The Impact of the Partial Repeal of The Glass-Steagall Act on the Banking Industry

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Executive Summary
The Glass-Steagall Act (Act) passed in 1933 prohibited commercial banks from participating in securities activities. The Act, also known as the Banking Act of 1933, was passed by Congress as an emergency measure to counter the failure of 5,000 banks during the Great Depression. In 1999, the Act was partially repealed by the Graham-Leach Bliley Act (GLBA) to allow banks to affiliate with firms that are principally or primarily engaged in underwriting or dealing in securities. The new legislation resulted in a fundamental reassessment of risk appetite for many firms as they now had the opportunity to chase the high fee businesses that had previously been exclusively the domain of the investment banks. The consolidation of high-risk broker-dealer activity into companies that also engaged in traditional banking activities through federally insured depository institutions (IDIs) resulted in increased risk to the banking system. The U.S. financial system has become increasingly concentrated within a handful of very large institutions. Thus the threat to the financial system posed by a collapse of any of these firms seems to have increased, and the partial elimination of Glass-Steagall helped create this situation.

This paper analyzes the risk profile of the five largest U.S. financial holding companies (FHCs) with significant broker-dealer subsidiaries, all of which are now Systemically Important Financial Institutions (SIFIs), focusing on the changes in the balance sheets and income statements of these firms and the increased risks to the banking industry since 1999.1 Various metrics such as asset growth, revenue volatility, and high leverage indicate that the risk profile of these five institutions has certainly increased since the partial repeal of the Act. Total assets of just these five firms increased $6.4 trillion or 365% from 1999-2016 due to the acquisition of and

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1 The firms analyzed include: J.P. Morgan Chase and Company - JPM, Bank of America Corporation - BAC, Citigroup, Inc. - Citi, The Goldman Sachs Group, Inc. - GS, and Morgan Stanley- MS.
continued growth of significant existing broker-dealer operations, and due to large investment banks Morgan Stanley (MS) and Goldman Sachs (GS) becoming FHCs (something that would not have been possible if GLBA hadn’t been passed).\(^2\) At the time they became FHCs, MS and GS total assets were $1.6 trillion. The enormous growth in asset size alone has created firms which many consider “too big to fail” and too big to regulate.

Also, results show that earnings have been more volatile at these five firms after they acquired or grew their broker-dealer subsidiaries and leverage at these broker-dealer subsidiaries is high. While the balance sheets of the five SIFIs appear to have become more liquid since GLBA, this liquidity is needed to cover the risk of broker-dealer activity and satisfy the SEC’s net capital requirements. Many experts feel that the broker-dealer business model, which is highly reliant on low-cost funding which may be unstable or unavailable during stressful times, necessitates increased capital requirements for these FHCs. Additionally, the volume of trading assets and Level 3 assets is very high for these firms and has likely contributed to the earnings volatility. Studies have shown that while investment banking revenue provides earnings diversification, this diversification does not reduce the risk of increased earnings volatility.

Other risks have emerged as a result of the partial repeal as well and will be discussed individually. These risks include 1) increased operational risk, 2) an increased government safety net as investment banking firms now have access to the Fed’s discount window (through their IDIs) and other government programs, 3) a potential shifting of losses and risk from a nonbank affiliate to a bank affiliate, 4) concerns about the ability of the Federal Reserve (Fed) as

\(^2\) Significant growth also occurred in BAC in 1998 but Citi did not become a HC until 1998 and GLBA was passed in 1999. Therefore, 1999 is used as a starting point to analyze the asset growth of these firms.
an umbrella regulator to monitor the risk of these large and complex broker-dealer subsidiaries and for the FDIC to resolve these firms, and 5) the public’s ability to develop a comprehensive understanding of the risk of individual broker-dealer subsidiaries and their impact on the firm’s overall risk profile.

**Statement of Problem/Hypothesis**

Although highly debated, the repeal of the Glass-Steagall Act via the passage of GLBA increased the risk profile of BHCs and the U.S. banking system. Allowing FHCs to expand into new activities such as investment banking (securities activities) and insurance underwriting has resulted in riskier balance sheets, increased earnings volatility, increased complexity, the creation of huge financial companies that are considered “too big to fail” and too big to regulate, and increased and concentrated risk to the banking system. In addition, many experts agree that the culture of investment banking firms is much more risky than that of a traditional banking firm and that this increased risk appetite on the broker-dealer side of the business would extend to their affiliated insured depository institutions.

This paper will:

- Explore the impact of the repeal of the Act on the balance sheets and income statements of some SIFIs, with a focus on their broker-dealer subsidiaries;
- Discuss how the passage of GLBA has impacted the federal safety net and increased the responsibilities of bank regulators³;
- Determine the extent to which the partial repeal of the Glass-Steagall Act weakened the U.S. banking system and contributed to the 2008 financial crisis; and

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³ Federal government safety net is defined as FDIC deposit insurance, Fed discount window, and various government bail-out programs initiated during the 2008 financial crisis.
• Offer potential regulatory responses to mitigate risk to the banking system. The information in this paper may be used to inform ongoing policy discussions about reintroducing some or all of the Glass-Steagall Act prohibitions or whether new regulatory tools should be considered to mitigate increased risks to the financial system.

Importance of this Topic
This topic is especially important to bank regulatory agencies given their role in supervising the activities of SIFIs, promoting the safety and soundness of the banking system, and resolving failed banking firms. Regulators must stay ahead of the risks to be effective and it is clear that the risks have grown exponentially since the passage of GLBA.

Introduction and Background/History of Banking in the United States
To understand why Congress felt it necessary to initially place limitations on the banking industry through The Glass-Steagall Act, it is important to understand the history of banking in the U.S. As described below, permissible banking activities were not well-defined prior to Glass-Steagall and this contributed to the instability of the banking system.

The Early Years – 1700s-1836
The colonists of America sought as much independence as possible and did not want government intervention in their religion, freedom of speech, or their banking system. While many U.S. settlers came from countries with strong central banking systems, they avoided establishing such a system. In the late 1700s, there were no laws governing permissible activities for banks. Individuals could easily form and operate a bank with little to no government supervision and bank failures were common. To try to stabilize the system, in 1791, the First Bank of the United
States was opened in Philadelphia. This bank was granted a 20 year charter but due to strong public opposition to its existence Congress refused to renew its charter in 1811. Citizens felt that the Constitution did not provide for a government role in banking, and independent, private bankers operating under liberal laws of their states felt that the centralized bank would limit their freedoms. From 1811-1816 the population and economy had grown and existing problems in the banking system continued. The War of 1812 created an increased need for credit and more than 200 banks were issuing their own notes with no support or backing.4

From 1816-1836 the Second Bank of the U.S. was created (with a 20 year charter) to again stabilize the system. In 1819 the U.S. Supreme Court (McCulloch v. Maryland) said that the Second Bank was a necessary and proper instrument of the federal government. Nevertheless, many Americans still felt strongly that banking should not be under government control. Although the Second Bank was properly capitalized and well run and acted as a regulator to other banks, President Andrew Jackson (elected in 1828) opposed centralized government and considered the bank dangerous and monopolistic. Due to opposition from the President, the public, and other banks, its charter was not renewed in 1836.5

Free Banking Law Era – 1837-1863
Many states, led by New York and Michigan, enacted what were called “free banking” laws during 1837-1863.6 During this time, laws allowed for the automatic chartering of banks that

could meet certain requirements and special state approval was no longer required. These free banking laws set no limits on the number of bank charters that could be issued, they did not define acceptable banking powers, and they made bank charters relatively easy to obtain. Although banking powers were not defined, in 1854, New York banking standards included the provision that banks “shall not, directly or indirectly, deal or trade in buying or selling any goods, wares, merchandise or commodities”. In 1857 the New York Court of Appeals acknowledged that the New York Free Banking Act of 1838 did not list all authorized powers and the court decided that banks had the right to borrow money by issuing bonds. Free banking spread rapidly to other states, and from 1840 to 1863 all banking business was done by state-chartered institutions. During this era, banking laws were very lax and many bankers abused existing laws. Bank notes were issued against little or no security (the issuance of multiple bank notes within states caused confusion) and there were numerous bank failures.

Impact of the Passage of the National Banking Acts – 1863-1910
To correct the problems of the "free banking" era, Congress passed the National Banking Acts of 1863 and 1864. These National Banking Acts contained four basic provisions: they created the national bank charter; they established the Office of the Comptroller of the Currency as part of the United States Department of the Treasury, authorizing it to examine and regulate nationally-chartered banks; they introduced the national bank note (first national currency backed by holdings of U.S. Treasury securities); and they established a system of required reserves. Each

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bank was required to keep reserves against its deposits and bank notes as additional protection for depositors.\textsuperscript{8}

One of the problems with the required reserves system was that most banks kept their reserves with banks in New York City, which paid interest on these reserves. This led to a concentration of reserves held by NYC banks. To raise money to pay the interest on these reserves, NYC banks would use the reserve deposits to make short-term loans, usually to brokerage firms. When banks outside of NYC needed large amounts of money to meet their financial obligations, they would withdraw portions of their reserves from the NYC banks. This caused the banks holding the reserves to call in brokerage loans in order to meet the immediate demand for funds, which in turn caused panic. In 1873 a series of events led to a financial crisis. Many banks called in brokerage loans and these brokers were forced to liquidate their own holdings to repay or partially repay these bank loans. In some cases, brokers could not repay these loans which resulted in losses for the banks that lent the money. Many banks failed and the stock market closed for 10 days. Thousands of companies also failed because they could no longer obtain needed credit.\textsuperscript{9}

The National Banking Act (Banking Act) restricted bank’s activities, but most restrictions were defined through legal interpretations of the Banking Act as questions arose in individual court cases. By the late 1800s, large national banks in New York and Chicago began to engage in investment banking activities in their bond departments.\textsuperscript{10} The Comptroller of the Currency

interpreted the National Banking Act to prohibit some of the investment banking activity undertaken directly based on adverse court decisions. Consequently, in the early 1900s, the OCC began to inform national banks that they were not permitted to hold corporate stock. In order to compete with other finance providers, banks responded by organizing securities affiliates.\footnote{George Baker, Chairman of the Board, of First National Bank of New York testified in 1913 that his bank’s affiliate, First Security Company, was organized “(f)or doing business that was not specially authorized by the banking act. We held some securities that in the early days were considered perfectly proper, but under some later decisions of the courts the holding of bank stock or other stock was prohibited; at any rate the comptroller prohibited it” (“Pujo Committee Hearings,” 1913, p. 1424; see also p. 1432).}

These affiliates were owned and controlled by the stockholders of the national banks, they were chartered under the general business laws of the states with general powers that permitted almost any kind of activity, and they were not subject to examination.\footnote{Realty, insurance and mortgage company affiliates were also acquired and frequently had their main offices in the same building as the bank. See The Separation of Banking and Commerce in the United States: An Examination of Principal Issues, Bernard Shull, p.9.}

Economic Prosperity – 1920s

At the end of World War I in 1918, the U.S. began a period of economic growth and optimism. Banks still operated under liberal laws as states allowed banks to open with very little capital and banks generously lent money to individuals hoping to speculate in the stock market. At that time, 90% of the purchase price of stock could be financed through bank loans or by brokers.\footnote{Tom Ferris, “From the Doghouse to the Country Club,” American Banker, 150th Anniversary Issue (January 1987), p.50.}

During 1927, margin lending (allowing customers to borrow money to buy stock), increased by $800 million in one year to $3.6 billion.\footnote{See Compton, Eric N. Principles of Banking. Fourth Edition, 1991, p. 16.}

By the late 1920s, banks were able to offer a full range of financial services through affiliates that included investment banking, trust and safe deposit, savings, insurance, and mortgage
products. The McFadden Act (1927) gave national banks the authority to buy and sell marketable debt obligations.\textsuperscript{15} The Comptroller allowed national banks to underwrite all debt securities and said that their affiliates could underwrite both debt and equity securities. But many claimed that there were many abuses that arose from the affiliation of commercial and investment banking. Conflicts of interest and self-dealing were prevalent during the 1920s. For example, banks would hide bad bank loans in their unregulated securities affiliates, place securities that the affiliate could not sell in the bank or its trust department, and originate loans to finance the purchase of securities underwritten by the securities affiliate. Other abuses included underwriting and distributing speculative securities, including misleading information in the prospectuses for new securities issues, and manipulating the market for certain stocks and bonds. These abuses caused public outrage against the affiliation of commercial banks and investment banks.\textsuperscript{16}

The stock market crash of October 28, 1929 was seen as a turning point for the banking system. The crash caused a huge economic crisis that led to the Great Depression. During the height of the Depression, the unemployment rate was 25% and the stock market had declined 75% since 1929, and bank runs were common.

Shortly after the stock market crash, the Senate Committee on Banking and Currency called for an investigation into the cause of the crisis. Known as the Pecora Commission (named after the chief counsel of the investigation, Ferdinand Pecora), the Commission identified a number of conflicts of interest and other “[a]buses arising out of the interrelationship of commercial and

\textsuperscript{15} See The Security Affiliates of National Banks, p. 40.
investment banking” that played a role in that crisis. Per the Pecora Commission Report (which was not issued until 1934)\textsuperscript{17}:

- A prolific source of evil has been the affiliated investment companies of large commercial banks. These affiliates have been employed as instrumentalities by commercial banks to speculate in their own stock, to participate in market operations designed to manipulate the price of securities, and to conduct other operations in which commercial banks are forbidden by law to engage.

- Commercial banks did not hesitate to violate their fiduciary duty to depositors seeking disinterested investment counsel by referring such inquiries to their affiliates. The affiliates unloaded securities owned by them on unsuspecting investors and depositors.

- The activities of investment affiliates encouraged speculation by officers and directors of commercial banks and resulted in the payment of excessive compensation and profits to these officials.

After a month-long run on banks, on March 6, 1933 newly elected President Franklin D. Roosevelt closed all the banks in the country and kept them all closed until he could pass new legislation. On March 9, Congress passed the Emergency Banking Act, which provided for a system of reopening sound banks under Treasury supervision, with federal loans available if needed. Three-quarters of the banks in the Federal Reserve System reopened within the next three days. On June 16, 1933, President Roosevelt signed the Banking Act of 1933 – also known as the Glass-Steagall Act.

\textsuperscript{17} Pecora Commission Report
https://www.senate.gov/artandhistory/history/common/investigations/pdf/Pecora_FinalReport.pdf, p. 113
What is the Glass-Steagall Act?
The Glass-Steagall Act (Act) was passed to repair a broken banking system. The Act had wide support at the time given the recent stock market crash and the Depression, coupled with the frustration over the widespread abuses that had been evident for some time among commercial and investment banking affiliated activities. The majority of the public felt that the stock market crash resulted from the integration of lending and underwriting activities that had allowed banks to engage in speculative investments. Consequently, Congress passed the Act in an effort to restore confidence in the banking system and protect banks from further losses due to market volatility. Years later, as discussed below, experts determined there was little evidence to support the abusive securities practices that many cited as justification for the Glass-Steagall Act.

The Glass-Steagall Act contained the following four major provisions:¹⁸

1. Prohibited commercial banks that accepted deposits and made loans, from underwriting revenue bonds and corporate stock issues and investing bank funds in common stock or dealing in securities (only 10% of their total income could come from securities but they could underwrite government issued bonds).¹⁹ Also, the Act prohibited investment banks (which underwrote and dealt in securities) from having close connections to commercial banks such as overlapping directorships or common ownership.

2. Prohibited interest payments on demand deposits.

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Underwriting refers to the business of assuming the risk that an issue of securities will be fully sold to investors, while dealing refers to the business of holding an inventory of securities for trading purposes.
3. Authorized the Federal Reserve to impose rules on bank loans made in connection with securities transactions.\textsuperscript{20} And

4. Created the FDIC.

The Glass-Steagall Act effectively required the separation of bank types according to their business (commercial and investment banking). In order to comply with the new regulation, many affiliates surrendered their charter and liquidated their assets and most large banks split into separate entities. For example, J.P. Morgan split into three entities: J.P. Morgan continued to operate as a commercial bank, Morgan Stanley was formed to operate as an investment bank, and Morgan Guaranty operated as another independent entity.\textsuperscript{21}

\textbf{What is the Gramm-Leach-Bliley Act?}

The passage of the Gramm-Leach-Bliley Act on November 12, 1999, allowed the creation of a new kind of financial institution: the FHC and it essentially repealed the restrictions on banks affiliating with securities firms per Sections 20 and 32 of the Glass-Steagall Act.\textsuperscript{22}

Under GLBA, the FHC could now own subsidiaries that are engaged in, among other activities: insurance and securities underwriting and agency activities; dealing in or making a market in securities; issuing or selling instruments representing interests in pools of assets permissible for a

\begin{itemize}
\item See History of Investment Banking in the United States. \url{https://en.wikipedia.org/wiki/History_of_investment_banking_in_the_United_States}
\item Financial holding companies are defined under Section 4 of the Bank Holding Company Act (Act). The Act lists activities that a FHC can engage in. \url{https://fraser.stlouisfed.org/scribd/?title_id=984&filepath=/files/docs/historical/congressional/1956_bankholdact_publiclaw511.pdf}
\end{itemize}
bank to hold directly; and providing investment advisory services, insurance company portfolio
investment activities, activities that are complementary to financial activities, and commercial
banking activities.\textsuperscript{23,24} The revenue restrictions on securities activities imposed by the Federal
Reserve were also removed.\textsuperscript{25} Within one year of the passage of GLBA, over 400 FHCs were
formed.\textsuperscript{26, 27}

But GLBA placed separate conditions and limitations on FHCs, national banks, and financial
subsidiaries of national banks. For example, the FHC as well as all of its subsidiaries must be
well-managed, well-capitalized, and maintain a “Satisfactory” Community Reinvestment Act
ingrating. Securities and insurance underwriting sales of securities by IDIs are still restricted under
GLBA but affiliates of an IDI could engage in these activities. Also, aggregate assets of all
financial subsidiaries of a parent bank (not subsidiaries of a FHC) were limited to the lesser of
$50 billion or 45% of its total assets.\textsuperscript{28}

\textsuperscript{23} Title I of the Gramm-Leach-Bliley Act is entitled Facilitating Affiliation Among Banks, Securities Firms, and
Insurance Companies.
\textsuperscript{25} At first, the Federal Reserve decided that the revenues from bank-ineligible securities activities (bank-ineligible
securities are defined as securities other than municipal general obligation bonds, U.S. government bonds, private
placements of commercial paper, and mortgage-backed securities) could not exceed 5\% of a financial subsidiary’s
total revenue. Then, in 1989, it raised the limit on revenue from bank-ineligible sources from 5\% to 10\% and
allowed underwriting and dealing in all debt and equity securities. In 1997, the Fed further raised the limit on
revenue from bank-ineligible sources to 25\%. GLBA eliminated these revenue limitations. See Barth, James R.,
\textsuperscript{26} Adkisson, Amanda J. and, Donald Fraser. “The First Filers’: An Examination of the First Financial Holding
\textsuperscript{27} Those securities affiliates of FHCs that engaged in bank-ineligible securities activities are referred to as “Section
20 subsidiaries” because the Fed authorized these affiliates to deal in these securities activities via Section 20 of the
Glass-Steagall Act.
\textsuperscript{28} See chapter one of title LXII of the Revised Statutes of the United States, Section 5136A (a)(2)(D)(i) and (ii)
which states that the aggregate consolidated total assets of all financial subsidiaries of the national bank do not
exceed the lesser of 45\% of the consolidated total assets of the parent bank or $50 billion.
GLBA also established the concept of a functional regulator or umbrella supervision. The Board of Governors of the Federal Reserve was granted the responsibility of supervising the consolidated FHC; however other state and federal authorities were responsible for regulating the FHC’s subsidiaries. The Securities and Exchange Commission (SEC) regulates the registered securities brokers, dealers, and investment advisers; state insurance commissioners oversee licensed insurance companies; and the appropriate state and federal banking agencies supervise banks. Consequently, the Fed must rely on information from functional regulators of subsidiaries to ensure that the risk that is spread across these large and complex FHC organizations is manageable. As noted later in this paper, this reliance on functional regulators was deemed by many to be dangerous as the SEC’s supervision of broker-dealers was found to be ineffective before the crisis.

Why was the Glass-Steagall Act Partially Repealed?
The partial repeal of the Glass-Steagall Act was a formal ratification of banking practices that had already been occurring (examples are noted below).\(^{29}\) Since the 1980s, banks had gradually delved into more and more securities activities. Although the Glass-Steagall Act prohibited banks from dealing in securities activities, it placed few restrictions on bank holding companies, which opened the door for several firms to take advantage of this loophole almost immediately.\(^{30,31}\) Additionally, momentum had been building to relax Glass-Steagall restrictions

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\(^{30}\) BHCs were not required to register as a BHC nor were they subject to the Glass-Steagall Act’s restrictions. See Nonbank Activities of Bank Holding Companies, Federal Reserve Bulletin, February 1976, p.149 Federal Reserve Bank of Chicago.

\(^{31}\) One loophole was partially closed by The Bank Holding Company Act of 1956, which prohibited bank holding company control of almost all nonbanking firms (bank was defined as any institution that takes deposits and makes loans). It required all bank holding companies to divest of any firms involved in nonbank activities (commercial and industrial businesses). The Act also redefined a bank holding company as any company that owned or controlled
during the 1980s as many U.S. banking firms were permitted to engage in securities underwriting and dealing activities through the Federal Reserve’s various re-interpretations of existing laws.

Also, most European banks had been allowed to deal in securities and insurance. Consequently, many viewed the Glass-Steagall Act as placing a competitive disadvantage on U.S. banks, which caused loss of revenues and customers. Many wanted to relieve this burden on banks. As noted in the table below, as of 1997, just two years before the partial repeal of Glass-Steagall, most European banks were allowed to engage in securities and insurance activities such as underwriting and brokerage, in contrast to U.S. and Japanese banks. Therefore, partial repeal of the Glass-Steagall Act appeared to be a reasonable and necessary action to allow U.S. banks to remain competitive with the global market.

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25% or more of the stock of two or more banks. This allowed one bank holding companies to continue to own nonbank companies. This one bank holding company loophole was changed in 1970 when the Federal Reserve Board amended the Bank Holding Company Act to extend regulation to one bank holding companies and to permit BHCs to expand their activities and engage in activities that were closely related to banking and met a “net public benefits” test.

Supporters of the partial repeal of the Glass-Steagall Act, former FDIC Chairman Donna Tanoue and Federal Reserve Governor Lawrence Meyer, have stated that allowing banks to engage in securities activities has allowed banks to diversify and thus has the potential to reduce their risk and the probability of bankruptcy.\textsuperscript{33,34} In his book Courage to Act: A Memoir of a Crisis and its

Aftermath, former Fed Chairman Ben Bernanke notes that the passage of GLBA helped alleviate some pressures during the 2008 financial crisis as JPM was able to acquire Bear Stearns.35

**Examples of Nonbank Activities of BHCs Prior to the Repeal of Glass-Steagall**

As noted above, the repeal of the Act seemed a natural progression given that banks and bank holding companies had been increasingly engaging in securities and nonbank activities beginning around the mid-1950s. One notable example of a bank holding company that engaged in banking and nonbanking activities was Transamerica. In 1954, Transamerica controlled banks in five western states and had nonbanking subsidiaries such as insurance companies, real estate and oil development companies, a fish packing company and a metal fabricating company.36 In 1956, the Federal Reserve passed The Bank Holding Company Act of 1956, which prohibited bank holding company control of almost all nonbanking firms. This forced Transamerica to spin off its banks to a newly established bank holding company while it retained control of its nonbanking subsidiaries.

While the Bank Holding Company Act of 1956 prohibited control of nonbanking subsidiaries, it allowed one-bank holding companies to operate banks and nonbanking businesses. Many large commercial and industrial firms such as W.R. Grace, R.H. Macy and Corn Products Refining, did so as a convenience to their employees.37 In the late 1960s, banks knew that if they were a one-bank holding company, they could affiliate with almost any kind of nonbanking firm without legal challenge. This had the potential to reintroduce some of the problems that the Glass-

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35 Ben S. Bernanke, *Courage to Act: A Memoir of a Crisis and its Aftermath*, p. 439, W. W. Norton & Co. (2015) (arguing that if the Glass-Steagall Act had remained in effect, some Federal Reserve crisis responses would not have been permitted, such as the acquisition of the investment bank Bear Stearns by the commercial bank JPMorgan). 10 P.L. 111-203.
36 Control of Bank Holding Companies, 1955, p. 52, 62-63
37 Control of Bank Holding Companies, 1955, p.121
Steagall Act was passed to prevent. So in 1970, the Federal Reserve Board amended the Bank Holding Company Act to extend regulation to one-bank holding companies. The amendment also permitted holding companies to expand their activities and engage in activities that were closely related to banking and met a “net public benefits” test. Also, through a change in the definition of the term ‘bank’ in the Holding Company Act Amendments of 1970, another loophole was created and securities and insurance firms took advantage of this loophole by acquiring banks that refrained either from commercial lending or demand deposits.38

S&Ls were also not regulated by the Glass-Steagall Act, the McFadden Act, or the Bank Holding Company Act, which resulted in increased competition for banks and holding companies that were prohibited from engaging in certain activities. The S&L Bank Holding Company Act of 1968 permitted S&L holding companies to engage in any activity through other subsidiaries. Banks began to gradually engage in securities activities on their own during the 1980’s. But in 1987, the Federal Reserve Board interpretation of the Glass-Steagall Act and Section 4(c)(8) of the Bank Holding Company Act allowed bank holding companies to establish securities subsidiaries and provided them with limited authority to deal in and underwrite a wide variety of securities such as municipal revenue bonds, mortgage related securities, consumer-receivable related securities, and commercial paper. These subsidiaries became known as “Section 20 subsidiaries”.

38 The 1970 Amendment defined a “bank” as an institution offering both commercial loans and demand deposits. In 1933, holding company restrictions were imposed only on firms owning a Federal Reserve member bank. The Bank Holding Company Act of 1956 redefined ‘bank’ to include ‘any national banking association or any state bank, savings bank or trust company.’ In 1966, to avoid covering savings banks, industrial banks and non-deposit trust companies, Congress changed the definition to cover only institutions that accepted demand deposits. In 1970, to avoid including trust companies that accepted demand deposits but did not make commercial loans, notably Boston Safe Deposit and Trust, ‘bank’ was again redefined to include institutions offering both commercial loans and demand deposits.
It should be noted that U.S. banking firms have long been permitted to engage in securities activities outside the U.S. through foreign subsidiaries. The largest example is JPM’s U.K. broker-dealer, J.P. Morgan Securities, plc, an Edge Act subsidiary established in 1992. This large direct subsidiary of J.P. Morgan Chase Bank, NA (an IDI) has total assets of $509 billion or 20% of total FHC assets as of December 31, 2016.39

In his testimony before the Subcommittee on Monopolies and Commercial Law Committee on the Judiciary U.S. House of Representatives (September 14, 1988), former Federal Reserve Board Chairman Alan Greenspan defended the Fed’s decision to grant expanded securities powers to banking firms through their subsidiaries because the Fed has implemented effective firewalls aimed at insulating affiliated banks.40 The most obvious firewall was the Fed’s 23A and B regulations which required loans and transactions among affiliates to be on the same terms as those entered into with third parties.

Examples of Securities Activities of BHCs Prior to the Repeal of Glass-Steagall

Notable examples of firms engaging in commercial banking and securities activities prior to 1999 include the following. Each of these examples helped pave the way for greater acceptance of repealing Glass-Steagall and allowing banks to expand their business models.

- In the early 1980s, securities firms began to offer checkable deposits and investment services through money market mutual funds and cash management accounts.

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• In 1982, the Comptroller of the Currency permitted Security Pacific to establish an operating subsidiary to engage in discount brokerage (Comptroller of the Currency, 1982).

• In 1982, the FDIC ruled that banks can establish securities subsidiaries and it expanded those powers in subsequent rulings in May 1983 to allow banks to underwrite corporate securities.

• In 1983, the Federal Reserve Board permitted BankAmerica Corporation to acquire Charles Schwab (Federal Reserve Bulletin, 1983).

• By the mid-1980’s, General Electric, J.C. Penney, Gulf + Western, ITT, Prudential Bathe, Merrill Lynch, acquired banks that refrained either from commercial lending or demand deposits.41

• Initially, Citicorp, Bankers Trust and J.P. Morgan were given authority to underwrite and deal in commercial paper, l-4 family mortgage-backed securities and municipal revenue bonds; i.e., ‘bank-ineligible’ securities, in separate subsidiaries, as long as the subsidiaries were “not engaged principally” in the business (Citicorp et al., 1987); all types of debt and equity securities were permitted in 1989 (J.P. Morgan and Co. et al., 1989). “Not engaged principally” was defined by a maximum of 10% of the underwriting subsidiary’s gross revenues.42


- As noted previously, J.P. Morgan Chase Bank, NA has owned an Edge Act subsidiary for decades. J.P. Morgan Securities, plc was established in 1992 and is a U.K. based broker-dealer and licensed commercial bank that engages in investment banking operations.

- In April, 1998, 19 months prior to the repeal of Glass-Steagall, Citicorp and Travelers Group announced that they would merge in the largest corporate combination at that time, creating the world's biggest financial-services company offering banking, insurance and investment operations in 100 countries. Travelers chairman Sanford Weill, said he expected the Fed to quickly approve his company's application to become a bank holding company and added: "I don't think we have to spin anything off to make this happen." “Current law”, he said, allows at least two and as many as five years for prohibited assets to be divested. We are hopeful that over that time the legislation will change". He said the companies had already had talks with the Fed about specific legal impediments and said, "We have had enough discussions to believe this will not be a problem." 43 The Fed granted conditional approval of the merger on September 23, 1998, subject to the condition that the combined BHC, Citigroup, divested itself of nonconforming activities within two years of the merger.44 This divestiture never happened because GLBA was passed in November 1999.

Impact of Partial Repeal of Glass-Steagall on the Financial Condition of SIFIs

Increase in BHC/FHC Asset Size and Complexity Since 1990: Industry View

GLBA increased the industry’s total asset size and complexity. The data within Chart 1 below clearly indicate that total assets and nonbank subsidiary activity of all bank holding companies in the U.S. exploded from 1990 to 2012.\footnote{See Avraham, Dafna, Patricia Selvaggi and James Vickery, p.66.} The increase in balance sheet assets and growth in nonbank activities is one indication of potentially increasing risk and could be expected to be accompanied by an increase in operational risk as is discussed later in this paper. While it is not possible to definitively state that the growth was due solely to the repeal of the Glass-Steagall Act, one can reasonably conclude it was a significant contributing factor.

Panel A: Growth in Commercial Banking Industry Assets over Time (the charts on the left hand side of the page) reflects that banking industry total assets increased from under $5 trillion in the early 1990s to just under $20 trillion by year-end 2011, a 300% increase. Nominal GDP increased by about 150% over the same time period.\footnote{See Avraham, Dafna, Patricia Selvaggi and James Vickery, p.65-66.} Total assets of nonbank subsidiaries (the gray area in this chart) increased approximately 400% after the passage of GLBA. We know that the growth in industry assets since 2005 includes the 2008 conversion of several large financial firms to a BHC (Goldman Sachs, Morgan Stanley, Ally Financial, American Express) as well as out-of-industry acquisitions by BHCs (J.P. Morgan Chase’s acquisition of Bear Stearns, an investment bank, and Bank of America’s acquisitions of Merrill Lynch and Countrywide Financial, an investment bank and savings bank, respectively). The sizable increase in total assets and nonbank subsidiary assets in first-quarter 2009 corresponds to the quarter in which
Goldman Sachs and Morgan Stanley first filed BHC regulatory reports. Most of these two firm’s assets are held in their nonbank subsidiaries.

The charts on the right hand side of the page illustrate the extent to which the largest U.S. BHCs increased in complexity and global reach from 1990 to 2012. In 1990, the largest BHC controlled just over 1,000 subsidiaries in just over 60 countries compared to nearly 3,500 subsidiaries in over 80 countries in 2012. This theme is the same for other top 10 ranked BHCs included in the chart.47

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47 Were data updated through 2016, it would likely reflect a decline in subsidiaries due to simplification of legal structures (also referred to as legal entity rationalization) for resolution planning purposes. The Dodd Frank Act requiring submission of resolution plans or Living Wills was not finalized until 2012, so the Act has no influence on 2012 results.
Charts 2 and 3 below reflect the increase in nonbank subsidiaries of financial bank holding companies from 1990 through 2015 (Chart 2) as well as the increase in diversification of assets of BHCs during this time (Chart 3). Per Chart 3, by 2000 nearly all BHC assets were part of a diversified BHC as opposed to a traditional BHC. Growth in nonbank financial subsidiaries was highest after the 1999 passage of GLBA.\(^{48}\)

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Chart 2

BHC Subsidiary Composition

Number of subsidiaries by type, in thousands

Nonbank financials decomposed, in thousands

Sources: Board of Governors of the Federal Reserve System, Consolidated Financial Statements of Bank Holding Companies (FR Y-9C data) and Report of Changes in Organizational Structure (FR Y-10 data); Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income; authors' calculations.

Notes: The charts exclude Goldman Sachs, Morgan Stanley, American Express, and CIT Group. All data are as of the first quarter of the year shown.
Chart 4 shows the composition of banking assets to total assets for the largest banking firms prior to the passage of GLBA (date unknown). Note that GS and MS were not banking firms until years after the passage of GLBA. Based upon the data, it is clear that Citi and JPM are outliers, and have historically looked more like an investment bank than a traditional bank even before GLBA. BAC has significantly changed its balance sheet composition since the passage of GLBA (as a result of its acquisition of Merrill Lynch during the 2008 crisis). BAC’s material broker-dealer/nonbank subsidiaries comprise about 30% of total assets as of year-end 2016 (see Chart 7) compared to Chart 4 below which reflects nonbanking assets of about 10% of total assets.
The Timing of Growth in Bank Holding Company Activity

As noted previously, many banking firms had been expanding their activities throughout the 1980s and 1990s, before the official partial repeal of the Glass-Steagall Act. However the expansion ramped up after the passage of GLBA. Using regulatory data, Assistant Vice President of the Federal Reserve Bank of New York’s Research and Statistics Group, Nicola Cetorelli illustrates in Chart 5 below, the extent to which bank and FHCs were expanding the scope of finance and insurance activities prior to the partial repeal.\(^{50}\) His research confirms that FHCs were expanding their range of activities prior to GLBA. But GLBA allowed many firms to grow very quickly in 2008 and 2009 through acquisitions during the financial crisis.


Chart 5

Banks Greatly Expanded Their Range of Activities prior to the Repeal of Glass-Steagall

Number of unique financial activities across bank holding companies, 1970–2016

Sources: (FR Y-10). Notes: Red line marks the passage of the Gramm-Leach-Bliley Act in 1999, legislation which partially repealed the Glass-Steagall Act of 1933. The chart shows the total number of unique financial activities identified within the population of bank holding companies each year between 1970 and 2016. That number is based on the “primary business activity” code reported by each BHC subsidiary. These codes follow the North American Industry Classification System (NAICS) and are identified at the five-digit level of disaggregation. In each year the figure reports the aggregate number of unique five-digit codes within Sector 52 (Finance and Insurance) observed in the population of BHCs (e.g. securities dealer, NAICS 52311; insurance agency, NAICS 52421).

Causes of Increased Risk in the Banking Industry: Study of Five SIFIs

The five largest investment banking SIFIs have increased their risk profile since the passage of GLBA. The repeal of Glass-Steagall resulted in the following: a significant increase in assets for three of the five SIFIs, the addition of GS and MS into the banking system, the acquisition of investment banks Bear Stearns and Morgan Stanley by BHCs (also now included in the banking

system), asset composition trending away from traditional banking, increased earnings volatility due to the investment banking structure, elevated leverage and increased reliance on short-term funding at the broker-dealers, and high off-balance sheet and derivatives exposure.$^{52}$

**Total Assets of Three Select SIFIs have Increased Considerably Since GLBA**

Charts 6 and 7 reflect the enormous increase in total assets from 1995 to 2016 for BAC, JPM, and Citi, primarily as a result of the partial repeal of the Glass-Steagall Act. The growth of these three firms and the addition of MS and GS as FHCs has resulted in an increasing concentration of U.S. financial assets and activities in a relatively few number of banking institutions. Total assets of the five firms in the sample have increased $6.4 trillion or 365% from 1999-2016.

By 2005 Citi had already established significant broker-dealer operations with nearly $500 billion in broker-dealer assets with material broker-dealers, which represented about 33% of its total HC assets (compared to JPM and BAC with $357 billion and $200 billion, respectively in broker-dealer assets as of year-end 2005). Total assets for BAC and JPM increased considerably in 2008 as these firms acquired large faltering investment banking firms in addition to failing banks. BAC acquired $668 billion Merrill Lynch and Countrywide Financial and JPM acquired $300 billion Bear Stearns and Washington Mutual. BAC also acquired nearly $200 billion FleetBoston, a considerable wealth management firm, in 2004. While BAC and JPM were growing in 2008, Citi’s total assets declined by nearly $250 billion or 11% that year with most of

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$^{52}$ When available, data for material broker-dealers (material as determined per the firm’s resolution plan) was analyzed to determine its contribution to the total assets and earnings of each FHC. Publicly available data on specific broker-dealer activity is limited and not always made available by every firm. When available, it is difficult to obtain because it is buried in larger reports (10-Ks) and must be manually extracted. For these reasons, this paper will also rely on relevant research performed by others to a certain extent.
the decline attributed to the decline in material broker-dealer assets. Citi’s decline reflected the significant financial difficulties the firm was having during the crisis, difficulties which resulted in Citi receiving significant government assistance during this time. GS and MS became FHCs in 2008 (began filing FR-Y-9Cs in 2009). All of these firms suffered significant losses in write-downs on MBS and Citi, BAC, and JPM also took significant losses on 1-4 family loans from 2008-2010. Since 2009, total assets of four of the five SIFIs (not JPM) remained relatively stable or declined as a result of the fall-out from the 2008 economic crisis. However, earnings volatility of these firms has increased since the crisis. MS and GS total assets have not changed significantly since becoming FHCs.

**Chart 6**

![Total Assets 1995-2016 chart](source: SNL)
**Total Assets of SIFIs Compared to Their Material Broker-Dealer Subsidiaries**

Material broker-dealer subsidiaries make up a significant portion of each firm’s consolidated assets which can be seen in Chart 7 below. In addition, total assets of the material broker-dealer subsidiaries increased massively since 1999, and for three of the five SIFIs (JPM, BAC, and GS), increased subsequent to 2009. As noted previously, this increase in assets has resulted in a greater concentration of assets in a few U.S. firms. The data in Chart 7 shows that for Citi, JPM and BAC material broker-dealers comprise 24% to 38% of total BHC assets as of December 31, 2016 compared to MS and GS, with material broker-dealers comprising 71% to 100% of total BHC assets.53

From 2009-2016, the material broker-dealers of BAC, JPM, and GS all experienced a significant increase in total assets with JPM showing the largest growth at $330 billion or 55%.54 JPM’s total assets have increased by nearly $500 billion since 2009 with 73% of that growth attributed to growth of its material broker-dealers. BAC’s broker-dealer assets jumped by $250 billion or 68% from 2009-2016 even as its consolidated firm total assets declined by 2% during this timeframe. GS material broker-dealer assets have increased by $54 billion or 7% since 2009, but the FHC’s total assets have barely increased meaning that GS is currently less diversified and more concentrated in broker-dealer assets than it was in 2009. MS broker-dealer assets have declined $127 billion since 2009, the largest decline of the five SIFIs. Citi’s broker-dealer assets declined $42 billion compared to the $70 billion decline in Citi’s total firm assets during this time.

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53 Note that these percentages are estimates because the data does not include the accounting impacts of eliminating intercompany transactions upon consolidation.

54 The year 2009 is used as a starting point for analyzing asset trends for these five firms as that is the first year that GS and MS filed FR-Y-9C’s and when BAC consolidated Merrill Lynch assets onto its balance sheet.
Chart 7

Citigroup, Inc.

J.P. Morgan Chase & Co.

Bank of America Corporation

Source: FR-2314, FRY-9C
Asset Composition of Select SIFIs

The asset composition of the five SIFIs in the selected sample has become seemingly more liquid since 1995 due to an increase in reverse repo activity (likely within the broker-dealers). Cash and government securities have also increased since 2008 and can be attributed to new liquidity regulations since the financial crisis which require firms to maintain a certain level of high quality liquid assets (HQLA). However, the more liquid balance sheet is also a necessity for investment banking firms, not a choice. Reverse repos are a result of regulatory requirements as broker-dealers are required to hold a certain amount of liquid assets to cover their net capital requirement per SEC rules. The SEC’s Net Capital Rule requires a broker-dealer to maintain more than a dollar of highly liquid assets for each dollar of liabilities. Therefore, these assets are not considered excess liquidity that can be utilized by the firm as needed.
Reverse repos (asset side of the balance sheet) are created when the broker-dealer lends excess cash to a counterparty and receives securities in return. Reverse repos are useful as they allow the broker-dealer to earn interest on their excess cash. Typically the broker-dealer will then lend (repo) out the securities it receives in a reverse repo transaction.

As noted in Chart 8 below, the percentage of total assets invested in Federal Funds sold and reverse repurchase agreements and cash and due froms has grown significantly since 1995 (from 4% and 6% in 1995 to 16% and 11% in 2016, respectively, while the percentage invested in most loan types (with the exception of all other loans) and Treasury and Agency securities has declined during this same timeframe. Although during the period from 2008 to 2016, Treasury and Agency securities have increased.

A significant portion of a broker-dealer’s assets are funded by repo activity as opposed to traditional deposits. Firm reliance on short term borrowings is a concern as funds may not always be available in a crisis as was the case in 2008. The inability to roll-over repos and borrowings triggered the demise of Lehman Brothers and Bear Sterns and was a problem for many firms during the 2008 crisis.

In a repo (liability side of the broker-dealer’s balance sheet), the seller (the broker-dealer) will provide or “sell” securities (typically government securities) to the lender (usually money market mutual funds) in return for cash and agree to repurchase those securities at a later date. The securities sold under a repo can be obtained from the broker-dealer’s own inventory or they can be obtained under a reverse repo as noted previously (in a reverse repo the broker-dealer lends
cash and receives securities). For the broker-dealer, financing their securities with repos is less expensive than using bank loans and it enables broker-dealers to obtain cash equal to nearly 100% of the value of the securities that serve as collateral. Usually, the broker-dealer will use the cash it receives from the repo to buy more securities (as a way to maximize revenue) and will then repo those securities as well. Consequently, these repos can be supporting multiple transactions to multiple counterparties with different tenors and are not always easily unwound. Counterparty risk can be very high, especially during times of stress as was the case in 2008 and 2009.

Chart 8

Source: FR-Y-9C. Results for 1995 include only J.P. Morgan and Bank of America, 2008 includes J.P. Morgan, Bank of America and Citigroup, and 2009 and 2016 includes all five SIFIs in the sample (Morgan Stanley and Goldman Sachs became BHCs in 2009).
Loans to Assets

Chart 9

Chart 9 above indicates the extent to which loans to assets have declined for three of the five firms in the sample. MS and GS have been focusing on increasing loans and their loans to assets percentage has steadily increased since they became FHCs. However, the current level of loans to assets is low for all of these firms which is inconsistent with the traditional banking model. Loans are typically higher-yielding than other assets. For firms with a low level of higher-yielding assets or a low level of interest earning assets to generate a respectable return, they must look to other sources of non-interest income, which can be more volatile (i.e. underwriting fees), to compensate for lower yielding assets.
Trading Account Assets

Also of concern is the significant investment in trading account assets for these firms. Trading account assets are subject to significant price and market risk, both of which can negatively impact liquidity and earnings. The percentage of assets invested in trading accounts fluctuated from 17% as of 1995, to 19%, 22% and 17% as of 2008, 2009, and 2016, respectively as noted in Chart 8 above. While these five firms have decreased their investment in trading account assets since 2009 from 22% to 17% of total assets (Chart 10(a)), their investment in such assets is still significant and as noted in Chart 11 below, revenue from trading activities is also a significant part of their total revenue (21% as of 2016).

Chart 10(a)
While it is clear that these firms have significantly reduced their holdings of trading assets and liabilities, and they have reduced the volume of Level 3 assets, these firms still hold a sizable amount of Level 3 assets and liabilities to Tier 1 capital (BAC 11%, JPM and Citi 22%, MS 37% and GS 52% as of June 30, 2017) which can significantly impact their income and capital volatility (see Charts 10(a) and (b)). Such assets are difficult to value as they do not have an observable market price; therefore, Level 3 assets are subject to considerable price and market risk. The average percentage of Level 3 assets and liabilities to Tier 1 capital for all SIFIs is 18%. Level 3 assets must be marked to market daily with the gain or loss flowing through earnings and capital.
Asset and Revenue Composition Leads to Increased Volatility of Earnings

The data in the charts and information below indicates that investment banking firms experience greater earnings volatility than other firms, and this volatility is a leading indicator of increased risk. Earnings volatility appears to be correlated with an increase in broker-dealer assets for these firms. Data on the ROA of material foreign broker-dealers of these five firms shows significant volatility year over year for these entities. Additionally, as the Geyfman and Yeager study concludes, the risk of investment banking firms is greater than that of a traditional banking firm due to the high volatility of investment banking income.

The Net Interest Margin (NIM) is low for the five firms in the sample due to their relatively low level of loans which are traditionally higher earning assets than other types of assets. A low NIM places pressure on these firms to earn non-interest income to boost their earnings. Total non-interest income (from trading, investment banking, insurance, fiduciary, and other) is significant for the SIFIs in the sample and has increased from about 35% and 27% as of 1995 and 2008, respectively to about 50% of total revenue since 2009.

Chart 11 below reflects that the five SIFIs have experienced increased non-interest income from investment banking fees and fiduciary activities from 1995 to 2016, mostly due to the addition of MS and GS as BHCs in 2009. Investment banking fees increased from $14 billion to $67 billion and fiduciary income increased from $2 billion to $12 billion from 2009 to 2016. Interestingly, trading revenue has declined from 26% of total revenue as of 2009 to 21% as of 2016 as trading assets have declined from 22% to 17% of total assets during this same timeframe. As noted earlier, some sources of non-interest income can be volatile such as underwriting fees (whereas
fiduciary fees tend to be stable) and consequently higher levels of non-interest income can subject a firm to more earnings uncertainty and greater risk.

**Chart 11**

![Revenue Composition of Select SIFIs](image)

Source: FR-Y-9C. Results for 1995 include only J.P. Morgan and Bank of America, 2008 includes J.P. Morgan, Bank of America and Citigroup, and 2009 and 2016 includes all five SIFIs in the sample (Morgan Stanley and Goldman Sachs became BHCs in 2009).

Not surprisingly, the quarterly ROAA (return on average assets) time-series chart noted below (Chart 12) indicates considerable earnings volatility at the BHC level for the five firms in the sample from 1999-2016. Investment banking is a substantially larger portion of activity for GS and MS than it is for the other three firms in the sample, and it is noted that earnings volatility for these two firms was greater after the crisis (2010-current) than it was for the other three firms likely due to the volatility associated with a larger investment banking portfolio.
As indicated by the research and data that follows (Charts 12 and 13), the risk of investment banking firms is greater than that of traditional firms primarily due to the volatility of earnings.\textsuperscript{55} The volatility of quarterly ROAA for Wells Fargo (WFC), a SIFI with little investment banking activity and revenue is also noted below to serve as a comparison. WFC experienced significantly less earnings volatility than the five investment banking firms (not considering 2008-2010).

\textbf{Chart 12(a)}

Quarterly ROAA Time-Series Chart

Source: FR-Y-9C

\textsuperscript{55} See Geyfmann and Yeager, p. 1653-1657.
Chart 12(b)

Quarterly ROAA Time-Series Chart

Source: FR-Y-9C
Perhaps more compelling is the data that follows in Chart 14. The standard deviation of the quarterly ROA of the five firms in the sample was calculated pre and post crisis to determine the extent of earnings volatility of these firms for both time periods. Note that GS and MS were not FHCs prior to the crisis so this data is not available for these firms.

The data show that for BAC and Citi, the standard deviation of quarterly ROA was much higher from 2008-2017 than it was from 1992-2007, potentially an indicator that the massive broker-
dealer activity of these firms impacted earnings volatility. Referring to Chart 7 in this paper, it is evident that after 2008, broker-dealer assets (for material broker-dealers) were at their highest levels for BAC and nearly the highest levels for Citi. Citi experienced a $178 billion decline in broker-dealer assets in 2008 due to their efforts to shrink the balance sheet and preserve capital, but broker-dealer assets were still a significant portion of total assets for the firm. From 2009-2016 Citi’s broker-dealer assets declined by $42 billion compared to a decline in total assets of the firm of $70 billion. Asset growth continued after 2008 for BAC due to their acquisitions of the huge brokerage firm Merrill Lynch ($668 billion in total assets) and Countrywide ($172 billion in total assets). Also, BAC’s broker-dealer assets increased by 68% from 2009-2016 even as total assets declined by 2%.

For JPM, the standard deviation of quarterly ROA is lower post crisis than it was pre crisis indicating that earnings volatility was higher pre crisis. Data from 4Q00 to 4Q07 indicates that earnings were significantly more volatile for JPM just before the crisis (from 2001-2007) than they were after the crisis. This earnings volatility in the seven years pre crisis could be because broker-dealer assets grew significantly for JPM from 2001-2007 (Bank One and JPM merged in 2004) and were a larger share of total assets for JPM during this timeframe than they were after 2007. While JPM did acquire Bear Stearns in 2008 (nearly $300 billion in total assets), JPM also acquired non broker-dealer Washington Mutual ($264 billion) in 2008 and experienced asset growth in other areas, diluting the impact of the broker dealers on ROA. As noted below, the ROA of material foreign broker-dealers is volatile, which supports the position that the broker-dealer activity (and the volatility of broker-dealer earnings) is contributing to the earnings volatility of these consolidated firms.
As noted in Table 1 below, the volatility of ROA of the material foreign broker-dealers for the five SIFIs in the sample is significant and is contributing to the large volatility in consolidated ROA of these BHCs. Net income and ROA data is not publicly available consistently for the material U.S. broker-dealers of these SIFIs, therefore this data could not be analyzed.

Table 1
Year over Year Change in ROA

<table>
<thead>
<tr>
<th>Sample Standard Deviation Calculation - Quarterly ROA</th>
<th>JPM</th>
<th>BAC</th>
<th>Citi</th>
<th>MS</th>
<th>GS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Crisis (1992-2007)</td>
<td>0.424</td>
<td>0.312</td>
<td>0.625</td>
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<td>NA</td>
</tr>
<tr>
<td>Post-Crisis (2008-2017)</td>
<td>0.285</td>
<td>0.567</td>
<td>0.846</td>
<td>0.449</td>
<td>0.441</td>
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<tr>
<td>1Q1992-3Q2000</td>
<td>0.319</td>
<td></td>
<td></td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>4Q2000-4Q2007</td>
<td></td>
<td></td>
<td></td>
<td>0.478</td>
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Source: FR-Y-9C
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<tr>
<th></th>
<th></th>
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<th></th>
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<td>1996</td>
<td>427%</td>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td>NA</td>
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<td>NA</td>
<td>NA</td>
<td>-46%</td>
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<tr>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td>NA</td>
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<td>NA</td>
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</tr>
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<td>2006</td>
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<td>NA</td>
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<td>NA</td>
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<td>2007</td>
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<td>NA</td>
<td>-171%</td>
<td>-300%</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>2%</td>
</tr>
<tr>
<td>2008</td>
<td>-726%</td>
<td>NA</td>
<td>135%</td>
<td>120%</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>-56%</td>
</tr>
<tr>
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<td>NA</td>
<td>-281%</td>
<td>-315%</td>
<td>NA</td>
<td>NA</td>
<td>240%</td>
<td>155%</td>
<td>NA</td>
</tr>
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Source: FR-2314

Chart 15 (a)

Quarterly NIM Time-Series Chart

Source: FR-Y-9C
The higher NIM for Citi, BAC, and JPM (Charts 15(a) and (b)) due to increased diversification in assets (greater levels of interest earning assets) and the reduced reliance on non-interest income, has typically resulted in higher ROA for these firms compared to GS and MS. The following information (Charts 16(a) and (b), and Tables 2 and 3) indicates the extent of and volatility of other types of fee income for these five firms over various time periods. Securities brokerage fees and commissions to Tier 1 capital are much higher for MS and BAC than the other three firms. Also, the average level of trading revenue to average assets for all 14 SIFIs was 0.34% as of June 30, 2017, which is lower than that of the five firms in the sample. Trading revenue to average assets for all five firms in the sample ranges from about 0.35% to 1.5%. Also, as the data in the tables below from Barclay’s research indicate, year over year and quarterly growth rates for investment banking fees and trading revenues are very volatile.
Chart 16(a)

Securities Brokerage Fees & Commission to Tier 1 Capital Time-Series Chart

Source: FR-Y-9C

Chart 16(b)

Trading Revenue to Avg. Assets Time-Series Chart

Source: FR-Y-9C
Volatility of Investment Banking Revenue Leads to Greater Risk

While some may argue that investment banking firms are less risky because of their more diversified sources of revenue, some research indicates otherwise. A team of researchers studied...
data from 1990-2007 and determined that the risk of investment banking firms is greater than that of traditional firms primarily due to the high volatility of investment banking income which led to high volatility of overall firm earnings. However, the data studied is only through 2007 and does not include the impact of the subprime mortgage market collapse. The researchers note that if this data were included, it would likely show greater risk of investment banking firms because they were more impacted by the mortgage market collapse than traditional banking firms.

The results, which are included in the appendix of this paper, show that the risk diversification benefits of investment banking activity did not result in lower risk for these firms. The researchers concluded that over the sample period from 1990-2007, BHCs with investment banks did not experience risk-reduction benefits from investment banking activities because of the high volatility in investment banking income. Also, BHCs with investment banking affiliates produced smaller weekly market returns, and had lower total and idiosyncratic risk (unsystematic risk) but higher systematic risk than traditional BHCs.

Declining but High and Volatile Leverage at Broker-Dealer Level

Leverage at BHCs and Broker-Dealers

Leverage (defined as debt to equity and noted in Table 4 below) at some of the material broker-dealers is high but has declined in the last few years. Nonetheless, debt to equity at the five SIFIs is currently much lower than it was just before the crisis. In addition, as noted in Chart 17 below, the Tier 1 Leverage capital ratios of these five BHCs, have also increased since 2008,

56 See Victoria Geyfman and Timothy Yeager (2009), p. 1653-1654. The researcher’s measure of risk is total equity return. Total risk is calculated as the variance of weekly equity returns for each bank. Additional data is included in the appendix.
partly in response to supervisory requirements. The current Tier 1 Leverage ratio for each of the five BHCs is greater than the average Tier 1 Leverage ratio for all SIFIs of 7.87%.

However, senior Federal Reserve Bank and Federal Reserve Board officials have noted that capital requirements for BHCs with material broker-dealers (FHCs) may not be stringent enough. These officials have recommended that capital (and liquidity) requirements for FHCs should be increased given their broker-dealer’s reliance on unstable short-term funding. Eric Rosengren, President and Chief Executive Office of the Federal Reserve Bank of Boston, notes during his keynote remarks at the Conference on the Risks of Wholesale Funding that broker-dealers fund their holdings in uninsured short-term credit markets, which makes them inherently more subject to runs than institutions that finance their holdings with longer-term or insured borrowing.

Table 4

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Source: FR-2314, SNL

57 See Eric Rosengren, p.6. Federal Reserve Board Chairman Janet Yellen and Governor Daniel Tarullo, among others, have expressed the view that broker-dealer’s dependence on short-term funding may necessitate further increases in capital requirements.

58 See Eric Rosengren, p.4-6.
Chart 17
Tier 1 Leverage Ratio Time-Series Chart

Source: FR-Y-9C
But as Tobias Adrian and Hyun Song Shin point out in their research, as the asset size of broker-dealers increases so does their leverage (defined as total assets to equity), based upon data from 1963-2006. This has not been the case for commercial banks however. Chart 19 reflects the average leverage for all investment banks since 1992 through 1Q08. It is noticeable that leverage spiked considerably just before the crisis in 2008.

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60 See Adrian, Tobias and Hyun Song Shin. “Liquidity and Leverage.” p. 25.
The next two charts (Chart 20) indicate total assets and leverage of broker-dealers (left side) and commercial banks (right side) from 1963-2006. The charts indicate that asset growth of investment banks is accompanied by an increase in leverage. But there is less correlation between asset growth and leverage growth for commercial banks. As noted previously, broker-dealers take on more leverage than commercial banks. Therefore, one can conclude that all else remaining equal, as investment banking and commercial banking firms grow, the leverage and therefore, the risk of an investment banking firm will also grow and its leverage will likely be higher than a traditional (commercial) banking firm.

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Off-Balance Sheet and Derivatives Activity is High

The off-balance sheet activity of these firms is significant and requires additional capital cushion. For example, the total notional amount of derivatives to total assets ranges from 1,619% to 5,563% at these five FHCs compared to the average ratio of 1,466% for all 14 SIFIs. This metric doesn’t include the trillions of dollars in custodial assets managed or held by these firms. The following charts (Charts 21(a) and (b)) note the jump in derivatives activity prior to the crisis. Derivatives have been trending downward since the crisis, but are still very high for the five SIFIs in the sample compared to all SIFIs. Given these factors, one could conclude that the capital level of the five SIFIs in the sample may not be strong or sufficient to support the risk of its activities.

While derivatives activity can also be significant in non-investment banking firms, the derivatives activity of the five firms in the sample is high compared to all 14 SIFIs as noted in Chart 21(b) below.
Some experts believe that allowing banks to expand and engage in securities and insurance underwriting activities not only resulted in significant and risky growth in some banking firms, but also contributed to a riskier culture within some banking firms and led to more aggressive derivatives activities. Many believe that the expansion into these new activities and the significant derivatives activity was a direct contributor to the 2008 financial crisis.

FDIC Vice Chairman Thomas Hoenig stated in his speech before the National Association of Corporate Directors, Texas Tricity Chapters Conference in September 2013, that the repeal of Glass-Steagall fueled a culture of broker-dealer like risk taking as opposed to the traditional conservative culture of commercial banks and resulted in increased leverage of financial firms.62 James Lardner, a journalist and former senior fellow at Demos (a center for public policy in New York City) believes there is a link between the repeal of Glass-Steagall and the financial crisis. He notes that “commercial banks played a crucial role as buyers and sellers of mortgage-backed securities, credit-default swaps, and other explosive financial derivatives. Without the watering down and ultimate repeal of Glass-Steagall, the banks would have been barred from most of these activities. The market and appetite for derivatives would then have been far smaller, and Washington might not have felt a need to rescue the institutional victims.”63

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62 Thomas Hoenig, Vice Chairman Fed. Deposit Ins. Corp., *Lehman Brothers: Looking Five Years Back and Ten Years Ahead*, Speech Before the National Association of Corporate Directors, Texas Tricity Chapters Conference, September 2013, (arguing that the repeal of the Glass-Steagall Act caused the win-lose culture of broker-dealers to replace the more cautious traditional culture of commercial banks, which resulted in increased appetite for risk in the financial system, and resulted in increased leverage of financial firms within the federal safety net).

63 James Lardner, *A Brief History of the Glass-Steagall Act*, Demos Background Paper, November 10, 2009, available at http://www.demos.org/publication/brief-history-glass-steagall-act (assigning considerable blame for the causes of the crisis on activities that were permitted under Glass-Steagall, but arguing that participation of commercial banks in certain swaps and derivatives markets made the crisis worse than it would have otherwise been).
Chart 21(a)

*Total Notional Amount of Derivatives to Total Assets Time-Series Chart*

Source: FR-Y-9C

Chart 21(b)

*Total Notional Amount of Derivatives to Tier 1 Capital Time-Series Chart*

Source: FR-Y-9C
Other Impacts to Risk Profile of SIFIs and Industry Resulting From Repeal

Increase in Operational Risk

The operational risk of these firms and the banking industry has also increased as these FHCs must manage, monitor, and mitigate the risks of a traditional banking firm as well as the risks of large broker-dealer businesses which are highly transaction-based, subject to significant internal routines and controls breakdowns, and huge players in the derivatives market. As regulators and academics Anna Chernobai, Ali Ozdagli, and Jianlin Wang discuss in their research, the business complexity of U.S. BHCs has increased significantly since the late 1990s due to their aggressive expansion into nonbanking activities. These firms have expanded their scope of activities as well as their geographic reach through their new broker-dealer affiliates. The number of new rules and regulations and internal routines and controls they must comply with, coupled with the new customers they must screen for BSA/AML purposes has certainly increased their exposure to losses.

Chernobai, Ozdagli and Wang point out that “increased complexity through business diversification may result in greater operational risk through several channels. For example, business diversification can strain managerial oversight and employees’ focus, create difficulties to maintain proper barriers as well as information exchange between different businesses (such as banking, securities, and insurance), and create wrong incentives for practices like overly aggressive “cross-selling.” These challenges can make banks easier targets of fraud and overall make it more difficult for the bank to satisfy the requirements for due diligence and compliance in its individual business lines. For example, in 2005, BAC and JPM agreed to settle a lawsuit

for $460.5 million and $2 billion, respectively, because they failed to conduct proper due
diligence while underwriting securities for WorldCom. In 2007, Citigroup was censured
by the New York Stock Exchange for permitting improper market timing practices in
early 2000s, which was a result of deficient compliance measures in place that were
unable to prevent employees from engaging in deceptive practices. The cross-selling
scandal at Wells Fargo in 2016, which involved its credit cards, insurance, and brokerage
businesses, resulted in about $30 billion drop in equity value, firing of 5,300 employees,
and the resignation of the CEO. Consistent with these examples, we provide evidence
that greater business complexity through diversification into nonbanking activities leads
to weaker risk management.”

Chart 22 below illustrates the annual count of operational risk events by origination year and the
number of bank holding companies for a sample period. The dashed lines represent the timing of
deregulations (with 1999 representing the partial repeal of Glass Steagall). The results indicate
that the frequency of operational risk events has increased significantly with bank complexity.
Researchers Chernobai, Ozdagli, and Wang point out that the magnitude of operational events
has also increased significantly, particularly for the banks that engage in securities underwriting
and dealing activities.

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66 See Anna Chernobai, Ali Ozdagli, and Jianlin Wang. p. 34.
Shifting of Losses/Risk

Another concern with the combining of nonbank and bank entities is the possibility of shifting losses from the nonbank affiliate to the insured bank affiliate. This practice would negatively impact the IDI, could result in increased losses to the Deposit Insurance Fund, and would be detrimental to the banking system. While safeguards are in place to protect against this (limitations on asset size of nonbank affiliates, 23A and 23B regulations, and umbrella supervision of FHCs), these safeguards are not foolproof and failures have occurred due to this practice.67 Although there is no historical data within this paper to illustrate the shifting of losses that may have or can occur, it is reasonable to assume that shifting of losses can occur.

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67 J.R. Walter’s article “Banking and Commerce: Tear Down this Wall?” notes two cases where banks have failed due to loss shifts from an affiliate to the IDI: The 1953 failure of First State Bank of Elmwood Park, IL, which resulted from shifts of bad loans from a nonbank loan company to its affiliate bank (U.S. House [1955, 18–19]).
As former FDIC Financial Economist Christine E. Blair notes in the article she authored entitled The Mixing of Banking and Commerce, “Before GLB was passed, nonbank affiliates were generally quite a bit smaller and less complex than their bank affiliate. Today, under a financial holding company, banks are able to affiliate with securities and insurance firms that are likely to be as large as, if not larger than, the bank itself. The result is often an organization that is both large and complex, and is likely operated as an integrated entity that manages risk across business lines, rather than within legal entities. Thus, the likelihood may be greater that these large and complex financial organizations may attempt to shift losses to the bank and the insurance funds…..”68 J. R. Walter also notes that the most credible reason for keeping banking and commerce separate is to prevent the incentive for nonbank affiliates of a bank to shift their losses to the insured bank.69

### Increased Safety Net

Other consequences of the repeal and potentially negative outcomes surfaced many years later, after the 2008 financial crisis and with the passage of the Dodd Frank Act in 2010. The Fed’s approval of firms such as Morgan Stanley, Goldman Sachs, American Express, and Ally to become bank holding companies in 2008 widened the government’s safety net to investment banking firms and bolstered these firms after the collapse of Lehman Brothers, which became the largest bankruptcy filing in history. With the conversion to a bank holding company status, these

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firms were able to benefit from billions of dollars in federal bail-out money in 2008 and 2009 and were able to reap the benefits of government provided programs such as borrowing from the Fed discount window (through its subsidiary banks), the Troubled Asset Relief Program (TARP), the Primary Credit Dealer Facility (PCDF), the FDIC’s Temporary Liquidity Guarantee Program (TLGP), and others. These firms were also able to build a stable base of deposits (cheap funding source) in hopes of reassuring investors and other banks.

In their paper “Safety-Net Losses from Abandoning Glass-Steagall Restrictions”, Carow, Kane, and Narayanan study the impact to the industry from the passage of GLBA. These researchers conclude that firm’s stock prices may increase as a result of increases in efficiency, increases in the bargaining power of financial institutions, or greater access to the federal safety net as a result of expansion into broker-dealer activities. In addition, customers may benefit from improved access to capital markets, but increases in a firm’s bargaining power could also result in increased funding costs. Also, allowing these firms to expand into other investment banking activities increases their size and complexity and taxpayers may ultimately lose as these larger firms now have access to the federal safety net.70

Also, in 2010, the Dodd Frank Act (DFA) gave the FDIC expanded authority to resolve HC’s/SIFIs/FHCs which now include those that engage in nonbank activities including securities activities through investment banking affiliates. Prior to DFA, the FDIC could only resolve commercial banks and could absorb losses via the pre-funded DIF. DFA created a new fund, called the Orderly Liquidation Authority (OLA) to be used to help the FDIC recoup the costs of

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liquidating large and complex HCs.\textsuperscript{71} These expanded resolution authorities require the FDIC to
resolve much more complex, and large banking firms, including those that include large
investment banking firms and broker-dealers. Some industry observers believe that the FDIC’s
new orderly liquidation authority creates a new and expanded safety net for these firms and may encourage firms to take more risks given that a large and complex holding company can be resolved by the FDIC. The implicit “government guarantee” – assuming that the federal government will likely bail out an institution and its investment banking affiliates - has been said to create a moral hazard because it encourages growth (sometimes risky growth) and has exacerbated the “too big to fail” phenomenon.

Before Glass-Steagall was repealed, Alan Greenspan spoke about the concerns of expanding access to the federal government safety net in his 1997 testimony before Congress:

We are concerned that conducting securities and similar activities as principal in subsidiaries of U.S. banks does not create sufficient distance from the bank. Let me be clear that bank holding companies and their subsidiaries also benefit from the subsidy implicit in the safety net. Their capital costs are lower since a portion - currently a large part of - the consolidated assets of the organization are in subsidiary depository institutions that have direct access to the safety net …..Moreover, we reiterate our concern that, regardless of how restructuring is addressed, the Congress not impair the

\textsuperscript{71} The OLA is funded after a failure by the remaining/surviving complex, large institutions, and non-bank SIFIs. In the event of a failure of a HC or SIFI, the Treasury can lend the FDIC money to resolve the institution. If there is a net cost to resolve the institution, the FDIC would recoup its costs through the OLA. It is important to note that the OLA (Title II) is a last resort under DFA, with bankruptcy being the first option for a failing firm. Title I of DFA requires SIFIs to develop “living wills” which demonstrate their ability to declare bankruptcy and resolve themselves in a failure situation.
ability of the Federal Reserve to monitor large banking organizations and respond effectively to systemic crises.\(^72\)

**Expanded Responsibilities for Regulators/Umbrella Supervision and Functional Regulation**

The expansion of activities that bank holding companies can engage in has required expanded cooperation among various regulatory bodies and considerable responsibility has been placed on the Board of Governors of the Federal Reserve (Fed). GLBA accepted the concept of functional regulation which is the regulation of banking activities by bank regulators, regulation of securities activities by the SEC, regulation of insurance activities by state insurance commissions, and regulation of commodities activities by the Commodities Futures Trading Commission. GLBA also gave the Fed jurisdiction over FHCs by acknowledging the Fed as an “umbrella supervisor”; however, GLBA did not define this term. Fed guidance issued after the passage of GLBA described umbrella supervision to include assessing consolidated risk for banking organizations as a whole, taking action to address threats to depository institution subsidiaries of BHCs from outside of depository institutions themselves, and sharing information with functional regulators and primary federal banking regulators.\(^73\)

Under GLBA, the Fed retained its authority to develop capital adequacy guidelines for the consolidated BHC or FHC and to order the divestiture of a nonbank subsidiary, but the Fed cannot impose capital requirements on broker-dealer or insurance subsidiaries of the BHC. The Fed can order the BHC to divest of any depository institution subsidiaries if necessary to protect the BHC. Additionally, the Fed may take enforcement action against a functionally regulated


\(^{73}\) See Greenlee, Mark, p. 449.
subsidiary (broker-dealer) to address a material risk posed to an affiliated depository institution or the domestic or international payments system.\textsuperscript{74} Also, 10(b) of the FDI Act gives FDIC the ability to examine affiliates if the activities pose risk to the Deposit Insurance Fund.

While the concept of functional regulation and umbrella supervision appears to be a reasonable means to ensure safe and sound operations of large and complex BHCs (including their broker-dealer subsidiaries), the Fed must rely on the work of the functional regulators. The Fed may use reports required to be filed by regulators and examination reports which contain results of reviews conducted by functional regulators in assessing the overall risk of the FHC. The Fed and FDIC must rely upon the expertise and supervision of other functional regulators, some of which are located in other countries. This reliance on other regulators requires close cooperation and communication, which is not always achievable. It also assumes that functional regulators have implemented sound rules and regulations to govern activities and that they are actively and thoroughly monitoring compliance with such rules and regulations. As history has shown, this has not always been the case with the SEC and its supervision of broker-dealers. As described below, the GAO has concluded that the SEC’s Consolidated Supervised Entity (CSE) program was not effective in its oversight of Bear Stearns. The collapse of Bear Stearns in 2008 required the Federal Reserve Bank of New York to intervene in order to prevent significant harm to the broader financial system.

The deficiencies uncovered in the SEC’s regulatory oversight program in 2008 suggest that the SEC did not have a handle on the risks of broker-dealer activities, including the risks of broker-dealer subsidiaries of FHCs. The Fed relies on the SEC’s exam findings to help it assess the

\textsuperscript{74} See Greenlee, Mark, p.452-453.
health of the broker-dealer subsidiaries of FHCs. If the SEC doesn’t have a good handle on the risks, neither does the Fed. This hinders the Fed’s ability to fully understand the risks of the FHC’s broker-dealer subsidiaries and proactively supervise the consolidated FHCs.

Non-Compliance with and Lack of Enforcement of SEC Rules and Regulations

Many experts agree that the supervision of U.S. broker-dealers was not adequate prior to 2008. This is concerning on many levels, but it also exposed a big gap in the functional regulation concept for FHCs. Although the SEC adopted a recording and reporting proposal (risk assessment program consisting of Rules 17h-1T and 17h-2T) in 1992 to apply to broker-dealers with more than $20 million in capital, it was evident years later that the rules and regulations were not being followed by broker-dealers nor effectively enforced by the SEC. Also, some experts think that the flaws in the SEC’s Consolidated Supervised Entities (CSE) program which was created in 2004, coupled with the introduction of new and preferential capital treatment for both broker-dealers and the consolidated holding companies of broker-dealers, paved the way for these broker-dealers and their holding companies to hold dangerously high amounts of mortgage-backed securities which led to the failure of some large broker-dealers in 2008.

After the collapse of Bear Stearns in 2008, the SEC’s Office of Inspector General (OIG) conducted an investigation into how the SEC’s risk assessment program was functioning. The investigation concluded that the SEC had failed to launch enforcement action against Bear Stearns despite having oversight. Also, the OIG’s report noted that the SEC’s assessment program was failing “to enforce the document retention and filing requirements that are

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incumbent upon broker-dealers.” In 2008, the SEC had conducted only six reviews out of the 146 broker-dealers that had submitted reports. By 2011, the SEC conducted 198; in 2015, 265.\(^{76}\) Despite the rules in place, the Firm 58 Whitepaper (see footnote 86) notes that they are still being largely ignored by broker-dealers. But as described in the appendix, FINRA has been proactive in recent years in assessing the liquidity management of broker-dealer firms. This should assist the Fed and FDIC in monitoring the risks and potential for a resolution event of these large FHCs.

Link Between the Partial Repeal of Glass-Steagall and the 2008 Crisis
There are numerous articles which discuss the possibility of a link between the partial repeal of the Glass-Steagall Act and the 2008 financial crisis, and there are differing views. Based on the information provided below, one can conclude that allowing bank holding companies to affiliate with securities underwriters and dealers did have an impact on the 2008 financial crisis, but not in the way most assume. Additionally, other consequences of the affiliation of broker-dealers with BHCs such as the broker-dealer affiliate’s access to bank customers (ability to cross-sell products) and funding (access to the Fed discount window) helped deepen the impact of the crisis.

A number of lawmakers and others have blamed the financial crisis on the partial repeal of the Glass-Steagall Act based on the incorrect belief that GLBA allowed firms to engage in activities that were the cause of the crisis. As noted by many experts, the causes of the crisis included bad underwriting of real estate loans, and securitizations of subprime mortgage loans coupled with

\(^{76}\) See Firm 58 Whitepaper: Broker Dealer Risk Assessments, Where They Came From, Where They’re Going. September 2016.
rating agencies’ inaccurate ratings on mortgage-backed securities (MBS). None of these activities were prohibited by the Glass-Steagall Act and they were not newly allowed per GLBA. In fact, in the 1980s, federal courts upheld the interpretation by the OCC that the securitization of bank assets is part of the business of banking and not a securities activity prohibited by the Glass-Steagall Act.77

Interestingly, years after the passage of Glass-Steagall, historians and banking experts studied the legislative history of the Glass-Steagall Act and found little evidence of the securities practices that were the basis for the Act. In a statement before the Senate Committee on Banking, Housing, and Urban Affairs, December 1, 1987, Former Federal Reserve Chairman Alan Greenspan noted “research over the past 50 years concludes, contrary to Congress’ view at the time, that bank securities activities were not a cause of the Great Depression and that banks with securities affiliates did not fail in proportionately greater numbers than banks more generally.”78 The Senate Committee on Banking, Housing, and Urban Affairs reached a similar conclusion: “abuses by commercial banks that were engaged in securities activities were not a substantial cause of the collapse of the financial system in the early 1930s.”79

While engaging in securitization activities was not previously prohibited by Glass-Steagall, a change in the way the SEC allowed broker-dealers to measure their net capital requirements in 2004 incented these firms to invest in securitizations of subprime mortgage loans which made these firms and their parent BHCs more vulnerable during the crisis.

SEC’s 2004 Net Capital Rule Change

The SEC’s 2004 rule change indirectly weakened the financial condition of some SIFIs (see Appendix C for more details on the net capital rule). This rule change allowed certain broker-dealers to use models (as opposed to the standardized haircuts previously applied) to calculate the amount of haircuts they took on assets when calculating their net capital requirements. A higher haircut would result in a lower capital requirement (less money these firms are required to set aside to cover potential losses). But to be able to take advantage of modeling their own haircuts, the previously unregulated parent companies of these broker-dealers had to submit to being regulated. Around the time of the 2004 capital rule change, pressure was mounting for U.S. headquartered firms operating in the European Union to have a consolidated regulator. This is directly due to the Financial Conglomerates Directive (FCD), which was to be effective in 2005 and required that all financial companies operating in EU countries have a consolidated supervisor. The FCD required that those companies not headquartered in the EU must have an equivalent supervisor in their home country that has been approved by a designated supervisor from an EU member state in which the company operates.\(^{80}\) In response to the FCD, the SEC developed the Consolidated Supervised Entities (CSE) program. As part of the CSE program, the SEC required financial holding companies to calculate capital in accordance with Basel II (just as BHCs had to). That incented these financial firms, including their subsidiary broker-dealers, to buy and hold MBS on their balance sheets due to their 20% risk based capital charge (as opposed to a 100% capital charge for loans or other assets). These firms loaded up on these MBS and partnered with banks to help securitize and issue these MBS for the fees they earned on this activity.

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Some say the repeal of Glass-Steagall could have placed downward pressure on mortgage underwriting standards as a result of the incentives associated with financial holding companies’ attempts to establish initial market share in securities markets after GLBA’s enactment. In fact, one European Central Bank (ECB) study tried to assess the relative default rates contained in securities issued through broker-dealers to securities issued through large universal banks (those banks with broker-dealer affiliates). This study found that the securities issued through the universal bank channel had “a significantly higher default rate” than those issued through broker-dealers that were unaffiliated with commercial banks. The authors found no evidence that these universal banks had engaged in the types of self-dealing that the Glass-Steagall Act was specifically designed to address. However, they did find evidence that these universal banks lowered prices (i.e., underestimating default risk) as a way to try to increase their market share. This study concluded that universal banks had to be initially more aggressive than investment banks (or stand-alone broker-dealers) in order to gain market share, and in doing so they might have excessively loosened their credit standards. The resulting heightened default rates might have exacerbated the effects of the mortgage and housing crises. If Glass-Steagall had not been repealed, these bank affiliated broker-dealers (which ultimately had higher default rates after GLBA) would not have existed or entered the market, although it would not have prevented new, nonbank-affiliated entrants that also might have wanted to expand their market share.

James Leach, author of the 2008 Northwestern University Financial Review article entitled “Regulatory Reform: Did Gramm-Leach Bliley Contribute to Crisis?” and former Fed Chair Ben

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81 Carpenter, Murphy, and Murphy, p. 21-22.  
82 Carpenter, Murphy, and Murphy, p. 22.
Bernanke (as noted previously) state that the partial repeal was beneficial to the financial system as it allowed it to avoid collapse in 2008 because the faltering stand-alone investment banks (Merrill Lynch, Bear Stearns, Lehman Brothers) could be absorbed quickly by the relatively healthy universal banks (Bank of America, J.P. Morgan Chase, and Barclays). The real blame, Leach argues, lies in the lack of effective regulation of investment banks, which allowed the subprime risks to get out of hand.\footnote{See Victoria Geyfman and Timothy Yeager (2009), p. 1667.}

**Potential Regulatory Responses to Mitigate Risk to the Banking System**

The obvious solution to the concerns about the mixing of banking and securities activities is to separate the two and reinstate these portions of the Glass-Steagall Act. Keeping these activities separate would simplify the operations of the largest SIFIs, making it easier for the Fed to monitor the risks of BHCs and easier for the FDIC to resolve such firms in the event of a failure. The Fed would not have to rely upon the expertise of the SEC or FINRA when assessing the risks to the overall banking firm. Operational risk of these firms would also decline significantly as would total assets, income volatility, and potentially, derivatives activity. Finally, these investment banking firms would no longer have access to the federal government safety net, which would ultimately benefit taxpayers if another government bailout is required.

Another option to mitigate risk to the banking system is for the Fed or SEC (or both) to conduct a study to analyze the extent to which investment banking affiliates are improving or weakening the financial condition of their parent BHCs. The Fed and SEC have access to important financial information for BHCs and their subsidiary broker-dealers and should be able to complete a comprehensive assessment of the impact of a broker-dealer on a firm’s earnings,
capital, liquidity, and market risk. The results of the analysis would allow the Fed and SEC to be better informed of the risks these material broker-dealers pose to their parent BHCs, singling out those broker-dealers who are the least profitable or the most risky. The results might also assist the SEC in developing stronger guidelines or regulations regarding risks to prevent future losses to the financial system.

SIFIs engaging in significant investment banking activities should also be required to disclose to the public more information about their individual broker-dealer subsidiaries, rather than present information only on the consolidated entity. Financial reports of U.S. BHCs are usually presented by lines of business and not by legal entity, which makes it nearly impossible for investors and others to determine the financial impact of a broker-dealer on a firm’s total assets, earnings, capital, liquidity, and market risk. It isn’t possible to determine how significant an entity’s broker-dealers are to the consolidated organization. It is unclear how investors are able to determine the strength or the size of a BHC’s broker-dealer affiliates. More transparency on BHC’s securities activities and broker-dealer subsidiaries is a reasonable ask considering that these firms are complex, highly volatile, and have access to the federal safety net. This might create a greater incentive for broker-dealers to operate in a safe and sound manner, and it would assist investors and other interested parties in monitoring the risk of specific broker-dealers on a legal entity basis. As noted earlier, this paper used limited, publicly available data to conduct an analysis of the financial impact material broker-dealers have had on five SIFIs. However, income information on U.S. broker-dealers is not readily available and income information on non-U.S. broker-dealers is not available in an easy-to-compare format.84

84 U.S. based broker dealer subsidiaries file FOCUS reports but this quarterly report is not publicly available. Firms are required to post a portion of their completed annual FOCUS reports; however, per SEC regulations, firms have
Conclusion
The risk profile of the five SIFIs included in the sample has increased since the passage of GLBA which requires more expertise and coordination among regulatory agencies to supervise and mitigate these risks. Total assets of BAC and JPM have increased 230% since 2002 due primarily to acquisitions of investment banks Merrill Lynch and Bear Stearns, while Citi’s total assets have increased 60%. Citi has not experienced the surge in broker-dealer activity that BAC and JPM have. MS and GS total assets have remained about the same since they became FHCs in 2009, but these firms are less diversified than BAC, JPM and Citi and are comprised mainly of broker-dealer assets. Also, since 2000 (since 2009 for MS and GS), the asset composition of the SIFIs in the sample has trended toward less loans, greater reliance on borrowings, and a high volume of trading assets and Level 3 assets which are more susceptible to price and market risk. While trading assets have declined for these five firms, their volume of trading assets is much higher than that of other SIFIs. Earnings volatility is high at these firms, likely due to their high reliance on investment banking revenue which is also volatile. Research from 1990-2007 has shown that the risk diversification benefits of investment banking activity did not result in lower risk for firms. In addition, the high leverage at material broker-dealer subsidiaries of these firms is a drag on the parent company’s leverage. While the Tier 1 Leverage ratio of these firms has increased steadily since the 2008 crisis, this ratio doesn’t consider the risk of their enormous derivatives portfolios. As discussed within this report, the operational risk of these firms has also increased due to their significant securities activities.

the option to keep their income statements confidential and most of them do so. Foreign broker-dealer subsidiaries file the FR-2314 and while this data is publicly available, it must be obtained through a FOIA request, from SNL (when available – SNL is in the process of obtaining foreign broker-dealer data), or extracted from the annual filings of each individual broker-dealer.
Additionally, allowing banking firms to affiliate with broker-dealers has increased risk to the banking industry. Broker-dealers are now covered by the federal safety net, the FDIC has the responsibility to resolve these firms in a default event, and there is the possibility that a firm can easily shift losses from one nonbank affiliate to an insured bank affiliate making the insured depository institution more vulnerable. In addition, some experts note that the 2008 financial crisis has revealed that the affiliation of banks with broker-dealers created an incentive for banks to originate and broker-dealers to securitize and invest in MBS in an effort to generate massive fee income. Many consider this to be why investment banking firms were so hard hit by the crisis. These incentives are still relevant today and many would argue that these incentives are what forced Congress to restrict the mixing of banking and securities activities in the first place.

Potential solutions to mitigate the risk of securities activities in the banking system include restricting some securities activities, performing a study of the impact that material broker-dealers have on the financial condition of their consolidated organization, and requiring more public disclosure of broker-dealer subsidiary financial information (such as income statements and balance sheets) in an easy to retrieve format. Gaining a better understanding of the impact the broker-dealer subsidiaries are having on individual FHCs and the broader banking industry will also allow regulators to develop targeted regulations and guidelines to mitigate risk to the industry.
Appendix A

Organizational Structure of SIFIs

Bank of America Corporation
Goldman Sachs Group, Inc.

Legal Entity Organizational Structure

Notes:
1. TA = Total Gross Assets (before eliminations & adjustments); Total Liabilities by legal entity excludes capital and unsecured intercompany debt.
2. Mauritian legal entity whose market making business is based in Hong Kong.
3. Delaware LLC operates as broker-dealer in Hong Kong, Taiwan & South Korea.

"GSEC" is no longer a material entity and has been rolled up in "GS&Co".

Source: Material entities, total assets and total liabilities as identified in Goldman Sachs public July 2015 165(d) plan, p. 20.

J.P. Morgan Chase & Company

JPMorgan Chase & Co.

Material Branches:
- JPM Morgan Chase Bank, N.A. (JPMCO)
- JPMGB London
- JPMGB Singapore
- JPMGB Tokyo
- Pemberton LLC
- Chase Paymentech Solutions
- Chase Paymentech Europe Limited
- J.P. Morgan AG
- J.P. Morgan Wires Limited
- J.P. Morgan Securities Capital Co. Ltd.
- J.P. Morgan Overseas Bank (Europe) Limited
- J.P. Morgan Securities International B.V.
- J.P. Morgan Securities PLC
- J.P. Morgan Securities Ltd.
- J.P. Morgan Securities (Europe) Limited
- J.P. Morgan Securities (Japan) Limited
- J.P. Morgan Securities (USA) Limited
- Chase Capital Markets (Europe) Limited
- J.P. Morgan Securities Capital Co. Ltd.
- J.P. Morgan Securities International B.V.
- J.P. Morgan Securities (Japan) Limited
- J.P. Morgan Securities (USA) Limited

U.S. Broker-Dealer:
- J.P. Morgan Securities LLC
- J.P. Morgan Securities

Commodity Subsidiary:
- J.P. Morgan Ventures

Service Entity:
- J.P. Morgan Securities India Private Limited
- J.P. Morgan Distribution Services, Inc.
- J.P. Morgan International Management, Inc.
- J.P. Morgan Asset Management (Europe) S.A.
- J.P. Morgan Asset Management (UK) Limited
Morgan Stanley

<table>
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<th>MATERIAL ENTITY NAME</th>
<th>DESCRIPTION</th>
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<tr>
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<td>U.S. Institutional Broker-Dealer, FCM</td>
</tr>
<tr>
<td>Morgan Stanley &amp; Co. International plc (&quot;MSSIF&quot;)</td>
<td>UK Broker-Dealer</td>
</tr>
<tr>
<td>Morgan Stanley MUFS Securities Co., Ltd. (&quot;MSMOS&quot;)</td>
<td>Japanese Broker-Dealer</td>
</tr>
<tr>
<td>Morgan Stanley Capital Services LLC (&quot;MSCS&quot;)</td>
<td>U.S. Swap Dealer</td>
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<tr>
<td>Morgan Stanley Capital Group, Inc. (&quot;MSCG&quot;)</td>
<td>U.S. Commodities, Swap Dealer</td>
</tr>
<tr>
<td>Morgan Stanley Bank, N.A. (&quot;MBSNA&quot;)</td>
<td>U.S. National Bank</td>
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<td>Morgan Stanley Private Bank, N.A. (&quot;MSFNA&quot;)</td>
<td>U.S. National Bank</td>
</tr>
<tr>
<td>Morgan Stanley Smith Barney LLC (&quot;MSSB&quot;)</td>
<td>U.S. Retail Broker-Dealer</td>
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<td>Morgan Stanley Investment Management Inc. (&quot;MSIM Inc.&quot;)</td>
<td>U.S. Investment Advisor</td>
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<tr>
<td>Morgan Stanley Investment Management Ltd. (&quot;MSIM Ltd.&quot;)</td>
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Appendix B

Summary of the Geyfman and Yeager Study on Performance of BHCs Engaged in Investment Banking Activities vs. Traditional BHCs

Performance of BHCs Engaged in Investment Banking Activities vs. Traditional BHCs

The table provides summary statistics of securities activities, and risk and return results for various samples and time periods between 1990 and 2007. The researchers concluded that over the sample period from 1990-2007, BHCs with investment banks did not experience risk-reduction benefits from investment banking activities because of the high volatility in investment banking income. Also, BHCs with investment banking affiliates produced smaller weekly market returns, and had lower total and idiosyncratic risk (unsystematic risk) but higher systematic risk than traditional BHCs.

The data indicates that BHCs with investment banking affiliates are large relative to other BHCs.

From 1990-2007, the average total assets of securities underwriting banks were $132.7 billion.
compared with $4.0 billion for other banks. Investment banking assets increased from an average of $8.2 billion in the 1990s to $25.3 billion for Section 20 Financial Holding Companies (FHCs) in the post-GLBA period. The ratio of investment banking assets to total company assets, however, fell by nearly half to 2.7% in the post-GLBA period relative to the 1990s primarily because some FHCs grew rapidly by acquiring insurance companies and merging with large traditional banks.

From 1990-2007, securities underwriting BHCs earned investment banking fee income (commissions on securities transactions, profit or losses from securities underwriting, fees on private placements, and fees for investment advisory, financial advice, or other services) and other non-interest income equal to 4.5% and 39%, respectively, of their net operating revenue, compared to traditional BHCs which earned 1.5% and 22.1%, respectively. As noted above, BHCs with investment banking affiliates had lower total and idiosyncratic risk (unsystematic risk) but higher systematic risk than traditional BHCs. Large institutions lend heavily to the biggest corporations and are more exposed to the market as a whole. Smaller banks, on the other hand, are more exposed to local and regional market conditions, which are more idiosyncratic. The unsystematic risk for BHCs with investment banking affiliates was 0.13% versus 0.17% for traditional BHCs.
Appendix C

The SEC and Regulation of Broker-Dealer Activities
In the United States, broker-dealers are regulated under the Securities Exchange Act of 1934 by the Securities and Exchange Commission (SEC), a U.S. government agency. All brokers and dealers that are registered with the SEC (pursuant to 15 U.S.C. § 78o), with a number of exceptions, are required to be members of the Securities Investor Protection Corporation (SIPC) (pursuant to 15 U.S.C. § 78ccc) and are subject to its regulations. Some regulatory authority is further delegated to the Financial Industry Regulatory Authority (FINRA), a self-regulatory organization. 85 Many states also regulate broker-dealers under separate state securities laws (called "blue sky laws"). Many experts agree that the supervision of U.S. broker-dealers was not adequate prior to 2008. Also, some experts contend that the SEC’s Consolidated Supervised Entities (CSE) program which was created in 2004, coupled with the introduction of new and preferential capital treatment for both broker-dealers and the consolidated holding companies of broker-dealers, paved the way for these broker-dealers and their holding companies to hold dangerously high amounts of mortgage backed securities which led to the failure of some large broker-dealers in 2008.

Recent FINRA Review of Broker-Dealer’s Liquidity Management 86

Beginning in March 2014 and continuing into the first quarter of 2015, FINRA conducted a review of the policies and practices at 43 broker-dealer firms related to managing liquidity needs

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85 FINRA is a not-for-profit organization authorized by Congress to protect America’s investors by making sure the broker-dealer industry operates fairly and honestly. FINRA has its own set of rules (most apply to the daily operations of a broker-dealer and are consumer compliance related as opposed to the SEC whose rules are focused on the overall management and supervision of a broker-dealer). The SEC oversees FINRA but both the SEC and FINRA conduct exams of broker-dealers.

in a stressed environment. The review allowed FINRA to understand better firms' liquidity risk-management practices and to raise awareness of the need for liquidity stress planning. The review included assessing firm management's knowledge and understanding of the liquidity risks that their firm faced, the firm's ability to measure liquidity needs in stress situations, management's preparedness and plans for addressing such a scenario should it arise, and the specific steps the firm would take to address its needs.

The review consisted of two phases. The first phase required firms to calculate the impact on liquidity when five stresses were applied concurrently to the broker-dealer's business. The second phase allowed a firm to challenge the severity of the assumptions used in the test, describe mitigating action the firm would take and demonstrate the resources available to offset the stressed outflows of cash.

Of the 43 participants, 37 were considered to have sufficient resources, staff and liquidity plans to be likely to withstand the given stress scenario. A firm was considered to be sufficiently prepared for significant liquidity stress if it was also able to demonstrate sufficient liquidity throughout the 30 days covered during the test. The six that were insufficiently prepared were not part of a bank holding company group.

87 Of the 43 participating firms, 28 were part of a bank holding company group (11 U.S. BHC or financial holding company groups, and 17 non-U.S. groups). Of the U.S. firms, nine were associated with BHCs that had greater than $50 billion of total consolidated assets, and two were affiliated with BHCs that had from $10 billion to $50 billion in total consolidated assets. The firms reviewed comprised a wide range of clearing firms and large introducing firms with varying levels of capitalization. The business mix at these firms also varied, from firms that focused on one or two market sectors to firms that provide a full range of products and services. A number of the firms were affiliated with banks, including firms affiliated with non-U.S. banks. In some instances, the banking business was an adjunct to the broker-dealer business and in other instances the banking business was the primary business of the holding company group.
SEC and FINRA - Financial Responsibility Requirements for Broker-Dealers

Broker-dealers must meet certain financial responsibility requirements under the Securities Exchange Act of 1934. Per FINRA’s Guidance on Liquidity Risk Management Practices, “a fundamental purpose of the SEC's financial responsibility rules is to assure that broker-dealers have sufficient liquidity to conduct their business or to liquidate it without losses to customers. As part of a firm's obligation to supervise the businesses in which it engages, FINRA expects each firm to regularly assess its funding and liquidity risk management practices so that it can continue to operate under adverse circumstances, whether these result from an idiosyncratic or a systemic event. Sound liquidity risk management practices enhance investor protection because a firm's customers are more likely to continue to have prompt access to their assets”. 88

These SEC requirements include 89:

Net Capital Rule (Rule 15c3-1) – Requires a broker-dealer to maintain more than a dollar of highly liquid assets for each dollar of liabilities. If the broker-dealer fails, this rule helps to ensure that the broker-dealer has sufficient liquid assets to pay all liabilities to customers. The net capital requirement is the primary metric the SEC uses to assess the financial health of its broker-dealers. Firms must calculate it daily and inform the SEC if it goes below the minimums.

The rule requires those firms to value their securities at market prices and to apply to those values a haircut (i.e., a discount) based on each security's risk characteristics. The haircut values of securities are used to compute the liquidation value of a broker-dealer's assets to determine

whether the broker-dealer holds enough liquid assets to pay all its non-subordinated liabilities and to still retain a "cushion" of required liquid assets (i.e., the "net capital" requirement) to ensure payment of all obligations owed to customers if there is a delay in liquidating the assets.

*Customer Protection Rule (Rule 15c3-3)* – Broker-dealers sometimes use their own funds to conduct trades and other transactions. When engaging in such “proprietary business activities,” this rule prohibits broker-dealers from using customer securities and cash to finance their own business. By segregating customer securities and cash from a firm’s proprietary business activities, the rule increases the likelihood that customer assets will be readily available to be returned to customers if a broker-dealer fails.

*Books and Records Rules (Exchange Act Rules 17a-3 and 17a-4)* – Require a broker-dealer to make and maintain certain business records to assist the firm in accounting for its activities, and assist securities regulators in examining for compliance with the securities laws.

*Notification Rule (Exchange Act Rule 17a-11)* – Requires a broker-dealer to give notice to the SEC and other securities regulators when certain events occur, such as the firm’s net capital falling below its required minimum.

These requirements are designed to protect customer assets held at broker-dealers. However, if a broker-dealer violates these requirements by, for example, misappropriating these assets, the securities and cash may not be available to be returned to customers. In a situation where a broker-dealer misappropriates funds or converts securities from its customer, the Securities Investor Protection Corporation (SIPC) may step in and initiate a liquidation proceeding, which is the process that determines whether SIPC will pay the
customers for any shortfalls in their accounts up to $500,000 per customer (of which $250,000 can be used to make up a cash shortfall.)

2007 Proposal

In 2007, the Commission proposed a series of amendments to the broker-dealer financial responsibility rules and gave the public the opportunity to comment. Commenters were given an additional opportunity to weigh in when the Commission re-opened the comment period in 2012.

On April 28, 2004, the SEC voted unanimously to change the net capital rule which applies to broker-dealers, thus allowing those with "tentative net capital" of more than $5 billion to use models to determine the amount of haircuts to take when calculating the liquidation value of their assets. The rule change remains in effect, though subject to modifications.

Along with the change in the net capital rule in 2004, the SEC adopted its CSE program partly in response to international developments, including the need for some large U.S. securities firms to meet the FCD. However, SEC says that the program is a natural extension of activities that began as early as 1990 when, under the Market Reform Act, SEC was given supervisory responsibilities aimed at assessing the safety and soundness of securities activities at a consolidated or holding company level.90

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Formally, SEC supervision under the CSE program consists of four components: a review of firms’ applications to be admitted to the program; a review of monthly, quarterly, and annual filings; monthly meetings with senior management at the holding company; and an examination of books and records of the holding company, the broker-dealer, and material affiliates that are not subject to supervision by a principal regulator.

SEC bases its authority on section 15(c)(3) of the Securities Exchange Act of 1934. Specifically, in 2004, SEC adopted the Alternative Net Capital Rule for CSEs based on its authority under that provision, which authorizes SEC to adopt rules and regulations regarding the financial responsibilities of broker-dealers that it finds necessary or appropriate in the public interest or for the protection of investors. Under the CSE rules, qualified broker-dealers can elect to be supervised by SEC on a consolidated basis. If the holding company of the broker-dealer also is a bank holding company, SEC defers to the Federal Reserve’s supervision of the holding company.
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