



September 12, 2017

Mr. Keith Noreika, Acting Comptroller
Office of the Comptroller of the Currency (OCC)
 Email: regs.comments@occ.treas.gov

Subject: **Docket ID OCC-2017-0014**

Dear Mr. Noreika:

On behalf of Data Boiler Technologies, I am pleased to provide the Office of the Comptroller of the Currency (OCC) with our comments regarding the §619 Dodd-Frank Volcker Rule. In the capacity of an experienced industry practitioner, as well as an entrepreneurial inventor of a patent pending solution for Volcker compliance, I am advocating for a strong enforcement of the Volcker Rule.

Included within the “Respond to requests for comment” section are detailed opinions and suggestions as to the agency’s questions. The following table summarizes how others might attempt to water down the Volcker Rule, as well as our suggestions offering better efficiency and effectiveness in achieving the Rule’s objective:

Issues	Controversies	Watered-down Excuses	Our Suggestions
Scope/ Effects of the Rule	<ul style="list-style-type: none"> – Rebuttable presumption – Burden on smaller banks 	<ul style="list-style-type: none"> ⊗ Affected market liquidity ⊗ Slowed bank lending 	<ul style="list-style-type: none"> ✓ Speculative risk uninsurable ✓ Hoax! Who wants toxics?! ✓ Preserve but revise Backstop ✓ Relief via negative confirmation
Proprietary Trading Ban	<ul style="list-style-type: none"> – Define proprietary trading – Confusion around RENT-D 	<ul style="list-style-type: none"> ⊗ Intents indistinguishable ⊗ No one-size-fits-all test for what is reasonable 	<ul style="list-style-type: none"> ✓ Remove Footnote 711 ✓ Big threats are the result of many small incremental abuses that accumulate into outsized bets or bubbles ✓ “Stress RENT-D” to prevent taxpayer bailout
Covered Funds	<ul style="list-style-type: none"> – Foreign covered funds – Stable run-off illiquid covered funds 	<ul style="list-style-type: none"> ⊗ US nexus, applicable only to funds with US CUSIP # ⊗ Sponsor limit/ 23A affected banks’ FinTech investments 	<ul style="list-style-type: none"> ✓ BPO to expedite compliance ✓ Behavioral science to ensure toxic assets of affiliate will not come back to haunt banks
Compliance Program/ Metrics	<ul style="list-style-type: none"> – Objectivity & Consistency – Flawed Measurements 	<ul style="list-style-type: none"> ⊗ Monitor compliance via ERM/ CRB (holistic, cost effective, and innovative) ⊗ Abolish RENT-D, inventory turnover rate, and more 	<ul style="list-style-type: none"> ✓ Trustworthiness of CRB risk models is tarnished ✓ Need speed and details to curb 21st century challenges ✓ Prevention instead of after-the-fact investigation ✓ Objectivity and consistency via robust system and active learning ✓ Eliminate flawed metrics, fewer documents, and reduce burden



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We hope the above highlights and the detailed comments below will be helpful positively to resolve this regulatory reform challenge. Feel free to contact us with any questions, or if our expertise might be required. Thank you.

Sincerely,

[Kelvin To](#)

MSc Banking, MMGT, BSc

Founder and President

Data Boiler Technologies, LLC

This letter and the enclosure are also available at:

www.DataBoiler.com/index_html_files/DataBoiler%20Volcker619%20Comments.pdf



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Respond to Specific Questions

A. Questions on Scope of Entities Subject to the Rule

1. What evidence is there that the scope of the final rule is too broad?

The scope of the Volcker Rule is confined to “market risk,” which it is not broad at all. The rule only touches “credit risk” when it deals with the Super23A/23B provision (affiliated transactions). The only area where the scope might be too broad is the Backstop provision, which says, “Prevent anything that might become a threat to US financial stability.” But a backstop is still necessary to ensure banks do not use permissible instruments (e.g. repurchase agreements for commercial banking transactions) synthetically to create trades that would otherwise be prohibited (abusive use of [financial engineering](#)).

With respect to “threats to financial stability,” the following supervisory frameworks are good references: [OFR: Analyzing Threats to Financial Stability](#); [FSOC: Framework to Mitigate Systemic Risk](#); [BCBS 283: Measuring and Controlling Large Exposures](#); [SEC and CFTC Market Manipulation Rules](#), and others. However, it would be excessive to incorporate all of these under the Volcker Rule. There is opportunity to use other regulatory policies and guidelines to complement the Volcker Rule in addressing some of these matters.

Different policies and guidelines can be mapped against their relevance to this OFR’s “Financial Stability Monitor.” Its “Risk Indicators” encompass the following categories:

Risk	Definition	Indicators
Macro-economic	Evaluates risks that have the potential to affect financial stability through various macro channels such as growth, external balances, fiscal vulnerabilities, and confidence channels.	Financial conditions, output gap, sovereign debt levels and financing costs, foreign exchange reserves, current account balances, consumer and business confidence, inflation volatility, and inflation expectations
Market	Assesses the risk of destabilizing losses across key asset classes and investment strategies as a result of adverse movements in asset prices.	Duration, positioning, risk premiums valuations, and volatility
Credit	Measures the propensity of a counterparty to meet its financial obligations, and includes market-implied and balance-sheet measures of risk.	Corporate credit spreads, balance-sheet leverage, lending conditions, delinquencies, asset quality of households, corporates, banks, and nonbank financial institutions
Funding/liquidity	Captures market liquidity, balance-sheet liquidity ratios, stress in funding markets, and the potential for vulnerabilities that arise from excessive leverage.	Broker-dealer inventories, turnover, volume, cash balances, dependence on wholesale funding, changes in short-term investor assets under management and tenors, foreign exchange basis swaps, short-term funding rates/spreads
Contagion	Measures the vulnerability of the financial system to sudden shocks that may spread as a result of interconnectedness.	Contingent claims analysis, conditional value at risk, systemic expected shortfall, distressed insurance premium, network analysis, cross-border exposures, sovereign-bank exposures, correlation risk

Source: OFR analysis

“Market risk” (2nd row in green) should be a perfect fit and primarily focus of the Volcker Rule. That being said, regulatory reform should use other policies and guidelines to address other risk categories and possible convergence of risks across different categories.

2. How could the final rule be revised to appropriately narrow its scope of application and reduce any unnecessary compliance burden? What criteria could be used to determine the types of entities or activities that should be excluded? Please provide supporting data or other appropriate information.

The unnecessary compliance burden within the Volcker Rule is mainly the requirement that banks submit metrics reports. These reports are useless and irrelevant in curbing banks’ proprietary trading activities. Consider the [2012 JPMorgan Chase \(JPMC\) \\$6.2 billion trading loss](#). JPMC invented the most widely used



Value-at-Risk ([VaR](#)) metrics but misused its risk-measurement to hide massive loss (see [this](#)). Monitoring compliance through flawed metrics instead of using a transaction-by-transaction approach to trade surveillance is the biggest mistake of the final rule, causing non-transparency (please refer to our responses in Questions D.1, 4, and 6 for further discussion).

Also, examining a bank's risk culture or governance policy is unnecessary with respect to Volcker Rule compliance. According to the [2008 Société Générale \(SocGen\) case](#), the bank failed to prevent unauthorized trades totaling \$72 billion despite its former CEO bragging about their culture and internal control strengths. However well articulated, governance documents can be untrustworthy. Examining the effectiveness of controls should not rely on soft aspects, such as organizational culture or the prominent background of the person-in-charge ([Madoff investment scandal](#)). Effective control relies on hard facts, actual outcomes, and these three key aspects in the context of Volcker compliance:

- How banks determine “reasonableness” in securities inventory each day.
- How banks distinguish permissible versus prohibited trade activities, and how banks prevent rogues from bypassing controls.
- How banks monitor the banking entity's investments in, and transactions with, any covered funds.

Regarding criteria to be used to review any proposed change to the Rule, we recommend the following: (i) any proposed change cannot be in conflict with the policy objective – i.e. speculative risks are uninsurable for FDIC insured banks; (ii) proposed change would only be considered if existing law creates an “extreme hardship” situation for a particular group; (iii) change has to be fair to all stakeholders rather than show favoritism to any particular group; (iv) change must be accompanied by risk assessment and identification of any new threat it might introduce to financial stability; and (v) the proposed change must include administrative cost and benefit justification, and/or a clear explanation of how it would serve the longer-term goals of safety and soundness.

Small community banks (less than \$10 billion in consolidated assets) that are not market-makers and have no significant trading business could possibly be relieved completely of the burden of the existing Volcker Rule requirements. Instead, they should be regulated so that they will lose access to FDIC insurance if [negative confirmation](#) or investigations shows that the bank is, indeed, active in speculative trading. The inherent risk for them to do something out-of-whack is low, because they have little “capacity” to engage in highly leveraged trades, and their possible trading losses will not be substantial enough to create significant volatility in the market. Sadly, they are dispensable (i.e. possible bankruptcy will not be disruptive to the medium-term economic performance), so they will not require a taxpayer bailout if they fail. They should be granted a one-year grace period to comply with the Volcker Rule, upon reaching minimum thresholds.

3. **How would an exemption for the activities of these banking entities be consistent with the purposes of the Volcker Rule, and not compromise safety and soundness and financial stability? Please include supporting data or other appropriate information.**

Please refer to the last paragraph of our response in Question A.2, in which we recommend using a negative confirmation approach to regulate these small community banks, rather than a “carve-out” approach to eliminate their responsibilities to the overall safety and soundness and financial stability goals.



4. How could the rule provide a carve-out from the banking entity definition for certain controlled foreign excluded funds? How could the rule be tailored further to focus on activities with a U.S. nexus?

The inadvertent consequence of any “carve-out” could misguide money flow if it is not thoroughly considered. Presently, “carve-out” is mainly used for US Treasury and agency securities, which favorable treatment is in synchrony with President Trump’s “America First” Principle (see [this](#)). However, a carve-out from the banking entity definition for certain controlled foreign excluded funds does not carry the same weight as the US Treasury and agency securities.

We do respect and understand the concerns highlighted in the Federal Reserve’s [No Action Relief](#) issued on July 21, 2017. The matter pertaining to the “competitive disadvantage” of foreign excluded funds affiliated with foreign banking entities, as compared to non-affiliated foreign excluded funds, is a moot point. While we acknowledge that those bank-affiliated companies would be subject to heightened regulatory requirements, they may enjoy lower funding costs than non-bank competitors. The affiliation with a bank brand may also help them attract more business. In addition, rule makers should not be concerned about commercial interests if the policy direction is geared toward more traditional banking businesses – i.e. deposit and lending. Given that, a bank can be a debt holder of foreign excluded funds instead of being an equity owner. It will give the bank a priority claim over assets of foreign excluded funds in case of default, which is safer for the bank than being an equity owner.

If foreign banks and foreign government officials do not like the US policy direction in favor of more traditional banking business, they can apply for a SOTUS (solely outside the US) exemption. If they do apply for SOTUS, [FAQ#14](#) has already clarified that, “a foreign public fund advised by a banking entity is not considered to be an affiliate of the banking entity so long as the banking entity does not own, control, or hold with the power to vote 25 percent or more of the voting shares of the fund.” There could be an administrative challenge to verify if the foreign fund is deemed by law to be under the control of a foreign bank, because the process would be highly manual (see our response to Question C.1). However, the manual verification process is minor relative to “foreign banks having competitive advantage over US banks through the use of SOTUS.”

If foreign banks indeed use SOTUS to own a substantial stake in foreign excluded funds, then they would still be bound by the BHC Act, restricting the affiliate on covered fund and proprietary trading activities in the US. Policy makers may consider adding additional guidelines under the Backstop provision, stating that SOTUS status may be lost if the affiliate is discovered to have engaged in covered fund and proprietary trading activities, because such “get around” approaches could be deemed a threat to US financial stability.

The existing rule already optimizes the focus on activities with a U.S. nexus amid the non-synchronization of international financial laws. We do not anticipate harmony among the US Volcker Rule, the UK Vicker’s “Ring-Fencing” Rule, and the Liikanen’s “subsidiarization” proposal in rest of Europe, in the near-term. Further tailoring of the rule would skew the balance between domestic and international stakeholders.

5. Are there other issues related to the scope of the final rule’s application that could be addressed by regulatory action?

None regarding the scope, but please refer to our response to Question B.7 for propose regulatory action with respect to the proprietary trading prohibition.



B. Proprietary Trading Prohibition

1. What evidence is there that the proprietary trading prohibition has been effective or ineffective in limiting banking entities' risk-taking and reducing the likelihood of taxpayer bailouts? What evidence is there that the proprietary trading prohibition does or does not have a negative impact on market liquidity?

Monitoring compliance through metrics reports is not very effective, as evidenced by the “tip of the iceberg” case – Deutsche Bank became the first bank ever to receive a fine of \$19.71 million for allegedly violating the Volcker Rule (see [this](#)). It was Deutsche's CEO who honestly self-disclosed in his attestation that their compliance was insufficient. The Federal Reserve's prosecution was not driven by identified irregularities in Deutsche's metrics reports, but based on the fact that the bank “did not subject trading desks' RENT-D methodologies to sufficient review or challenge by internal control groups.” That said, the Federal Reserve might be majoring in the minors to criticize the “formality” of how risk appetite is set at Deutsche. Instead, the priority focus should be on whether the bank's [securities inventories](#) are indeed “reasonable.”

The RENT-D/Inventory concept was mentioned 581 times in the final rule to emphasize its importance. Regulators need closer scrutiny of possible exploitations, conflict of interest, and other irresponsible behaviors, especially about banks' market-making activities (see this [empirical research](#) by Steven and Steven). Regulators should be reminded that the biggest threats are the result of many small incremental exploitations or hedges and/or commitments that accumulate into outsized bets or bubbles (i.e. exceed RENT-D).

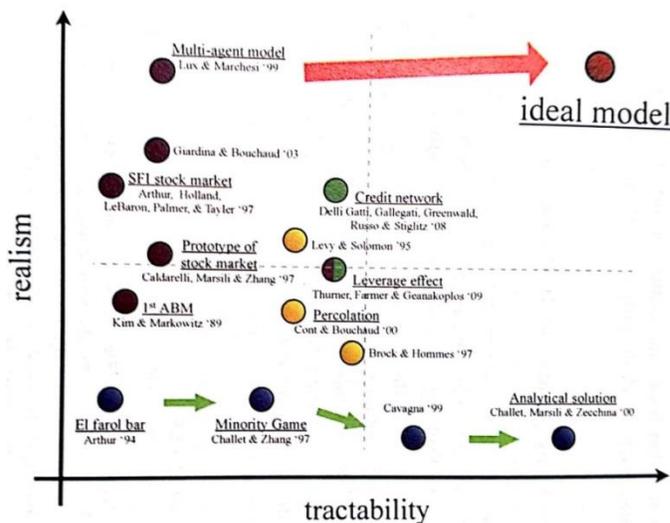
Referring again to the [2012 JPMC trading loss case](#), the Chief Investment Office's synthetic credit portfolio (SCP) was initially making small incremental speculative bets. SCP increased tenfold in 2011 and tripled again in early 2012 to \$157 billion. The trades consisted of more than 100 synthetic derivatives that were too complex to unwind. The case would likely be a Volcker violation for excess of RENT-D if the rule were effective back then. Toxic positions were so tangled-up that neither hold (higher capital surcharge) nor sell (huge loss for the bank if fire sale) would be desirable. It is a dilemma for trading desks to determine optimal strategy and [market timing](#) for their protective hedges, or recklessly doubling-down of their bets.

Huge losses can be accumulated within seconds, while banks typically review their Risk Appetite Statements ([RAS](#)) to set risk limits every three to six months. It is an industry-wide problem that banks regurgitate their RAS as RENT-D. Stress can arise in between review periods, or a flash crash could be both rapid and deep within seconds. Previously set limits would become meaningless, with pressures heightened and losses compounded. In the 2012 JPMC case, control-limits were breached over 300 times. The purpose of the Volcker Rule is exactly to address flaws such as those in the JPMC case (i.e. “mischaracterized high risk trading as hedging, hid massive losses, disregarded risk, dodged OCC oversight” – see [2013 Senate report](#) for details). Industry experts have [predicted](#) an increase of such risk events might be coming.

Although huge proprietary trading losses may not necessarily trigger an emergency bail out of banks using taxpayer money, a billion dollar trading loss could trigger systemic failure, as in the downfall of Barings and other crises (see [this](#)). Not long after the 2012 JPMC case, there was the [Bank of America \(BoA\) case](#). BoA's risk limits were set too high and the bank allegedly triggered fifteen occasions of mini-crashes in the market between late 2012 and mid-2014. How would that be “reasonable” if under the Volcker regime?



RENT-D ought to consider impending market conditions and the dynamic of [market microstructure](#), access the appropriateness of trades' [market timing](#), and be calculated at least daily. Our patent pending algorithms or the following would possibly be suitable ways to calculate RENT-D:



Adapted from a picture by M. Marsili

Keep in mind that these models would likely have some trade-offs between tractability and realism. Thus, the fit-for-purpose in applying them for different trading desks is important. Ideally, the RENT-D calculation algorithms should be implemented using an approach similar to:

- FINRA [Fund Analyzer](#) or
- Broadridge [FundPoint Share Class Analyzer](#).

This “standardized RENT-D calculator” would allow users to input essential parameters, and the applications will crunch out the “RENT-D” values/range. This approach would enable consistency in applying empirical formulas and ensure high quality outputs.

Regarding the fragmented liquidity issue, [CGFS-52](#) is one of the most prominent studies on the topic. The report “identifies signs of increased liquidity bifurcation and fragility, with market activity concentrating in the most liquid instruments and deteriorating in the less liquid ones. Drivers are both conjunctural and structural in nature, and it remains difficult at this stage to provide a definitive overall assessment.” Banks labeled the rule as “having a chilling effect on market liquidity,” while we would use an analogy of the “Di-hydrogen Monoxide ban” to describe the matter – i.e. a hoax (see [this](#) for an elaborated explanation).

In short, the chilling effects on illiquid junk bonds are caused by several factors other than the Volcker Rule: (1) they are overpriced; (2) the products lack credit enhancement to make them better than “junk” (non-investment grade); (3) many buy-side investors are still wary, so they flee from these toxic junks. Banks have until 2022 to off-load the remainder of the \$66 billion (per [OCC analysis of 12 CFR Part 44](#)) of toxic/ illiquid covered funds that they still hold. This is a downward sell pressure shadowing the market; rational investors have no interest in buying these junks at this time.

2. What type of objective factors could be used to define proprietary trading?

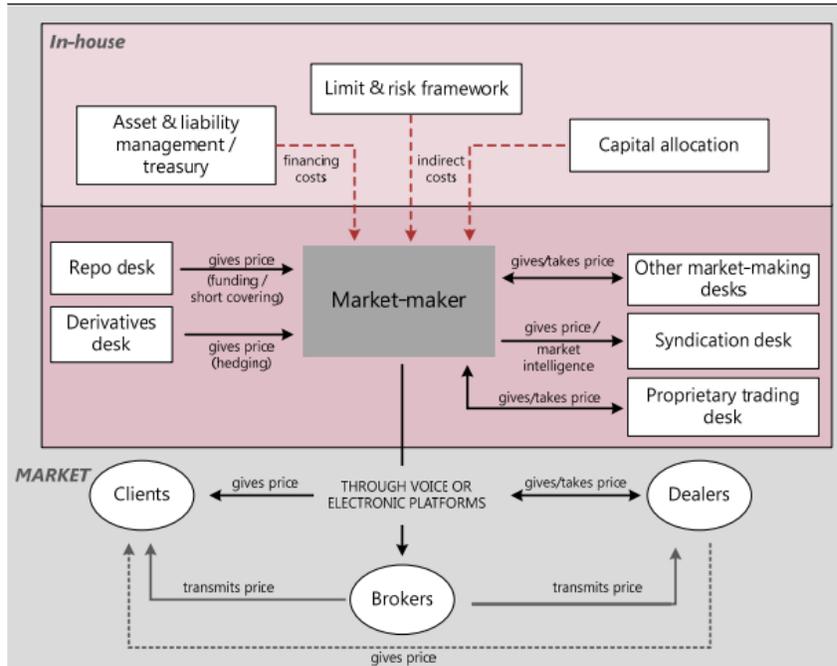
Appendix 2 of [CGFS-52](#) provides an excellent summary of the definitions of market-making versus proprietary trading. Per the mandate of today’s final rule (the “guilty until proven otherwise” provision), anything that does not fit the criteria to “qualify” for various Volcker Rule exemptions is considered proprietary trading. Prosecutors do not need to consider whether available evidence will lead to a conviction by the “beyond-a-reasonable-doubt” standard. The probative facts from a [vulnerability scan](#), if trades do not fit the proper (Market-Making/ Underwriting/ Risk-Mitigating Hedging/ Liquidity Management) exemption criteria, would be sufficient to convince a prosecutor that the defendant is guilty (see [this](#)).



The next step is to study the provision of market-making services and how market-makers' revenues and costs should be aligned with these processes (see below graphs).

Market-making – in-house and market-related interlinkages

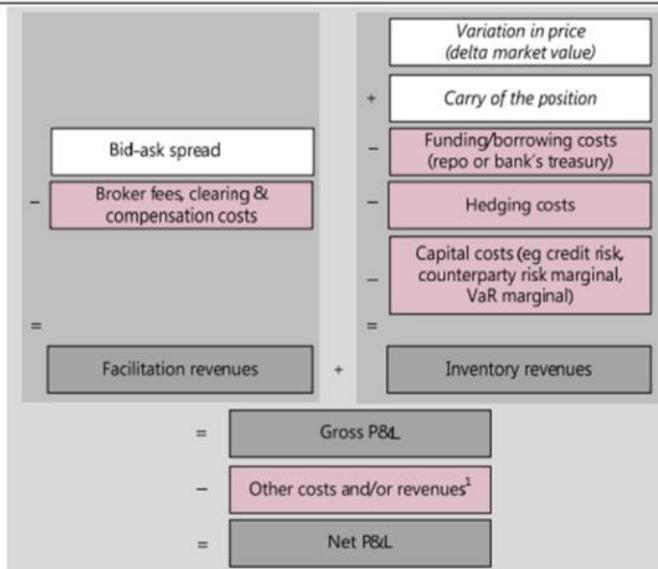
Graph 1



Source: CGFS Study Group.

Market-maker's profit and loss (P&L) account

Graph 2



¹ Other costs include, for example, trading desk and support staff, compliance, IT and administrative costs as well as central counterparty membership fees. Other revenues may include income from other business lines (eg syndication) that is attributed to the market-making desk.

Source: CGFS Study Group.



In order for trade activities to “qualify” for the Volcker Rule market-making exemption, the trades must be rigorously tested to ensure “consistency” with the processes stated above – consistent in terms of frequent trade instruments, venue, timing of orders, size, changes to the market-maker’s risk profile, and more. Other than consistency factors, market-making activities must also remain within reasonable RENT-D limits. Various factors can be put into a quantitative scoring model to be weighted-in, where suspicious activities would be red-flagged for further investigations. Please refer to our suggestions in Question D.6 for further elaboration.

In the case of courts or anyone else needing to affirm that suspicious activities are truly proprietary trading, then tests can be conducted following the approach in Steven and Steven’s [empirical study](#). The study reveals, “market-makers receive (customer pay) less for trade execution when they make a well-timed (poorly-timed) trade.” Their observations demonstrate that, “market-makers have both an execution advantage and a timing advantage relative to other market participants.” By examining trade data on a play-by-play basis, one could identify if a market-maker was indeed “willing to reduce or eliminate the execution advantage to exploit the information advantage.” In other words, if market-makers were using their informational and/or other advantage to “exploit” customers for proprietary gain, then such an act would be a violation of the Volcker Rule proprietary trading ban.

The definition of “exploit,” as used herein, is: instead of [best execution](#) on behalf of the customer, the bank’s trading activities might be in conflict with the customer’s best interest. It is not how the market-making bank “claims” the trades were dealing with a customer or counterparty; rather, the trade data would reveal, with consistency, whether the bank was “in effect” acting in the best interest of the customer rather than treating the party as a counterparty (i.e. without fiduciary responsibility).

Each exploitative act may be for a small dollar amount, but again, the biggest threats are the result of many small incremental exploitations or hedges and/or commitments that accumulate into outsized bets or bubbles. Therefore, “out-of-proportion”/“unreasonable” trade activities should be curbed under the RENT-D requirements. Besides market-making, RENT-D is also applicable to underwriting because imprudent underwriting practice (over-commitment) can cause the bank to retain a substantial number of unsold shares that are illiquid and risky. Roster should be used properly to track underwriting lots. Exceeding RENT-D without proper justification (facilitate customer demand) is considered a violation of the proprietary trading ban provision.

Incorrect tagging of trades to wrong categories of exemption may be excusable if the matter is only an isolated incident, but regulators should thoroughly investigate any habitual or willful act to dodge regulatory oversight – “fictitious” hedges in particular. In the [2011 UBS \\$2.3 billion trading loss case](#), management was only looking at the “net” risk exposure, not the breakdown. Hence, there was no play-by-play approach to scrutinize trade activities. Non-transparency is indeed the fatal problem with [Central Risk Book](#) (CRB), “fictitious” hedges making the bank’s risk limits exposure look much smaller. Similar issues recurred in 2012 at [JPMC](#). The bank “mischaracterized high risk trading as hedging,” resulting in a \$6.2 billion trading loss. Those trades handled by the Chief-Investment-Office indeed “consisted of more than 100 synthetic derivatives – and were too complex to unwind, with no tangible way to stop losses,” according to findings in the [senate report](#).

Slick practices in the UBS and JPMC cases have tarnished the trustworthiness of the banking sector to reliably assess risks and to provide accurate, complete, and timely information to the regulators. As a result, banks are



required under the Volcker Rule to pre-register their hedges and properly monitor these hedges if recalibration may be appropriate. If anyone wants to complain about the cumbersome requirements under [§ .5\(b\)](#) of the Volcker Rule hedging exemption, lay the blame on these two cases.

The definition of liquidity management versus proprietary trading is obvious and does not require further clarification. The rule related to the proprietary trading ban is completed (except removal of [footnote 711 on 79 FR 5592](#)) because the Backstop provision would ensure banks do not use permissible instruments (e.g. repurchase agreements for commercial banking transactions) synthetically to create trades that would otherwise be prohibited (abusive use of [financial engineering](#)).

3. Should the rebuttable presumption provision be revised, whether by elimination, narrowing, or introduction of a reverse presumption that presumes activities are not proprietary trading? Are there activities for which rebuttal should not be available? Should rebuttal be available for specified categories of activity? Could the rebuttable presumption provision be implemented in a way that decreases the compliance burden for banking entities?

Regarding the sixty-day rebuttable presumption (haircut) for short-term trading accounts, it does not mean banks are forbidden to hold securities inventory for longer sixty days. The current enforcement practice does expect banks to justify such positions with appropriate articulations. This sixty-day haircut approach was probably incorporated into the law for the sake of convenience or under lobbyists' pressure to do away with RENT-D (please refer to our response to Question B.1 regarding the proper way to implement RENT-D and a discussion about fragmented liquidity).

Given that there is a better way to implement RENT-D, a generalized "guilty until proven otherwise" clause would be a good substitute for the sixty-day haircut approach (i.e. trades that are not qualified for the respective Volcker exemptions would be deemed to be proprietary trading). Unless [footnote 711 on 79 FR 5592](#) is removed to allow for a transaction-by-transaction approach to scrutinize trade activities, policy makers should stand firm on having a "guilty until proven otherwise" clause or rebuttable presumption. If transaction details are unavailable and the "rebuttable presumption" is removed, then it would be impossible to identify irregularities and catch rogue [bank alchemists](#) through the use of flawed metrics reports. Remember: JPMC invented the most widely used [VaR](#) metrics but misused its risk-measurement to hide massive loss (see [this](#)).

[Deutsche](#)'s honest disclosure of their insufficiency in Volcker compliance is a rare exception. Enforcement solely based on an "honest system" might foster misguided behaviors, such as dodging regulatory oversight and/or a "catch me if you can" mentality. Wrongdoers may even treat regulatory settlement costs as a "learning cost" to "confine" the scope of compliance improvements (see [this](#)), instead of proactively adopting risk management best practices. If regulators are being sloppy, delaying enforcement with an "I'll be gone (IBG) and you'll be gone (YBG)" mentality, and if policy makers adopt a see-no-evil/hear-no-evil attitude toward disruptions in financial stability, then the officials-in-charge may as well include their names in the [Rogue's Hall of Fame](#).



4. What additional activities, if any, should be permitted under the proprietary trading provisions? Please provide a description of the activity and discuss why it would be appropriate to permit the activity, including supporting data or other appropriate information.

This question almost seems to invite suggestions for opening backdoors or adding loopholes to the rule. There ought to be more emphasis on: (i) any proposed change not being in conflict with the policy objective – i.e. speculative risks are uninsurable for FDIC insured banks; (ii) proposed change only being considered if existing law creates an “extreme hardship” situation for a particular group; (iii) change being fair to all stakeholders instead of showing favoritism to any particular group; (iv) change being accompanied by risk assessment and identification of any new threat it might introduce to financial stability; and (v) cost and benefit justification in administering the proposed change, and an explanation of how the proposed change would serve the longer-term goals of safety and soundness.

That being said, we do see one possible new Volcker exemption that will fit all of the above five principles – a concept we call “Stress RENT-D.” It addresses the dilemma of market-making banks only being willing to provide liquidity in good times, but not in bad times. Allow us to take a step back and refer to our response to Question B.1, “The biggest threats to financial stability are the result of many small incremental exploitations or hedges and/or commitments that accumulate into outsized bets or bubbles (i.e. exceed RENT-D).” Banks are concerned about significant trading losses in volatile markets. More so, bank executives are concerned about public accusations that they profit from crisis situations. As a result, many banks display risk averse behaviors in such situations. They choose to reduce exposure or do nothing at the time of a crash (see [this](#) and [FCA research findings](#)).

Who is going cry “foul” when there is a market-wide bubble of “unreasonable” trade activities? And after crying foul during a stress/crash situation, who should inject liquidity into the market? In our opinion, FSOC voting members are in the best position collectively to determine when might be the right time to declare a “Stress RENT-D” situation. This is a situation in which timely injection of liquidity into the market is essential to prevent a taxpayer bailout of the financial sector. The following describes how it would promote financial stability.

Per our suggestion in Question B.1, regulators can take the inputs/parameters in the standardized RENT-D calculator to analyze against actual market conditions. It will help regulators assess market dynamics in real-time (e.g. macro view of toxic asset distribution, who is standing by to provide liquidity, and who is under squeezed). Upon the declaration of “Stress RENT-D,” all market-making banks are allowed to be opportunistic to seek proprietary gain (under the new exemption) if they “promptly” inject “sufficient” liquidity into the market. In turn, more diversified players are willing to engage and stabilize the market.

The advantage of this “Stress RENT-D” approach is its efficiency as a rescue, while the accompanying risk is that market-making banks can make hefty profits during a stress/crash situation. Therefore, FSOC members must closely monitor the restoration of order to the marketplace and appropriately time when the “Stress RENT-D” period should end. Again, “Stress RENT-D” is a mechanism to rectify the adverse behavior of banks withdrawing liquidity in bad times. The new exemption serves as an incentive to foster a quick self-healing of the financial sector, so a distressed bank will not devolve into the bigger problem of a taxpayer bailout.



5. How could the existing exclusions and exemptions from the proprietary trading prohibition—including the requirements for permissible market-making and risk mitigating hedging activities—be streamlined and simplified? For example, does the distinction between “market-maker inventory” and “financial exposure” help ensure that trading desks using the market-making exemption are providing liquidity or otherwise functioning as market-makers?

First and foremost, a market-maker is “a firm that stands ready to buy and sell a particular stock on a regular and continuous basis at a publicly quoted price,” according to the [SEC](#). Hence, it is an “obligation” for market-making banks to perform their “duty” to provide liquidity. As mentioned in our response to Question B.4, banks should only be “incentivized” promptly to inject sufficient liquidity into the market during rescue in a stress/crash situation.

To ensure market-makers are indeed functioning as they should, please refer to our response to Question B.2 for an extended discussion of the topic. In short, the provision of market-making services and market-makers’ revenues and costs must be aligned. Steven and Steven’s [empirical research](#) reveals that market-makers use well-timed (poorly-timed) trade to exploit customers (compromises on best execution) for proprietary gain.

To prevent banks from using the Volcker Market-Making exemptions as a convenient excuse to hide away any impermissible proprietary trading activities, banks must use rigorous tests to defend their trades as “qualified” for the exemption. Again, per our response to Question B.2, various factors can be added into a quantitative scoring model to be weighted-in, where suspicious activities would be red-flagged for further investigations.

The best approach to streamline the process and ensure consistency in qualifying trades for the respective exemptions (i.e. Market-Making, Underwriting, Risk Mitigating Hedging, and Liquidity Management) is to automate. Our patent pending “filtering mechanism” is best implemented in a utility platform. The concept is similar to an email spam filter (please refer to our suggestion in Question D.6 to see how it works.) Please refer to our response to Question D.7 regarding the advantages of using technology-based compliance systems when establishing and maintaining reasonably designed compliance programs. To learn more about our patent pending Volcker compliance solutions, please visit: <http://www.databoiler.com/volcker.htm>

The Volcker compliance challenges can be solved through three easy steps – optimization, filter, and speed (see [this](#)). We envisage implementing the solution in a utility platform. It would yield substantial savings as compared to individual banks implementing their own alternatives to meet compliance requirements (see [this](#)). Not only will it enhance consistency, the more the system is used the better it will get – this is accomplished through active learning (the continuous engagement of participating banks with the utility platform). It will improve the safety and soundness of the banking system and promote financial stability. We will be glad to discuss further specifics with the regulators, industry groups and banks, and/or testify in front of Congress upon request. We believe innovative RiskTech and concrete risk control improvements would be a desirable option to resolve this regulatory reform challenge.

To simplify the process of independent testing/enforcement, flawed metrics and unnecessary compliance burden about risk culture must be eliminated. Per our response to Question A.2, examining the effectiveness of controls should not rely on soft aspects, but hard facts and actual outcomes. Also, per our response to Question B.2, non-transparency is indeed the fatal problem with [Central Risk Book](#) (CRB), “fictitious” hedges making the bank’s risk limits exposure look much smaller. Similar issues recurred in 2012 at [JPMC](#). The bank



“mischaracterized high risk trading as hedging,” resulting in a \$6.2 billion trading loss. So, there is no point in wasting valuable time in arguing the needy-greedy of CRB risk model algorithms if regulators are not going to trust these models, especially in times of stress. By taking away all the non-essential “long essay” questions from a regulatory review or independent testing process, the validation of compliance can be as straight forward as a “Multiple Choice” exam using a vulnerability scan (see [this](#)).

6. How could additional guidance or adjusted implementation of the existing proprietary trading provisions help to distinguish more clearly between permissible and impermissible activities?

RENT-D, without a transaction-by-transaction analysis to qualify exemptions, is indeed opening the backdoor for rogue traders to use synthetically create trades to [circumvent controls](#) (abusive use of [financial engineering](#)). Fortunately, there is the Backstop provision to serve as a catch-all clause. Therefore, an essential adjustment to the implementation of the existing proprietary trading provisions is to remove [footnote 711 on 79 FR 5592](#). Per our response to Question B.1, monitoring compliance with flawed metrics is ineffective. Our responses to Question B.2, B.5 and D.6 have showcased how a transaction-by-transaction approach can efficiently and effectively be implemented through an automated compliance and risk control system. Innovative RiskTech, together with concrete risk control improvements, is a desirable option to resolve this regulatory reform challenge.

In terms of additional guidelines, the Federal Reserve’s [FAQ](#) can refer to Steven and Steven’s [empirical research](#) as way to affirm suspicious activities are truly proprietary trading. Again, per our response to Question B.2, the definition of “exploit” is: instead of [best execution](#) on behalf of the customer, the bank’s trading activities might be in conflict with the customer’s best interest. It is not how the market-making bank “claims” the trades were dealing with a customer or counterparty; rather, the trade data would reveal, with consistency, whether the bank was “in-effect” acting in the best interest of the customer rather than treating the party as a counterparty (i.e. without fiduciary responsibility).

Also the FAQ guideline should emphasize that, regardless of how large or small the financial exposure in each exploitative act might be, the inappropriate behavior or violation must be curbed immediately. This is because many small incremental exploitations or hedges and/or commitments can accumulate into outsized bets or bubbles. Exploitation can be described as “mischaracterized high risk proprietary trading as market-making or hedges,” while banks can further be charged for allegedly violating the RENT-D provision if they are discovered to have any “out-of-proportion”/ “unreasonable” trade activities

7. Are there any other issues related to the proprietary trading prohibition that should be addressed by regulatory action?

The public is still awaiting the regulatory authorities properly to follow through on the investigation of Credit Suisse’s 2016 one billion dollar trading loss. The case was widely publicized, with headlines such as “[CEO blindsided about bank added to risky positions.](#)” Should the case be considered as exceeded limit of RENT-D? How would the CEO’s attestation be valid concerning their compliance with the Volcker Rule? There are many more [questions raised by Senator Jeff Merkley](#) that remain unanswered. Regulators should take enforcement action on the case in due course.



C. Questions on the Covered Funds Prohibition

1. What evidence is there that the final rule has been effective or ineffective in limiting banking entity exposure to private equity funds and hedge funds? What evidence is there that the covered fund definition is too broad in practice?

It is odd for the question to isolate private equity funds (PEFs) and hedge funds (HFs) when the definition of covered fund is much broader than that. It is also odd to ask whether this part of the rule is effective or not, when it is highly doubtful that any banks can have absolute assurance of their full compliance with the entire covered fund provision. Those banks that use Bloomberg's covered fund identifier (CFID) product for compliance should be well aware of the limitation of using [CUSIPs](#) as the sole matching criterion. Covered funds consist of many more instruments and investment vehicles that do not have CUSIP.

The effectiveness of such automated CUSIP matching tools was condemned by the Federal Reserve's [FAQ#17](#) and this SIA's [briefing note](#). To fill the gap in what cannot be achieved by automation thus far, banks have manually to go through countless offering documents, redemption notices, audited financials, etc. to discern what are, or are not, covered funds. It probably is an unfinished multi-year project if banks are pursuing the [task](#) on their own efforts. Business Process Outsourcing (BPO) can expedite the process and ease the compliance burden by sharing costs among banks ([SIA](#) estimated the covered funds review process would cost \$15 million or more for a major financial institution).

Regardless of banks' like or dislike for the scope of the covered fund provision, the number of commonly used corporate entities that are not traditionally thought of as hedge funds or private equity funds, such as wholly-owned subsidiaries, joint ventures, and acquisition vehicles, are subjected to the covered fund restrictions of section 13 of Bank Holding Company Act (BHA). This essentially shut most, if not all, of the backdoors to circumvent the rule. The broadness of the covered fund definition has its advantage – it forces banks to make the decision to exit HFs and PEs businesses. It shifts much of the proprietary trading risk away from the banking system. In that respect, the final rule is very effective.

Many former bankers indeed join or start their own HFs/PEs that, surprisingly, has a positive effect on the market with more diversified players. Though some bank alumni at HFs/PEs do receive sponsorship money (up to 3%) from their old employers, suggesting implicit control by banks (at arm's length), there are rules (Super 23A/23B) guiding affiliated transactions. To curb [bank alchemists](#) from circumventing the rule, the covered fund definition has to be broad enough to scrutinize who might be behind the scenes involving the banking entities in high-risk proprietary trading, as well as their investment in, sponsorship of, and other connections with, entities that engage in investment activities for the benefit of banking entities, institutional investors and high-net worth individuals.

It is essential to preserve the comprehensiveness in defining the scope of covered funds, while we do agree the related compliance process is definitely tedious. Supervisory agencies (especially foreign regulators) have not taken a tough enough stand to curb the "creativity" of using different investment vehicles or corporate structures to circumvent controls or laws since the [Enron scandal](#). The matter is equivalent to the abusive use of [financial engineering](#) – a lot of harm can be done if the problem is not thoroughly addressed. Now is the time to clean up this long-outstanding mess with due diligence.



2. Would replacing the current covered fund definition that references sections 3(c)(1) and 3(c)(7) of the Investment Company Act of 1940 with a definition that references characteristics of the fund, such as investment strategy, fee structure, etc., reduce the compliance burden associated with the covered fund provisions? If so, what specific characteristics could be used to narrow the covered fund definition? Does data or other appropriate information support the use of a characteristics-based approach to fund investments?

This question raised by the current OCC administration seems disrespectful to the agencies' officials who duly reviewed the exact same issue in the final rule and rightfully declined the lobbyists' proposal (footnote 1669 of the final rule) to "define covered fund by reference to characteristics that are designed to distinguish hedge funds and private equity funds from other types of entities that rely on section 3(c)(1) or 3(c)(7) of the Investment Company Act." If there is new evidence to consider, then the question ought to focus on the specifics for a meaningful solicitation of public comments and constructive debates.

To reiterate the conclusion of the final rule: "The Agencies have carefully considered all of the comments related to the definition of covered fund ... In the final rule, the Agencies have defined this term (covered fund) as any issuer that would be an investment company as defined in the Investment Company Act but for section 3(c)(1) or 3(c)(7) of that Act with a number of express exclusions and additions as determined by the Agencies...The Agencies believe this definition is consistent with the words, structure, purpose and legislative history of section 13 of the BHC Act."

The policy objective is to divest the banking system of toxic assets to make banks healthier. The rule and related extension have already considered the practical challenge for a stable run-off of illiquid funds. Instead of divesting, banks have the option of converting certain complex investment vehicles from relying on a 1940Act 3(c)7 exemption to, for example, a 3(a)7 exemption. The SEC 3(a)7 exemption "exempts issuers of asset-backed securities the payments on which depend primarily on cash flow from a largely static pool of eligible assets that are not bought and sold for the primary purpose of recognizing gains or losses resulting from market changes." Such restructuring indeed addresses a bank's "market risk" and synchronizes with the policy objective. The final rule has been generous instead of pushing for divestment in absolute terms. So, do not attempt to water down the rule by changing the covered funds' definition.

Reducing the compliance burden cannot be in any way contradictory to the purpose of section 13 (to limit the involvement of banking entities in high-risk proprietary trading, as well as their investment in, sponsorship of, and other connections with, entities that engage in investment activities for the benefit of banking entities, institutional investors and high-net worth individuals.) Therefore, the reading and interpretation of the existing statutory provision pertaining to "covered funds" should be preserved. Referring to our response to Question C.1, for the proper way to streamline and expedite the compliance process is through BPO.

3. What types of additional activities and investments, if any, should be permitted or excluded under the covered funds provisions? Please provide a description of the activity or investment and discuss why it would be appropriate to permit the activity or investment, including supporting data or other appropriate information.

No additional activities and investments should be permitted or excluded under the covered funds provisions. This is because the final rule already provides viable options/exemptions (see the example in our response to Question C.2) to prevent any "extreme hardship" situation with regard to divestment of covered funds.



4. Is Section 14 of the final rule (the “Super 23A” provision) effective at limiting bank exposure to covered funds? Are there additional categories of transactions and relationships that should be permitted under this section?

The provision is called “Super” 23A because it prohibits “all” covered transactions (rather than those subject to certain quantitative and qualitative limits) between banking entities and affiliated covered funds. Some may say the Super 23A provision is “over” effective because it greatly expands the restrictions on transactions to all affiliates of a “banking entity” as if these were banks.

However, if the policy objective is to divest the banking system of toxic assets to make banks healthier, then “Super” 23A is a commendable provision to enable banks to be more diligent to discern what is, or is not, a toxic transaction. The inadvertent side effect – who is going to pick up these covered funds and/or unwanted assets from bank and affiliates, given banks can no longer “internalize” troublesome transactions? This is indeed a point for Congressional debate, while the regulators’ job is to carry out enforcement smoothly and properly.

5. How could additional guidance or adjusted implementation of the existing covered fund provisions help to distinguish more clearly between permissible and impermissible activities?

In terms of additional guidelines, the Federal Reserve’s [FAQ](#) can use the fourteen scenarios included in this [presentation](#) (page 45-58) to showcase the proper treatment of bank affiliate transactions.

6. For example, should the final rule be revised to clarify how the definition of “ownership interest” applies to securitizations?

Ownership interests in specific secondary trading instruments ([ABS](#), [CLO](#), [CDO](#)) have already been reviewed and considered diligently by agencies’ officials under the final rule. No further revision or clarification is necessary.

7. Are there any other issues related to the covered funds prohibition that could be addressed by regulatory action?

The heaviest compliance burden among all requirements of Volcker is that banks have until 2022 to off-load the remainder of the \$66 billion (per [OCC analysis of 12 CFR Part 44](#)) of toxic/illiquid covered funds that they still hold. A stable run-off is easier said than done, and the challenge is not any easier than the Federal Reserve shrinking its balance sheet to end [quantitative easing](#). It may be a crowded market when everyone rushes to off-load these assets as it draws closer to the 2022 deadline. The sooner banks can get rid of these toxic positions, the less capital surcharge for them. However, some bankers with an IBG/YBG mentality are averse to the risk of loss, so defer sales decisions. They need the right market environment and execution skill, so the sell orders will not result in a huge loss or potential crash. As a result, a downward sell pressure is still shadowing the market for certain illiquid covered funds.

Regulators should take action periodically to check on banks’ progress, intervening as appropriate (in a confidential manner) to facilitate the orderly liquidation of these toxic assets by banks. By all means, regulators cannot let banks flood the market with all these toxic assets at the same time, or else we face the consequences of a potential market crash.



D. Compliance Program and Metrics Reporting Requirements

1. What evidence is there that the compliance program and metrics reporting requirements have facilitated banking entity compliance with the substantive provisions of the Volcker Rule? What evidence is there that the compliance program and metrics reporting requirements present a disproportionate or undue burden on banking entities?

Per [OCC interim exam procedures](#), banks should have “a system of internal controls reasonably designed to monitor compliance with and to prevent the occurrence of activities or investments prohibited by the regulations.” In fact, “a system of internal controls” is not really a “system” per se, but stacks of useless documents (see [this](#)). Many resources were wasted in compiling unimportant policies and procedures (e.g. bragging about how well the board and senior management have governed the bank with a superb risk culture). They babble with fluff and buzzwords borrowed from a number of supervisory objectives and risk concepts and digressions (point to other regulatory compliance priorities).

As mentioned in our response to Question A.2, examining a bank’s risk culture or governance policy is unnecessary with respect to Volcker compliance. According to the [2008 SocGen case](#), the bank failed to prevent unauthorized trades totaling \$72 billion despite its former CEO having bragged about their culture and internal control strengths. Organizational culture, the prominent background of the person-in-charge ([Madoff investment scandal](#)), and well-articulated governance documents can all be untrustworthy.

That being given, some banks do take Volcker compliance as an opportunity to improve their enterprise risk management ([ERM](#)). For “system” enhancements, they beseech regulators to give them more time to overhaul the legacy and do [BCBS239](#) risk data aggregation. In reality, they are just scrambling to pull data for metrics reports. This is majoring in the minors, implementing anything concrete to prevent Volcker prohibited activities.

Banks may counter-argue by monitoring compliance through [Central Risk Book](#) (CRB). They fantasize over the abilities of advanced risk models. However, the usefulness of CRB functionalities (to assess risks across asset classes, geographic locations, and dynamic hedge risky positions, etc.) depends on the quality of data. Also, the sophisticated model algorithms are hard to decipher. The risk modeling approach may involve machine learning and other innovative methods, but regulators have already warned banks about some of these hypes (see [this](#)). Banks have teams of PhDs to drag regulators into pointless arguments about the needy-greedy of their models and related limitations.

As mentioned in our responses to Question B.2 and B.5, slick practices in the [UBS](#) and [JPMC](#) cases have tarnished the trustworthiness of the banking sector to reliably assess risks and to provide accurate, complete, and timely information to the regulators. The UBS management, back in 2011, was looking at the “net” risk exposure instead of the breakdown, while JPMC changed their risk model calculations to hide massive losses during the 2012 case. The mandate of JPMC’s Chief-Investment-Office was to hedge and reduce the bank’s exposure, but they were indeed exposed to more than 100 synthetic derivatives. When losses accumulated and pressure heightened, control limits were breached over 300 times. “Fictitious hedges,” “overly complex to unwind,” “no tangible way to stop loss,” “disregarded risk,” “hid massive losses,” “lack transparency,” “dodged OCC oversight” – are these not sufficient evidence to debunk the elusive claims of CRB advanced risk models?



To facilitate banking entity compliance with the substantive provisions of the Volcker Rule, the “System of Internal Controls” (compliance program) ought to focus on the hard facts – how banks’ “preventive” controls would address the following issues:

- How banks determine “reasonableness” in securities inventory each day.
- How banks distinguish permissible versus prohibited trade activities, and how banks prevent rogues from bypassing controls.
- How banks monitor the banking entity’s investments in, and transactions with, any covered funds.

Please note the emphasis is on “prevention” (ex-ante), not after-the-fact investigation (ex-post). Therefore, banks should identify suspicious activities among all transactions, anticipate if small incremental exploitations, hedges and/or commitments may accumulate into outsized bets or bubbles, and stop the occurrence of impermissible activities ahead of time. Please refer to our suggestions in Question B.1-3, B.5-6, C.1, and D.6 for ways effectively to deal with these three compliance challenges.

2. How could the final rule be revised to reduce burden associated with the compliance program and reporting requirements? Responses should include supporting data or other appropriate information.

The unnecessary compliance burden within the Volcker Rule is mainly the requirement to request banks to submit metrics reports. These reports are useless and irrelevant to curb banks’ proprietary trading activities. Referring to the [2012 JPMC trading loss case](#), JPMC invented the most widely used [VaR](#) metrics but misused its risk-measurement to hide massive losses (see [this](#)). Monitoring compliance through flawed metrics instead of a transaction-by-transaction approach to trade surveillance is the biggest mistake of the final rule, causing non-transparency. Please refer to our responses to Question A.2, B.1-3, B.5-6, and D.1 for more information.

Continuing from the discussion in our response to Question D.1, anything off-topic to these three bullet points would be irrelevant, or insignificant, in the context of Volcker compliance:

- How banks determine “reasonableness” in securities inventory each day.
- How banks distinguish permissible versus prohibited trade activities, and how banks prevent rogues from bypassing controls.
- How banks monitor the banking entity’s investments in, and transactions with, any covered funds.

Taking away all unnecessary reviews and metrics reports would shift substantial burden off banks and examiners. As explained in our response to Question A.2, examining a bank’s risk culture, governance policy, and other soft aspects is unnecessary in the context of Volcker compliance. [SocGen](#) failed to prevent unauthorized trades totaling \$72 billion in 2008 despite the bank’s CEO bragging about their culture and internal control strengths. Well-articulated governance documents can be untrustworthy. Given that, there should be no more review of useless “documents,” but a change in the process to [demonstrate](#) and [verify](#) compliance through a more “transaction-based” study of:

- How many suspicious transactions were picked up by a bank’s preventive system.
- The investigative results of these suspicious activities.
- The turnaround time in resolution of cases.
- How issues would be timely escalated and acted upon, etc.

Automated trade surveillance is better than hiring an army of compliance officers to invade the trading desks’ operations. Instead of back and forth arguments on papers, warnings of suspicious activities will be populated



by the system. Bankers can devote their valuable time to risk treatment, rather than preparing reports passively to document trading losses and/or control breaches. Please refer to our responses to Questions D.6 and D.7 for more information.

3. Are there categories of entities for which compliance program requirements should be reduced or eliminated? If so, please describe and include supporting data or other appropriate information.

Small community banks (less than \$10 billion in consolidated assets, not market-makers, having no significant trading business) could possibly be released completely from the existing Volcker Rule requirements. Instead, they should be regulated so that they will lose access to FDIC insurance if [negative confirmation](#) or investigations shows that the bank is, indeed, active in speculative trading. The inherent risk for them to do something out-of-whack is low, because they have little “capacity” to engage in highly leveraged trades, and their possible trading losses will not be substantial enough to create significant volatility in the market. Sadly, they are dispensable (i.e. possible bankruptcy will not be disruptive to the medium-term economic performance), so they will not require a taxpayer bailout if they fail. Please see our response to Question A.2 for further discussion.

4. How effective are the quantitative measurements currently required by the final rule? Are any of the measurements unnecessary to evaluate Volcker Rule compliance? Are there other measurements that would be more useful in evaluating Volcker Rule compliance?

Many suggest using [Expected Shortfall](#) to replace the Value-at-Risk (VaR) measurements. VaR is flawed because of its inherent problem of not being able to tell when a situation might develop, nor is it able to adjust for situational idiosyncrasies, and VaR is often too normalized, so that it over-fits the model (see [this](#)). In the meanwhile, banks are computing and reporting VaR and Stress VaR consistently with Fed Reg. Capital requirements ([12 CFR Part 208](#) and [225](#)).

Yet, banks face computation challenges, including the determination of stressed period/dynamic re-calibration, and there are additional complications for foreign banks (e.g. “EU institution may have an exception, where a different stressed period at a subsidiary’s level may be determined if the stressed period defined for the group is not considered relevant to the subsidiary’s portfolio.”) In short, the above proves that Volcker compliance cannot be effectively dealt with using metrics. Per our suggestion in Question D.2, the compliance process should change to a more “transaction-based” study of:

- How many suspicious transactions were picked up by a bank’s preventive system.
- The investigative results of these suspicious activities.
- The turnaround time in resolution of cases.
- How issues would be timely escalated, and acted upon, etc.

Metrics should be a logical outcome of a robust [risk control/trade surveillance system](#). It should not be the other way around – regurgitating data, aggregating information of different trading desks (e.g. distortion caused by adding inventory turnover rate of derivative desks to the mix of equity and fixed income desks’ calculation), and convoluting the calculations with a number of subjective assumptions, etc. Nevertheless, [Footnote 711 on 79 FR 5592](#) should be removed, so preventive measures can be implemented in replacement of the existing flawed metrics.



- 5. How could additional guidance or adjusted implementation of the existing compliance program and metrics reporting provisions reduce the compliance burden? For example, should the rule permit banking entities to self-define their trading desks, subject to supervisory approval, so that banking entities report metrics on the most meaningful units of organization?

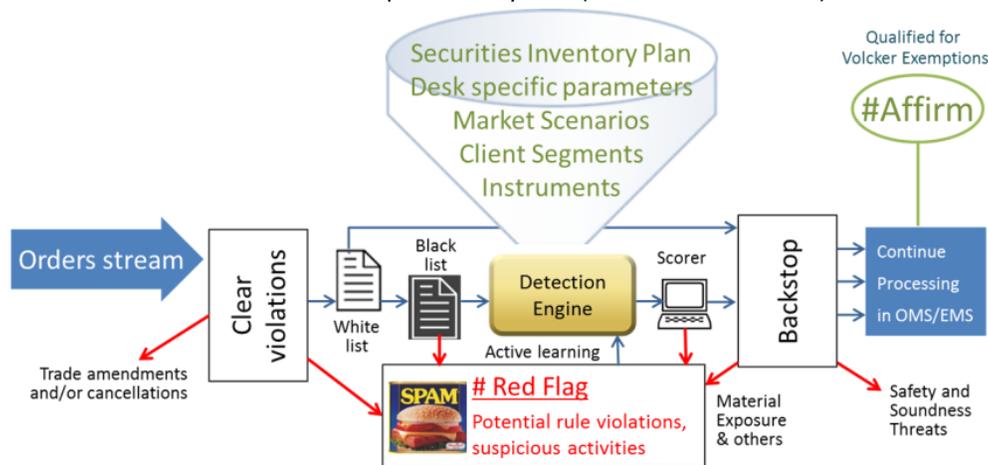
How can regulators entrust banking entities to self-define their trading desks, given what happened in the [2012 JPMC trading loss case](#)? JPMC’s Chief-Investment-Office (CIO) was meant to execute long-term hedges to reduce the bank’s risk. In reality, one trading desk within CIO, called Synthetic Credit Portfolio (SCP), was making small incremental speculative bets. SCP increased tenfold in 2011 and tripled again in early 2012 to \$157 billion. The trades consisted of more than 100 synthetic derivatives – and were too complex to unwind, with no tangible way to stop losses. Thus, regulators should not allow banking entities to self-define their trading desk.

In terms of additional guidelines, US regulators may want to collaborate with their international counterparts to synchronize ways to determine stressed period/dynamic re-calibration. After all, [Footnote 711 on 79 FR 5592](#) should be removed, so preventive measures can be implemented in place of the existing flawed metrics (please refer to our responses to Question A.2, B.1-3, B.5-6, and D.1 for more information).

- 6. How could the final rule be revised to enable banking entities to incorporate technology-based systems when fulfilling their compliance obligations under the Volcker Rule?

[Footnote 711 on 79 FR 5592](#) should be removed, so the industry could adopt the “correct” technology-based systems to fulfill their compliance obligations under the Volcker Rule (please refer to our response to Question D.7 for the “incorrect” technologies of Volcker compliance). To implement a “system of internal controls reasonably designed to monitor compliance with and to prevent the occurrence of activities or investments prohibited by the regulations,” trade surveillance must be automated.

Envision a mechanism similar to an email spam filter system (see below illustration).



All clear violations (e.g. short selling for liquidity management, use of OTC derivatives for underwriting, etc.) are immediately treated as spam to block from further processing. Then the orders stream goes through a



comprehensive algorithm to distinguish the prohibited proprietary trades from the permitted hedging, market-making, and underwriting activities. It automatically red-flags and quarantines transactions that are not in clear violation or legitimately clean. It preserves a full audit trail of all released approvals and incorporates a final quality assurance (QA) check for Backstop provision.

A “White List” in the algorithms specifies particular trade types and instruments that are carved-out from prohibited proprietary trading activities. As a result, repurchase agreements (or reverse repurchase agreements) for commercial banking transactions, for example, will by-pass all other checks to go directly for a Backstop final QA. The Backstop provision will examine repurchase agreement transactions as if they may result in “an effect” of synthetic short sales for the appropriate red-flag, and prevention of other threats and/or material exposure.

As opposed to the “White List,” the “Black List” defines what is not. Let’s look at an example about market-making. The algorithms should determine when and what inventory levels are “inappropriate” for market-makers. In other words, orders that are beyond the reasonable expected near-term demand and passively provide liquidity under the rule’s appendix B need to be red-flagged. To establish the proper basis with valid assumptions for what is considered “reasonable,” one would make predictions based on different liquidity scenarios. One must study the buying behaviors of one’s clients, customers, and counterparties, different market scenarios, and which trade instruments to use. In short, a “standardized RENT-D calculator” helps develop and substantiate a “reasonable” securities inventory plan (see our response to Question B.1 for an elaborated discussion).

Moving on to the filtering (Red-flagging) algorithm, it is basically a “pattern recognition” tool used to quantify matters into a scoring model. Red-flagging and quarantining suspicious transactions will depend on the sufficiency of signals picked up by many connected computers. This low-latency system has the advantage over humans due to its objectivity and consistency. More importantly, it is extremely fast and cost-effective, so it will save banks “a lawyer, a compliance officer and a doctor for each trader to detect traders’ intents” (see [this](#)).

If there is concern about any consistent formula application potentially being reverse-engineered by rogue traders to bypass the system, consider the beauty of our crowd computing method for dynamic upgrades. The evolving system will benefit from the crowd collective intelligence in outsmarting the hackers. It is a machine that assimilates knowledge quickly from every move of its users. The more data are fed into it, the better it gets. This is better than a human employee, who may be succumbed to external pressures, holding a particular blueprint.

If one feels the implementing of this solution in a utility platform may expose one’s trading strategies to other participants in the network, there are obfuscation techniques for necessary protection. Introducing randomness to resist pattern recognition, making it incompatible, separating and scrambling and/or aggregating rollup are effective mitigation methods. Alternatively, our patent pending algorithms can be implemented individually to a bank at a higher cost. However, the days of proprietary strategies are gone; regulators use an entity’s best practices to challenge others to follow. After all, it is all about the “design.”

The Volcker rule has specified that it is not regulating how revenues are actually generated, but how the activities are “designed to generate revenues primarily from fees.” Therefore, a true Volcker rule compliance



solution encompassing demand forecast and filtering algorithms cannot go without advanced analytics (see our suggestion in Question B.1 for RENT-D calculation methods). Also, the system will need workflow processes to alert and escalate the handling of suspicious transactions, as well as document any released approvals and change of course actions to the securities inventory plan. The crowd is always going to be smarter than any individual effort to enforce Volcker rule compliance.

Following is an example of how proprietary trading should be diligently reviewed:

This is a question from a Financial Times' reader in 2015: "Suppose a bank sold a client a 7-year government bond. Then it hedged that sale by buying a future on a 10-year bond. Is that providing liquidity to the client? Or is it a bet on prices falling at 7 years and rising at 10?"

And this is our respond:

- i If the instrument is a US government or agency bond, then it would be on the "white list" of our system for specifically precluded items under the Volcker regime.
- ii Despite certain categories of activities being carved-out under the "white list," Volcker may use the "Backstop provision" to catch speculative activities that may become threat(s) to US financial stability (see points viii-x for further elaboration).
- iii Let's assume this scenario does not fall under points i and ii above and we are not dealing with sovereign debt. Then, there is no point in hedging when the security has already been sold to a "client" and the bank does not have this in inventory. The client should now hedge the 7-year debt exposure rather than the bank. It does not look like a legitimate hedge to me, but let us examine the case a bit further. (Please also see point xi)
- iv The scenario looks more like a "bet" on a steepening yield curve and using the sale of the 7-year to finance the 10-year. The trade would likely be red-flagged in our system and subject to further review by the risk and compliance team.
- v Note the maturity mismatch and basis risk in the transaction. Normally a delta hedge would buy a combination of a 5-year and a 10-year to match the "delta" and "duration" of the 7-year debt exposure. Risk/compliance officers may use this to challenge the trader for potential violation.
- vi Furthermore, banks need strictly to follow §_5(b) of the rule to qualify for risk-mitigating hedge exemptions. Following are highlights of some of the challenges: §_5(b)(1)(ii) "... on-going monitoring...", (iii) "... independent testing... such correlation analysis demonstrates ...," (2)(ii) "At the inception of the hedging activities...", (iv)(C) "Requires ongoing recalibration." Regulators may simply challenge this trade as a hedge if there was not pre-registering of the hedge at inception.
- vii Assume the bank does make a market on the 7-year bond. The specific 10-year future hedge is not necessary unless the bank is now net short due to an increase in client demand that was not forecast by RENT-D. A hedge will then be needed to limit the short exposure. As mentioned in point v though, the hedge should match both delta and duration.
- viii Let's assume the trader is able to get the future trade to pass through every test on our "white list/black list" and "detection engine," the transaction would still face the Backstop final QA check.
- ix If the trade hits the material exposure trigger in Backstop QA, then it would be red-flagged.



- x If this is not an isolated incident but a recurring pattern where the bank keeps selling the debt instrument to clients while shorting the position themselves, then it may hit the conflict of interest trigger and be red-flagged.
- xi Much more can be said about our checking mechanism, but let's briefly talk about the concept of "clients" versus "non-clients" as a final remark. Banks may classify a trade as dealing with "counterparties" when they want to escape the fiduciary responsibilities for a "client." On the other hand, banks may classify a trade as dealing with "clients" for the ease of qualifying for the Volcker Rule exemptions. Those who think they are "too smart" and can bypass the Volcker controls through a flipping-switch between "clients" versus "non-clients," be warned. Such acts may be considered a willful violation.

There are multiple factors and scenarios to discern whether a trade is permissible or prohibited. It is beyond human capability manually to monitor millions of these trades in real-time. Therefore, banks should leverage the help of technology-based compliance systems to prevent Volcker violation.

In summary, VR Machine is our suite of patent pending solutions designed specifically for the Volcker Rule proprietary trading ban compliance. It addresses the following problems:

- How banks determine "reasonableness" in securities inventory each day.
- How banks distinguish trade intents when both permitted and prohibited trades may involve taking principal positions.
- How banks ensure financial stability and prevent rogue traders from bypassing the controls.

The Volcker Rule assumes all trades are proprietary unless banks can prove otherwise. Therefore, banks should show their calculations on how they come up with their ex-ante RENT-D forecast and compare it with the ex-post actual. Whether banks use an agent-based stochastic model and/or historical projection through optimization, there ought to be empirical grounds. The totality of the following three offers would facilitate banking entity compliance with the substantive provisions of the Volcker Rule – proprietary trading ban:

RENT-D Calculation (Inventory Control)

- ✓ Algorithms with empirical backing that generate comprehensive RENT-D/ Securities Inventory Plans
- ✓ Include: (1) historical projections and outliers justification; (2) scholastic models that do not follow historical projections; (3) customized parameters to fit different trading desk natures

Independent Testing (Vulnerability Scan)

- ✓ Validate the correct usage of exemptions. Identify proprietary trades that may have slipped through a bank's compliance program
- ✓ The one and only essential proof of bank's compliance program effectiveness

Preventive System (Exemptions Qualifier)

- ✓ The market's only pre-trade risk control mechanism for Volcker compliance.
- ✓ A mechanism to red-flag suspicious trade activities and qualify exemptions with rigorous tests.

Please refer to our response to Question D.7 regarding the advantages of using technology-based compliance systems when establishing and maintaining reasonably designed compliance programs. To learn more about our patent pending Volcker compliance solutions, please visit: <http://www.databoiler.com/volcker.htm>



Regarding the covered fund provision, it is exceptionally difficult manually to determine whether a secondary trading instrument is a covered fund. Per our [suggestion](#) in Question C.1, Business Process Outsourcing (BPO) can expedite the process and ease the compliance burden by sharing costs among banks ([SIA](#) estimated the covered funds review process would cost \$15 million or more for a major financial institution).

To ensure risk from affiliates does not come back to haunt banks (i.e. monitor the banking entity's investments in, and transactions with, any covered funds), the industry as a whole may look into the asset gathering and fund distribution processes, and use behavioral science to ensure "exit only, no re-entry" – like "letting go" of bad habits/toxic assets. We will be glad to discuss further specifics with the regulators, industry groups, and banks, and/or testify in front of Congress upon request. We believe innovative RiskTech and concrete risk control improvements would be a desirable option to resolve this regulatory reform challenge.

7. **Could banking entities implement technology-based compliance systems that allow banking entities and regulators to more objectively evaluate compliance with the final rule? What are the advantages and disadvantages of using technology-based compliance systems when establishing and maintaining reasonably designed compliance programs?**

Yes, the "correct" technology-based compliance systems, if implemented appropriately, can allow banking entities and regulators more objectively to evaluate compliance with the final rule. It relies on the "fit-for-purpose" of these technologies. Again, the "System of Internal Controls" (compliance program) ought to focus on the hard facts – how banks' "preventive" controls would address the following issues:

- How banks determine "reasonableness" in securities inventory each day.
- How banks distinguish permissible versus prohibited trade activities, and how banks prevent rogues from bypassing controls.
- How banks monitor the banking entity's investments in, and transactions with, any covered funds.

As mentioned in our response to Question D.1, [ERM](#), [CRB](#), [BCBS239 risk data aggregation](#), [advanced risk model](#) would be the "incorrect" technologies (non-transparency, netting issue, fictitious hedges make bank's risk limits exposure look much smaller, noises introduction in process of aggregation, subjective assumptions to convolute calculations, etc.), unfit for the Volcker compliance requirements.

The contexts of the 21st Century risk management challenge are:

- i. Things happen too fast – risk defenses are not matching up with high frequency trading (HFT) and artificial intelligence (A.I.) algorithms;
- ii. Things are dynamically changing all the time – market stress comes suddenly, failures filled with surprises;
- iii. Resources are being drained – investigation is burdensome, and it can be difficult to reveal what is going on.



Weaknesses of the “Old” practices are:

OLD Risk Practices	Served Purpose	Shortfall
Risk Limits	Contain certain situations	Not able to catch intraday issues, and huge losses can be accumulated in a split second
Integrate risk controls into product design	Strong message to tell traders that I am watching you right from the get-go	Not able to detect possible bypass of controls that use synthetically created trades, breaches occur but remain hidden until problem gone haywire
Value-at-Risk (VaR) incl. other coherent risk measurements	Predict magnitude and probability of losses	Not able to tell when, not situational, not picking up insights from the field, VaR is too normalized/ over-fit model

The existing risk practices have largely broken, let’s fix it now!

It is great to hire top talents to improve risk and compliance controls, but the best will still fail if they are not equipped properly to deal with **sudden surprises**, such as these cases: [1](#), [2](#), [3](#), [4](#)). Metrics are not effective to deal with **rapidly evolving issues** proliferated by **hidden problems** and **silos**. To solve the 21st Century challenge, we need an **engineering approach** to solve [financial engineering](#) problems.

Advantages of the “NEW” – see our response to Question D.6 for an elaborated discussion of how it works.

NEW Risk Practices (optimize, filter, and speed)	Benefits	Problems Addressed
Use a “ reasonableness ” calculator	Enable consistency in applying empirical formulas and ensure high quality outputs (see B.1)	Determine reasonableness (the only rule to deal with market timing and microstructure)
Automate trade surveillance , rigorous tests to qualify for appropriate exemptions	Enable middle-office to matchup against front-office, enhance checks + balances	Distinguish trade intents (Note: market manipulation rules also rely on detection of intents)
Real-time, transactional-based study, active learning	Adaptive system that leverages crowd collective intelligence to win the race over rogue traders	Defend against violations (Objective, Pattern Recognition, Reduce Compliance Burden)

To curb abuses and unwind or resolve complex issues around synthetic trades, modern risk practices need to be more agile. What is more, to stop losses in a timely fashion, risk intelligence is critical.

Our patent pending invention also includes an improved way for pattern recognition that crosses over to apply concepts from music plagiarism detection (see [this](#)). It enables surveillance to be conducted in real-time (up to 50 milliseconds) rather than after-the-fact loss investigation. It helps to prevent synthetic trades that rogue traders may create in an attempt to by-pass the system and circumvent controls. It is faster, cheaper, and more accurate than measuring vectors graphically. We will be glad to discuss further specifics with the regulators, industry groups, and banks, and/or testify in front of Congress upon request.



To prevent financial institutions from digging into deeper holes (outsized bets or bubbles resulting from many small incremental exploitations or hedges and/or commitments that are hard to unwind), warnings must be duly acted upon. Automatic triggers can be set to notify senior management and/or regulators. The end-to-end processes are digitized to retain audit trails and ensure regulators will not be prevented from asking for more details – and that data can speak for itself to minimize intrusion.

Regulators may step in if there is any market-wide issue (across the broad purview of RENT-D and potential market crash). Please refer to our suggestion in Question B.4 regarding a concept called “Stress RENT-D.” Timely intervention among the industry and regulators would prevent another taxpayer bailout.

A good decision, made now and pursued aggressively, is substantially superior to a perfect metrics report come too late!

8. **What additional changes could be made to any other aspect of the final rule to provide additional clarity, remove unnecessary burden, or address any other issues?**

Large banks’ CEOs have already [attested](#) to their compliance with the Volcker Rule on or before March 31, 2016. False attestation can be criminally prosecuted, and different degrees of violations may be determined according to [this](#). However, it is highly doubtful that any banks can have absolute assurance of their full compliance with the entire final rule (see our responses to Questions C.1, B.1, 2, and 5 regarding the ineffectiveness of a covered fund identification tool and how the industry has yet to adopt risk control best practices).

That said, the CEO attestation provision is ineffective to push banks properly to advance their risk controls for Volcker compliance. Therefore, policy makers may want to change the approach, using both “carrots and sticks” to encourage or force banks to get serious on the topic (include implementing of a trade surveillance system in a utility platform, per our suggestion in Question B.5 and D.6). In our opinion, the entire financial industry ought to heighten its effort, as soon as possible, to address market risk in the face of the 21st Century challenge – abusive use of [financial engineering](#).

Sample testing can slightly improve the overall compliance level, but it only provides limited assurance on a small number of trades to check if they are tagged with the right exemption categories. Also, sampling is not an effective way to detect patterns, and rogues might use different instruments, fictitious hedges, or a series of combination trades to bypass scrutiny (see [2008 SocGen case](#)). We cannot emphasize enough that the biggest threats to financial stability are the result of many small incremental exploitations or hedges and/or commitments that accumulate into outsized bets or bubbles (i.e. exceed RENT-D). Banks are like [alchemists](#) and the devil is in the details. Without stitching details into the bigger picture, one can only “guesstimate” how much is at risk from complex synthetic trades.

The Federal Reserve might be majoring in the minors to criticize the “formality” of how risk appetite is set at [Deutsche](#). Instead, the priority focus should be on whether the bank’s [RENT-D/ securities inventories](#) are indeed “reasonable.” Banks may only want to stuff their trades into “market-making exemptions” in good times, but not be willing to bear market-makers’ responsibilities to regularly provide liquidity in bad times. “Selective timing” to get in-and-out of the market are indeed suspicious activities for Volcker violation (see Steven and Steven’s [empirical research](#)). Therefore, [footnote 711 on 79 FR 5592](#) must be removed because a



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“play-by-play” instrument approach to RENT-D/ securities inventory is essential for banks to fulfill their compliance obligations under the Volcker Rule. Automated trade surveillance is the only effective way to prevent [circumvention of controls](#).

***** END *****