

The 2008 Financial Crisis and the Resulting Regulatory Changes

Samantha (Jing) Xue
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The Era of New Regulations

After the 2008 financial crisis, the U.S. government inundated Wall Street with regulations in an effort to prevent a repeat of the past. These new laws are important in preventing mistakes such as the \$6 billion London Whale trading loss and the Knight Capital software trading fiasco from happening again. While these rules have good intentions, there are flaws with implementation and are costly to comply. The Dodd-Frank Act, an important legislation to curb Wall Street excesses, has kinks to fix before it can be fully implemented. Progress is slow with powerful bank lobbyists with deep pockets asking for exemptions to the rule. Finding the delicate balance between reducing risk and crippling the market is difficult. As banks get bigger, future losses will be even more damaging. Because economic conditions are cyclical, action should be taken as soon as possible to prevent bigger losses in the future.

At the forefront of regulatory change is the Dodd-Frank Wall Street Reform and Consumer Protection Act, signed into law by President Barack Obama in July 2010 (Patterson). After analyzing the causes of the recession, lawmakers created this 848-page document to address flaws in the financial system. The main goals of this act are to provide greater transparency of banks, establish clearing requirements of complex financial instruments, ensure the neutrality of credit rating agencies, mandate better capital planning by banks, and end proprietary trading.

Because investors and regulators did not completely understand the complex transactions banks undertook in 2008, banks sold risky mortgaged-back securities to naïve investors. When the housing market plummeted, so did the fortunes of many Americans. As a result, banks now need to answer to regulators about the type of risks and transactions they are taking.

The Dodd-Frank Act is overseeing that the Commodity Futures Trading Commission adopts regulations to establish derivatives clearing requirements. Derivatives are a type of security whose price is dependent upon or derived from underlying assets, and are one of the most complex financial instruments. The need for regulation is based on the idea that the scale and nature of the OTC derivatives market create systemic risk, “millions of contracts in this opaque and deregulated market created interconnections among a vast web of financial institutions through counterparty credit risk” (Financial Crisis Inquiry Report). AIG, the insurance company that filed for bankruptcy during the subprime mortgage crisis, issued uncleared credit default swap transactions covering more than \$440 billion in bonds. When market conditions soured, AIG could not cover its positions. The government had to bail out AIG with over \$85 billion of taxpayer dollars in order to contain the negative impact for the entire economy (Karnitschnig). Now, certain classes of credit default swaps and interest rate swaps need to be cleared by a derivatives clearing organization. Centralized clearing will mitigate counterparty risk by monitoring, measuring, and collateralizing risk exposure.

Investors depend on credit rating agencies for objective views on the credit worthiness of certain investments. However, agencies such as Moody’s, Standard & Poor, and Fitch Ratings, failed in this respect in the years leading up to the crisis. Retirement funds sought out the highest rated and safest investments for their clients. Most of the top rated securities in 2008 were in fact risky. The agencies were overwhelmed by the volume and sophistication of securities presented to them and did not conduct the appropriate due diligence (“Credit Rating Agencies”). While the agencies serve the public good by providing their stamp of approval on safe securities, they also serve shareholders who profit whenever a security is approved. This creates an incentive for agencies to approve as many securities as possible (“Credit Rating Agencies”). Moreover,

previous agency employees often end up working at the companies that they have rated, causing more conflicts of interest (“Credit Rating Agencies”). In response, Dodd-Frank now requires agencies to provide annual reports on internal control, disclose performance statistics, consistently apply rating symbols and definitions, and explain assumptions behind their ratings (“Credit Rating Agencies”).

When two of the biggest banks, Lehman Brothers and Bear Stearns, collapsed because of liquidity issues and improper risk management, regulators turned their focus to banks’ capital planning. Dodd-Frank requires annual Comprehensive Capital Analysis and Review (CCAR) and stress tests, where the Federal Reserve assesses capital adequacy, planning processes, and distribution plans of bank holding companies (“Stress Tests and Capital Planning”). Stress tests will apply to banks with total assets greater than \$10 billion and nonbank financial firms designated by the Financial Stability Oversight Council for supervision (“Stress Tests and Capital Planning”). These forward-looking exercises will help ensure institutions have sufficient capital to absorb losses and support operations during unfavorable economic times. Moreover, boards of directors will review and approve capital plans before submitting them to the Fed for approval each year.

Currently, 19 bank holding companies participate in CCAR. The list includes Bank of America, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley, and Wells Fargo (“Stress Tests and Capital Planning”). On March 14, during the most recent evaluation of capital distribution plans, the Fed asked Goldman Sachs and JPMorgan to resubmit their plans of paying out of billions to shareholders (Eavis). As economic conditions improve, banks want to benefit their investors by increasing dividends and buying back shares. However, regulators want banks to be conservative and not pay out too much capital. While both banks have significantly

increased their capital levels since 2008, the Fed's evaluation indicated that Goldman Sachs and JPMorgan lagged behind their peers (Eavis). Because the banks have generated solid profits since the crisis, their capital plans are approved for now, but need to resubmit by September this year because current plans "exhibited weaknesses" (Eavis).

Another capital guidance is Basel III, a global capital requirement developed by the Basel Committee on Banking Supervision. U.S. regulators have adopted a version of the global Basel III rules. Banks are encouraged to maintain a level of common equity equal to 4.5% of their assets, weighted for the risks that they pose, plus an additional 2.5% "capital conservation buffer" of common equity (Zibel). The 7% common-equity cushion is much higher than the current 2% (Zibel).

During the crisis when banks experienced huge losses on trading of mortgage-backed assets with clients' money, banks weren't able to repay their clients. The Volcker Rule, part of the Dodd-Frank Act, prevents banks from short-term proprietary trading and investing in hedge funds and private equity. The act separates investment banking, private equity, and proprietary trading sections of financial institutions from their consumer lending arms, restricting banks from trading on money that is federally insured ("Volcker Rule"). Banks having long engaged in proprietary trading, object to this rule because it disrupts some of their most profitable activities ("Volcker Rule"). The irony in this is that these banks would not be subject to the new rules had they not converted themselves to bank holding companies in order to access to emergency lending from the Federal Reserve during the crisis. For example, in 2008 Goldman Sachs converted to a traditional bank holding company. For 20 years, Goldman's clients and employees have invested in its private equity funds. The Volcker rule may reduce the \$50 billion business

and decrease the size of Goldman's own investment in funds to 3% from 37% (Abelson). Other banks like Bank of America has completely exited the private equity business (Abelson).

Troubles With Implementation

The implementation of the new regulations is slow. With so much red tape, many worry that the new rules may not go into effect before the next financial crisis. The original Basel III effective date was supposed to be January 1, but the global central bank has given lenders four more years to meet these international liquidity requirements (Brunsdon). A review showed that regulators have not yet managed to finish half the rules required by Dodd-Frank (figure 1). With so much uncertainty, banks are sitting on large amounts of cash and unsure of how to proceed. According to the corporate law firm, Davis Polk, only 93 of the 400 rule-making requirements mandated by Dodd-Frank have been finalized. The Volcker Rule is not yet finalized. The specifics may not get approved until second half of 2013 and wouldn't be fully enforced until 2014 (Patterson).

The risk to so much regulatory change is that bureaucratic red tape may stifle innovation and the economy. Fees and paperwork will increase dramatically. JPMorgan estimates the direct cost will be \$400-600 million annually for banks to comply ("Volcker Rule"). With the convoluted laws, it seems lawyers are the ones who will benefit the most. According to Jonathan Macey, Yale Law professor, "Dodd-Frank is not directed at people. It is an outline directed at bureaucrats and it instructs them to make still more regulations and to create more bureaucracies" ("Too Big Not to Fail"). Even among the regulators, there is contention. The Federal Reserve, SEC, Congress, Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation, are all trying to figure out the best way to implement the rules.

There is disagreement between banking regulators and the SEC, and political divide in government.

The danger with creating specific rules is that loopholes can be found. These loopholes are infamously called Dodd-Frankenstein's monsters. For example, banks are able to sidestep the Volcker rule by interpreting in their favor what constitutes proprietary trading, such as not using the word "proprietary" and shifting the unit's operations elsewhere (Abelson). In July 2012, Lloyd Blankfein, Goldman Sachs CEO, said the firm has shut off all proprietary trading (Abelson). However, Goldman still has the Multi-Strategy Investing (MSI) unit, part of the larger Special Situations Group, which invests about \$1 billion of bank's own funds on stocks and bonds (Abelson). While Goldman doesn't report on the holdings or performance of MSI, the unit is a major profit generator (Abelson). The unit has no clients, acts like a hedge fund, and sidesteps the Volcker ban on short-term trading with trades lasting longer than 60 days (Abelson).

As with all laws, substance over form is important. Wall Street firms can always find ways to sidestep rules if they are intent on doing so. Proprietary trading and genuine market-making are hard to distinguish. Market-making is trading that a financial firm undertakes on behalf of its customers or to keep market functioning fluidly ("Volcker Rule"). A bank could trade speculatively for its own account under the guise of market-making.

Algorithmic Trading

Perhaps even riskier than proprietary trading, algorithmic trading has higher operational risk. The system uses mathematical models to determine the best time for large blocks of shares to be purchased. The blocks are divided into smaller lots and complex algorithms decide when to

purchase (Investopedia). Institutional investors often use algorithmic trading because they trade in large quantities and can obtain the best possible price without affecting the stock price and increasing purchasing costs (Popper). Programs can execute millions of orders in a second, scan dozens of public and private marketplaces simultaneously, spot trends, and change strategies within seconds (Popper). Algorithmic trading contributes to efficient pricing, reduces cost of trading, and increases market liquidity (Czarniawska). High-frequency trading (HFT) is a subclass of algorithmic trading where computers initiate orders based on analysis of multiple markets in nanoseconds (Czarniawska). HFT is criticized for taking profits away from traditional investors; a PC is no way comparable with Wall Street's computers ("Wait a Second; High-Frequency Trading"). Also, computers do not make decisions based on a company's future prospects, instead seeking profit on tiny changes in price.

Software glitches are even more devastating than human error. An example of this is when Knight Capital Group, an American equity broker, lost \$440 million in 20 minutes on August 1, 2012 when it began using a new software program. There was a glitch in its algorithmic trading program that caused erratic trading of stocks. Because of the erroneous trade positions, Knight had to trade out of the positions immediately and realized a pre-tax loss of \$440 million ("Knight Capital Group - Press Releases"). Getco, an electronic trading rival, is now buying Knight Capital, making Getco among the largest players on the U.S. exchanges and top-trading partner of brokerage firms ("Knight Capital Group And GETCO Holding Company Agree To Merge"). Knight must pay \$7.7 million in fees tied to the deal and the trading error, and an \$11.4 million noncash write-down of a strategic investment (Bunge). While there is a general trend of consolidation in the industry, one can only hope that with the concentration of

buying and selling power in one company, Getco has a good handle on its operational risk (Popper).

Interestingly, the volume and profitability for HFT seem to be falling (figure 2). HFT accounted for 66% of equities trading in 2009, but is now 50% (Steinert-Threlkeld). According to Rosenblatt Securities, an agency broker that tracks off-exchange trading, total profit was between \$810 million and \$1.2 billion in 2012, 75% lower compared to 2009 (Steinert-Threlkeld). Because the CBOE Volatility Index has fallen from 80% at the height of the crisis to 12% at the start of 2013, conditions are worse for high-frequency trading firms (Steinert-Threlkeld). Higher stock prices and calmer markets mean less trading opportunities. Despite this, there is no denying that the proliferation of new technology will become prevalent in investment banking.

The Midas Program and Circuit Breakers

The SEC is working on a computer system to track all U.S. stock trading, part of the Midas (Market Information Data Analytics System) program (Popper). However, Midas isn't all encompassing; futures trades and trades executed outside the system in "dark pools" can't be identified (Hoover). Nonetheless, Midas provides the foundation for expanded analysis in the future. The SEC contracted with Tradeworx, ironically a high-frequency trading firm, to provide a market-data service to help the SEC track stock and option trades in real time (Hoover). The system will help catch market abuse, diagnose market crashes, and deliver pertinent information to the SEC the next trading day (Hoover). Currently, the SEC requests data from exchanges and the Financial Industry Regulatory Authority, Wall Street's self-regulator (Hoover). Data is delivered in non-standardized formats and with gaps, making it difficult to get a full picture of

market activity (Holzer). The Midas program comes with a hefty price tag of \$2.5 million per year.

To address market volatility, the SEC will strengthen circuit-breaker rules for individual stocks and entire market. Circuit breakers have existed since the year after stock market crash of 1987. It has only been triggered one day in 23 years (Chapman). The “Limit Up-Limit Down” mechanism will prevent trades in listed equity securities when triggered by large and sudden price moves in a stock (“Investor Bulletin: New Measures to Address Market Volatility”). Stocks in the S&P 500 won’t be able to trade outside of a price band determined by their average price over the previous five minutes. These price limit bands will be 5%, 10%, 20%, or the lesser of \$0.15 or 75%, depending on the price of the stock (figure 3). The price bands will double during the opening and closing periods of the trading day. If the stock’s price does not naturally move back within the price bands within 15 seconds, there will be a five-minute trading pause (“Investor Bulletin: New Measures to Address Market Volatility”). Beginning on April 8, the circuit breakers will apply to stocks in the S&P 500, Russell 1000, and certain exchange traded products. The second phase will begin on August 1, and apply to all remaining National Market System securities (“Investor Bulletin: New Measures to Address Market Volatility”).

In addition to limiting volatility for individual stocks, market-wide circuit breakers will be implemented on April 8. There will be a 15-minute market halt if the S&P 500 changes by 100 points (Investor Bulletin: New Measures to Address Market Volatility). A cross-market trading halt can be triggered at three circuit breaker thresholds – 7% (Level 1), 13% (Level 2), and 20% (Level 3). These triggers are set by the markets at point levels that are calculated daily based on the prior day’s closing price of the S&P 500 Index. A market decline that triggers a Level 1 or Level 2 circuit breaker before 3:25 pm will stop trading for 15 minutes, while a

similar decline at or after 3:25 pm will not (figure 4). A decline that triggers a Level 3 circuit breaker at any time during the trading day will halt trading for the remainder of the day (Jacobs).

Beaching JPMorgan's London Whale

The circuit breakers are controversial because it limits the short-term trading profits. However, it may be well worth it to sacrifice profits for less risk. While more risk typically means more reward, the downside potential is tremendous. The \$6 billion trading loss at JPMorgan has increased public support for tighter regulations.

The losses were first revealed when JPMorgan announced in May 2012 that it had lost \$2 billion on its synthetic credit portfolio, managed by its Chief Investment Office (CIO) in London. CIO manages JPMorgan's structural interest rate risk and invests in assets to achieve asset-liability objectives (Adler). The trader responsible is Bruno Michel Iksil. He joined the company in 2005 and moved into the CIO late 2006. The CIO is supposed to be managing firms' risks, but Iksil pushed the unit into profit making and failed to manage the risks. The CIO's credit derivatives portfolio was supposed to protect the firm in a stressed credit environment, but it eventually led to the \$6 billion loss.

Around 2008, Iksil began building a complicated and bearish position in the IG 9, a credit derivatives index. The portfolio consisted of long and short positions in credit default swaps indices and related instruments ("Report of JPMorgan Chase & Co. Management Task Force Regarding 2012 CIO Loss"). The portfolio did well from 2007 to 2011, generating \$2 billion in gains during that period. However, during the first three and six months in 2012, the portfolio incurred losses of \$4.4 billion and \$5.8 billion, respectively (JPM 10-Q for Q2 2012). Iksil's bets continued to expand, sinking deeper into a bullish and illiquid stance on corporate credit that led

to the losses. Changes in credit spreads, interest rates, and foreign exchange rates made Iksil's trades risky. When trying to sell, Iksil felt brokers moved the market lower to hurt him (David). In response, he bought more at lower prices to punish the brokers, thereby adding to his positions (David). His positions became so large that he was nicknamed the London Whale. Iksil avoided discussing his trades by speaking in technical jargon, so not even his manager knew much about the trades (Fitzpatrick).

Iksil's actions had great repercussions for the company and the industry. JPMorgan admitted that weaknesses in internal control led to the losses. In its 2nd Quarter 2012 report to regulators, JPMorgan explains, "Management concluded that CIO's risk management had been ineffective in dealing with the growth in size and change in characteristics of the synthetic credit portfolio." The positions in the portfolio were recorded at fair value, based on traders' judgment (Q2 2012 10-Q). CIO's valuation control group was supposed to verify that the traders' marks were reasonable and adjust the marks if deemed unreasonable. Traders avoided showing full amount of losses by mismarking their trades, and the valuation control group didn't do its full due diligence (Fitzpatrick).

The event has significant reputational and financial damage for the firm. Because of the May 2012 losses, JPMorgan restated its Q1 2012 10-Q, reducing net income for the first three months by \$459 million ("Report of JPMorgan Chase & Co. Management Task Force Regarding 2012 CIO Loss"). Moody's and Fitch reduced their credit ratings when JPMorgan first disclosed the losses. The Fed and the Office of the Comptroller of the Currency have ordered JPMorgan to submit a plan describing enhancements to risk management, internal audit, and finance functions (Fitzpatrick). Regulators hit the firm with four formal enforcement actions targeting lapses in risk-management and money-laundering controls. The Office of Comptroller of Currency is

requiring the board of directors to appoint a compliance committee of at least three directors to answer to regulators (Fitzpatrick).

Thus far, JPMorgan has introduced detailed risk limits, clarified roles of the Model Risk and Developing Group within the risk management team, replaced management team in CIO, and appointed a new Chief Risk Officer for CIO/Treasury/Corporate (“Report of JPMorgan Chase & Co. Management Task Force Regarding 2012 CIO Loss”). In the future, JPMorgan assures that the CIO will invest in high quality securities (“Report of JPMorgan Chase & Co. Management Task Force Regarding 2012 CIO Loss”).

Not only did JPMorgan fire Iksil, the company filed a lawsuit against his direct superior, Javier Martin-Artajo ("Lessons From the London Whale"). The synthetic trading group is closed and JPMorgan is seeking clawback from the CIO managers ("Lessons From the London Whale"). The event also led to the resignation of Ina Drew, the Chief Investment Officer and one of the most successful women on Wall Street. On January 16, 2013, the company’s Management Task Force, created shortly after May 10, 2012, issued a special report. The report was a smart move for the company to increase transparency and restore trust. In this report, JPMorgan accused Ina Drew of failing in three areas – lax controls, underestimating the problem, and failure to ensure that her team “understood and vetted the flawed trading strategy and appropriately monitored its execution” (“Report of JPMorgan Chase & Co. Management Task Force Regarding 2012 CIO Loss”). Investigation into the trading loss continues to this day, and the most recent congress hearings were held on March 15 (Silver-Greenberg). JPMorgan executives are accused of being dishonest about the firm’s risky bets. Executives claim ignorance, saying that they weren’t aware of the risk. During the hearing, Ina Drew pushed all the blame to lower-level traders in London and other subordinates (Silver-Greenberg). Drew

argued that she wasn't aware that the traders were increasing their bets at the time when she was assuring regulators that the firm was decreasing its positions (Silver-Greenberg).

While some say for a large bank like JPMorgan, the \$6 billion trading loss is nothing compared to its two trillion dollars in assets and the loss has not put the bank in jeopardy (Silver-Greenberg). JPMorgan's CEO Jamie Dimon agrees and says the bank is safer because it's bigger. However, the issue is precisely that – banks are now much bigger. If regulations are not adequate, taxpayers must spend millions to bail these “too big to fail” firms out. As the economy gets better, banks are getting bigger and risky behavior will continue if regulators fail to rein them in.

Soaring Profits and the Revolving Door

Despite the wave of new regulations, banks are still making record profits. For the fourth quarter of 2012, Goldman Sachs reported highest quarterly earnings in three years, \$5.60 a share, more than triple its fourth quarter 2011 earnings (Yahoo Finance). The Volcker rule still allows banks to hold a large portfolio of longer-term investments. The value of those investments, including Goldman's investment in China's ICBC, as well as its stocks, bonds and real estate, more than doubled to \$5.89 billion in the quarter with the increase in global asset prices (Rappaport). Earnings at JPMorgan increased despite the London Whale loss. It made \$1.39 per share in the fourth quarter, up 54% versus a year ago (Yahoo Finance). Furthermore, banks have been benefiting from near zero interest rates, which have encouraged further risk-taking and the refinancing of debt.

To counterbalance the cost of new regulations, banks are cutting back, especially in compensation. Goldman cut compensation and benefits in Q4 2012 by 11% to under \$2 billion.

For 2012, the compensation ratio fell to 38% from 42% in 2011 (Noonan). After the London Whale loss, Jamie Dimon's pay was cut in half to \$11.5 million in 2012. This is still a nice sum considering the fact that Dimon was the highest paid CEO among the six largest banks in the U.S. (Silver-Greenberg).

Regulation is even more difficult to implement when previous bank employees now hold influential positions in government. There is a major issue of revolving door between private practice and government service. Recently, President Obama nominated Mary Jo White to lead the SEC ("Senate Panel Approves SEC Nominee White"). The Senate Banking Committee approved his appointment on March 19. If the full Senate gives their nod of approval, White would begin her work as the new chairman in April this year ("Senate Panel Approves SEC Nominee White"). Previously, White worked as a lawyer for Debevoise & Plimpton, and critics point to her defense work for Wall Street firms. As Chair of the litigation department at Debevoise & Plimpton, she represented most banks on Wall Street. She worked for JPMorgan and helped Morgan Stanley find a new chief executive ("Senate Panel Approves SEC Nominee White"). In addition, many Goldman Sachs alumni have entered politics. Jon Corzine, former Goldman CEO, worked as governor and senator. Henry Paulson, also former CEO, and Robert Rubin, former Co-Chairman and Co-Senior, both became Secretaries of the Treasury (Bloomberg Businessweek).

Conclusion

Today, many Americans still feel the pain from the financial crisis, are disgusted at Wall Street, and no longer trust the financial system. Despite the fact that recently stock exchanges are reaching record highs, this does not necessarily correlate with a healthy economy. The Dodd-

Frank Act hopes to patch up the flaws in the American financial system. This task is difficult because of the complexity and the banks' powerful influence in Washington D.C. In 2012, the Knight Capital software glitch and London Whale trades led to billions of losses. To prevent disasters like this from happening again and reduce the impact of the next financial crisis, regulators need to stop pushing back the deadlines, put partisan biases aside, and end Wall Street excesses. Regulators seem to be playing catch-up to the banks, which are always a step ahead. While banks should maximize profits – they are a business after all – they should do so with better risk management. The steps taken so far in risk management are commendable, but regulators need to be careful that laws don't burden banks so much that they restrict their ability to make money. Until regulators get buy-in from banks, politicians, investors, and general public, the new laws will be ineffective. Regulating Wall Street is more than writing laws for banks to follow, but it is also restoring faith in the American financial system.

Appendix

Figure 1 – Missed Deadlines for Dodd-Frank



Figure 2 – Decreasing High Frequency Trading Profits

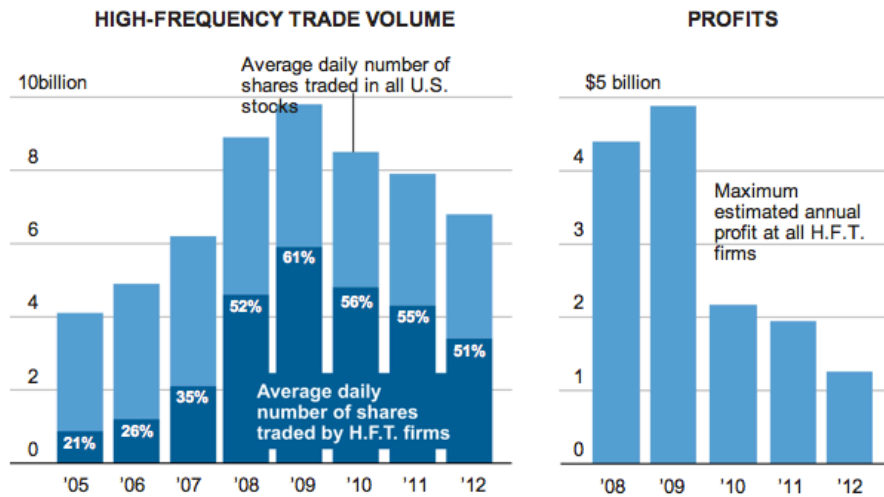


Figure 3 – Individual Stock Circuit Breaker

Phase I (Tier 1) – 9:45 AM to 3:35 PM	
Previous Closing Price	Percentage Parameter
Greater than \$3.00	5%
\$0.75 up to and including \$3.00	20%
Less than \$0.75	Lesser of \$0.15 or 75%

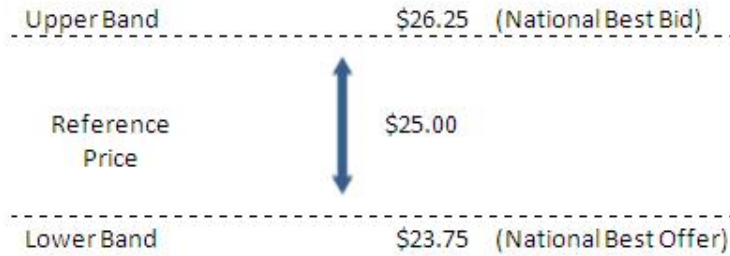


Figure 4 – Market Wide Circuit Breaker

	New MCWB	Prior MWCB
Index	S&P 500 (SPX)	Dow Jones Industrial Avg. (INDU)
Market Halt Threshold	7%	10%
% Decline Calculation	Change from Previous Day's Close	Last Month of Quarter Avg.
Halt Time	15 minutes	30, 60, or 120 minutes
Times that Halt can Occur	Market Open to 3:25 PM	6 different time periods with different criteria for each

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