders but insignificant results for the bidder shareholders. They also find post-merger improvement in efficiency, and in profitability as measured by return on equity. Investigating 98 cross-border mergers involving mostly US and European banks but also some from other economic regions over the period 1985-2005, Schmautzer (2007) finds positive shareholder returns for both the targets and the bidders, with gains being greater for targets. Similarly, Ekkayokkaya *et al.* (2009) report positive shareholder returns on announcement of bank-to-bank mergers, finding that the pre-Euro (1999) returns were larger than those that accrued to post-Euro mergers.

Pre-2000 Studies on Efficiency Gains

Cost efficiency is one of the most thoroughly investigated merger effect as most bidders often suggest that the reason for engaging in a merger is to implement a cost saving strategy that can improve efficiency for the combined firm. Studies[10] that have investigated cost (and also profit efficiency) in the 1980s and 1990s mergers generally find little evidence of efficiency improvements (Group of Ten, 2001; Berger *et al.*, 1999) leading to the consensus view that efficiency gains from these studies were elusive (DeYoung *et al*, 2009).

Post-2000 Studies on Efficiency Gains[11]

US studies on efficiency show more promising results than the market reaction findings. Investigating bank mergers in the period 1987-2003, Knapp *et al.* (2006) find considerable profit gains that last up to five years after merger. Similarly, Cornett *et al.* (2006) find that revenue efficiency improves in large bank mergers focused by product as well as those focused geographically. In an earlier study that examined 1990s bank mergers, Kwan and Wilcox (2002) find considerable cost savings attributable to those mergers. Overall, following recent findings, the consensus seems to be that US mergers lead to efficiency gains, although further research is warranted for the evidence to be compelling.

[10] Appendix 1 lists numerous pre-2000 efficiency studies (as well as post-2000 ones) that could not be covered in this review.

[11] It should be noted that among the above post-2000 studies are studies that examine a longer period going back to the 1990s.

In Europe, there is more conviction, as a result of growing evidence, that bank mergers lead to efficiency gains. A number of European studies find post-merger performance gains in efficiency as well as profitability as measured using various ratios over time. Altunbas and Ibanez (2008) find that firms with similar strategies outperform those with different strategies in both efficiency and profitability. A similar result is found by Diaz *et al.* (2004) who report that bank-to-bank mergers perform better than bank-non-bank mergers. Some studies find that cost efficiency gains tend to appear earlier than profit efficiency improvements (Diaz *et al.*, 2004; Campa and Hernando, 2006). In a study of the effects of market power, De Guevara *et al.* (2005) find results to suggest that gains in efficiency arise because market power led marginal costs to fall faster than prices. Huizinga *et al.* (2001) find that both cost and profit efficiency improve after merger but profit efficiency gains are minimal. Ayadi and Pujals (2005) find improvements in both cost and profit efficiency.

Country based studies for Europe also report efficiency improvements in bank mergers. In a study of 61 UK bank mergers, Ashton and Pham (2007) find efficiency improvements, as does Koetter (2005) in a study of German bank mergers that occurred in the 1990s, and De Guevara and Maudos (2007) in an investigation of Spanish bank mergers for the period 1986-2002. In another study of Spanish banks, Carbo and Humphrey (2004) examine 22 mergers for the period 1986-2000 and find improved profitability following a reduction of 0.5% in unit costs and a rise of 4% in returns.

10. CONCLUSION

This chapter has reviewed the motives and evidence relating to performance of bank mergers that are based on the wave of consolidation in banking that began in the 1980s and continued into the 1990s and 2000s with a particular focus on the European Banking industry. Aspects of consolidation that are useful in understanding why mergers of financial institutions occur, including those of cross-border or cross-industry in nature, the efficiency implications and in particular, the impact of mergers on shareholder value creation have been discussed with comparative focus on both EU and US evidence. The review provides an account of key developments and issues that have enabled the bank merger phenomenon along with the emerging importance of cross-border mergers in Europe.

A key issue examined in this review is that of shareholder value creation from mergers. The predominant way of investigating shareholder value is by use of event study method which measures the stock market reaction to merger announcement. The review analyses the major factors explaining value creation and the sources of such gains, providing comparative evidence for both EU and the US. Other methods of evaluating performance include comparing efficiency both pre and post merger using frontier techniques, and employing accounting ratios to determine profitability improvements. Some evidence pertaining to these aspects of performance is also examined.

Most pre-2000 studies find evidence that merger expectations with regard to efficiency and shareholder value creation are not realized, and most of this research has examined US banks where evidence of value-destruction is found. These results led to the suggestion that the reason mergers continued despite lack of performance improvements was because they were being undertaken in the interest of the management and not the shareholders. Post-2000 US studies, however, suggest evidence of efficiency improvements, although shareholder value results from studies that examine stock market reaction are roughly evenly split between those which find evidence of gains and those which do not. Studies for bank mergers in Europe, on the other hand, continue to show evidence of shareholder value, efficiency and profitability gains in varying degrees. A possible reason for better results reported in recent research than for those earlier periods may be the existence of better capabilities and scope for improving efficiency, better management skills or simply the employment of improved methods of examining performance by recent studies.

REFERENCES

Aggarwal, R., Akhigbe, A., and McNulty, J. E. (2006) 'Are differences between acquiring bank profit efficiency priced in financial markets?' *Journal of Financial Services Research* 30 (3), 265-286.

Akhavein, J. D., Berger, A. N., and Humphrey, D. B. (1997) 'The effects of megamergers on efficiency and prices: Evidence from a bank profit function'. *Review of Industrial Organization* 12 (1), 95–139.

Allen, F. and Song, W. L. (2005) 'Financial integration and EMU'. *European Financial Management* 11 (1), 7-24.

Al-Sharkas, A. A., Hassan, M. K., and Lawrence, S. (2008) 'The impact of mergers and acquisitions on the efficiency of the US banking industry: Further evidence'. *Journal of Business Finance and Accounting* 35 (1-2), 50–70.

Altunbas, Y. and Marques Ibanez, D. (2008) 'Mergers and acquisitions and bank performance in Europe: The role of strategic similarities'. *Journal of Economics and Business* 60 (3), 204–222.

Amel, D., Barnes, C., Panetta, F., and Salleo, C. (2004) 'Consolidation and efficiency in the financial sector: a review of the international evidence'. *Journal of Banking and Finance* 28 (10), 2493–2519.

Anderson, C., Becher, D., and Campbell, T. (2004) 'Bank mergers, the market for bank CEOs, and managerial incentives'. *Journal of Financial Intermediation* 13 (1), 6–27.

Ashton, J. K. and Pham, K. (2007) 'Efficiency and price effects of horizontal bank mergers'. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Ayadi, R. and Pujals, G. (2005) 'Banking mergers and acquisitions in the EU: Overview, Assessment and Prospects'. available from http://www.suerf.org [January 5, 2011].

Ayuso, J. and Blanco, R. (2001) 'Has financial market integration increased during the nineties?' *Journal of International Financial Markets, Institutions and Money* 11 (3-4), 265-287.

Baradwaj, B. G., Fraser, D. R., and Furtado, E. P. H. (1990) 'Hostile bank takeover offers: analysis and implications'. *Journal of Banking and Finance* 14 (6), 1229-1242.

Beccalli, E. and Frantz, P. (2009) 'M&A Operations and performance in banking'. *Journal of Financial Services Research* 36 (2-3), 203-226.

Becher, D. A. (2000) 'The valuation effects of bank mergers'. *Journal of Corporate Finance* 6 (2), 189-214.

Beitel, P. and Schiereck, D. (2001) 'Value creation at the ongoing consolidation of the European banking market'. Institute for Mergers and Acquisitions, Working Paper No. 05-01.

Beitel, P., Schiereck, D., and Wahrenburg, M. (2004) 'Explaining M&As Success in European Banks'. *European Financial Management* 10 (1), 109-139.

Berger, A. N., and Humphrey, D. B. (1992) 'Megamergers in banking and the use of cost efficiency as an antitrust defense'. *Antitrust Bulletin* 37 (3), 541–600.

Berger, A. N. and Humphrey, D. B. (1994) 'Bank scale economies, mergers, concentration, and efficiency: The US experience'. Financial Institutions Center, The Wharton School, University of Pennsylvania, Working Paper No. 94-25.

Berger, A. N. and Mester, L. J. (1997) 'Inside the Black Box: What explains the differences in the efficiencies of financial institutions?' *Journal of Banking and Finance* 21 (7), 895-947.

Berger, A. N. and Humphrey, D. B. (1997) 'Efficiency of financial institutions: International survey and directions for future research'. *European Journal of Operational Research* 98 (2), 175-212.

Berger A. N. (1998) 'The efficiency effects of bank mergers and acquisitions: a preliminary look at the 1990s data'. in *Bank Mergers and Acquisitions. eds.* Amihud Y., and Miller, G. Boston: Kluwer.

Berger, A. N. and Hannan, T. H. (1998) 'The efficiency cost of market power in the banking industry: a test of the 'quiet life' and related hypotheses'. *Review of Economics and Statistics* 80 (3), 454–465.

Berger, A. N., Demsetz, R. S., and Strahan, P. E., (1999) 'The consolidation of the financial services industry: Causes, consequences, and implications for the future'. *Journal of Banking and Finance* 23 (2–4), 135–194.

Berger, A. N. (2000) 'The integration of the financial services industries: where are the efficiencies?' *North American Actuarial Journal* 4 (3), 25-52.

Berger, A. N., Cummins, D. J., Weiss, M.A., and Zi, H. (2000a) 'Conglomeration versus strategic focus: Evidence from the insurance industry'. Board of Governors of the Federal Reserve System.

Berger, A. N., DeYoung, R., Genay, H., and Udell, G. F. (2000b) 'Globalization of financial institutions: evidence from cross-border banking performance'. Brookings-Wharton Papers on Financial Services, 23–120.

Berger, A. N. and DeYoung, R. (2000) 'The financial performance of cross-regional commercial banks in the U.S.: Some clues regarding the eventual structure of a consolidating industry'. Board of Governors of the Federal Reserve System.

Berger, A. N. (2003) 'The efficiency effects of a single market for financial services in Europe'. *European Journal of Operational Research* 150 (3), 466-481.

Berger, A. N., Buch, C. M., DeLong, G. L., and DeYoung, R. (2004) 'Exporting financial institutions management via foreign direct investment mergers and acquisitions'. *Journal of International Money and Finance* 23(3), 333–366.

Berger, A. N., Bonime, S. D., Goldberg, L. G., and White, L. J. (2004) 'The dynamics of market entry: the effects of mergers and acquisitions on entry in the banking industry'. *Journal of Business* 77 (4), 797–834.

Berger, A. N. (2007) 'Obstacles to a global banking system: 'Old Europe' versus 'New Europe''. *Journal of Banking and Finance 3*1 (7), 1955–1973.

Bliss, R. T. and Rosen, R. J. (2001) 'CEO compensation and bank mergers'. *Journal of Financial Economics* 61 (1), 107–138.

Bonin, J. P. and Wachtel, P. (1999) 'Lessons from Bank Privatization in Central Europe'. available from http://deepblue.lib.umich.edu/bitstream/2027.42/39631/3/wp245 [January 5, 2011].

Bottiglia, R., Gualandri, E., and Mazzocco, G. N. (eds.) (2010) *Consolidation in the European Financial Industry*. Eastbourne: Palgrave.

Boyd, J. H. and Graham, S. L. (1998) 'Consolidation in US banking: implications for efficiency and risk' in Amihud, Y. and Miller, G. (eds.) *Bank Mergers and Acquisitions*. London: Kluwer Academic Publishers.

Brewer, E., Jackson, W., Jagtiani, J. and Nguyen, T. (2000) 'The Price of Bank Mergers in the 1990s'. Federal Bank of Chicago, *Economic Perspectives*, March, 2–23. available from www.chicagofed.org [January 5, 2011].

Buch, C. M. (2000) 'Why Do Banks Go Abroad? Evidence from German Data', *Financial Markets, Institutions and Instruments*, 9 (1), 33-67.

Buch, C. M., and DeLong, G. L. (2004) 'Cross-border Bank Mergers: What Lures the Rare Animal?' *Journal of Banking and Finance* 28 (9), 2077-2102.

Buch, C. and DeLong, G. L. (2008) 'Banking globalization: international consolidation and mergers in banking'. available from http://ideas.repec.org/p/iaw/iawdip [January 5, 2011].

Cabral, I., Dierick, F., and Vesala, J. (2002) 'Banking Integration in the euro area'. ECB Occasional Paper No. 6.

Campa, J. M. and Hernando, I. (2004) 'Shareholder value creation in European M&As'. *European Financial Management* 10(1), 47-81.

Campa J. M. and Hernando, I. (2006) 'M&A performance in the European financial industry'. *Journal of Banking and Finance* 30 (12), 3367–3392.

Carbo-Valverde, S. and Humphrey, D. B. (2004) 'Predicted and actual costs from individual bank mergers'. *Journal of Economics and Business* 56 (2), 137–157.

Carbo-Valverde, S., Humphrey, D., and Del Paso, R. L. (2007) 'Do cross-country differences in bank efficiency support a policy of "national champions"?' *Journal of Banking and Finance* 31 (7), 2173-2188.

Chari, A., Oumet, P., and Tesar, L. L. (2004) 'Cross border mergers and acquisitions in Emerging Markets: The stock market valuation of corporate control'. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Chronopoulos, D. K., Girardone, C., and Nankervis, J. C. (2010) 'Post-merger bank efficiency and stock market reaction: the case of the US versus Europe'. in *New Issues in Financial Institutions Management*. ed. by Fiordelisi, F., Molyneux, P., and Previati, D. Eastbourne: Palgrave Macmillan.

Claessens, S. and van Horen, N. (2007) 'Location Decisions of Foreign Banks and Competitive Advantage'. *World Bank Policy Research Working Paper* No. 4113.

Copeland, T. E., Weston, J. F. and Shastri, K. (2003) *Financial Theory and Corporate Policy*, 4th edn. New York: Pearson Education.

Cornett, M. M., Hovakimian, G., Palia D., and Tehranian H. (2003) 'The impact of the manager-shareholder conflict on acquiring bank returns'. *Journal of Banking and Finance* 27 (1), 103–131.

Cornett, M. M., McNutt, J. J., and Tehranian, H. (2006) 'Performance changes around bank mergers: revenue enhancements versus cost reductions'. *Journal of Money, Credit and Banking* 38 (4), 1013–1050.

Corvoisier, S. and Gropp, R. (2002) 'Bank concentration and retail interest rates'. *Journal of Banking and Finance* 26 (11), 2155-2189.

Cummins, J. D. and Weiss M. A. (2004) 'Consolidation in the European insurance industry: Do mergers and acquisitions create value for shareholders?' Wharton Financial Institution Center Working Paper 04-02, University of Pennsylvania.

Cybo-Ottone, A. and Murgia, M. (2000) 'Mergers and shareholder wealth in European banking'. *Journal of Banking and Finance* 24 (6), 831–859.

Degryse, H. A., Masschelein, N., and Mitchell, J. (2006) 'Staying, dropping, or switching: the impacts of bank mergers on SMEs'. Tilburg Law and Economics Center (TILEC) Discussion Paper No. 2006-034, December. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Degryse, H. A. and Ongena, S. (2004) 'The impact of technology and regulation on the geographical scope of banking', *Oxford Review of Economic Policy* 20 (4), 571-590.

De Guevara, J. F., Maudos, J., and Perez, F. (2005) 'Market power in the European banking sector'. *Journal of Financial Services Research* 27 (2), 109–137.

De Guevara, J. F. and Maudos, J. (2007) 'Explanatory factors of market power in the banking system'. *The Manchester School* 75 (3), 275–296.

DeLong, G. L. (2001a) 'Focusing versus diversifying mergers: analysis of market reaction and long-term performance'. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

DeLong, G. L. (2001b) 'Stockholder gains from focusing versus diversifying bank mergers'. *Journal of Financial Economics* 59 (2), 221–252.

DeLong, G. L. (2003a) 'Does Long-term Performance of Mergers Match Market Expectations? Evidence from the US Banking Industry'. *Financial Management* 32 (2), 5–25.

DeLong, G. L. (2003b) 'The announcement effects of US versus non-US bank mergers: do they differ?' *The Journal of Financial Research* 26 (4), 487-500.

DeLong, G. L. and DeYoung, R. (2007) 'Learning by observing: Information spillovers in the execution and valuation of commercial bank M&As'. *Journal of Finance* 62 (1), 181–216.

DeYoung, R. (1997) 'Bank mergers, X-efficiency, and the market for corporate control'. *Managerial Finance* 23 (1), 32–47.

DeYoung, R., Evanoff, D. D., and Molyneux, P. (2009) 'Mergers and Acquisitions of Financial Institutions: A Review of the Post-2000 Literature'. *Journal of Financial Services Research* 36 (2-3), 87-110.

Diaz, B., Olalla, M., and Azorfa, S. (2004) 'Bank acquisitions and performance: evidence from a panel of European credit entities'. *Journal of Economics and Business* 56 (5), 377–404.

Ekkayokkaya, M., Holmes, P., and Paudyal, K. (2009) 'The Euro and the changing face of European banking: evidence from mergers and acquisitions'. *European Financial Management* 15 (2), 451–476.

Elsas, R., Hackethal, A. and Holzhauser, M. (2006) 'The anatomy of bank diversification'. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Emmons, W. R., Gilbert, R. A., and Yeager, T. Y. (2004) 'Reducing the risk at small community banks: is it size or geographic diversification that matters?' *Journal of Financial Services Research* 25 (2-3), 259–281.

Estrella, A. (2001) 'Mixing and matching: Prospective financial sector mergers and market valuation'. *Journal of Banking and Finance* 25 (12), 2367–2392.

European Central Bank (ECB) (2000) ‘Mergers and acquisitions involving the EU banking industry – facts and implications’. ECB, Frankfurt

European Central Bank (ECB) (2004a) ‘Report on EU Banking Structure’. ECB, Frankfurt, November.

European Central Bank (ECB) (2004b) ‘Research Network on Capital Markets and Financial Integration in Europe’. ECB, Frankfurt, December.

European Central Bank (ECB) (2010) ‘EU Banking Structures’. ECB, Frankfurt, September.

European Central Bank (ECB) (2006) ‘EU Banking Structures’. ECB, Frankfurt, October.

European Commission (2005), ‘*Cross-border Consolidation in the EU Financial Sector’.* available from http://ec.europa.eu/internal_market/finances/docs/cross-sector/mergers/cross-border-consolidation_en [January 5, 2011].

Fiordelisi, F. (2008) ‘Efficiency and shareholder return in banking’. *International Journal of Banking, Accounting and Finance* 1 (2), 114-132.

Floreani, A. and Rigamonti, S. (2001) ‘Mergers and shareholders’ wealth in the insurance industry’. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Focarelli, D. and Pozollo, A. F. (2000) ‘The determinants of cross-border shareholdings: an analysis with bank-level data from OECD countries’. available from http://ideas.repec.org/p/bdi/wp/temi [January 5, 2011].

Focarelli, D. and Pozzolo, A. F. (2001) ‘The patterns of cross-border bank mergers and shareholdings in OECD countries’. *Journal of Banking and Finance* 25 (12), 2305–2337.

Focarelli, D., Panetta, F., and Salleo, C. (2002) ‘Why do banks merge?’ *Journal of Money, Credit and Banking* 34 (4), 1047–1066.

Focarelli, D. and Panetta, F. (2003) 'Are mergers beneficial to consumers? Evidence from the market for bank deposits'. *American Economic Review* 93 (4), 1152–1172.

Focarelli, D. and Pozzolo, A. F. (2005) 'Where do banks expand abroad? An empirical analysis'. *Journal of Business* 78(6) 2435-2463.

Focarelli, D. and Pozollo, A. F. (2008) 'Cross-border M&As in the financial sector: is banking different from insurance?' *Journal of Banking & Finance* 32 (1), 15-29.

Fritsch, M., Gleisner, F., and Holzhauser, M. (2006) 'Bank M&A in Central and Eastern Europe' available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Gardener, E. P. M., Molyneux, P. and Moore, B. (2001) 'The Impact of the Single Market Programme on EU banking'. *The Service Industries Journal* 21 (2), 47-70.

Goddard, J., Molyneux, P., and Wilson, J. O. S. (2001) *European Banking: Efficiency, Technology and Growth*. Chichester: John Wiley & Sons.

Goddard, J., Molyneux P., Wilson, J. O. S., and Tavakoli, M. (2007) 'European Banking: An Overview'. *Journal of Banking and Finance* 31 (7), 1911-1935.

Goergen, M. and Renneboorg, L. (2004) 'Shareholder wealth effects of European domestic and cross-border takeover bids'. *European Financial Management* 10 (1), 9-45.

Group of Ten, (2001), *Report on Consolidation in the Financial Sector*. available from http://www.imf.org/external/np/g10/2001/01/eng [January 5, 2011].

Gual, J. (2004) 'The integration of EU banking markets'. Centre for Economic Policy Research, London. Discussion Paper Series No. 4212.

Hadlock, C., Houston, J. and Ryngaert, M. (1999) 'The role of managerial incentives in bank acquisition'. *Journal of Banking and Finance* 23 (2-4), 221-249.

Hagendorff, J., Collins, M., and Keasey, K. (2008) 'Investor Protection and the Value Effects of Bank Merger Announcements in Europe and the US'. *Journal of Banking and Finance* 32 (7), 1333-1348.

Hagendorff, J. and Keasey, K. (2009) 'Post-merger strategy and performance: evidence from the US and European banking industries'. *Accounting and Finance* 49 (4), 725-751.

Hannan, T. H. and Pilloff, S. J. (2005) 'Will the proposed application of Basel II in the United States encourage increased bank merger activity? Evidence from past merger activity'. Federal Reserve Board of Governors. Finance and Economics Discussion Series No. 13.

Hart, J. R. and Apilado, V. P. (2002) 'Inexperienced banks and interstate mergers'. *Journal of Economics & Business* 54 (3) 313-330.

Hawawini, G. A. and Swary, I. (1990) *Mergers and Acquisitions in the US Banking Industry: Evidence from the Capital Markets*, New York: Elsevier Science Publishers.

Hendershott, R. J., Lee, D. E., and Tompkins, J. G. (2002) 'Winners and losers as financial service providers converge: evidence from the Financial Modernization Act of 1999'. *Financial Review* 37 (1), 53–72.

Hernando, I., Nieto, M. J., and Wall, L. D. (2009) 'Determinants of domestic and cross-border bank acquisitions in the European Union'. *Journal of Banking and Finance* 33 (6), 1022-1032.

Houston, J. H. and Ryngaert, M. D. (1994) 'The overall gains from large bank mergers'. *Journal of Banking and Finance* 18 (6), 1155-1176.

Houston, J. H., James, C. M. and Ryngaert, M. D. (2001) 'Where do merger gains come from? Bank mergers from the perspective of insiders and outsiders'. *Journal of Financial Economics* 60 (2-3), 285-331.

Hughes, J. P., Lang, W., Mester, L. J., and Moon C. G. (1999) 'The Dollars and Sense of Bank Consolidation'. *Journal of Banking and Finance* 23 (2–4), 291–324.

Hughes, J., Lang, W., Mester, L., Moon, C. G., and Pagano, M. (2003) 'Do bankers sacrifice value to build empires? Managerial incentives, industry consolidation, and financial performance'. *Journal of Banking and Finance* 27 (3), 417–447.

Huizinga, H. P., Nelissen, J. H. M., and Vander Vennet, R. (2001) 'Efficiency effects of bank mergers and acquisitions in Europe', Ghent University. Working Paper No. 106.

Ismail, A. and Davidson, I. (2005) 'Further analysis of mergers and shareholder wealth effects in European banking'. *Applied Financial Economics* 15 (1), 13-30.

Jones, K. D. and Critchfield, T. (2005) 'Consolidation in the US Banking Industry: Is the "Long Strange Trip" About to End?' *FDIC Banking Review*, 17 (4), 31-61.

Kane, E. (2000) 'Incentives for Banking Megamergers: What Motives Might Regulators Infer from Event-study Evidence?' *Journal of Money, Credit and Banking* 32 (3), 671-701.

Kaufman, D. J. (1988) 'Factors affecting the magnitude of premiums paid to target-firm shareholders in corporate acquisitions'. *The Financial Review* 23 (4), 465-482.

Kiymaz, H. and Mukherjee, T. K. (2000) 'The impact of country diversification on wealth effects in cross-border mergers'. *The Financial Review* 35 (2), 37-58.

Kiymaz, H. (2004) 'Cross-border acquisitions of US financial institutions: Impact of macroeconomic factors'. *Journal of Banking and Finance* 28 (6), 1413-1439.

Knapp, M., Gart, A., and Becher, D. (2005) 'Post-merger performance of bank-holding companies 1987–1998'. *Financial Review* 40 (4), 549–574.

Knapp, M., Gart, A., and Chaudhry, M. (2006) 'The impact of mean reversion of bank profitability on post-merger performance in the banking industry'. *Journal of Banking and Finance* 30 (12), 3503–3517.

Koetter, M. (2005) 'Evaluating the German bank merger wave'. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Kohers, T., Huang, M. and Kohers, N. (2000), 'Market perceptions of efficiency in bank holding company mergers: The roles of the DEA and SFA models in capturing merger potential'. *Review of Financial Economics* 9 (2), 101-120.

Kwan, S. H. and Laderman, E. S. (1999) 'On the portfolio effects of financial convergence – a review of the literature'. Federal Reserve Bank of San Francisco, *Economic Review* 2, 18-31.

Kwan, S. H. and Wilcox, J. A. (2002) 'Hidden Cost Reductions in Bank Mergers: Accounting for More Productive Banks'. *Research in Finance* 19, 109-124.

Lensink, R., and Maslennikova, I. (2008) 'Value Performance of European Bank Acquisitions'. *Applied Financial Economics* 18 (3), 185-198.

Lepetit, L., Patry, S., and Rous, P. (2004) 'Diversification versus specialization: an event study of M&As in the European banking industry'. *Applied Financial Economics* 14 (9), 663–669.

Levy, H. and Sarnat, M. (1970) 'Diversification, Portfolio Analysis and the Uneasy Case for Conglomerate Mergers'. *Journal of Finance* 25 (4), 795-802.

Lorenz, J. T. and Schiereck, D. (2007) 'Completed versus canceled banking M&A transactions in Europe'. Working Paper available at http://affi2007.u-bordeaux4.fr/Actes [January 5, 2011]

Lown, C. S., Osler, C. L., Strahan, P. E., and Sufi, A. (2000) 'The changing landscape of the financial service industry: what lies ahead?' Federal Reserve Bank New York, *Economic Policy Review* 6(4), 39–54.

Madura, J. and Wiant, K. J. (1994) 'Long-term valuation effects of bank acquisitions' *Journal of Banking and Finance* 18 (6), 1135-1154.

Mayer-Sommer, A. P., Sweeney, S. and Walker, D. A. (2005) 'Effect of bank acquisition on shareholder returns'. *Bank Accounting & Finance* 18 (4), 11-16.

Miller, S. M. and Noulas, A. G. (1996), 'The technical efficiency of large bank production', *Journal of Banking and Finance* 20 (3), 495-509.

Molyneux, P., Altunbas, Y., and Gardener, E. (1996) *Efficiency in European Banking*. Chichester: John Wiley & Sons.

Moore, R. R. (1996) 'Banking's merger fervor: Survival of the fittest?' Federal Reserve Bank of Dallas. *Financial Industry Studies*, December, 9-15.

Nnadi, M. and Tanna, S. (2011) 'Analysis of Cross-border and Domestic Mega-M&As of European Commercial Banks', forthcoming *Managerial Finance*.

Olson, G. T. and Pagano, M. S. (2005) 'A new application of sustainable growth: a multi-dimensional framework for evaluating the long run performance of bank mergers'. *Journal of Business, Finance and Accounting* 32 (9-10), 1995–2036.

Pasiouras, F., Tanna, S., and Gaganis C. (2011) 'What drives acquisitions in the EU banking industry? The role of bank regulation and supervision framework, bank specific and market specific factors'. *Financial Markets, Institutions and Instruments*, 2 (2), 2011, p. 29-77.

Peek, J., Rosenberg, E. S., and Kasirye, F. (1999) 'The Poor Performance of Foreign Bank Subsidiaries: Were the Problems Acquired or Created?' *Journal of Banking and Finance* 23 (2-4), 579-604.

Penas, M. and Unal, H. (2004) 'Gains in bank mergers: Evidence from the bond market'. *Journal of Financial Economics* 74 (1), 149–179.

Peristiani, S. (1997) ‘Do Mergers Improve the X-Efficiency and Scale Economies of U.S. Banks? Evidence from the 1980s’. *Journal of Money, Credit, and Banking* 29 (3), 326–337.

Pilloff, S. J. (2004) ‘Bank merger activity in the United States 1994-2003’. Board of Governors of the Federal Reserve System, Staff Study 176, May.

Pilloff, S. J. (1996) ‘Performance changes and shareholder wealth creation associated with mergers of publicly traded banking institutions’. *Journal of Money, Credit, and Banking* 28 (3), 59–78.

Pilloff, S. and Santomero, A. M. (1998) ‘The value effect of bank mergers and acquisitions’. in *Bank Mergers and Acquisitions*. ed. by Amihud, Y., and Miller, G. Boston: Kluwer Academic Publishers.

Rhoades, S. A. (1993) ‘The Efficiency Effects of (in-market) horizontal bank mergers’. *Journal of Banking and Finance* 17 (2-3), 411-422.

Rhoades, S. A., (1994) ‘A summary of merger performance studies in banking, 1980-93, and an assessment of the operating performance and event study methodologies’. Federal Reserve Board. Staff Study No. 167.

Rhoades, S. A. (1998) ‘The efficiency effects of bank mergers: an overview of case studies of nine mergers’. *Journal of Banking and Finance* 22 (3), 273–291.

Roll, R. (1986) ‘The Hubris Hypothesis of Corporate Takeovers’. *Journal of Business* 59 (2), 197-216.

Rosen, R. J. (2004) ‘Betcha can’t acquire just one: merger programs and compensation’. Federal Reserve Bank of Chicago. Working Paper No. 2004-22.

Scholten, B. and De Wit, R. (2004) ‘Announcement effects of bank mergers in Europe and US’. *Research in International Business and Finance* 18 (2), 217-228.

Schmautzer, D. (2006) “Cross-border bank mergers: Who gains and why?” Working Paper. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Scott-Frame, W. and Lastrapes W.D. (1998) ‘Abnormal returns in the acquisition market: the case of bank holding companies 1990-1993’. *Journal of Financial Services Research* 14 (2), 145-163.

Siems, T. F. (1996), ‘Bank mergers and shareholder wealth: evidence from 1995’s megamerger deals’. Federal Reserve Bank of Dallas. *Financial Industry Studies*, August.

Tourani-Rad, A. T. and Van Beek, L. (1999) ‘Market Valuation of European Mergers’. *European Management Journal* 17 (5), 532-540.

Tschoegl, A. E. (2004) ‘Who owns the major US subsidiaries of foreign banks? A note.’ available from http://fic.wharton.upenn.edu/fic/papers/03 [January 5, 2011].

Urio, H. N. (2011) ‘The impact of Mergers and Acquisitions on Bank Efficiency in Europe’, unpublished PhD Thesis, Coventry University.

Vander Vennet, R. (1996) ‘The effect of mergers and acquisition on the efficiency and profitability of EC credit institutions’. *Journal of Banking and Finance* 20 (9), 1531-1558.

Vander Vennet R. (2002) ‘Cross-border mergers in European banking and bank efficiency’. available from http://www.ecri.be/new/system/files [January 5, 2011].

Vander Vennet, R. (1998) ‘Cost and profit dynamics in financial conglomerates and universal banks in Europe’. available from http://papers.ssrn.com/sol3/papers.cfm [January 5, 2011].

Vander Vennet, R. (2002) ‘Cost and profit efficiency of financial conglomerates and universal banks in Europe’. *Journal of Money, Credit and Banking* 34 (1), 254-282.

Varadarajan, P. R. and Cunningham, M. H. (1995) ‘Strategic alliances: A synthesis of conceptual foundations’. *Journal of the Academy of Marketing Science* 23 (4), 282-296.

Williams, J. and Liao, A. (2008) ‘The search for value: cross-border M&A in emerging market’. *Comparative Economic Studies* 50 (2), 274-296.

Zollo, M. and Leshchinkskii, D. (2000) ‘Can firms learn to acquire? Do markets notice?’ available from http://knowledge.wharton.upenn.edu. [January 5, 2011].

APPENDIX 1: SUMMARY OF BANK MERGER STUDIES

Table 1 Selected Bank Merger Studies (Europe)

Study	Findings
Vander Vennet (1996)	Examining the effects of mergers on the performance of financial institutions, the study finds that domestic mergers between firms of similar size increase the chances of post-merger improvement; in cross-border mergers improvement is observed in cost efficiency. Defensive tactics, management initiative, and growth of firm size, are found to drive most domestic mergers.
Cybo-Ottone, Murgia (2000)	Investigating shareholder wealth, the study finds that mergers between banks and bank acquisition of insurance firms result in positive abnormal returns. Mergers with securities firms and foreign banks generate the opposite results.
Beitel, Schiereck (2001)	This study investigates value creation in intra-sector and cross-sector mergers at domestic and international level. Target banks and the combined firm are found to gain considerably, with only minimal gains for the bidder. However results vary with the period investigated, with bidder banks posting negative abnormal returns mainly after 1998. Cross-border mergers are found to destroy value.
Huizinga, Nellisen, Vander Vennet (2001)	In a study of efficiency, the authors find significant cost efficiency improvement but much less improvement in profit efficiency in banks. They suggest that between banks and consumers, the latter might be the greater beneficiary of bank mergers.
Vander Vennet (2002)	Focusing on cross-border transactions, the study finds that takeover of a poorly performing bank by a very efficient bidder eliminates the inefficiencies, more through improved revenue than cost efficiencies.
Berger (2003)	Targeting cross-border and cross-sector mergers, this study looks at the impact on bank efficiency of the single European market. The study finds diseconomies of scope arising from post-merger organizational challenges, while suggesting potential for revenue enhancements through diversification, installation of one-stop shopping, and improvement in branding.
Altunbas, Marques Ibanez (2008)	Interested in strategic focus, the study examines similarities in banks engaged in mergers. One major finding is that the more the similarities in cross-border mergers the more the financial returns. Also, domestic mergers tend to be costly where the partners are strongly dissimilar.
Beitel, Schiereck, Wahrenburg (2004)	The study examines stock market reaction to merger announcements, and finds that stock markets favour intra-sector mergers where also the banks operate in the same geographical area. Banks inexperienced in mergers create greater value than those with prior experience. The study suggests that the market is more interested in particular managerial goals than in creation of shareholder value.
Cummins, Weiss (2004)	With its focus on value creation in insurance firms, the study finds abnormal returns generally positive for targets and negative for bidders in domestic mergers. Cross-border mergers also are positive for targets, but value-neutral for bidders. These results suggest that international mergers are beneficial.
Goergen, Renneboog (2004)	Investigating abnormal returns, the study finds high value creation for targets but near zero values for bidders. Hostile takeovers generate even higher abnormal returns for targets and even less values for bidders. UK mergers record better results than those in other European countries. Also, cash transactions generate higher values than those settled in stocks or mixed payments. The study found that the relative size of partners in a merger or their past performances did not affect their ability to create value. Domestic mergers were found to create more value than cross-border mergers. Targets in the UK, Austria, Switzerland and Germany generated more value than those in other countries. Managerial motivation, synergy creation, and agency problems were found to drive the majority of European bank mergers.
Diaz, Ollala, Azofra (2004)	Analyzing intra and inter-sector mergers, finds improvement in bidder long-term profitability, especially among bank mergers. Also, bidders record the least improvement in inter-sector mergers.
Lepetit, Patry, Rous, (2004)	Examining value creation, the study finds large benefits for the targets, in both domestic and cross-border mergers. Bank- insurance mergers generate lower returns than bank-bank combinations

Ayadi, Pujals (2005)	The study investigates profitability and efficiency in both domestic and cross-border mergers. Cost efficiencies are realized in both the target and the bidder. Revenue diversification leads to profitability improvement in both domestic and cross-border mergers.
Campa, Hernando (2006)	A study investigating value creation, it finds that merger announcements generate value for target shareholders, with little effect on those of the bidder. A year after merger, abnormal returns are about zero. In general, targets have below average performance in their sector before merger. Two years after merger, targets are found to have improved significantly in efficiency.
Fritsch, Gleisner, Hoshauzer (2007)	Focusing on firms in Central and Eastern Europe targeted mainly by bidders from Western Europe, the study fails to find any announcement effect on the bidder's share price. Rather, bidder banks' abnormal returns seem to be dependent on the target country's GDP growth rate, regulatory regime, and the extent of economic freedom.
Lorenz, Schiereck (2007)	The research compares mergers that fail to materialize after announcement with those which are concluded. The bidder experiences negative returns, while the target banks' share price gains considerably.
Beccalli, Pascal Frantz (2009)	Considering European bidders with bank targets from all over the world, the study examines how a merger impacts several performance indicators. The study reports that the combined bank's ROE may decline, and cash flow creation may suffer. And improvement in cost efficiency is not achieved until after five to six years.
Fiordelisi (2008)	The study examines efficiency and, using an EVA model, estimates value creation in mergers in the UK, Germany, France and Italy. Efficiency is found to increase slightly in bidders over a five-year period, but it declines in targets. More value creation is found in mergers than in acquisitions.
Ekkayokkaya, Holmes, Paudyal (2009)	This study looks at shareholder value creation following EMU and the easing of barriers to cross-border mergers. The authors report a decrease in shareholder returns, attributing this to the increased competition that ensued among market players.

Table 2 Selected Bank Merger Studies (US)

Study	Findings
Berger, Humphrey (1994)	Investigating efficiency, the study fails to conclude whether mergers improve efficiency or not, observing improvement in some mergers and decline in efficiency in others. The study suggests the potential for small firms to realize efficiency, as well as scale and scope economies.
Rhoades (1994)	The study considers firm performance in mergers and fails to find significant improvement therein. However, using the event study technique the author observes that mergers create value for target bank shareholders.
Peristiani (1997)	Examining post-merger performance, the study finds that the new bank does not improve on the bidder's pre-merger efficiency, although profitability increases and economies of scale are realized. Post-merger performance is found to be dependent on how well the management succeeds in using the bank's assets for quality improvement.
Siems (1996)	This is a study of mega-mergers. It finds positive returns for targets and negative ones for bidders. The market is seen to be positive on mergers, expecting them to result in improved cost efficiency, but not leading to increased market power.
Akhavein, Berger, Humphrey (1997)	Examining efficiency in mega-mergers, the study reports significant improvement in target profit efficiency, attributing it to change of strategy from investing in securities to doing so in market loans.
Berger (1998)	Investigating efficiency, this study reports benefits for banks whose pre-merger efficiency levels were considerably low. No benefits are observed for those firms that had above average efficiency levels pre-merger. Efficiency gains are attributed to a shift in investment strategy

	towards more customer loans and diversification of risk.
Boyd, Graham (1998)	Focusing on small banks, this study reports cost reduction and improved efficiency for involved banks post-merger.
Rhoades (1998)	Nine different cases are reviewed to examine the impact of bank mergers on efficiency. Improvement in efficiency is found in medium-sized banks. Cost efficiency improvement is rarely observed, although cost cutting is a common feature after merger. IT integration and operational challenges pose challenges that make it difficult to realize efficiency improvements earlier envisaged.
Scott-Frame, Lastrapes (1998)	This is a study of shareholder wealth. It reports that target shareholders gained at the expense of the bidder owners upon merger. It also observes that bidder banks can improve their benefits by engaging in interstate rather than intrastate mergers and a method of payment that involves goodwill and its amortization.
Berger, Demsetz, Strahan (1999)	This is a review of 250 studies. Mergers in financial institutions are found to lead to greater market power, improved payment systems, better bank services for small and medium enterprises, diversification of risk, and improved profitability. With increased systemic risk, costs increase for the country's financial system, while the regulatory authorities create more safety tools.
Hadlock, Houston, Ryngaert (1999)	The study examines bank performance, its governance at corporate level, and management incentives. Findings show that a bank's likelihood of becoming a merger target is related to the proportion of equity that its managers hold. The less the shares they hold the greater the probability that the bank will be targeted for merger.
Kwan, Laderman (1999)	Value creation and performance are examined in this study. Shareholder returns are insignificant, as well as profit efficiency. This is irrespective of the high levels of efficiency in some banks pre-merger.
Berger, De Young (2000)	This is a study on cross-border and geographical expansion. Efficiency is found to be unaffected by expansion, with highly efficient banks maintaining their pre-event efficiency levels.
Brewer III, Jackson III, Jagtiani, Nguyen (2000)	This study examines shareholder value creation. Premium offered in the price for the target is found to depend on the level of the bank's capitalization and its profitability. Returns to the target are linked to its size and its share of the local market. Value gains are found to be considerably lower in large-to-large bank mergers than in mergers between banks of different sizes.
Kane (2000)	Analyzing mega-mergers, this study shows that large bank bidders gain in value when the targets are large in size and located in the same country. Such bidders seem to benefit from their "too big to fail" status which apparently the markets recognize.
Zollo, Leshchinskii (2000)	This is a study of post-merger performance in banking. To improve performance both in the short-term and the long-term, partner banks must succeed in integrating their systems. The greater the degree of integration the more assured the banks will be of improved long-term performance.
Bliss, Rosen (2001)	In this study the relationship between mergers and managers' compensation is examined. Salary levels are found to be positively associated with mergers. In general compensation, particularly of CEOs is linked to size and as mergers lead to a larger size they also give rise to greater compensation. This is in spite of any fall in the bidder price which sometimes happens upon merger. Managers whose compensation is by stock options usually have less incentive to engage in mergers.
DeLong (2001a)	This study seeks to demonstrate that markets favour mergers where the partners focus their operations on limited sources of revenue streams and restrict their geographical coverage. Greater long-term efficiency is achieved where the bidder is not so efficient initially and the method of payment for the transaction is not solely in cash.
DeLong (2001b)	In this study, a cluster of mergers with a geographical and activity focus are shown to gain greater value, while unfocused mergers destroy value. The study also finds that value creation upon merger announcement increases in relative size of target to bidder.

Hart, Apilado, (2002)	The interest of this study is to examine bank merger returns with respect to the period before and that after The Riegle-Neal Interstate Banking and Branching Act, 1994. Targets are found to gain more value than bidders after the Act, just as before. The combined firm also shows potential for creating value. Overall, mergers are found to generate greater returns after than before the Act.
DeLong(2003a)	The investigation seeks to compare long-term performance with market expectations. Due to the difficulty of predicting merger outcomes, market expectations are usually not realized. Sources and magnitudes of revenue typically impact negatively on long-term performance.
Anderson, Becher, Campbell II (2004)	The study analyzes CEO compensation post-merger, and finds that increases are linked to the higher productivity that is realized after merger, and not to the increased size of the institution as found by other studies.
Pilloff (2004)	This is a general study of US bank mergers. It found that mergers mostly involved small banks operating in proximity of the larger bidder banks. As expected, there was more merger activity in urban than in rural markets. Most targets operate in only one state and the bidder usually has at least one office in that state.
Hannan, Pilloff (2005)	The study examines the effect of capital adequacy requirements (Basel II) on bank mergers. Banks active in merger activity are found to be those which meet the regulatory capital requirements. Often they have capital exceeding those requirements, which motivates them to engage in mergers.
Mayer, Sommer, Sweeny, Walker (2005)	This is a study of three mergers undertaken by the same bank. Only one of those mergers creates value, and this is due to the substantial number of shares held in the target by its managers and employees.
Al Sharkas, Hassan, Lawrence (2008)	Analyzing post-merger performance, this study finds post-merger improvement in both operating efficiency and allocative efficiency. The combined bank operates at a lower cost than a non-merged bank as a result of access to better technology, and realizes cost savings that accrue from a better mix of production inputs.

Table 3 Selected Bank Merger Studies (International)

Study	Findings
Becher (2000)	The study examines shareholder value creation. It finds targets earn 20%, bidders break even, and the combined institution generates 3%.
Berger (2000)	The study compares the US and Europe on integration processes, finding considerable potential for efficiency gains, although in practice they are realized in only a few cases. Achieving revenue efficiency is found to be more common than realizing cost efficiency, the main driver being risk diversification.
Berger, De Young, Genay, Udell (2000b)	In a review of many bank studies, the study finds that domestic banks are more profit efficient than foreign banks. It also finds that in general US banks are more efficient than other countries' banks in a foreign country.
Focarelli, Pozzolo (2000)	This is a study of the bases of bank foreign expansion in OECD countries. The major finding is that the decision to go abroad is largely linked to the presence in the target country of international investors with foreign country experience, and a head office in a country where the banking sector is efficient.
Floreani, Rigamonti (2001)	Investigating mergers in the insurance industry, the study finds high bidder shareholder returns, particularly in European-non-European firm mergers. The authors also report that the higher the value of the transaction the greater the returns to bidder institutions.
Focarelli, Pozzolo (2001)	The research examines why cross-border expansion is not as common in banks as it is in other sectors. Information asymmetries are found to be one of the reasons, as well as regulatory restrictions. Size of the banks is not a factor in the decision to expand abroad. Presence of international investors in the target country encourages cross-border growth.

Houston, James, Ryngaert, (2001)	This is a long-term merger study that compares performance with management and analysts' expectations, as well as market predictions from their initial reactions. The study finds that mergers that took place in the second half of the 1990s generated cost efficiencies expected by managements.
DeLong (2003b)	Comparing the US and the rest of the world in market reactions to merger announcements, the study finds that non-US bidders earn more returns than American firms. However, US targets earn more than rest of the world targets.
Amel, Barnes, Panetta, Salleo (2004)	Examining banks, insurance firms, and asset management institutions, the study finds mergers are beneficial to small companies, but scale economies are low and managerial efficiencies minimal.
Buch, DeLong (2004)	This world-wide study of cross-border mergers finds information asymmetry to be a major obstacle to expansion. And so is the regulatory framework, though to a lesser extent and can be redressed in a short time.
Scholten, De Wit (2004)	The research considers shareholder value creation upon merger announcement for two samples, one American and the other European. In both samples, bidders suffer negative returns. Target banks earn positive returns in both cases but European targets earn less than their US counterparts. Differences between bidder and target returns in Europe are smaller than in the US.
Buch, Delong (2008)	The study investigates efficiency and risk in cross-border mergers and what drives them. Foreign banks are found to be more efficient than local ones, and systemic risk is observed, though low. There is no clear-cut conclusion on what the drivers of cross-border mergers are.
Focarelli, Pozzolo (2008)	This study analyzes cross-border mergers in banks and insurance firms. Both institutions tend to pursue a "follow the client" strategy, with the insurance firms also more concerned than banks in risk diversification. Barriers to foreign expansion affect banks more than they do insurance firms.
Williams, Liao (2008)	Considering shareholder wealth, this study focuses on emerging markets. Like in most studies target shareholders are found to earn positive returns while bidders suffer negative returns. Value is found to be linked to the target country's economic conditions, profit performance of the target, and the method of settlement used in the transaction.

Source: Adapted from Bottiglia *et al.* (2010).

APPENDIX 2: EUROPEAN AND US LEGISLATION

Table 4 Legislation Impacting on the EU Banking and Financial Sectors

1977	*First Banking Directive*: Removed obstacles to the provision of services and establishment of branches across the borders of EU member states, harmonized rules for bank licensing and established EU-wide supervisory arrangements.
1988	*Basel Capital Adequacy Regulation* (*Basle 1*). Minimum Capital Adequacy requirements for banks (8% ratio). Capital definitions: Tier 1 (Equity); Tier 2 (near equity). Risk-weightings based on credit risk for bank business.
1988	*Directive on Liberalization of Capital Flows*. Free cross-border capital flows, with safeguards for countries having balance of payments problems.
1989	*Second Banking Directive*. Single EU banking license. Principles of home country (home regulators have ultimate supervisory authority for the foreign activity of their banks) and mutual recognition (EU bank regulators recognize the equivalence of their regulations). Passed in conjunction with the Own Funds and Solvency Directives, incorporating capital adequacy requirements similar to Basel 1 into EU law.
1992	*Large Exposure Directive*. Bank should not commit more than 25% of their own funds to a single investment. Total resources allocated to a single investment should not exceed 800%of own funds.
1993	*Investment Services Directive*. Legislative framework for investment firms and securities markets, providing for a single

	passport for investment services.
1994	*Directive on Deposit Guarantee Schemes*. Minimum guaranteed investor protection in the event of bank failure.
1999	*Financial Services Action Plan* (*FSAP*). Legislative framework for the Single Market in financial services.
2000	*Consolidated Borrowing Directive*. Consolidation of previous banking regulation.
2000	*Directive on e-money*. Access by non-credit institutions to the business of e-money issuance. Harmonized rules/standards relating to payments by mobile telephone, transport cards, and Basle payment facilities.
2001	*Directive on the Reorganization and Winding-Up of Credit Institutions*. Recognition throughout the EU of reorganization measures/winding-up proceedings by the home state of a EU credit institution.
2001	*Regulation on the European Company Statute*. Standard rules for company formation throughout the EU.
2002	*Financial Conglomerates Directive*. Supervision framework for a group of financial entities engaged in cross-border activities (banking, insurance, securities).
2004	*New EU Takeover Directive*. Common framework for cross-border takeover bids.
2005-2010	*White Paper on Financial Services Policy*. Plan to implement outstanding FSAP measures, consolidation/convergence of financial services regulation and supervision.
2007	*Markets in Financial Instruments Directive*.
2007	*Capital Requirements Directives* (i.e. the Directives 2006/48/EC and 2006/49/EC) implement the "*International Convergence of Capital Measurement and Capital Standards*" (labeled as Basel II) for credit institutions and investment firms set by Basel Committee on Banking Supervision from 2008.

Source: Goddard *et al*. (2007) with authors' updates.

Table 5: Major Legislative and Regulatory Changes Affecting US Banking Consolidation

Year	Description
1980	*Depository Institutions Deregulation and Monetary Control Act (DIDMCA*). Raised federal deposit insurance coverage limit from \$40,000 to \$100,000. Allowed depositories to offer negotiable order of withdrawal (NOW) accounts nationwide. Eliminated usury ceilings. Imposed uniform reserve requirements on all depository institutions and gave them access to Federal Reserve services.
1982	*Garn-St. Germain Act*. Permitted money market deposit accounts. Permitted banks to purchase failing banks and thrifts across state lines. Expanded thrift lending powers.
1987	*Competitive Equality in Banking Act* (CEBA). Allocated \$10.8 billion in additional funding to the Federal Savings Loan Insurance Corporation (FSLIC). Authorized forbearance program for farm banks. Reaffirmed that the "full faith and credit" of the US Department of the Treasury (Treasury) stood behind federal deposit insurance.
1987	Board of Governors of the Federal Reserve System (Federal Reserve) authorized limited underwriting activities for Bankers Trust, J. P. Morgan, and Citicorp with a 5 percent revenue limit on Section 20 ineligible securities activities.
1989	*Financial Institutions Reform, Recovery, and Enforcement Act* (FIRREA). Provided \$50 billion in taxpayer funds to resolve failed thrifts. Replaced Federal Home Loan Bank Board with the Office of Thrift Supervision to charter, regulate and supervise thrifts. Restructured federal deposit insurance for thrifts and raised premiums. Re-imposed restrictions on thrift lending activities. Directed the Treasury to study deposit insurance reform.
1989	Federal Reserve expanded Section 20 underwriting permissibility to corporate debt and equity securities, subject to revenue limit.
1989	Federal Reserve raised limit on revenue from 20 eligible securities activities from 5 percent to 10 percent.

1991	*Federal Deposit Insurance Corporation Improvement Act* (FDICIA). Directed the Federal Deposit Insurance Corporation (FDIC) to develop and implement risk-based deposit insurance pricing. Required “prompt corrective action” of poorly capitalized banks and thrifts and restricted “too big to fail”. Directed the FDIC to resolve failed banks and thrifts in the least costly way to the deposit insurance funds.
1993	Court ruling in *Independent Insurance Agents of America v. Ludwig* allowed national banks to sell insurance from small towns.
1994	*Riegle-Neal Interstate Bank and Branching Efficiency Act* (Riegle-Neal).Permitted banks and bank holding companies (BHCs) to purchase banks or establish subsidiary banks in any state nationwide. Permitted national banks to open branches or convert subsidiary banks into branches across state lines.
1995	Court ruling in Nationsbank v. Valic allowed to sell annuities.
1996	Court ruling in *Barnett Bank v. Nelson* overturned *states'* restrictions on bank insurance sales.
1996	Federal Reserve announced the elimination of many firewalls between bank and nonbank subsidiaries within BHCs.
1996	Federal Reserve raised limit on revenue from Section 20 eligible securities activities from 10 to 25%.
1997	Federal Reserve eliminated many of the remaining firewalls between banks and nonbank subsidiaries within BHCs.
1999	*Gramm-Leach-Bliley Financial Modernization Act* (BLG). Authorized financial holding companies (FHCs) to engage in a full range of financial services such as commercial banking, insurance, securities and merchant banking. Gave the Federal Reserve, in consultation with the Treasury, discretion to authorize new financial activities for FHCs. Gave the Federal Reserve discretion to authorize new complementary activities for FHCs. Established the Federal Reserve as the “umbrella” regulator of FHCs. Provided low-cost credit to community banks. Reformed the Community Reinvestment Act. Eliminated the ability of commercial firms to acquire or charter a single thrift in a unitary thrift holding company.
2001	Federal Reserve issued revisions to Regulation K. Expanded permissible activities abroad for US banking organizations. Reduced regulatory burden for US banks operating abroad and streamlined the application and notice process for foreign banks operating in the Unite States. Allowed banks to invest up to 20 percent of capital and surplus in Edge Corporations. Liberalized provisions regarding the qualification of foreign organizations for exemptions from the nonbanking prohibitions of Section 4 of the Bank Holding Companies Act. Implemented provisions of Riegle-Neal that affect foreign banks.

Source: Jones and Critchfield (2005).