

Concentration, competition and selectiveness: a deconstruction of the grounds for selective corporate governance in the banking sector*

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ABSTRACT

In "Does corporate governance matter in competitive industries?", MUELLER and GIROUD find that firms in non-competitive industries, defined in function of the Herfindahl-Hirschman Index, experience a significant drop in operating performance after the passage of anti-takeover laws, while firms in competitive industries experience virtually no effect. As explanation for this, they argue that when competition fails to enforce discipline over managers they tend to enjoy a "quite life" and that, by insulating firms still more from competition, anti-takeover laws increase the opportunity for managerial slack. Accordingly, they propose that efforts to improve corporate governance should focus selectively on "non-competitive" (concentrated) industries. This paper examines this proposal in the particular case of the banking sector, and specifically the assumption that there is an inverse relation between concentration and competition. In view of the rather am-

biguous character of this relation, this paper examines also an alternative criterion for applying corporate governance standards selectively: the impact of concentration on financial stability.

Since the empirical evidence seeking to ascertain the direction of this relation is inconclusive as well, this paper holds that using the level of concentration of the relevant market to create distinctions in terms of corporate governance standards is problematic. This does not imply per se, however, a rejection of the principle of selectiveness in corporate governance. In fact, a review of the equally unclear evidence on the gains from governance rules such as those contained in the Sarbanes-Oxley Act (as well as certain NASDAQ and NYSE rules) suggests that even if distinctions cannot be grounded on market structure differences, they can still be justified on the basis of a cost/benefit analysis. Due to the spread across borders of SARBANES OXLEY and the NYSE and NASDAQ rules dealing with corporate governance, the conclusions drawn in the work are not

limited to the United States, but are rather generally applicable across jurisdictions that have adopted similar rules.

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Table of contents

1. Introduction
2. Banking concentration and competition
 - 2.1. General aspects
 - 2.2. Empirical evidence
 - 2.2.1. Loan rates
 - 2.2.2. Credit availability
 - 2.2.3. Deposit rates
 - 2.2.4. Efficiencies
 - 2.3. Summary
3. Banking concentration and stability
 - 3.1. General aspects
 - 3.2. Empirical evidence
 - 3.3. Summary
4. Relevance of selectiveness: costs of corporate governance
5. Conclusion

1. INTRODUCTION

Corporate governance rules have traditionally been thought to address the problems of asymmetric information, moral hazard and adverse selection that arise in firms where ownership and management are segregated. From this perspective, governance standards gain relevance with the size of the firm¹ or lack of "proximity" between shareholders and managers². MUELLER and GIROUD, however, offer an alternative pattern to assess the relevance of corporate governance: competition.

In particular, using a sample of 10,960 firms from the United States during the period from 1976 to 1995, they hold that the passage of anti-takeover laws tends to

reduce the returns on assets of the sample firms by an average of 0.6%, but that most of this effect is driven by companies with a higher Herfindahl-Hirschman Index (HHI), which they categorize as non-competitive industries. For example, breaking down the sample into HHI quintiles (being the mean HHI in the lowest and highest HHI quintile 0.067 and 0.479, respectively), they find that while return on assets (ROA) drops by 1.5 percentage points in the highest HHI quintile, it only drops by 0.1 percentage points in the lowest HHI quintile.

As explanation for these patterns, they argue that competition mitigates managerial agency problems, that when competition fails to enforce discipline over managers they tend to enjoy a "quite life", and that, by insulating firms still more from competition, anti-takeover laws increase the opportunity for managerial slack. In other words, although there may be a "positive baseline level of slack" in all firms, those in competitive industries may already operate at this minimal level, while firms in non-competitive industries may only be driven down to this level if there is a threat of hostile takeover. Accordingly, they suggest that efforts to improve corporate governance should focus selectively on "non-competitive" (or non-concentrated) industries, rather than be applied indistinctively³.

This paper reviews one of the bases of this proposal (particularly in the context of the banking sector): the assumption that a concentrated industry is less competitive than more dispersed industries. For this purpose, it looks at whether increases in the extent of concentration in the banking industry through mergers and acquisitions lead to higher interest rates, lower deposit rates and less credit availability. In view of

the heterogeneity characterizing the evidence on these questions, this paper examines an alternative criterion for selective governance standards, that is, the relation between concentration and financial stability. Under this perspective, if a more concentrated industry is more fragile, then concentration is a legitimate ground for establishing distinctions in the strictness of corporate governance standards. As further discussed below, however, in this case again the evidence does exhibit a homogenous pattern. These results (competition and stability effects), nonetheless, do not mean there is no basis for selectiveness, particularly in light of the equally heterogeneous evidence regarding the effects of governance requirements on performance and the market for the shares of the firms subject to such requirements, a topic that has been particularly analyzed in the case of securities issuers (not necessarily banks) after the passage of the Sarbanes Oxley Act. From this perspective, even if a more concentrated market is not necessarily less competitive or stable, a selective scheme of corporate governance can still be desirable (although probably based on a distinction measure different from market concentration).

According to the above, this paper is organized as follows: Sections 2 and 3 review the competition and stability effects of concentration in the banking sector, respectively; Section 4 sketches some of the reasons why, even if a more concentrated industry is not necessarily less competitive or stable, those facts do not imply per se a rejection of the principle of selectiveness in corporate governance; and, finally, Section 4 concludes.

2. BANKING CONCENTRATION AND COMPETITION

2.1. General aspects

The Mueller and Giroud's argument that a concentrated market is less competitive than a less concentrated market is reminiscent of the structure-conduct performance (SCP) hypothesis, under which changes in the market structure through mergers and acquisitions lead to upward pressure on prices (especially when a dominant market position is created or strengthened), insofar as each merging party internalizes the impact of its own prices' changes on the demand of all other merged firms. Under this perspective, further, concentration increases the potential for oligopolistic behavior and reduces the incentives of firms to innovate (or, even if there is innovation, the incentives to pass on its effects to consumers). Therefore, the more concentrated the market, the less competitive it is⁴.

The SCP hypothesis has been traditionally opposed by the efficient-structure (ES) hypothesis (although they are not mutually exclusive), under which concentration gives rise to greater efficiencies, particularly as a result of economies of scale (lower average costs associated to increasing the product scale) and scope (lower average costs derived from increasing the range of goods produced), which have the ultimate effect of exerting a downward pressure on prices and therefore eventually offsetting any potential anticompetitive effect⁵. In fact, as an information and distribution-intensive industry with relatively substantial high fixed costs, financial institutions are considered to be especially prone to economies of scale⁶.

MOREOVER, this view raises specific ways in which the market benefits from concentration, such as enhanced innovation⁷, increased buying power vis-à-vis suppliers⁸, and, in some cases, synergies (that is, the ability of consolidated firms to differentiate themselves from rivals through complementary assets, thus potentially giving rise to gains higher than the sum of the gains that could be obtained by each of the involved parties independently)⁹.

However, even if offsetting efficiencies emerge, as predicted by the ES hypothesis, it does not mean necessarily that managerial slack does not exist¹⁰ or that management is not less constrained by competition in concentrated industries. In any case, as discussed *infra*, the evidence supporting this hypothesis is inconclusive.

Apart from this criticism, the SCP hypothesis is also criticized on the basis that a market with only three participants could be competitive if one of the firms were an aggressive competitor, at the same time that an industry with ten participants may operate with minimal competition because of coordinated pricing and marketing practices by the participants¹¹.

In view of this, other formulations of the competitive effects of market concentration, particularly in the context of games with Nash, non-cooperative equilibria, distinguish between unilateral and coordinated effects.

In particular, unilateral effects arise if mergers cause the merged firms to act less intensely competitive than the merging firms, while non-merging rivals do not alter their competitive strategies. In contrast, coordinated effects arise if a merger induces rivals to alter their competitive strategies,

resulting in some form of coordination or reinforcement of ongoing coordination¹².

These effects are determined by the game defined by the competitors, the actions they take (setting prices or setting quantities), and the equilibrium that determines the results of the game (Nash, non-cooperative equilibrium).

Among other possible games with Nash, non-cooperative equilibria, anticompetitive effects arise in Cournot and Bertrand oligopoly industries¹³. Both the Cournot and Bertrand oligopoly models predict that mergers without offsetting efficiencies produce unilateral anticompetitive effects (which is not necessarily the case of coordinated effects), insofar as mergers internalize the strategic behavior between the merging competitors and thereby cause them to alter their quantities/prices actions. What makes this anticompetitive effect "unilateral" is that the actions of firms are determined by the same Nash-equilibrium, best-response functions before and after the merger. The term "unilateral" thus applies even though the non-merging firms do not take the same actions after the merger, and even if the changes in their actions increase the merged firm's profit. In a Bertrand industry, for example, a merger combining two competing brands of a differentiated consumer product, absent cost reductions, leads to unilateral price increases, as long as the merged firm accounts for the increase in sales of either of the two brands resulting from an increase in the price of the other, and therefore finds it in its unilateral self-interest to raise the prices of both¹⁴.

As discussed below, although the empirical evidence tends to show that concentration is in effect positively associated with less competitive markets in terms of

loan rates, credit availability and deposit rates (consistent with the SCP hypothesis, the MUELLER and Giroud's assumptions and the post-merger non-cooperative equilibria unilateral effects roughly described above), such evidence is nonetheless substantially heterogeneous.

2.2. Empirical evidence

2.2.1. Loan Rates

The evidence regarding loan rates shows in some cases increases as a result of greater concentration, and, in other cases, qualified increases (for certain types of markets or transactions) and even reductions in other instances¹⁵.

In particular, HANNAN, using loan-specific information for a sample of over 300 banks during the period between 1984 and 1986 in the United States, finds a positive relation between concentration and small business and consumer lending rates. SPECIFICALLY, he analyzes three phases in this period: the interest rate peak of 1984, the stable interest rate period of late 1985, and the interest rate depression of 1986. Although the relationship between loan pricing and market concentration for large and small loans originated during 1984 is found to be weak (except in the case of floating-rate unsecured small loans), this relationship is significantly positive for all loans under USD100,000 ("small loans") in 1985 (which holds for different measures of concentration). Regarding the magnitudes of the concentration coefficient in this sub-period, they estimate that small borrowers would pay annually an additional 50 basis points for floating-rate unsecured loans, 159 additional points for floating-rate secured

loans, 221 more basis points for fixed-rate unsecured loans and an additional 144 basis points for fixed-rate secured loans if the market structure is to change from that of the least concentrated to the most concentrated market in the sample. On the other hand, coefficients of concentration for loans over USD100,000 are significantly positive only for secured loans (the coefficient of concentration is significantly negative in the case of fixed-rate unsecured loans), and the positive coefficients tend to be smaller than those found for small loans. The support for the structure-performance hypothesis in this case, therefore, is not as consistent as in the case of smaller loans.

With regard to the regressions for November 1986 (where interest rates reached the lowest level after a long decline), the results were essentially the inverse of those of 1984: the coefficients of concentration for loans less than or equal to USD100,000 are positive and significant at the 1% level of significance in all the types of loans, and the coefficient magnitudes are actually greater than those reported in 1985. For example, the coefficient of concentration in the case of fixed-rate secured loans indicates a 239 basis point difference comparing the most concentrated with the least concentrated market in the sample. Also, similarly to the 1985 sample, the concentration coefficients for loans greater than USD100,000 are significantly positive only for secured loans, and magnitudes are smaller than those found for small loans. In sum, the results point to the conclusion that, overall, concentration appears to be associated with higher interest rates (although the differences in this relationship over the three periods examined are considered intriguing)¹⁶.

BERGER and HANNAN, using a 1985 sample, similarly find that in the regression explaining deposit rates and loan rates, the coefficients of concentration are statistically significant and bear the signs implied by the SCP hypothesis. Also, they find decreases of bank X -efficiency as a result of concentration, which they argue is consistent with the "quiet life" hypothesis. Further, they do not find a significantly positive effect of concentration on bank profitability, and further argue that this is illustrative of the fact that profits may be determined, in general, by factors other than market power: while a bank may increase prices as a result of such power, efficiency can fall and costs rise as a result of "quiet life" effects, therefore preventing higher profits¹⁷.

With mixed results, KAHN, analyzing the period between 1989 and 1997, finds that while unsecured personal loan rates increased in the sample, the rates of other particular credits actually decreased as a result of mergers¹⁸.

Also with mixed results, SAPIENZA, drawing on a sample during the period between 1989 and 1995, finds that in-market mergers (mergers involving banks that previously operated in the same geographical area) benefit borrowers in the form of lower interest rates when such mergers involve the acquisition of banks with small market shares. However, large banks that acquire small banks tend to reduce the supply of credit to small borrowers. In addition, in small out-of-market mergers (involving banks previously operating in different geographical areas), the decrease in interest rates was not as significant as in comparable in-market mergers¹⁹.

Confirming some of these conclusions, EREL, using a 1999-2000 sample, finds that,

on average, mergers reduce loan spreads, and that such result is stronger for acquirers with larger than median declines in post-merger operating cost ratios (suggesting that the after-merger reductions in spreads can be related to efficiency gains that are passed on to borrowers). The decline in spreads after the merger is substantial for small loans (loans with sizes of less than USD1 million), and larger acquirers were not found to impose less favorable pricing terms for small businesses.

HOWEVER, while the reduction in spreads was larger if the acquirer and the target had some degree of geographical market overlap and, consequently, more potential for cost savings, spreads increased when there was significant market overlap and, therefore, increased post-merger market concentration.

From the out-of-market mergers' perspective, acquirers significantly reduced spreads on relatively large loans after the merger only if the new markets entered were dominated by large banks (which can suggest that in a market dominated by small banks, relatively large acquirers that enter the market do not seek to increase market shares by reducing loan spreads, possibly because those markets are more competitive)²⁰.

2.2.2. *Credit availability*

Apart from the potential for a general reduction of quantities as a result of market power exploitation, bank mergers can also lead to reductions of credit available especially to small businesses because, in theory, small banks possibly tend to focus on small loans (due to balance sheet limitations) while large banks tend to focus on large businesses (as

monitoring costs potentially increase with the number of customers)²¹.

Consistent with this approach, PEEK and ROSENGREN find, for a sample between 1993 and 1994, that when a large bank takes over a small one, the small business lending by the target is lower than before (being a small part of this effect offset by new entrants in the local market)²².

SIMILARLY, SAPIENZA finds, as mentioned supra regarding loan rates, that while in-market mergers benefit borrowers in the form of lower interest rates, when such mergers involve the acquisition of banks with small market shares by a large bank, the acquirer tends to reduce the supply of credit to small borrowers²³.

NEVERTHELESS, STRAHAN and WESTON, comparing the average change in the ratio of small business loans (commercial and industrial loans under USD1 million) to assets at sample banks involved in mergers between 1993 and 1994, find that the post-merger small business lending is, on average, actually higher than before. While mergers between relatively small banks yielded significant increases in small business lending, no significant change was found for larger banks (using USD300 million as a cutoff for the definition of small banks). Moreover, although relatively small banks held more small business loans as a percentage of total assets than large banks, the largest banks in the sample accounted for roughly more than one-third of all small business loans.

HOWEVER, small banks owned by large banking companies held fewer small business loans than independent banks²⁴.

Indicating neutral results, EREL finds that, on average, the post-merger ratio of small business lending to total assets of the

acquirer is not significantly different from the pre-merger ratio.

MOREOVER, in respect of qualitative features of acquirer's loans portfolios, he finds no significant change in the acquirer's proportion of non-performing loans after the merger²⁵.

Other type of evidence shows that merged banks reduce small lending, but that this effect is offset by a loan expansion by incumbent rival banks or by entry of different competitors in the same local market. In particular, BERGER, SAUNDERS, SCALISE and UDELL, examining the period between 1979 and 1994, find a significant relation between mergers and increased small business loans by competitor banks. In addition, they find that small and medium size bank mergers are associated with an increase in business lending, while larger bank mergers are generally associated with a decrease. However, for acquisitions, the opposite results are obtained (with large holding company acquisitions apparently increasing small business lending, but with smaller acquisitions tending to decrease such type of credits)²⁶.

This result is confirmed by SEELING and CRITCHFIELD, who, using a sample between 1995 and 1998, find that merger activity triggers de novo entry in urban banking markets. HOWEVER, they also find that this is not the case for out-of market merger activity (acquisitions by firms outside the market were not related to de novo entry)²⁷.

FURTHER, GOLDBERG and WHITE, using a sample of mergers between 1984 and 1994, show that de novo banks have a larger portfolio of loans to small businesses (measured as the percentage of a bank's total assets that are devoted to such loans) compared to incumbents of roughly comparable size²⁸.

Consistent with these positions, BERGER, ROSEN and UDELL, using a 1993 sample, find that while loan interest rates depend on the size of the market rather than on the size of the bank providing credit, in any case, in markets with a higher share of large banks, small businesses faced a higher likelihood of receiving a credit line, and even at lower interest rates, than in markets composed of smaller banks²⁹.

AVERY and SMOLYK also confirm this thesis, but with mixed conclusions depending on the period analyzed. Specifically, they examined how bank mergers affected small business lending in local U.S. banking markets between 1994 and 2000, focusing on the role that community banks played in determining the ultimate effects of consolidation. For the 1994-1997 period, they found that consolidation involving relatively large banks was associated with lower loan growth, whereas community bank mergers and a greater presence of community banks in the market were associated with higher loan growth. During the 1997-2000 period, consolidation activity was either unrelated to small business loan growth or associated with higher loan growth. In any case, overall, the share of small business lending funded by community banks rose during both periods, especially in markets undergoing consolidation³⁰.

2.2.3. Deposit rates

As regards this part of the evidence, there seems to be a more consistent pattern exhibiting a negative relation between concentration and competition. For instance, BERGER and HANNAN, using a sample between 1983-1985, find that banks in the most concentrated local markets in the sample

paid lower deposit rates (ranging from 25 to 100 basis points) than those paid in the least concentrated markets, depending on the period examined. This conclusion is applicable to different types of deposits, including short-term CDs. However, the effect on longer-term CD rates was found to be marginal, which is attributed to the fact that such products can be competed for on a broader basis than local banking markets³¹.

MOREOVER, NEUMARK and SHARPE, using a sample between 1983 and 1987, show that banks in more concentrated markets are slower to raise interest rates on deposits in response to rising market rates, but are faster to reduce them in response to declining market interest rates, and that, further, downward price rigidity and upward price flexibility are a consequence of market concentration³².

For Europe, CORVOISIER and GROPP, using a sample between 1993 and 1999, reach a similar conclusion, finding that increasing concentration leads to higher interest margins for loans and demand deposits. This is not the result, however, for savings and time deposits. More specifically, average rates on customer loans in a banking market with a HERFINDAHL index of 300 were estimated to be about 120 basis points higher than in a market with a HERFINDAHL index of 100, and demand deposits were estimated to be remunerated with an interest rate that was 140 basis points lower in the more concentrated market. In contrast, higher concentration in savings and time deposits resulted in 280 basis points higher remuneration of savings deposits and 100 basis points for time deposits.

As an explanation for these differences, they suggest, similarly to BERGER and HAN-

NAN regarding certain long-term CDs, that demand for demand deposits is determined by geographical proximity, and thus is more prone to be negatively affected by concentration. HOWEVER, as savings and time deposits are, at least in theory, determined to a lesser extent by geographical proximity, there is higher contestability³³.

2.2.4. *Efficiencies*

As mentioned before, one of the criticisms generally raised against the SCP hypothesis is that efficiencies can offset any anticompetitive effect resulting from market concentration. However, as also mentioned supra, efficiencies do not necessarily imply lack of managerial slack, as management can be insulated from competition even if the firm it manages enjoys, for example, scale or scope economies. However, even assuming that efficiencies were a valid proxy for competition, particularly under the notion that they depend upon the managerial incentives to generate them (and, therefore, on the competitive character of the market), the empirical evidence is inconclusive.

Efficiency effects relating to bank mergers are generally examined from two perspectives: operating performance (looking at pre and post-merger changes in profit rates, cost ratios or both) and event studies (looking at stock returns of acquiring banks, targets or both, before and after a merger, compared to a portfolio of stocks representing the market).

Results using the operating performance suggest that there are no efficiency improvements following a merger, although there are exceptions to that pattern.

For instance, examining the impact of mergers on income-to-assets and non-in-

terest expenses to assets for a sample between 1968 and 1978, Rhoades finds that neither income nor non-interest expenses were affected on average by the sample mergers³⁴. SIMILARLY, LINDER and CRANE, analyzing the operating performance of a sample of bank mergers between 1982 and 1987, including mergers of subsidiaries owned by the same holding company, found that mergers did not result in improved operating income, as measured by net interest income plus net non-interest income to assets³⁵.

From a cost-frontier approach³⁶, BERGER and HUMPHREY, examining "large mergers" (mergers in which the organizations concerned exceed USD1 billion in assets) from 1981 to 1989, and based on data aggregated to the holding company level, find that, on average, mergers did not lead to significant gains in X-efficiency (the average X-efficiency improvement was less than 5% and was not statistically significant), and that the difference between acquirer and target X-efficiency did not affect post-merger gains. In addition, the scale diseconomies created by the "megamergers" were found to be more than large enough to offset the slight X-efficiency gains found, so total cost efficiency actually declined. Also, drawing upon returns on assets and total costs to assets, they found no average gains³⁷.

De Young reaches similar conclusions under the same methodology for a sample between 1986 and 1987. NONETHELESS, he finds that when both the acquirer and target were relatively inefficient banks, mergers resulted in improved cost efficiency³⁸.

Representing a still more negative result, PERISTIANI, analyzing the period between 1980 and 1990, finds significant declines in X-efficiency in the sample mergers and

only moderate improvements in scale efficiency³⁹.

HOWEVER, the SPONG and Shoerhair's results exemplify a contrasting conclusion, as long as they find not only slight improvements in overhead costs efficiency, but also significant improvements in return on assets and equity⁴⁰. This in turn contrasts with other cases finding partial improvements in these aspects. This is the case of the SPINDT and Tarhan's results, who find improvements in return on equity, but no improvement in return on assets or cost efficiency⁴¹.

From a different perspective, AKHAVEIN, BERGER and HUMPHREY argue that profit efficiency is a more inclusive concept than cost efficiency for measuring bank efficiency, as it takes into account the costs and revenue effects of the choice of the output vector (which is taken as given in the measurement of cost efficiency). THEREFORE, a merger can improve profit efficiency without improving cost efficiency if the rearrangement of outputs associated with the merger increases revenues more than it increases costs, or if it reduces costs more than it reduces revenues. In their particular sample, they found that banks on average significantly improved profit efficiency after mergers. HOWEVER, rankings based on ROA and ROE measures did not change significantly after consolidation⁴².

For mergers in Europe, using a sample between 1992 and 2001, ALTUNBAS and MARQUÉS IBÁÑEZ also find post-merger overall improvements in performance (with the especial characteristic that such improvements were triggered in the context of cross-border transactions)⁴³.

Notwithstanding these exceptions, as mentioned before, the general pattern is

that greater concentration does not lead to improvements in efficiency⁴⁴.

From the event studies viewpoint, results are more heterogeneous and do not exhibit any evident general pattern. In some instances, results refer only to one of the parties involved in the transaction. For example, MADURA and WIANT find, for a sample of mergers between 1983 and 1987, negative cumulative abnormal returns to acquirers during the thirty-six months period after the merger announcement. Furthermore, they argue that while acquirer losses around the time of the merger announcement may be due to the price perceived to be high, losses over a longer period can be attributed to other factors such as disparities between projected and realized benefits⁴⁵.

Accounting for the effects of both the acquirer and the target, BARADWAJ, FRASER and FURTADO, find that target firms have positive abnormal returns during five days before and after the merger announcement. In addition, targets of hostile bids have higher returns than targets of non-hostile targets. However, acquiring firms exhibit negative significant abnormal returns during the period from five days before announcement to five days after, with hostile bidders having smaller negative returns than non-hostile bidders. In addition, they did not find any significant difference between successful and unsuccessful hostile bidders and targets. The overall effect for targets and bidders was a positive net benefit from hostile takeover announcements, but no significant effect from non-hostile announcements⁴⁶.

In other cases considering both the target and the acquirer, no net aggregated benefits appear to arise except under particular circumstances. For example, HANNAN and

WOLKEN find that target firms have positive cumulative abnormal returns both before and after the merger announcement, and that acquiring firms have negative cumulative abnormal returns both before and after announcement of the merger. HOWEVER, when calculating the total change in stock prices, no significant net change in value of the two firms combined is found. These results do not differ significantly between large and small bidders or targets. NOTWITHSTANDING, net effects are significantly positive for acquisitions involving less capitalized targets and significantly negative for those involving more capitalized targets (in other words, the target capital is negatively related to the change in total value)⁴⁷.

A similar result is found in other cases, with the ultimate effects being in function of the geographical or product similarities or overlaps between the merging banks. For instance, Houston and RYNGAERT find, for a sample of mergers between 1985 and 1991, that while acquirers suffered a loss in value and targets obtained higher value, the overall gains from the transactions (the weighted average of gains to the bidder and target firms) were not substantial, and that, in any case, merger returns were positively related to the degree of overlap between bidder and target firms' operations and high prior levels of profitability for the bidder⁴⁸.

This argument, however, is in other cases contested by evidence showing that the degree of overlap of the merging firms is not associated with an improvement in efficiency relative to that of non-merging firms⁴⁹.

For Europe, Cybo-Ottone and Murgia, with a sample of mergers taking place by European banks between 1988 and 1995,

confirms the finding of average abnormal returns to targets (while changes of returns to acquirers' shareholders are not significant in the sample)⁵⁰.

In sum, as mentioned before, the disparity of the empirical evidence does not reflect any clear pattern and therefore makes it problematic to draw any conclusion about the competitiveness of the market by drawing on a relation between mergers and efficiencies⁵¹.

2.3. Summary

According to the above, although higher loan rates, reductions in quantities and lower deposit rates tend to be associated with market concentration, the evidence supporting these relations appears to be heterogeneous, especially in the case of loan rates and credit availability. This implies that even though this evidence tends to support the MUELLER and Giroud's premise that concentration is inversely related to competition, such premise is not fully consistent.

MOREOVER, under the hypothesis that efficiencies bear some relation with competition (which further assumes that efficiencies depend on the managerial incentives to generate them), the evidence is nonetheless unclear: although operative performance studies tends to undercut the idea that more concentrated markets are more efficient and therefore can eventually be characterized by less managerial slack and better competition conditions, there are exceptions to this conclusion, and, furthermore, event studies are still more heterogeneous.

Accordingly, if it is not possible to clearly conclude that a more concentrated market is less competitive than a less concentrated one, establishing differing

corporate governance standards under the premise that dispersion equals competition turns out to be problematic.

3. BANKING CONCENTRATION AND FINANCIAL STABILITY

3.1. *General aspects*

In view of the lack of ambiguity in the relation between concentration and competition discussed above, an alternative factor linking market concentration to variations in corporate governance standards can be the relation between stability and concentration. Under this view, if a more concentrated industry is less stable, then concentration can still be a legitimate dividing line for setting forth differing corporate governance standards.

The hypothesis that concentration is directly related to fragility is based roughly on three arguments. FIRST, according to BOYD and DE NICOLÓ, as competition declines, banks increase their loan rates, which imply higher default (and even bankruptcy) risk for borrowers. This effect is reinforced by a moral hazard problem related to borrowers, who, confronted with higher interest rates, can actually increase their own risk of failure⁵².

Second, from the supervisory perspective, as long as banks' size can be related to internal complexity, more concentrated banking systems composed by a reduced number of institutions can correlatively be more complex to supervise and therefore be more prone to failure⁵³.

Third, it is generally argued that there is a positive relation between bank size and the incentives of the relevant authorities to bail out an institution in case of risk of

insolvency (as a means to prevent systemic risk), and, as a result, banks have greater incentives in more concentrated markets to take higher risks ("too-big-to-fail" doctrine). In other words, negative macroeconomic externalities resulting from failure increase with the size of the failed institution, and therefore, whether formally insured or not, banks are not symmetrically treated⁵⁴.

HOWEVER, these hypotheses are not undisputed, given the arguments stressing a direct relation between concentration and stability (which can arguably even offset losses in consumer's surplus resulting from less competition⁵⁵). These arguments come from both sides of the balance sheet.

From the asset side, the concentration/stability relation is based on the argument that, as long as the potential for diversification generally increases with the size of a portfolio, a relatively greater amount of funds held by each individual bank in a relatively concentrated market facilitates diversification and therefore reduces not only individual risks, but also systemic risks⁵⁶.

A second argument is that, as long as concentration can imply higher market power and thus higher profits by individual banks, which in turn gives rise to a supplementary buffer in case of liquidity breakdowns, concentration enhances stability. In addition, by increasing the franchise value of market participants (that is, the capitalized value of expected future profits), concentration reduces the incentives of banks to take risks. In other words, insofar as competition erodes profits, moral hazard problems are intensified by the incentives of banks to add risk to their loans portfolios⁵⁷. EDWARDS and MISHKIN, for example, argue that the significant risk-taking observed in the eighties in the United States was the

banks' response to the erosion of profits due to competition from the capital markets, as such competition decreased their cost advantages in the acquisition of funds and undermined their position in the loan market⁵⁸.

In a framework of relationship banking, BESANKO and THAKOR endorse the assertion that increased competition induces banks to choose riskier portfolio strategies. This is because, in the course of the relationship with their borrowers, banks acquire private information that generates informational rents. As long as banks appropriate at least part of these rents, they have an incentive to limit their risk exposure so as to enjoy the value of the relationship. HOWEVER, as soon as there are more competitors in the market, relationship banking decreases in value and banks take more risk⁵⁹.

From the liability side, the concentration/stability position is based on the argument that not only risks relating to loans can be higher if there are more competitors, but also risks relating to deposits. In particular, competition for deposits can drive up deposit rates, which may in turn prompt banks to add risk on the asset side of the balance sheet. In fact, some crisis (such as those occurred in 1857, 1873 and 1884 in the United States) have been attributed to the use of deposit interest rate payments to compete for deposits⁶⁰.

Further to these balance sheet arguments, concentration can also reduce monitoring costs by the relevant supervisor, under the assumption that a relatively reduced number of banks can be easier to monitor than a dispersed sector. From this view, supervision is relatively more effective and the risks of contagion less severe in a concentrated banking system⁶¹.

It is worth mentioning that, notwithstanding the above, still other perspectives question the existence at all of any relationship between concentration and fragility or stability. MATUTES and VIVES, in particular, hold that bank vulnerability and runs emerge independently of competition and thus can occur in any market structure. Under this view, the crisis probability of a bank is endogenously determined by depositor's expectations, which are self-fulfilling: a bank perceived to be less prone to runs has higher margins and a larger market share; this, in turn, reduces its own likelihood to fall into insolvency because of higher diversification. Accordingly, systemic crisis arise out of coordination problems between depositors, irrespective of the market structure⁶².

3.2. Empirical evidence

In support of the concentration/stability relation, KEELEY shows that the erosion of market power during the nineteen seventies and eighties, as measured by a decline in an institution's market-to-book asset ratio (Tobin's q), led to a higher risk premium that banks had to pay on certificates of deposit and to lower capital-to-asset ratios, which triggered higher failure risks.

MOREOVER, during the nineteen sixties, both market and book capital ratios of the twenty five (25) largest bank holding companies in the sample already had fallen significantly below their midnineteen-fifties ratios (when a limited number of banks failed each year), and, beginning 1974, market values of such companies had fallen below book capital ratios. According to Keeley, one of the reasons why these values fell during this period was the change in the degree of competition faced by banks: in

the nineteen-fifties and early sixties banks were protected from competition by regulatory barriers such as higher chartering restrictions until the mid-sixties, state laws that prohibited branching, restrictions on multi-bank ownership and interstate bank expansion, and deposit rate regulations that protected banks that relied on non-price competition.

HOWEVER, as such rules were liberalized, banks' charter value was eroded. This erosion was thereafter reinforced in the eighties by the expanded permitted activities given to thrifts (which enabled them to compete more actively with banks), higher competition by non-banking financial institutions, and the emergence of money market mutual funds, cash management accounts, and the increased use of commercial paper. With these declining market values (which incorporate the capitalized amount of charter value), risk taking was enhanced⁶³.

SIMILARLY, CRAIG and SANTOS, comparing the pre-merger and post-merger risk characteristics of two hundred fifty six (256) acquisitions by bank holding companies in the United States between 1984 and 1993, find that mergers reduced overall risk in the sample. In particular, both the standard deviation of the return on assets and of the returns on equity of the new institutions were lower than the pre-acquisition deviation of the acquirers' returns and the returns of a hypothetical institution that would result from the mere aggregation of the pre-merger acquirer and the target.

The deviation from returns decreased over time for both the acquirer and the target, but was more pronounced for the target. In addition, based on the banks' Z-score (which measures a company's probability of bankruptcy)⁶⁴, they found that the new

institution arising out of acquisitions had a lower probability of failure than the hypothetical organization resulting from the simple aggregation of the pre-merger entities, and that this improvement increased over time. Targets followed roughly the same result, but, however, acquisitions did not affect the Z-scores of acquirers in a statistically significant way. As explanation for this difference, they argue that the capitalization of target companies is generally lower than the capitalization of acquirers⁶⁵.

HOGGARTH, MILNE and WOOD reach similar conclusions by comparing the relative performances of the United Kingdom and the German banking systems during 1971 and 1997. In the comparison, banking profits in the U.K. were consistently higher than in Germany but also significantly more variable (similar to asset prices). HOGGARTH, MILNE and WOOD explain higher U.K. profitability by higher non-interest income and lower staff costs, whereas greater German stability is explained by less competition, particularly from foreign entrants (apart from lower and more stable inflation)⁶⁶.

Also in the European context, CIPOLLINI and FIORELISI examine in six jurisdictions (Austria, Belgium, France, Germany, Italy and Spain) the impact of concentration, as measured by the Herfindahl-Hirschman Index, on bank financial distress, defined as a switch to the bottom five percentile of the Economic Value Added (EVA) empirical distribution in a given country (an indicator of shareholder value). For this sample, they find that, on average, there is a negative effect of bank concentration on financial distress. HOWEVER, the impact of bank consolidation turns out to be positive (relative to the average) when considering either commercial or listed banks⁶⁷.

Drawing on a wider sample, Beck, Demirgüç-Kunt and Levine, using data on seventy-nine countries over the period 1980-1997, conclude that crises are less likely not only in more concentrated banking systems, but also in countries with fewer regulatory restrictions on bank competition and activities, controlling for differences in deposit insurance regimes, capital regulations, restrictions on bank entry, restrictions on bank activities, differences in (domestic/foreign) bank ownership, and overall institutional variables, economic and exchange variables. Accordingly, both concentration and competition are considered to reduce bank fragility. In addition, they find no evidence supporting the claim that concentrated systems are easier to monitor and weak evidence for the claim that concentrated banking systems are better diversified⁶⁸.

From a reverse causation standpoint, BESTON, HUNTER and WALL, on the basis of pre-merger earning volatility, argue that the motivation for mergers in the first half of the eighties must have been risk reduction through diversification. Specifically, by observing the bid prices to acquire target banks in the early and mid eighties, they examine two contrasting hypotheses: the earnings diversification hypothesis, under which banks would bid more for merger partners that offered the potential for cash flow enhancements as a result of earnings diversification, and, on the other hand, the deposit insurance put-option hypothesis, under which acquirers would bid more for targets that offered more opportunities to increase risk and/or to become "too-big-to-fail".

For this purpose, they assume that if acquirers seek to exploit diversification

gains, the variance of the target's returns to assets must be inversely related to the purchase premium (purchase price less pre-consolidation market value) paid by the acquirer. Also, assuming that the change in the net cash flows of the combined entity (target and acquirer) depends on the acquirer's ability to reduce the costs of producing the combined organization's existing product mix by achieving economies of scale, then an inverse relationship is expected between the relative assets of the parties (as measured by the target's assets/acquirer's assets ratio) and the premium paid by the acquirer. MOREOVER, this negative relationship is expected because changes in the overall operations of the target are considered to be relatively more difficult to attain as the target's size increases, and because if the target has a similar size, it is presumed to be likely to be already offering products similar to those of the acquirer.

Under these assumptions, confirming the earnings diversification hypothesis, the coefficient of the variance of the target's return on assets was negatively related to the premiums paid by the acquirer, while the coefficient of the acquirer's book value equity to assets ratio was positively related to such premiums⁶⁹.

Focusing particularly on mergers between banks in scenarios of financial crisis, Elsas finds for a 1993-2001 sample in Germany that mergers involving a prospective risk of insolvency for one of the merging parties led to reductions in credit risks, as measured by the amount of loan loss provisions (attributing this fact to greater diversification)⁷⁰.

In contrast to the claims holding a consistent positive relation between concentration and stability, DEMSETZ and STRAHAN

find results consistent with diversification but also countervailing effects by examining, for a sample of mergers between 1987 and 1993, the relationship between size and each of the two components of equity risk (systematic and firm-specific risk). In particular, since diversification is considered to reduce only firm-specific risk, size is expected to be negatively related to such risk, while no relationship should exist with systematic risk. The end result, nonetheless, would be an inverse relationship between size and total equity risk. However, if, as mentioned supra, larger banks are not only a scaled-up version of smaller companies, but rather reorganize their portfolio, the relationship between size and total equity risk is ambiguous.

In their sample, firm-specific risk is highest for the smallest size group (but otherwise bears little relationship to size). On the other hand, the mix between systematic and firm-specific risk at large bank holding companies (those with assets of more than USD25 billion) is significantly different from the mix at small companies (those with assets of less than USD5 billion). In particular, firm-specific risk makes a bigger contribution to total equity risk at small companies than at large ones (that contribution falls from 73% to 53% as asset size increases from one group to another). THEREFORE, these facts support the statement that greater size enhances diversification.

HOWEVER, size also leads in the sample to greater engagement in higher risk: systematic risk (unaffected by diversification) increased by 70% from companies with assets between USD5 billion and USD10 billion to those with more than USD25 billion. Specifically, throughout most of the period examined, large companies, although mo-

re diversified, operated with a lower capital ratios and were involved in relatively riskier activities such as holding assets in their trading accounts, participating to a greater extent in derivatives markets and generating a larger percentage of income from non-interest revenues. These results therefore also confirm that if the portfolio of relatively large banks is allowed to vary (that, as mentioned, they are not scaled-up versions of smaller banks), then their portfolios, characterized by greater leverage and riskier activities, can offset the diversification advantage of size⁷¹.

Also with mixed results across time, BOYD and GRAHAM find that, on average, large banks in the United States failed more often than small banks during the seventies (1970s) and the first half of the eighties (1980s), but not during the late eighties (1980s) and early nineties (1990s). As explanation of this result, they argue that better diversification of larger banks does not reduce failure risk systematically, potentially as an implicit too-big-to-fail protection⁷².

For cross-border mergers, AMIHUUD finds neutral results, and, in particular, that the sample of mergers between 1985 and 1998 had no systematic effects on acquiring bank's total stock price risk. Moreover, they explain this result on the basis that diversification benefits can be offset by particular monitoring problems associated with foreign operations⁷³.

3.3. Summary

Both the arguments and evidence above show that, similarly to the competition effects of different market structures, there is no clear relation between concentration and financial stability: although arguments

from both sides of the balance sheet, monitoring arguments and empirical evidence point to a direct relation, moral hazard, credit risk and monitoring aspects, also supported by empirical evidence in certain cases, contribute to, at least, raise doubts about such direct relation. These results in turn imply that, as in the case of competition, it is equally problematic to draw distinctions in terms of corporate governance regulation based on this stability criterion.

4. RELEVANCE OF SELECTIVENESS: COSTS OF CORPORATE GOVERNANCE RULES

Despite the problematic character of setting dividing lines in terms of corporate governance based on the extent of concentration of the relevant market, it does not imply per se a rejection of the idea of selectiveness, especially in light of the equally unclear evidence with regard to the net benefits that attach to rules seeking to impose special and more strict standards. This theme has been particularly (but not exclusively) analyzed in the context of securities issuers after the passage of the SARBANES OXLEY Act of 2002 (hereinafter also "SOX").

In particular, the evidence tends to question the net benefits of having in place independent boards, a requirement adopted by the New York Stock Exchange and NASDAQ. The costs to companies associated to board liability insurance have more than doubled (for S&P 500 firms, the median directors and officers' premium increased from USD675,000 in 1998 to USD3 million in 2004) and director fees have increased for small firms from USD1.21 per USD1,000 of net sales in 1998 to USD3.19 in 2004. The increase for large firms, however, is modest, a 10 cent increase over the same period⁷⁴.

Further to that, the evidence seeking to show that independent boards enhance shareholder value or improve operative performance is not consistent⁷⁵. Specifically, Vance finds a positive correlation between the proportion of inside directors and operative performance⁷⁶, ROSESTEIN and WYATT find that stock prices increase by about 0.2%, on average, when a company appoints an additional outside director, and BAYSINGER and BUTLER find that the proportion of independent directors in 1970 correlates with 1980 industry-adjusted return on equity⁷⁷. However, this result is criticized on the basis that their ten-year lag period is too long for any effects of board composition on performance to persist⁷⁸. Apart from that, there is also evidence finding no significant same-year correlation between board composition and operative performance or changes in market value to book value⁷⁹. FURTHER, there are some results showing that firms with a high percentage of independent directors may actually perform less efficiently. YERMACK, for example, finds a significant negative correlation between the proportion of independent directors and Tobin's q , although no significant correlation for other performance variables (sales/assets, operating income/assets, and operating income/sales)⁸⁰. AGRAWAL and KNOEBER similarly find a negative correlation between the proportion of outside directors and Tobin's q ⁸¹, while Fosberg finds that majority-outside boards have a significant lower sales/asset ratio⁸².

Setting aside the issue of independent boards under NYSE and NASDAQ rules, one way to assess the effects of Sarbanes-Oxley is by examining its impact on the U.S. listing premium, as measured by the difference between the market-to-book value of as-

sets of U.S. cross-listed firms and non-U.S. cross-listed stocks (and which is generally regarded as a measure of competitiveness). In this case, the evidence seems to point to negative effects especially in the case of small companies.

For example, Litvak finds that from year-end 2001 (pre-SOX) to year-end 2002 (after SOX adoption), the Tobin's *q* and market/book ratios of foreign companies subject to SOX (cross-listed on levels 2 or 3) declined significantly, relative to market/book ratios of both (i) non-cross-listed foreign companies from the same country, the same industry, and of similar size, and (ii) cross-listed companies from the same country that are not subject to SOX (listed on levels 1 or 4), whose Tobin's *q* and market/book ratios declined only slightly and increased in some cases. From this standpoint, the premium associated with trading in the United States was roughly constant, while the premium associated with being subject to U.S. regulation declined. The biggest impact was for companies that were more profitable, riskier, and smaller, companies with a higher level of pre-SOX disclosure (based on Standard and Poor's disclosure ratings), and companies from "well-governed countries" (using as proxies Europe, the median S&P disclosure score for all firms from each country, and each country's GDP per capita)⁸³.

This particular impact on small companies is also emphasized by PIOTROSKI and SRINIVASAN, who examine the foreign listing behavior in U.S. and U.K. stock exchanges before and after the enactment of SOX. Using a sample for the period between 1995 and 2006, they find that listing preferences of large foreign firms choosing between U.S. exchanges and the London Stock Exchange's Main Market did not change

following the enactment of Sarbanes-Oxley, but that, in contrast, the likelihood of a U.S. listing among small foreign firms did decrease⁸⁴.

Consistent with these results, ZINGALES finds that the share of global IPOs the U.S. equity markets attract has dropped substantially from 2000 to 2005. However, he further argues that these results cannot be explained by one single factor, but that rather they are probably the result of multiple factors, including reductions in the liquidity advantage of the U.S. equity market compared to other markets, reductions in analysts following the U.S., increases in liability risks, especially as perceived by directors, and increasing costs of compliance⁸⁵.

Other evidence is concerned specifically with Section 404 of Sarbanes-Oxley, which imposes the obligation on management of reporting annually the firms' internal controls. One way in which the benefits derived from this provision are intended to be measured is by estimating the impact of accounting restatements on the price of a company's shares (the more impact, the greater the benefits). Based on this measure, the benefits brought about by SOX 404 have been estimated to amount to approximately USD 14.5 billion in 2004. However, these apparent benefits are offset by the costs associated to that provision, which accrue to approximately USD 15-20 billion⁸⁶. Further, restatements by exchange-listed companies have actually grown substantially since the passage of Sarbanes-Oxley, from 69 in 1997 to 594 in 2006. Nonetheless, while the market reaction to restatement announcements is negative, beginning in 2001, the magnitude has fallen over time, which further points to the lack of any potential benefit from restatements driven by SOX 404⁸⁷.

MOREOVER, Iliev finds that the market reacted positively on news of delays in SOX implementation and negatively to news of the regulator's determination to carry on the implementation process (thus suggesting that compliance reduced firm value). Also, the fraction of management's report filers that have negative earnings-per-share (EPS) is larger than the fraction of non-filers that report negative EPS (a 19% higher probability of reporting negative EPS is found for filers, statistically significant at the 1% level)⁸⁸.

Finally, another perspective seeking to assess the impact of SOX looks at the overall market reaction following its passage (that is, not limited to foreign issuers or SOX 404). In this case, results are also mixed. REZAEI and JAIN, for example, analyze S&P 500 index returns around the events leading to SOX (using as events committee votes and presidential statements), and find that the abnormal returns are positive around the final legislative events before the passage of the Act and negative around prior events. As explanation for this, they argue that the market reacts positively as uncertainty is resolved, but that, overall, SOX is value increasing⁸⁹. This result is partially confirmed by AKHINGBE and MARTIN, who find a positive reaction of the stock of financial firms to the passage of SOX, except in the case of securities firms⁹⁰.

ZHANG, however, also analyzing the market reaction to the news about the enactment of SOX (committee votes and presidential statements), concludes that market losses attributable to its enactment were about USD1.4 trillion⁹¹. This is consistent to a certain extent with the evidence examining firms that have deregistered but have continued to trade off-exchanges af-

ter the passage of SOX. LEUZ, Triantis and Wang, in particular, find that the number of these firms increased from 43 in 2001, before the passage of SOX, to 183 in 2003. However, they also find that the decision of deregistering but continuing to trade off-exchanges results in negative abnormal returns of about 8% for such firms, arguably because the market perceives them to be less transparent and to have less liquidity⁹². These results, however, can be different for firms of different size. KAMAR, KARACAMANDIC and TALLEY, in fact, found that only small firms had an increased tendency to go private after SOX, especially during the first year of its passage (again reflecting the particularly high cost that such regime for small companies)⁹³.

These contrasting results actually resemble operative performance studies seeking to link generally corporate governance and firm performance. For example, GOMPERS, ISHII and METRICK estimate that firms with strong shareholder rights (as measured by the Governance Index they build by relying on twenty-four different governance provisions) have future risk-adjusted stock returns around 8.5% per year higher than those of firms with weak shareholder rights. From a different standpoint, an investment strategy that purchased shares in firms in the lowest decile of the Governance Index (considered to have the strongest shareholder rights) and sold shares of firms in the highest decile of the index (weakest shareholder rights) would earn abnormal returns of 8.5% per year. MOREOVER, the GOVERNANCE Index is highly correlated with firm value: in 1990, a one-point increase in the index is associated with a 2.4 percentage-point lower value for Tobin's *q*, and, by 1999, a one-point increase in the index is associated with a 8.9%

percentage-point lower value for Tobin's q . Besides these aspects, they also find that weaker shareholder rights are associated with lower profits, lower sales growth, higher capital expenditures, and a higher amount of corporate acquisitions⁹⁴.

BEBCHUK, COHEN and FERREL, in contrast, find that only a small subset of corporate governance aspects (none of them associated to the corporate governance reforms of SOX) are directly related to performance. Specifically, they construct an entrenchment index based on six provisions: four provisions that restrict the ability of a majority of shareholders to take certain decisions (staggered boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, and supermajority requirements for charter amendments), and two takeover readiness provisions that boards put in place to be ready for a hostile takeover (poison pills and golden parachutes). They find that increases in the level of this index are monotonically associated with economically significant reductions in firm valuation, as measured by Tobin's q , and that the entrenching provisions cause lower firm valuation. Also, they find that firms with higher levels of the entrenchment index were associated with large negative abnormal returns during the 1990-2003 period, and that the provisions in the entrenchment index fully drive the correlation that prior works have found between the provisions that the Investor Responsibility Research Center IRRIC considers beneficial to management without being harmful for shareholders and, on the other hand, reduced firm value and lower stock returns during the 1990s. FURTHER, they argue that there is no evidence that the other eighteen IRRIC provisions are negatively correlated with

either firm value or stock returns during the 1990-2003 period⁹⁵.

In fact, still other results point to reverse causation. From this perspective, rather than corporate governance causing a firm to perform one way or another, corporate governance standards are considered to depend on firm performance⁹⁶.

To summarize, based on the evidence discussed above, there are not clear benefits arising out of the intensification of corporate governance requirements through rules such as those contained in Sarbanes-Oxley and certain NYSE and NASDAQ provisions (while the costs associated to such rules seem to impact especially small firms). Specifically, there is no consistent evidence showing that SOX 404 or independent boards enhance shareholder value or improve performance, and actually firms with more independent boards are found to perform less efficiently in some instances. Also, SOX appears to exert a negative impact on the U.S. cross-listing premiums of foreign issuers (harming particularly small firms) and at the same time seems to have decreased the share of the U.S. in global IPOs. Further, studies seeking to assess the overall impact of SOX are equally mixed, but possibly biased toward showing a negative effect in the particular case of small firms.

Therefore, even if market concentration is considered to be, as argued before, a problematic pattern for creating distinctions in terms of corporate governance rules (in light not only of the inconclusive relation between concentration and competition, but also between concentration and financial stability), the MUELLER and GIROUD'S case for selective corporate governance still holds.

In particular, if reducing the corporate governance burdens in those cases where benefits seem most unclear can improve the overall cost/benefit relation of such burdens, there is a legitimate case for selectiveness.

5. CONCLUSION

The principle of selectiveness in corporate governance advocated by MUELLER and GIROUD'S relies heavily on the assumption that market concentration is inversely related to competition. As discussed in the foregoing sections, however, there are facts that raise doubts about this assumption in the banking sector. In particular, greater market concentration tends to be actually associated to higher loan rates, reductions in quantities and lower deposit rates, as predicted by the SCP hypothesis and consistent with the MUELLER and GIROUD'S premise. However, the evidence is not homogeneous and this, in turn, makes the relation between concentration and competition ambiguous.

MOREOVER, assuming that efficiencies have some connection with the degree of competitiveness of the market (that is, assuming that efficiencies depend on the managerial incentives to generate them, and that these incentives in turn depend on market competition), again the relevant empirical evidence is inconclusive: although it seems to generally lend support to the MUELLER and GIROUD'S premise of an inverse relation between concentration and efficiencies, the evidence is not homogenous and event studies are actually substantially heterogeneous. In view of these results, this paper looks at an alternative basis for establishing distinctions in terms of corporate governance: the relation between concentration and

financial stability. From this perspective, if a more concentrated market is more fragile, then financial stability provides a legitimate basis for more rigorous corporate governance in more concentrated markets. The empirical evidence on the concentration/fragility relation, however, does not exhibit any clear pattern, therefore undercutting this basis for selectiveness. Nonetheless, these problems do not suggest abandoning the idea of selective corporate governance: they only question the use of market concentration as selecting parameter. The rather conflicting evidence on the benefits of implementing governance standards such as those contained in Sarbanes-Oxley, in fact, highlights the need of selectiveness, specifically as a mechanism to reduce the costs associated to such rules when the underlying purported gains seem especially unclear (notably in the case of small companies).

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1 See generally: Cfr. BLAIR M. Margaret. *Ownership and control: rethinking corporate governance for the twenty-first century*. The Brookings Institution, Washington D.C., 1995, pp. 94-122; Cfr. DEMSETZ HAROLD. "The structure of ownership and the theory of the firm". *Journal of Law and Economics* 375, 1983; Cfr. JENSEN MICHAEL and MECKLING WILLIAM. "Theory of the firm. Managerial behavior, agency costs, and ownership structure". *Journal of Financial Economics* 3: 305, 1976; Cfr. JENSEN MICHAEL. "Agency costs of free cash flow, corporate finance and takeovers". *The American Economic Review* 76: 323, 1986; Cfr. ROE MARK. *The institutions of corporate governance*. Harvard Law and Economics discussion paper n.º 488, 2004; ROE MARK. *Strong managers, weak owners*. Princeton University Press, Princeton, 1996, pp. 9-13.

2 BOOT ARNOUD and MACEY JONATHAN. "Monitoring corporate performance: the role of objectivity, proximity and adaptability in corporate governance". *Cornell Law Review* 89: 356-393, 2004.

3 GIROUD XAVIER and MUELLER HOLGER. *Does corporate governance matter in competitive industries?* CEPR discussion paper 6446, 2007.

4 MASON EDWARD. "Price and production policies of large-scale enterprise". *American Economic Review*, 29: 61-74, 1939; BAIN JOE. "Relation of profit rate to industry concentration", *Quarterly Journal of Economics* 65: 293-324, 1956.

5 DEMSETZ HAROLD. "Industry structure, market rivalry, and public policy". *Journal of Law and Economics* 16:1-9, 1973; PELTZMAN SAM. "The gains and losses from industrial concentration". *Journal of Law and Economics* 20:229-263, 1977. The way in which efficiencies can take place can

also depend on the particular type of integration. For instance, in vertical integrations, efficiencies can be especially the result of reductions in transaction costs as a consequence of the mutual provision of the products offered by the merged firms. Conglomerate mergers, on the other hand, can enable the firms concerned to spread the risk of losses in the context of business cycles by means of the inclusion in the conglomerate of different lines of products or services. SCHERER FREDERICK and ROSS DAVID. *Op cit.*, p.163.

6 WALTER INGO. *Mergers and acquisitions in banking and finance. What works, what fails, and why*. Oxford University Press, New York 2004, pp. 64-65

7 From this standpoint, consolidation not only has the potential outcome of combining resources for developing products or services, but also eliminates the redundancy that would otherwise arise in a context of parallel operations. This argument, however, is problematic, as there is no clear relation between concentration and innovation. For instance, in some instances it has been argued that the relationship between innovation and concentration is nonlinear, and that it follows an inverted-U pattern: innovation is observed to be low at high levels of competition, reaches its peak at intermediate levels of oligopoly (where the four leading firms control roughly half the market), and then falls off as the market structure approaches to a monopoly. SCHERER FREDERICK. "Market Structure and the Employment of Scientists and Engineers". *American Economic Review* 57: 524-531, 1967; SCHERER FREDERICK M. "Research and Development Resource Allocation Under Rivalry". *Quarterly Journal of Economics* 81:359-394, 1967; KAMIEN MORTON and NANCY SCHWARTZ. "On the Degree of Rivalry for Maximum Innovative Activity," *Quarterly Journal of Economics* 90: 245-260, 1976. This result, in fact, has been confirmed in some cases by empirical evidence: LEVIN RICHARD C., COHEN WESLEY, and MOWERY DAVID Mowery. "R&D Appropriability, Opportunity, and Market Structure: New Evidence on Some Schumpeterian Hypotheses". *American Economic Review Papers and Proceedings* 75: 20-4, 1985; SCOTT J.T. "Firm Versus Industry Variability in R&D Intensity," in GRILICHES ZVI (ed.) *R&D, Patents and Productivity*. Chicago University Press, Chicago 1984. These results, however, have also been questioned in other cases. See, for example: BOONE JAN. "Intensity of competition

- and the incentive to innovate". *International Journal of Industrial Organization* 19:705-26, 2001.
- KAMIEN and SCHWARTZ, on the contrary, emphasize the relevance of competition and innovative opportunity for innovation. KAMIEN MORTON I. and SCHWARTZ NANCY L. "Market Structure and Innovation: A Survey". *Journal of Economic Literature*, XIII: 1-37, 1975.
- 8 This benefit refers to the possibility of consolidated firms to bargain more effectively compared to each individual firm for the purchase of inputs, which in turn increases their competitiveness. The effects of this aspect on rivals, however, are indeterminate. If rivals can also gain lower input prices following a merger, then the effects are positive, while if not, then rival firms can face a net loss. Accordingly, the overall effect of consolidation on customers under the buying power argument depends on the extent to which the cost savings are passed along and hence is unclear. FEE EDWARD and THOMAS SHAWN. "Sources of gains in horizontal mergers: evidence from customer, supplier, and rival firms". *Journal of Financial Economics* 74: 423-460, 2004, pp. 431-430. MOREOVER, the benefit of increased buying power is in some instances grounded not only on the argument that the merged parties can force suppliers to discount prices, but also on their increased capability to enter the upstream industry in order to force down prices. In the case of the United States, this was acknowledged, for instance, in *United States v. Baker Hughes*, 908 F.2d 981, 986 (D.C. Cir. 1990), where the court declined to enjoin a proposed merger not only because buyers had leverage to thwart higher prices, but also because entry into the sellers' market was deemed to be not subject to substantial barriers.
- 9 HOBERG GERARD and PHILLIPS GORDON. Product market synergies and competition in mergers and acquisitions. National Bureau of Economic Research working paper 14289, 2008, pp. 1, 5. See also: RHODES-KROPP MATTHEW and ROBINSON DAVID. "The market for mergers and the boundaries of the firm". *Journal of Finance* 63: 1169-1211, 2008. On the other hand, in the specific case in which acquisitions of shares entail a departure from a dispersed ownership to a structure with a controlling shareholder, concentration is also said to permit the substitution of management perceived to be inefficient and which nonetheless remains without being removed as a result of collective action problems, which can result in improvements in X-efficiencies (that is, the relative effectiveness to produce a certain amount of outputs or render certain services with a given set of inputs, resulting from differences in production functions, different use of production factors, internal structure, and compensation systems). See: MARTIN K.J. and MCCONNELL J. "Corporate performance, corporate takeovers, and management turnover". *Journal of Finance* 46: 671-687, 1991. On collective action problems in general: OLSON Mancur. *The logic of collective action. Public goods and the theory of groups*. Harvard University Press, Cambridge MA 1971, pp. 53-57. On X-efficiencies: LEIBENSTEIN HARVEY. "Allocative efficiency v. X-efficiency". *The American Economic Review* 56: 392-415, 1966.
- 10 See also: BERGER ALLEN and HANNAN TIMOTHY. "Using efficiency measures to distinguish among alternative explanations of the structure-performance relationship in banking", *Managerial Finance*, 23(1): 6-31, 1997.
- 11 SCHERER FREDERICK and ROSS DAVID. *Industrial market structure and economic performance*. HOUGHTON MIFFLIN, Boston 1990. Pp. 189-190.
- 12 The simplest case of unilateral effects is the case where there are not non-merging rivals (that is, a merger conducting to a monopoly). In this case, regardless of the pre-merger competition, the merger is considered to raise prices and reduce output by eliminating competition. WERDEN GREGORY. *Unilateral competitive effects of horizontal mergers. Basic concepts and models*. ABA Antitrust Section, Issues in Competition Law and Policy, Washington D.C. 2006, pp. 1-2.
- 13 Under a Cournot industry, the actions of competitors are the quantities they produce, and thus a Cournot-Nash equilibrium is a set of quantities such that each competitor is satisfied with its quantity, given its rivals' quantities. In other words, each firm chooses a given level of output that maximizes its profit function, taking the output levels of competitors as given. Under a Bertrand industry, which is generally applied to industries with differentiated products, competitors choose prices rather than quantities, and therefore the actions of competitors are their prices and a Bertrand-Nash equilibrium is a set of prices such that each competitor is satisfied with its price, given its rival's prices. Moreover, this model leads to the prediction that, absent coordination, competing firms maximize their profits by redu-

- cing their prices until they are equated to marginal costs. WERDEN GREGORY. *Op cit.*, pp. 1-4.
- 14 WERDEN GREGORY. *Op cit.*, pp. 1-4; FROEB LUKE and WERDEN GREGORY. "Unilateral competitive effects in horizontal mergers", in BUCCIROSSI PAOLO. *Handbook of antitrust economics*. MIT Press, Cambridge MA, 2006, pp. 43-105.
 - 15 On the evidence of bank mergers on loan rates, credit availability and deposit rates, see also: CARLETTI ELENA, HARTMANN PHILIPP and SPAGNOLO GIANCARLO. "Implications of the Bank Merger Wave for Competition and Stability", in *Risk Measurement and Systemic: Proceedings of the Third Joint Central Bank Research Conference, Bank of International Settlements, 2002*, pp. 38-50.
 - 16 According to HANNAN, however, a possible explanation for the negligible relationship found during the interest-rate peak of 1984 (and the strong relationships for the stable period of 1985 and the interest rate depression of 1986) is the tendency of prices to adjust more slowly in more concentrated markets. As argued by ROTEMBERG and SALONER, this can be the consequence of the flatter or more elastic demand typically perceived by firms in less concentrated environments. For those firms, failure to adjust prices to a new optimum implies a greater divergence between actual and optimal quantity, and, as a consequence, this leads to greater incentives to adjust prices to its new optimum (leading to less price rigidity compared to more concentrated markets). If loan rates exhibit greater rigidity in concentrated markets, and if rates in equilibrium tend to be higher in such markets, then periods involving sharp rises in interest rates, such as that occurred in 1984, should exhibit less of a relationship between loan rates and concentration (as banks in more concentrated markets adjust their rates upward more slowly). HANNAN TIMOTHY. "Bank commercial loan markets and the role of market structure: evidence from surveys of commercial loans". *Journal of Banking and Finance*, 15: 133-49, 1991. See also: ROTEMBERG J., and SALONER G. "The relative rigidity of monopoly pricing". *American Economic Review* 77: 917-926, 1987. In a separate study, HANNAN also argues that, for loan rates, the number of firms exhibits a consistent impact on small business loan rates, while the impact of share inequality measures (particularly the HHI) is unstable, varying substantially across samples. Accordingly, he argues that, to the extent that the HHI does not adequately weights the contributions of share inequality and the number of competitors in explaining loan rates, the number of firms should be given more weight. HANNAN T.H. "Market share inequality, the number of competitors, and the HHI: an examination of bank pricing", *Review of Industrial Organization*, 12: 23-35, 1997.
 - 17 As a complement to the above, they argue that, because different measures of efficiency are not consistently and positively related to market structure variables, their results contradict the efficientstructure hypothesis. Also, even though under such hypothesis it is not necessary that consumers benefit from emerging efficiencies, the fact that they find that measures of X-efficiency and scale efficiency are not associated with more favorable prices to consumers is considered to at least raise doubts about the hypothesis. BERGER ALLEN and HANNAN TIMOTHY. "Using efficiency measures to distinguish among alternative explanations of the structure-performance relationship in banking", *Managerial Finance*, 23(1): 6-31, 1997.
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 - 19 SAPIENZA PAOLA. "The effects of bank mergers on loan contracts". *Journal of Finance*, 57(1): 329-67, 2002.
 - 20 EREL ISIL. *The effects of bank mergers on loan prices: evidence from the United States*. Ohio State University, working paper, 2006.
 - 21 CARLETTI ELENA, HARTMANN PHILIP and SPAGNOLO GIANCARLO. *Op cit.*, p. 40. This argument, however, is not undisputed, as reductions in lending can also be the consequence of the elimination of previously inefficient loans (that is, credits with a negative net present value). BERGER ALLEN, KASHYAP ANIL and SCALISE JOSEPH. "The transformation of the U.S. banking industry: what a long, strange trip it's been". *Brookings Papers on Economic Activity* 2: 55-201, 1995.
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- 43 ALTUNBAS YENER and MARQUÍES IBÁÑES Mergers and acquisitions and bank performance in Europe. The role of strategic similarities. European Central Bank, working paper 398, 2004. This view is not uniform, however. VANDER VENNET, for example, show that bank takeovers that took place in the European Community between 1988 and 1992 generally deteriorated bank efficiency, but that mergers of equals in some cases led to significant performance gains. VANDER VENNET R. "The effect of mergers and acquisitions on the efficiency and

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- 44 See: O'KEEFE JOHN. "Bank failure resolutions: implications for banking industry structure, conduct and performance". *FDIC Banking Review*, vol. 5: 17-35, 1992; ROSE PETER S. "Improving Regulatory Policy for mergers: An Assessment of Bank Merger Motivations and Performance Effects". *Issues in Bank Regulation*: 32-39, 1987; ROSE PETER S. "The impact of mergers in banking: evidence from a nationwide sample of federally chartered banks". *Journal of Economics and Business*, Vol. 39: 289-312, 1987; RHOADES STEPHEN. "Billion dollar bank acquisitions: a Note on the performance effects". *Board of Governors of the Federal Reserve System*, Washington D.C., 1990; SRINIVASAN ARUNA. "Are there cost savings from bank mergers?" *Federal Reserve Bank of Atlanta, Economic Review*, Vol. 77: 17-28, 1992; SRINIVASAN ARUNA and WALL LARRY D. "Cost Savings Associated with Bank Mergers". *Federal Reserve Bank of Atlanta, Working Paper* 92-2, 1992; PERISTIANI STAVROS. "The effect of mergers on bank performance", in *Studies on Excess Capacity in the Financial Sector*. *Federal Reserve Bank of New York*, 1993, pp. 90-120. On the other hand, with mixed results, but generally biased toward lack of efficiencies, see: CORNETT MARCIA MILLON and TEHRANIAN HASSAN. "Changes in corporate performance associated with bank acquisitions". *Journal of Financial Economics*, vol. 31: 211-34, 1992 (efficiency overall -total expenses/revenues- does not improve relative to that of the industry, but employee productivity improves; ratio of cash flow to market value of assets improves relative to that of the industry; return on equity, but not return on assets, improves relative to that of the industry); ROSE PETER S. "Interstate banking: performance, market share, and market concentration issues". *Antitrust Bulletin*, Vol. 37: 601-30, 1992 (changes in operating efficiency -operating expenses/total revenue-, return on equity, and market share for various types of loans and deposits do not differ from those of non-merging firms; return on equity of merging firms, but not return on assets or efficiency, improves slightly relative to that of a control group); PERISTIANI STAVROS. *Evaluating the postmerger x-Efficiency and Scale Efficiency of U.S. Banks*. *Federal Reserve Bank of New York*, New York 1993 (non-interest expense ratios do not improve relative to those of a control group in multiple mergers; expense ratios of firms in single mergers increase relative to those of the control group; return on assets of the combined merged firm improves relative to that of the control group, but the return on assets of the acquirer alone declines; x-efficiency does not improve and even declines relative to that of the control group; scale efficiency improves for firms in multiple mergers and declines for firms in single mergers, relative to that of the control group).
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- 51 Also reflecting mixed results, see: ALLEN LINDA, and A. CEBESNOYAN SINAN CEBENOYAN. "Bank acquisitions and ownership structure: theory and evidence". *Journal of Banking and Finance*, Vol. 15: 425- 48, 1991 (acquiring firms do not experience abnormal returns); BARADWAJ BABU G., DUBOFSKY DAVID A., and FRASER DONALD R. FRASER. "Bidder returns in interstate and intrastate bank acquisitions". *Journal of Financial Services Research*, vol. 5: 261-73, 1992 (acquiring firms experience substantial negative returns five days before announcement of the merger and five days after the merger); BERTIN WILLIAM, GHAZANFARI FARROKH, and TORABZADEH KHALIL. "Failed bank acquisitions and successful bidders' returns". *Financial Management*, Vol. 93-100, 1989 (acquiring firms generally do not have significant abnormal returns before or after the merger); CORNETT and

DE SANKAR. "Common stock returns in corporate takeover bids: evidence from interstate bank mergers". *Journal of Banking and Finance*, Vol. 15: 273-95, 1991 (acquiring and target firms have substantial returns on the day of announcement but negative returns for the next fifteen days; however, the negative returns to the acquiror during fifteen days after announcement offset the gains on the announcement day; acquired banks experience a positive return on the announcement day of legislation allowing out-of-state entry); DE COSSIO FRANCISCO, TRIFTS JACK and SCALON KEVIN. Bank equity returns: The difference between intrastate and interstate bank mergers. University of South Carolina, working paper, Columbia, 1988; (acquired firms experience positive significant abnormal returns, while acquiring firms do not; there are net gains for intrastate merger proposals but not net gain or loss for intrastate proposals); DE SANKAR and DUPLIHAN DIANE. "Effects of interstate bank mergers on shareholder wealth: theory and evidence". *Proceedings on the Fourth International Symposium on Money, Banking and Insurance*, Karlsruhe 1989 (neither acquiring nor acquired firms experience significant abnormal returns during the thirty-day period before or after announcement of the merger); DESAI ANAND S. and STOVER ROGER. "Bank holding company acquisitions, stockholder returns, and regulatory uncertainty". *Journal of Financial Research*, Vol. 8: 145-56, 1985; HAWAWINI GABRIEL and SWARY ITZHAK. Mergers and Acquisitions in the U.S. Banking Industry: evidence from the capital markets. North Holland, New York, 1990 (acquired firms experience positive significant abnormal returns during the eleven-month period around the announcement date, while acquiring firms experience negative abnormal returns); JAMES CHRISTOPHER and WIER PEGGY. "An analysis of FDIC failed bank auctions". *Journal of Monetary Economics*, Vol. 20: 141-53, 1987 (acquiring firms in FDIC -assisted and unassisted mergers have positive significant abnormal returns on the day before announcement and the day of announcement, but there is no clear pattern for the fifty-day period after the merger; in the case of unassisted mergers, but not in assisted, the number of potential bidders is negatively related, and the number of alternate targets positively related, to abnormal returns to acquirers); JAMES CHRISTOPHER and WIER PEGGY. "Returns to acquirers and competition in the acquisition market: the case of

banking". *Journal of Political Economy*, vol. 95: 355-70, 1987 (acquiring firms experience small but significant positive returns during the two-day and five-day periods up to the announcement date; the number of targets is positively related, and the number of potential bidders negatively related, to acquirers' returns; returns to acquirers are positively related to the ratio of target to bidder size); KAEN FRED and TEHRANIAN HASSAN. "New Hampshire bank mergers: the returns to acquiring bank shareholders," in Benton E. Cup (ed.). *Bank mergers: current issues and perspectives*. Kluwer, Boston, 1989, pp. 141-55 (acquiring firms experience significant negative abnormal returns on the day before announcement and negative significant cumulative abnormal returns on the announcement date and the day after; the five mergers in the sample based on cash payment tend to exhibit positive returns, while the twenty-six mergers based on stock payment tend to exhibit negative returns; a higher ratio of target size to acquirer size is associated with higher abnormal returns); LOBLIE MARIE. "Categorical bank acquisitions". *Journal of Bank Research*, vol. 14: 274-82, 1984 (acquiring firms tend to experience positive cumulative abnormal returns); NEELEY WALTER. "Banking acquisitions: acquirer and target shareholder returns". *Financial Management*, Vol. 16: 66-74, 1987 (acquiring firms tend to experience abnormal returns, while acquired firms tend to experience positive significant abnormal returns before and after announcement); PETTWAY, RICHARD H., and TRIFTS JACK W. "Do Banks overbid when acquiring failed banks?". *Financial Management*, Vol. 14: 5-15, 1985 (acquiring firms obtain positive significant abnormal returns during ten days before a merger, while eleven FDIC-assisted mergers experience negative significant abnormal returns during fifty days after the merger); SUSHKA MARIE and BENDECK YVETTE. "Bank acquisitions and stockholders' wealth". *Journal of Banking and Finance*, Vol. 12: 551-62, 1988 (merger proposals involving relatively large targets compared to bidders exhibit greater gains than proposals involving relatively small targets); TRIFTS JACK W., and SCALON KEVIN. "Interstate bank mergers: the early evidence". *Journal of Financial Research*, Vol. 10: 305-11, 1987 (acquiring firms experience negative significant cumulative abnormal returns during the twenty-week period after announcement but no cumulative abnormal returns during forty weeks before announcement or for the en-

- tire sixty-week period; acquired firms experience positive abnormal returns during forty weeks before announcement and the entire sixty-week period; no abnormal returns are found to acquired firms during twenty weeks after announcement; returns tend to be larger for merger proposals in which the size difference between acquiring and acquired firms is relatively small); WALL LARRY and BENTON E. Gup. "Market valuation effects of bank acquisitions", in Benton E. Gup (ed.). *Bank mergers: current issues and perspectives*. Kluwer, Boston, 1989, pp. 107–20 (acquiring firms generally experience negative significant cumulative abnormal returns during four weeks after announcement).
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- 53 BECK Thorsten, DEMIRGÜÇ-KUNT ASLI and LEVINE ROSS. "Bank concentration and fragility: impact and mechanics", in CAREY MARK and STULZ RENÉ (ed.) *The risks of financial institutions*. Chicago University Press, Chicago, 2007, pp. 193-234.
- 54 BOYD JOHN and RUNKLE DAVID. "Size and performance of banking firms: testing the predictions of theory". *Journal of Monetary Economics*, vol. 31:47–67, 1993; MISHKIN FREDERIC. "Financial consolidation: Dangers and opportunities". *Journal of Banking and Finance*, vol. 23:675–91, 1999; O'HARA MAUREEN, and SHAW W. "Deposit insurance and wealth effects: the value of being too big or fail". *Journal of Finance*, Vol. 45:1587–1600, 1990.
- 55 PAROUSH J. "The effects of mergers and acquisition activity on the safety and soundness of a banking system". *Review of Industrial Organization*, 10: 53-67, 1995.
- 56 BECK THORSTEN, DEMIRGÜÇ-KUNT ASLI and LEVINE ROSS. *Bank concentration and crisis*. World Bank, Washington D.C., 2003, p. 2; KEELEY MICHAEL. "Deposit insurance, risk and market power in banking". *American Economic Review*, 80: 1183-1200, 1990. Although this argument could in theory apply to horizontal and vertical diversification (that is, diversification along a single type and across different types of transactions or assets, respectively), a neutral or even reverse effect can arise in case of vertical diversification. In particular, DEMSETZ and STRAHAN hold that larger banks have lower stock return volatility if their portfolios are held constant, but when loan portfolios are allowed to vary with size, risk is no longer reduced. In other words, if a relatively large bank holding company is essentially a scaled-up version of a small bank, then such company can be expected to exhibit lower risk because of higher diversification. If, however, there are significant differences in the nature of the assets, liabilities and offbalance-sheet positions of large and small banking institutions, then large entities might not exhibit lower risk than small companies. DEMSETZ REBECCA and STRAHAN PHILIP. "Historical patterns and recent changes in the relationship between bank holding company size and risk". *Federal Reserve Bank of New York Economic Policy Review*, July, 13-26, 1995.
- 57 HELLMAN THOMAS, MURDOCK KEVIN and STIGLITZ JOSEPH. "Liberalization, moral hazard in banking and prudential regulation: are capital controls enough?". *American Economic Review* 90(1): 147165, 2000. See also: BOOT A.W. and GREEBAUM S. "Bank regulation, reputation and rents: theory and policy implications", in MAYER C. and VIVES X. *Capital market and financial intermediation*. Cambridge University Press, Cambridge 1993, pp. 262-285; MARCUS A.J. "Deregulation and bank financial policy". *Journal of Banking and Finance* 8: 557-565, 1984. From another perspective, a merger can create an internal money market, thus reducing interbank borrowing costs for the merged institutions. As a consequence, the consolidated entities benefit from lower liquidity risk than competitor banks. See: Cfr. CARLETTI ELENA, HARTMANN PHILIP and SPAGNOLO GIANCARLO. *Op cit.*, p. 45.
- 58 EDWARDS F. and MISHKIN F. "The decline of traditional banking: implications for financial stability

- and regulatory policy". Federal Reserve Bank of New York Economic Policy Review, 1: 27-45, 1995.
- 59 BESANKO D. and THAKOR A.V. Relationship banking, deposit insurance and bank portfolio, in MAYER C. and VIVES X. VIVES (editors). Capital Markets and Financial Intermediation. Cambridge University Press, Cambridge 1993, pp. 292-318.
- 60 SMITH BRUCE. "Private information, deposit interest rates, and the stability of the banking system". Journal of Monetary Economics, 14:293-317, 1984. See also: SPRAG O.M.W. History of crisis under the National Banking System. U.S. Government printing office, Washington D.C., 1910. In a similar vein, Allen and Gale hold that banks choose a default risk of their assets that maximizes their utility function, and, in a Cournot-Nash scenario of competition for deposit markets, as the number of competitors for deposits increases arbitrarily, the default risk level reaches a maximum. ALLEN FRANKLIN and GALE DOUGLAS. Comparing Financial Systems. MIT Press, Cambridge and London 2000. In this line as well: CORDELLA T. and YEYATI E.L. YEYATI. "Financial opening, deposit insurance and risk in a model of banking competition". European Economic Review, 46(3): 471-485, 2002 (arguing that, with fixed-rate deposit insurance, enhanced competition increases risk through lower product differentiation and lower margins resulting from higher deposit rates, but that, when deposit insurance premiums are risk-adjusted, deposit rates and asset risk are lower). MATUTES and VIVES, similarly, hold that as competition leads to excessive deposit rates, both deposit regulation (deposit limits or rate ceilings) and investment restrictions are needed to remove the perverse effect of competition. MATUTES CARMEN and VIVES XAVIER. "Imperfect competition, risk taking and regulation in banking". European Economic Review, 44(1): 1-34, 2000.
- 61 ALLEN FRANKLIN and GALE DOUGLAS. Comparing Financial Systems. MIT Press, Cambridge and London 2000; ALLEN FRANKLIN and GALE DOUGLAS Competition and Financial Stability. World Bank Mimeo, Washington D.C. 2003; MARCUS Alan. "Deregulation and bank financial policy". Journal of Banking and Finance, 8, 557-65, 1984.
- 62 MATUTES C., AND VIVES X. "Competition for deposits, fragility and insurance". Journal of Financial Intermediation, Vol. 59(2): 184-216, 1996.
- 63 KEELEY Michael. "Deposit insurance, risk and market power in banking". American Economic Review, 80: 1183-1200, 1990.
- 64 See also: MEINSTER D.R., and JOHNSON R.D. "Bank holding company diversification and the risk of capital impairment". Bell Journal of Economics, Vol. 10(2):683-694, 1979; BOYD J.H., GRAHAM R.S., and HEWITT R.S. "Bank holding company mergers with non-bank firms: effects on the risk of failure". Journal of Banking and Finance, Vol. 17: 43-63, 1993.
- 65 CRAIG B. and SANTOS J.C. "The risk effects of bank acquisitions". Federal Reserve Bank of Cleveland Economic Review, 33: 25-35, 1997.
- 66 Cfr. HOGGARTH G.A. MILNE G. and WOOD G. "Alternative routes to banking stability: a comparison of UK and German banking systems". Financial Stability Review, 5: 55-68, 1998. However, Staikouras and Wood undertake a similar analysis for Greece and Spain during the nineties, finding that Spanish banks as a whole were both more profitable and more stable than Greek banks, except that the sub-group of Spanish commercial banks was less stable. In turn, the Spanish banking sector was more competitive than the Greek, which was found to have larger public involvement. This comparison thus points to no trade-off between competition and stability. See: STAIKOURAS C. and WOOD G. "Competition and banking stability in Greece and Spain". Journal of International Banking Regulation, 2(1): 7-24, 2000.
- 67 CIPOLLINI ANDREA and FIODELISI FRANCO. The impact of bank concentration on financial distress: the case of the European banking system. University of Modena and Reggio Emilia, University of Rome, working paper, 2008.
- 68 Cfr. BECK THORSTEN, DEMIRGÜÇ-KUNT ASLI and LEVINE ROSS. Bank Concentration and Crisis. World Bank, working paper 3041, Washington D.C. 2003, pp. 2-5, 22-23.
- 69 BESTON G.J., HUNTER W.C. and WALL L.D. "Motivations for bank mergers and acquisitions: enhancing the deposit insurance put option versus earnings diversification". Journal of Money, Credit, and Banking, 27(3): 777-88, 1995.
- 70 ELSAS RALF. Preemptive distress resolution through bank mergers. University of München, Institute for Banking and Finance working paper, München, 2007.
- 71 DEMSETZ REBECCA and STRAHAN PHILIP. Historical patterns and recent changes in the relationship

- between bank holding company size and risk. Federal Reserve Bank of New York Economic Policy Review, July, 13-26, 1995.
- 72 BOYD J. and GRAHAM S. "Investigating the banking consolidation trend". Federal Reserve Bank of Minneapolis Quarterly Review, Spring, 1-15, 1991. Underscoring also that failure probabilities increase with size not only for U.S. banks but also for European and Japanese banks, see: DE NICOLLO G. "Size, charter value and risk in banking: an international perspective". International Finance Discussion Paper n.º 689, Board of Governors of the Federal Reserve System, 2000.
- 73 AMIHUD YAKOV, DE LONG GAILE and SAUNDERS ANTHONY. "The effects of cross-border bank mergers on bank risk and value". Journal of International Money and Finance, 21: 857-877, 2002.
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- 75 For a review of this literature, see: BHAGAT S. and BLACK B. "The non-correlation between board independence and long-term firm performance". Journal of Corporation Law 27: 231-273, 2001.
- 76 VANCE STANLEY. Boards of directors: structure and performance. University of Oregon Press, Eugene, 1964.
- 77 BAYSINGER BARRY and BUTLER HENRY. "Corporate governance and the board of directors: performance effects of changes in board composition". Journal of Law, Economics and Organizations 1: 101-124, 1985.
- 78 BHAGAT S. and BLACK B. Op cit., p. 236.
- 79 BAYSINGER BARRY and BUTLER HENRY. Op cit., pp. 101-124; BHAGAT S. and BLACK B. Op cit., pp. 231-273; BROWN L. and CAYLOR M. Corporate governance and firm operating performance. Georgia State University and University of South Carolina, working paper, 2007; FACCIO MARA and LASFER M.A. Managerial ownership, board structure and firm value: the U.K. experience. Cass Business School research paper, 1999; HERMALIN BENJAMIN and WEISBACH MICHAEL. "The effect of board composition and direct incentives on firm performance". Financial Management 20: 101-112, 1991; MACAVOY PAUL. All proposals for increased control of the corporation by the board of directors: an economic analysis. Principles of Corporate Governance and Structure Roundtable, New York, 1983. FERRIS STEPHEN, JAGANNATHAN MURALI and PRITCHARD ADAM. "Too busy to mind the business? Monitoring by directors with multiple board appointments". Journal of Finance 58: 1087, 2003.
- 80 YERMACK DAVID. "Higher market valuation of companies with a small board of directors". Journal of Financial Economics 40: 185-211, 1996. See also: KLEIN APRIL. "Firm performance and board committee structure". Journal of Law and Economics 41: 275, 1998 (finding a significant negative correlation between market value of equity and the proportion of independent directors, but no significant results for return on assets and stock market returns).
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