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RELAXING THE GLASS-STEAGALL ACT: DO DIVERSIFICATION BENEFITS EXIST?

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Abstract

The relaxation of the Glass-Steagall Act (GSA), the Act which separates commercial and investment banking, is currently under debate. Central to this debate is the potential risk reduction of commercial banks due to diversification. This paper, through a thorough and complete examination of the diversification potential, establishes an upper bound of diversification benefits. The results do support a relaxation of the GSA as well as the allowable amount of investment banking and other securities activities by commercial banks.

INTRODUCTION

In 1933, as part of the Banking Act of 1933, Congress passed the Glass Steagall Act (GSA), which effectively separated commercial banking and investment banking industries. The GSA is the most binding restriction concerning the securities activities of commercial banks. Practitioners, financial economists and regulators have argued to repeal or greatly modify the GSA. Even the Securities Industry Association has endorsed a plan that will allow banks to enter a range of securities businesses. Proponents of expanded bank powers argue that because of the GSA, commercial banks are often unable to respond to competition from other financial service firms and foreign banks. Regulations designed to make banks safer, may in fact result in a riskier bank industry. Increasingly, the GSA has come under scrutiny, with some practitioners and scholars, both legal and economic, advocating that the GSA be repealed or greatly amended. Indeed the Treasury Department recently proposed banking reforms that would greatly expand the investment banking powers of commercial banks. Currently, the GSA is eroded, in a haphazard fashion, as administrative rulings allow commercial bank holding companies, such as J.P. Morgan, limited investment banking activities. This paper examines one of the frequently discussed potential benefits of bank power expansion; the diversification benefits of allowing banks to expand their allowable activities.

REVIEW OF ECONOMIC LITERATURE

It is commonly accepted that banks need to be regulated to protect third party interests. On a micro level, these can be the loss of funds and/or liquidity that occurs when an individual bank fails. There is also concern that one bank's failure can have a contagion effect, causing other banks to fail. On the macro level, allowing commercial and investment banking to mingle are of concern as this may affect the safety and soundness of the entire financial structure. Since commercial banks have deposit insurance, the additional risks of bank activities are borne, at least in part, by the insurance fund.

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Most studies indicate that granting additional securities powers to banks and/or bank holding companies (BHCs)[1] will increase the risk of the BHC. However, most measures of current BHC risk will be biased downward because of deposit insurance. Since BHC's risk may be biased downward, any merger with an uninsured entity would probably increase risk. Not surprisingly, previous simulation studies find that pure portfolio gains between BHCs and securities firms are marginal or do not appear to exist.

Balancing these studies is the observation that BHCs that are more heavily engaged in permissible nonbank activities tend to be less risky than those BHCs with relatively little nonbank activities. One likely explanation is that the simulation studies randomly merge firms. Either managers or regulators may be acting in such a manner that is risk-reducing when these BHCs expand into nonbank activities. Another explanation is that while nonbanking industries in isolation produce no diversification benefits, several different nonbanking industries combined with BHCs may produce a safer banking industry.[2]

Brewer, Fortier, and Pavel [2] (hereafter BFP), examine the risks of permissible and impermissible nonbank activities. BFP observe the variances of market returns, the correlations of those returns with banking returns, and the impact of hypothetical mergers on BHC risk, defined as the variance of the average daily returns of "representative BHCs" and "representative non-banking firms." BFP find securities activities are the riskiest of all nonbank activities, but securities activities are not as highly correlated with banking as several other less risky activities (indicating potential portfolio diversification gains). By restricting the relative size of nonbank investments, most bank powers can be expanded without fear of significantly increasing bank risk. The notable exceptions are security activities which appear to increase BHC risk at any level.

Wall [15] examines the effect on BHC risk when nonbank subsidiaries are acquired. Even though nonbank subsidiaries may be riskier than banking operations when studied in isolation, there are possible gains from diversification of an organization's portfolio, especially geographic diversification, that reduce BHC risk. The results indicate that the *bank* subsidiaries are the primary determinant of BHC risk. BHC risk is, however, positively associated with the risk of nonbank subsidiaries. Wall states that his results are neutral for deregulation, although nonbanking subsidiaries do not significantly increase risk, neither do they decrease it significantly to advocate deregulation.

Boyd and Graham [5] simulate BHCs merging with other financial firms to assess profitability and risk using accounting and market data from 1974 - 1984. Specifically, will the risk of bankruptcy decrease or increase if BHCs are allowed to engage in securities, insurance, and real estate. Examining the *unmerged* industries, Boyd and Graham find that BHCs are essentially neither the most nor least profitable with respect to the other financial firms. The most profitable firms are insurance agents/brokers and securities firms. BHCs are the least risky financial firms and securities and real estate firms are the most risky. A simulation hypothetically merging industries finds that BHCs would become more profitable and more risky if allowed to engage in securities activities which does not support BHC securities power expansion.

Dale [6] argues that when and if commercial banks ever get the power to enter investment banking that the field will be tougher and less profitable than the commercial bankers had hoped. Dale points to the very competitive municipal bond, private placement, merger and acquisition consulting, and overseas activities (these are investment banking activities that commercial banks can participate in to some degree) where profitability is far from windfall levels. Investment banking is dominated by a relatively small number of investment banks. Breaking into these ranks will be difficult because of the structure of the investment banking market and barriers that limit entry.

Brewer [3,4] in two studies examines the relationship of currently allowed BHC nonbanking powers and BHC risk. First, Brewer's 1989 study examines the total investment of allowable nonbanking activities by BHCs and found that those BHCs with more investment in nonbanking activities were relatively less risky. Later, Brewer's 1990 study also determined that not only does the level of nonbanking activities impact risk reduction, but the mix of the nonbanking activities is important in BHC risk reduction.

Wall and Eisenbeis [16], using earnings data, find that banking is one of the riskiest activities and that banks' risk exposure could be reduced if they diversified. Evidence presented examining stock market data have found no evidence either way. Wall and Eisenbeis also examine the coefficients of variation of different banking and nonbanking activities during the period 1970 to 1980 and find banking as neither the most nor the least risky activity. Securities, insurance, and real estate activities are all more risky than banking, but less risky than other permitted nonbank activities. Finally, Wall and Eisenbeis examine risk through the bond markets. Using the standard event study methodology, stocks and bonds show no significant abnormal returns when firms expanded

into allowable nonbank activities. This suggests that bondholders perceived no significant effect on the acquiring firm's risk position.

Rosen, et. al. [13] also take a portfolio approach to the question of expanded bank powers. This study differs by finding the level of real estate investment (as an equity partner) that can be tolerated by a BHC without a reduction in the risk of the BHC as measured by the variance of earnings (in this case the earnings are net operating income, after taxes and extraordinary items, but before interest payments, divided by book value of assets at the end of the period). That is, they sought to determine what is the weight of real estate investment, measured as a percentage of total assets, in a two-security portfolio that does not alter the variance of the portfolio. Using REIT (market) data there appear to be modest benefits to diversification up to a level of four percent of the total portfolio. Service corporation data (from the annual reports of savings and loan service corporations) reveal no potential diversification benefits. The authors conclude that, at best, there is modest potential for diversification benefits from allowing BHCs to invest directly in real estate.

Benston [11] evaluates many of the articles reviewed here and argues that, despite the apparent results, there is "little reason for concern about the federal safety net" if the GSA were repealed. Benston's argument is based upon: (1) dismissing studies using current data because of alleged shortcomings, and (2) focusing on pre-GSA-period studies that show banks with securities operations were less likely to fail during the Great Depression than those banks without securities operations. While Benston is absolutely correct concerning the failure rates of pre-GSA banks, many of his critiques of studies using current data are unduly harsh given the constraints of empirical research and are largely unsolvable (such as the lack of private firm data).

OBJECTIVES AND CONTRIBUTIONS

The above studies and others consistently discourage BHC power expansion on the basis of *diversification* because no or only marginal benefits are found.[3] All previous studies either randomly merge firms from different industries or merge representatives from different firms, by definition, assume no effort by either BHC managers or regulators to reduce the risk of the BHC. In effect, previous papers establish the lower-bound of potential diversification potential. This is of concern because of the observation that BHCs that are currently more activity-diversified are less risky.

The primary objective of this paper is to establish the upper-bound of diversification potential. This simulation model captures the potential diversification benefits by establishing, as a goal of managers and/or regulators, BHC risk reduction. Each and every possible combination of BHCs and securities firms in the data set are examined. This exhaustive search of the possible combinations establishes the upper-bound of risk reduction through diversification.

This study utilizes a greater number of firms over a greater time period than previous studies. The time period is superior over past studies as it includes the late 1980s, noted as years of poor bank performance. Additionally, this study avoids a survivorship bias by including failed firms in the data. Finally, this study is the only study to systematically examine each and every possible two-firm merger in the available data.

Finally, industries are subjected to a much finer classification than in previous studies. BHCs are divided into state and national classifications and are analyzed separately. Securities firms are divided into two industrial groupings. In addition to investment banking, this simulation examines benefits to allowing banks to offer investment advice.

METHODOLOGY

The first measure of interest is the profitability of the various firms; both the security firms (SFs) and the bank holding companies (BHCs). SFs and BHCs are grouped by Standard Industry Codes (SIC). The measure of profitability is the rate of return on average accounting equity, where a denotes the measure:

Equation 1

$$\tilde{A}_j = \frac{2\tilde{\pi}_j}{E_j + E_{j-1}}$$

where π is net income after taxes, E is total equity, and the subscript j denotes the time period. The measure of risk for the individual firm is the variance of returns. The variance is determined by:

Equation 2

$$\sigma^2_{\tilde{A}} = \sum_{j=1}^{n} \frac{(\tilde{A} - \bar{A})}{(n-1)}$$

where A is defined in equation (1).

BHCs and SFs are hypothetically combined into portfolios. The question of interest is if the portfolio is less risky than the BHC alone. The measure of risk (denoted as σ^2_C) is the variance of returns in the two-security portfolio, measured by:

Equation 3

$$\sigma^2_C = p^2\sigma^2_{SF} + (1-p)^2\sigma^2_{BHC} + 2p(1-p)\rho_{SF,BHC}\sigma_{SF}\sigma_{BHC}$$

where *p* is the proportion of the SF in the combined portfolio, and $\rho_{SF,BHC}$ is the correlation coefficient between SF and BHC earnings.

The study is further extended to include annual holding period returns. The holding period or market return is defined as:

Equation 4

$$R_j = \frac{(P_j - P_{i-1} + D_j)}{P_{j-1}}$$

where R is the holding period return, P is the price per share, D is dividends during the period, and j represents the period. All prices are adjusted for stock dividends and splits.

The methodology in conducting the simulation is the same whether accounting or market data are used. The results in all cases then represent the upper-bound of diversification benefits.

The simulation is designed to capture the potential of diversification benefits. To find the potential benefits, the earnings for all firms during the test period are known. Each BHC and each and every SF are examined to find if any combination of the two firms can produce a portfolio that is less risky than the BHC alone. The range of the proportion of the SF where these diversification benefits exist, if they do exist, is also measured. The result is a BHC by SF matrix of the ranges of the proportions where diversification benefits exist (if no diversification benefits exist, the proportion is 0).

It is further assumed that BHC managers will only diversify into new activities if the result does not decrease earnings. Due to deposit insurance, BHC managers have no incentive to diversify if the diversification results in lower earnings even if the result is a safer BHC. BHC mangers will only diversify if they perceive a Beneficial Merger. A Beneficial Merger is defined as a merger that either increases earnings at the same or lower risk of the bank before the merger or decreases risk at the same or higher earnings of the bank before the merger. A BHC by SF matrix is constructed of the ranges of proportions of SF presence in combinations that result in a Beneficial Merger (again, if the hypothetical merger does not generate a Beneficial Merger, the cell would contain a 0).[4]

The data for the simulation are found on the annual COMPUSTAT Research files for the years 1971 - 1990. The data are screened for at least 10 years of data for the firm to be included in an industry group. This screen resulted in two securities groups; Securities Brokers, Dealers, and Flotation Firms (SIC 6211) and Investment Advice (SIC 6282). BHCs are divided into National Commercial Banks (SIC 6021) and State Commercial Banks (SIC 6022)[5]. For those firms that do not have complete information, only the matching years are examined and there must be at least ten years of matched data to be included in the simulation.[6] By using data from all firms, surviving and failed, and by not using average or representative firms, this is a more complete use of data than previous studies.

RESULTS AND CONCLUSIONS

The results of the simulation are shown in Tables 2 and 3. These results indicate a greater tolerance for securities activities by BHCs than previous studies. It is important to note before the results of the model are presented that this simulation is only addressing the issue of diversification benefits. There are no agency costs, merger premiums, economies of scale or scope, and no changes in capital structure are captured in the simulation.

Table 2 shows the results of National and State BHCs when hypothetically merged with Securities Broker, Dealer, and Floatation Firms. Some 38.62 percent of national BHCs were able to find firms resulting in a Beneficial Merger using accounting data. Furthermore, those firms that resulted in a Beneficial Merger could contain, on average, up to 22.73 percent of security activities within the BHC. The market data is less favorable for bank power expansion. Only 9.83 percent of national BHCs were able to construct a Beneficial Merger. The proportions of securities firms in Beneficial Mergers is also smaller; 6.81 percent for national BHCs. The similar results between National BHCs and State BHCs are not surprising given that the BHCs included in COMPUSTAT are large firms.

Table 3 shows the results of National and State BHCs hypothetically merged with Investment Advice Firms. Almost half of the BHCs (46.95 percent of National BHCs and 47.12 percent of State BHCs) would find such activities Beneficial using accounting data. Market return simulations are also very favorable. Regardless of the data used, over a third of the BHCs found mergers that were Beneficial. Given BHCs current presence in discount brokerage, this would appear to be a very promising area for expansion. Notable is the smaller proportions of security firm exposure that can be tolerated in the BHC. This maximum average investment does suggest restraint.

These results indicate that at least some types of additional securities activities can be tolerated be BHCs. These results are different than those studies that used average or composite firms and then conducted a Monte-Carlo-type simulation which generally find no diversification potential. The policy implications are that the introduction of greater allowable securities activities, if proportionally limited, can make the BHC industry safer through diversification.

The results of the simulation must be tempered by the reiteration that this was designed to capture diversification potential. The actual diversification would likely lie somewhere between previous random-merger studies (where no or only marginal diversification is found when greater security powers are allowed) and this paper's upper-bound of potential benefits. There are also other areas of risk (i.e. underwriting risk) and benefits (i.e. economies of scope) that may or may not be substantial and are not captured by this study. With these caveats, this study provides evidence that supports limited expansion of selected securities powers by BHCs on the basis of portfolio diversification benefits.

TABLE 1
Standard Industrial Classifications' Definitions And The Number Of Firms In The Simulation

SIC 6021	National bank holding companies. (113 Firms)
SIC 6022	State bank holding companies. (59 Firms)
SIC 6211	Establishments primarily engaged in the purchase, sale, and brokerage of securities; and those generally known as investment bankers, primarily engaged in originating, underwriting and distributing issues of securities. (26 Firms)
SIC 6282	Establishments primarily engaged in furnishing investment information and advice to companies and individuals concerning securities and commodities on a contract or fee basis. Establishments that provide advice and also act as brokers or dealers are classified in Industry 6211. (9 Firms)

TABLE 2
Diversification Potential Of BHCs And Securities Brokers, Dealers, And Floatation Firms (SIC 6211)

National BHCs Using Accounting Earnings	
Percentage	Proportion
.38461	.19055
State BHCs Using Accounting Earnings	
Percentage	Proportion
.41987	.16677
National BHCs Using Holding Period Returns	
Percentage	Proportion
.09832	.06811
State BHCs Using Holding Period Returns	
Percentage	Proportion
.05002	.04811

Accounting Earnings are calculated as per Equation 1. Holding Period Returns are calculated as per Equation 4. Percentage is the average median percentage of firms resulting in a Beneficial Merger. Proportion is given a Beneficial Merger, the average maximum median investment in a security firm by the BHC.

TABLE 3
Diversification Potential of BHCs and Securities Investment Advice Firms (SIC 6282)

National BHCs Using Accounting Earnings	
Percentage	Proportion
.44445	.06722
State BHCs Using Accounting Earnings	
Percentage	Proportion
.77778	.17677
National BHCs Using Holding Period Returns	
Percentage	Proportion
.52081	.12011
State BHCs Using Holding Period Returns	
Percentage	Proportion
.34261	.18291

Accounting Earnings are calculated as per Equation 1. Holding Period Returns are calculated as per Equation 4. Percentage is the average median percentage of firms resulting in a Beneficial Merger. Proportion is given a Beneficial Merger, the average maximum median investment in a security firm by the BHC.

ENDNOTES

1. While it is true that there are differences in granting expansionary powers through a BHC rather than the bank itself, it is the authors' opinion that the most probable structure of any expansion will be within a BHC format.

2. The assertions in the above paragraph are found in several studies which are reviewed here.

3. There are several other empirical studies concerning expanded bank powers (such as Arnold Heggestad [8] and Peter C. Eisemann [7]) however only the most germane articles are reviewed here.

4. This methodology has roots in mean-variance analysis. There are theoretical foundations for using a mean-variance framework. Borrowing heavily from Martin, Cox and MacMinn [11], mean-variance analysis is a method of ranking risky alternatives. If the investors' utility functions are either quadratic or the assets have a cumulative normal distribution, the mean-variance approach is consistent with the maximization of expected utility as developed by von Neumann and Morgenstern [14]. While rates of return are not normal, several researchers (H. Levy and H.M. Markowitz [10]; K. Kroll, H. Levy, and H.M. Markowitz [14]; and J. Meyer [9]) have shown that the mean-variance efficient porfolio is not statistically different from the utility maximizing portfolio or that the mean-variance porfolio is an appropriate and effective proxy for the utility maximization portfolio.

5. Formal definitions of the SICs are found in Table 1.

6. Despite these screens, a large number of hypothetical mergers could be constructed. An average of 137,150 combinations per industry (for example, National BHC's and Investment Advice) were constructed.

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