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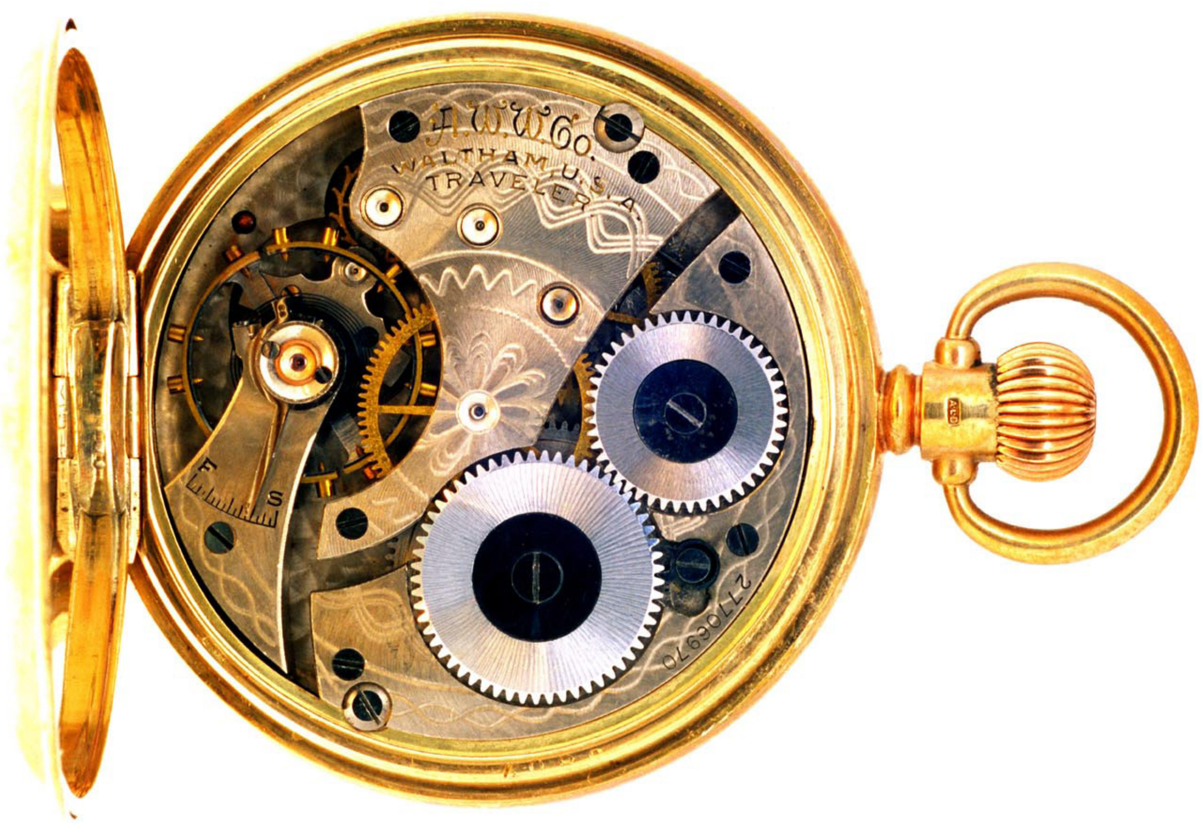
The Volcker Rule
13 considerations for calculating and reporting quantitative measures



Deloitte Center
for Regulatory Strategies

Introduction

On December 10, 2013 three Federal banking agencies as well the U.S. Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) approved final regulations[1] implementing Section 619 of the Dodd-Frank Act – also known as the "Volcker Rule." The Volcker Rule (the Rule) imposes substantial requirements that will likely require significant effort to implement.

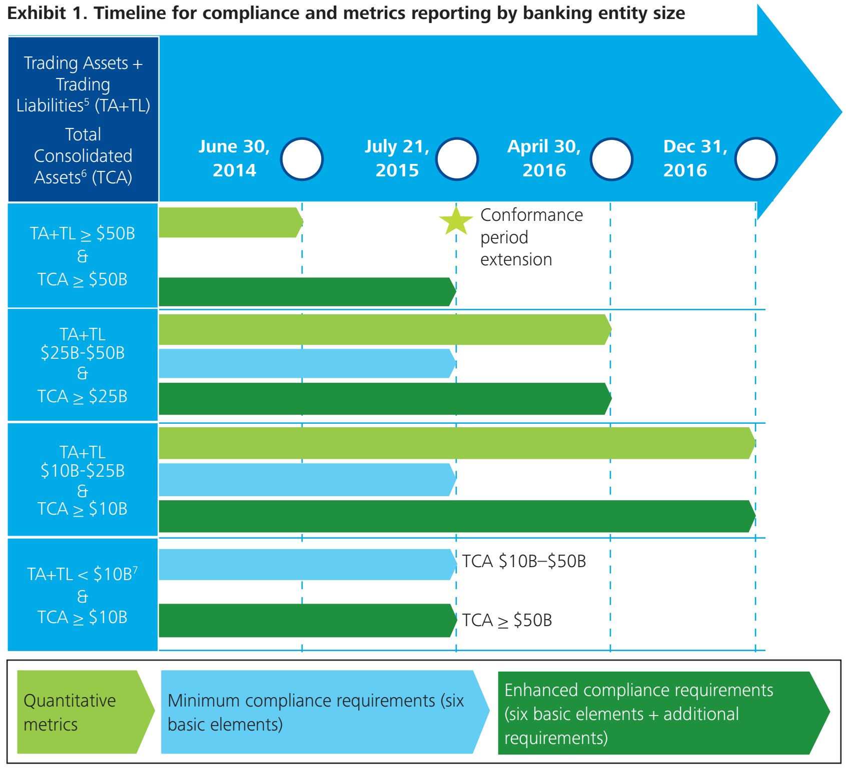
U.S. banking organizations exceeding $10 billion in trading assets plus trading liabilities will need to report certain quantitative measures to their regulators. For foreign banking organizations, this $10 billion threshold test is to be applied only to their U.S. operations. The deadline for this reporting varies according to size; however, banking organizations that exceed $50 billion in trading assets plus trading liabilities[2] will be required to produce and report[3] quantitative metrics beginning June 30, 2014.

There may be significant challenges implementing the quantitative measures outlined in the final Rule's Appendix A, and these issues may likely be especially significant for institutions engaged in a broad range of capital markets activities. Foreign banking organizations face further issues and complexities that may necessitate additional consideration and determination.

Those largest institutions required to meet the June 30, 2014 deadline face challenges and questions that will be difficult to address within the next six months. While some of the challenges are clear, the final Rule introduces enough new requirements that even those banking organizations that have fully invested in meeting the requirements of the proposed Rule[4] will still likely have significant remedial work to perform to ensure compliance with the final Rule.

However, not all of the challenges are clear. Some preexisting issues remain, while still new ones have been introduced by the final Rule. The resolution of these issues may take years, and will be dependent on subsequent agency guidance through the supervisory and examination processes.

Exhibit 1. Timeline for compliance and metrics reporting by banking entity size



[1] "Agencies Issue Final Rules Implementing the Volcker Rule," Federal Reserve news release, Dec. 10, 2013, http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20131210a1.pdf.

[2] For U.S. banking organizations, this threshold is measured against global consolidated trading assets plus trading liabilities. For foreign banking organizations, this threshold is measured against their U.S. operations' trading assets plus trading liabilities.

[3] Banking organizations exceeding this threshold must begin reporting quantitative measures on June 30, 2014, on a monthly basis 30 days in arrears (but accelerated to 10 days in arrears in January 2015).

[4] "Federal Reserve seeks comment on proposal to implement 'Volcker Rule' requirements of the Dodd-Frank Act," Federal Reserve news release, October 11, 2011, http://www.federalreserve.gov/newsevents/press/bcreg/20111011a.htm.

[5] For U.S. banking organizations, the trading assets + liabilities will be based on the worldwide consolidated trading assets and liabilities (excluding U.S. government obligations); for foreign banking organizations (FBOs) the trading assets and liabilities will be based on the trading assets and liabilities across all U.S. operations (excluding U.S. government obligations).

[6] For U.S. banking organizations, the total consolidated assets will be based on the worldwide consolidated total assets as of the previous calendar year end; for FBOs, the total consolidated assets will be based on total assets across all U.S. operations.

[7] While banking organizations within this tier are not subject to the quantitative metrics reporting requirements, they would be subject to the recordkeeping requirements (including the requirement to promptly produce such records to the relevant agency upon request) by virtue of the compliance requirements.

13 key considerations for banking entities

1 **Required quantitative measures.** The number of required quantitative measures to be reported has been reduced to seven in the final Rule. However, the actual number of quantitative measures to be reported is 11 given the sub-metrics and variations. Some measurements like comprehensive profit and loss are included in the definitions, rather than stated as a measure. This might not seem like a big deal, except that the definition of comprehensive profit and loss (P&L) and the associated interpretation that may be applied might differ from conventions otherwise applied by the reporting institution (see #5: Treatment of excluded positions and activities). Other specified quantitative measures include specified sub-measurements and some of these required quantitative measures may imply additional quantitative measurements that are not readily apparent. Exhibit 2 shows the measures to be reported.

Exhibit 2. Quantitative measures[8,9] required to be reported

Type of measure	#	Quantitative measure	#	Sub-metric	Comment
Risk management	1	Risk and position limits and usage	1	Limits	• Minimum limits are: Risk factor sensitivities, VaR, and stress VaR • Usage must be separately reported • When criteria other than VaR or risk factor sensitivity limits are used, the value of the limits and the variables to assess usage must also be reported
			2	Usage	
	2	Risk factor sensitivities	3		• Defined as changes in a trading desk's comprehensive P&L that are expected to occur • Dependent on explicit trading desk risks, however this measure should be sufficiently granular to account for the preponderance of all linear and non-linear risks • The methods used to calculate sensitivities to a common factor shared by multiple trading desks must be applied consistently across trading desks
	3	VaR & Stress VaR	4	VaR	• Must be computed employing generally accepted standards and methods of calculation • VaR should reflect a loss in a trading desk that is expected to be exceeded less than one percent of the time over a one-day period • For banking organizations subject to regulatory capital requirements imposed by a Federal banking agency, VaR and Stress VaR must be computed and reported in a manner consistent with such regulatory capital requirements
			5	Stress VaR	
Source of revenue	4	Comprehensive P&L attribution	6	Attributed profit and loss	• References comprehensive P&L as defined • The daily P&L of the aggregated positions is divided into three categories: (a) P&L attributable to a trading desk's existing positions, (b) P&L attributable to new positions, and (c) P&L that cannot be specifically attributed to a or b • The comprehensive profit and loss from existing positions must be further attributed, as applicable, to changes in the specific risk factors and other factors that are monitored and managed as part of the trading desk's overall risk management policies and procedures; and any other applicable elements, such as cash flows, carry, changes in reserves, and the correction, cancellation, or exercise of a trade • Significant unexplained comprehensive P&L that cannot be specifically attributed to known sources must be escalated for further investigation and analysis • Must calculate and report the volatility of comprehensive profit and loss (i.e., the standard deviation of the trading desk's one-day profit and loss, in dollar terms) for the reporting period for at least a 30-, 60-, and 90-day lag period
			7	Volatility of comprehensive profit and loss	
Customer facing activity	5	Inventory turnover	8		• The numerator of the ratio is the absolute value of all transactions over the reporting period. The denominator of the ratio is the value of the trading desk's inventory at the beginning of the reporting period • For derivatives, other than options and interest rate derivatives, value means gross notional value; for options, value means delta adjusted notional value; and for interest rate derivatives, value means 10-year bond equivalent value • Must be reported for a calculation period of 30, 60, and 90 days
	6	Inventory aging	9		• Inventory aging must include two schedules, an asset-aging schedule and a liability-aging schedule. Each schedule must record the value of assets or liabilities held over all holding periods • For derivatives, other than options, and interest rate derivatives, value means gross notional value; for options, value means delta adjusted notional value; and for interest rate derivatives, value means 10-year bond equivalent value
	7	Customer facing trade ratio	10	Trade count	• This is a ratio comparing (a) the transactions involving a counterparty that is a customer of the trading desk to (b) the transactions involving a counterparty that is not a customer of the trading desk • Separate trade count and value based ratios need to be computed and reported • Must be reported for a calculation period of 30, 60, and 90 days
			11	Value count	
N/A		Comprehensive profit and loss	12		• Defined as the net profit or loss of a trading desk's material sources of trading revenue over a specific period of time, including, for example, any increase or decrease in the market value of a trading desk's holdings, dividend income, and interest income and expense • Not required to be separately reported, however total attributed P&L must equal comprehensive P&L

[8] Required for be reported for banking organizations with > $10 billion in trading assets plus liabilities
[9] All quantitative measures must be calculated every day, and for each individual trading desk

2 **Definition of trading assets and liabilities.** Trading assets and liabilities are also not defined within the final Rule. Banking organizations already provide reports (e.g., FR Y9C report), to the U.S. agencies that regulate them, which require that certain assets and liabilities be reported as "trading." Should this definition be used? Perhaps; however, it is possible that foreign banking organizations may hold foreign sovereign debt in accordance with the Volcker Rule 6(a) (Permitted trading in foreign government obligations) exemption. Such foreign sovereign debt may not be classified as trading, but such holdings are subject to the required quantitative measures. Should this foreign sovereign debt be considered a "trading asset?" And, if the definition of "trading assets and liabilities" referenced by other agencies' required reporting is used as a basis for benchmarking a banking organization against the Volcker Rule reporting thresholds, should such definition be extended to non-U.S. activities that do not meet the 6(e) exemption criteria as noted above?

3 **Other quantitative measurements.** The quantitative measurements that should be furnished pursuant to Appendix A "are not intended to serve as a dispositive tool for the identification of permissible or impermissible activities." Additionaly, "a banking entity may need to develop and implement other quantitative measurements in order to effectively monitor its covered trading activities." This additional requirement firmly places the responsibility on banking organizations to evaluate whether the prescribed quantitative measures are effective. If they are not, banking organizations will need to consider developing other measures to monitor and evaluate whether activities are being conducted in accordance with the institution's established risk limits and policies, and monitor for compliance with the proprietary trading restrictions of the Rule. If such additional quantitative measures are required, they do not need to be reported to the relevant regulatory agency; however, they would be subject to the same recordkeeping requirements.

4 **Banking organizations below the $10 billion trading assets plus trading liabilities reporting threshold.** Banking organizations under $10 billion in trading assets and trading liabilities are not required to report quantitative measures to their regulator unless specifically directed to do so, and are not specifically required to apply the quantitative measures prescribed by Appendix A. However, Appendix B (Enhanced Minimum Standards for Compliance Programs) of the final Rule sets forth a variety of requirements that explicitly and implicitly require banking organizations – subject to these enhanced minimum standards – to have broad internal controls and measures for each trading desk. The requirements of Appendix B also include:

- Establishing and enforcing risk limits appropriate for the activity of each trading desk
- Requiring limits based on probabilistic and non-probabilistic measures of potential loss (e.g., value at risk and notional exposure, respectively), measured under both normal and stress market conditions.

Appendix B also requires that institutions require "ongoing, timely monitoring and review of calculated quantitative metrics," and the designation of "numerical thresholds" for each trading desk, and that institutions undertake "immediate review and compliance investigation when quantitative measurements or other information suggest a reasonable likelihood" of a trading desk violation.

Accordingly, banking organizations that are not subject to the requirements of Appendix B but which exceed $10 billion in consolidated assets will still be required to implement a compliance program that would include quantitative measures "appropriate for the types, size, scope, and complexity of activities." Additionally, the program is required to include policies; limit setting, monitoring, and management; internal controls designed to monitor compliance; independent testing and audit of the effectiveness of the compliance program; and retention of records sufficient to demonstrate five years of compliance.

5 **Treatment of excluded positions or activities.** Certain positions and activities are excluded from the definition of financial instrument or covered trading activities. For example, the definition of "financial instrument" does not include loans, spot commodities, and spot currencies. Transactions excluded from the definition of "covered trading activities" generally include repurchase and reverse repurchase transactions. Yet, the performance of such positions or activities can be material to the risk or revenues of certain trading desks. For example, spot energy and spot currency positions are often managed in tandem with their derivative cousins. The derivatives (assuming they meet the relevant exemption criteria) would be subject to the quantitative measures, while the spot positions would presumably not be. Gains and losses from loan commitments that would be considered a financial instrument are often managed in tandem with originated loans. Also, the interest expense associated with internal funding (in the form of a loan) and secured financing (via repurchase agreement or other secured financing) can be meaningful. Should these components be excluded from covered trading activities while the interest carry on long securities is included? It is not clear whether institutions may be able to include the performance of these instruments and activities in determining the results of their quantitative measures. Alternatively, if these instruments and activities are material to the risk and revenue measures of certain trading desks, would banking organizations be compelled to include them?

6 **Consistent measures of risk.** Regulators have indicated that they expect banking organizations to use consistent measures of risk to facilitate comparisons. For instance, they have stipulated that, "the methods used…to calculate sensitivities to a common factor shared by multiple trading desks…must be applied consistently across its trading desks…" This is different than the manner in which many large complex banking organizations currently derive desk-level measures. For example, interest rate risk is sometimes measured differently by a fixed income (FI) desk than by the equities and currencies desks. In some instances, this is for good reason as interest rate risk is more significant for a FI desk than, say, an equities desk. In other instances, differences may arise from variations in algorithms employed by different applications. Differences in methodology may be even more pronounced for desk-level measures of non-linear risks or for stress measures of risk, where such measures are employed. The requirement for consistency could probably also extend to bucketing and netting conventions (i.e., netting within interest rate tenors). However, conforming to this requirement may be both difficult and costly for institutions that do not currently apply consistent risk measures. Whether the regulators will accept a degree of inconsistency if banking organizations can demonstrate that they are appropriate remains to be seen.

7 **Recordkeeping.** The final Rule requires that banking organizations must "…create and maintain records documenting the preparation and content…" of the metric reports, including supporting data necessary to permit the regulators to verify the accuracy of these reports. Banking organizations will need to store and archive all of these reports and supporting data for at least a period of five years. As a result, banking organizations will need to:

- Have in place an optimal central data repository solution to source, compute, and store information
- Meet the daily calculation requirement for each trading desk
- Promptly access and retrieve data records to address ad-hoc regulatory requests/inquiries
- Support evidencing and auditability that facilitates issues investigation, testing, independent assessment, and examination by regulators

In this regard, it may not be feasible or practical for banking organizations to develop capabilities that support an ability to systemically regenerate quantitative measures based upon historical financial data (risk and positions) and through applying historical data series and prior versions of calculation methodologies. Nevertheless, the recordkeeping requirements may require some institutions to make substantial technology infrastructure enhancements.

8 **Differing calculation schedule and underlying data for risk and source of revenue measures.** Banking entities may need to address complexities associated with differing cutoff and calculation schedules utilized for risk and source of revenue measures. For example, at many institutions the schedule for calculating risk measures (end of day T+0 or T+1) differs from the schedule for determining P&L and sources of revenues (end of day T+1 or T+2). The difference in cutoff/scheduling is due to the need to have timely measures of risk on the one hand and allow for finance function validation of P&L and positions on the other. For some banking organizations or trading desks, the impact may not be significant. For others, the impact could be significant as there may be meaningful differences in the portfolio attributes used for deriving one set of measures versus those used for deriving another set. Regulators may regard this as unacceptable, and it may result in additional complications in compliance monitoring. In addition, the evidencing and traceability of the computation of quantitative measures could be undermined or made more complicated as there could in effect be two sets of underlying data.

9 **Comprehensive profit and loss attribution.** Generally, methods for determining risk sensitivity and profit and loss attribution should be consistent. In practice, some banking organizations apply different methodologies to deriving the measures. Thus "P&L predict" (T-1 risk sensitivity) and "attributed P&L" (T+0 P&L attribution) may diverge in unexplained ways. The Rule does not explicitly require consistency between these two measures. However, the Rule describes risk factor sensitivity by specific reference to changes in comprehensive profit and loss as defined in Appendix A. Additionally, the enhanced compliance standards described in Appendix B specify that "analysis and models used to determine, measure, and limit risk must be rigorously tested and reviewed" and also that "This review should include periodic and independent back-testing." Accordingly, companies may choose to evaluate and address this issue – near or longer term – as back-testing results in theory may be skewed by the differences in methods. Banking organizations may also choose to address this issue because methodologies for attributing P&L are sometimes underdeveloped and applied inconsistently – even for similar risks/P&L components – within the enterprise.

10 **Book structure and related control processes.** We have stated before in our prior Volcker Rule paper[10] that for the largest banking organizations, a foundational internal control for complying with the Rule will be the integrity and robustness of their trading book structure and related control processes. The book structure aligns with the trading desk concept and underlies the operational basis for applying quantitative measures, distinguishing between risk positions and hedges, and effecting compliance monitoring. An appropriately designed book structure and robust related book control processes will help ensure efficient and effective compliance, especially at larger banking organizations. The book structure design may also need to support the exclusion of positions (e.g. loans, spot commodities) and related components of profit and loss (e.g., loan interest, cost of funds allocation related to internal funding) that banking organizations may determine should or could be excluded from the scope of the Volcker Rule requirements and related reporting of quantitative measures.

In addition, the book control processes may need to be enhanced at some banking organizations. The books are to positions as general ledger accounts are to monetary balances. While general ledger controls are very mature, systems and processes needed to manage and maintain books in accordance with the final rule requirements may be underdeveloped at some institutions. Larger banking organizations may need to enhance controls related to opening, closing, and merging books. Processing flags, designations of primary and supervisory responsibility and mappings (e.g., hierarchy, Volcker Rule exemption, etc.) will need to be considered for both a current and historical basis to support evidencing, auditability, and the recordkeeping requirements of the final Rule.

11 **Valuation and independent price verification (IPV) processes.** The quantitative measures are required to be calculated for each trading desk daily. Furthermore, the Rule states that "the comprehensive profit and loss associated with existing positions must reflect changes in the value of these positions on the applicable day." While robust daily valuation has long been understood to be an industry leading practice, some banking organizations have at times – or for certain trading desks – tolerated some diminution in quality or frequency. The IPV processes, in combination with the trading desk level controls required by Appendix B, will likely compel some banking organizations to adhere to a more rigorous standard of daily valuation. Another related question is whether the Rule will cause banking organizations to reconsider the assessment and disposition of IPV variances. Currently, some banking organizations apply thresholds of materiality in determining whether or not to adjust for IPV variances. Furthermore, such thresholds are sometimes assessed at higher levels of aggregation and only after positive and negative desk-level variances have been offset. The Rule's emphasis on the trading desk suggests that this convention may have to be reevaluated. In addition, some banking organizations do not apply all valuation adjustments at the desk level, and this too may require reassessment.

12 **Governance.** Given the compressed timeline for reporting, specifically for banking organizations with greater than $50 billion in trading assets and trading liabilities, banking organizations will need to consider updating their governance structure to meet the reporting deadlines, prior to the deadline of June 30, 2014. This might include clearly defined roles and responsibilities related to calculating and reporting quantitative measures, as well as for any new validation controls or processes.

13 **Treatment of transactions.** As part of their business requirement analysis, banking organizations will need to consider the treatment of various transaction types including, but not limited to, the following:

- Internal trades
- Cancels, correct, or amended ("CCA") trades
- Shadow bookings – same trades booked in multiple source systems (e.g., one system for trade capture and a separate system for risk management purposes)

For example, should internal trades impact or refresh the aging of assets or liabilities pursuant to calculating the required inventory aging measure?

Under some conditions, and for certain of the quantitative measures, the impact of different transaction types or treatment on the quality of the measure may be negligible. In other instances, a particular treatment may only impact some or even just one of the measures, and the impact could be significant. Banking organizations will need to carefully review the different transaction types and treatment, including instances of bespoke transactions and other booking conventions that may be particular to their institution. Banking organizations may also need to be careful that solutions developed for one or more of the quantitative measures do not have an unintended consequence for other measures.

[10] The final Volcker Rule: What does it mean for banking institutions? http://www.deloitte.com/view/en_US/us/Industries/Banking-Securities-Financial-Services/0b1e33fb0100 3410VgnVCM2000003356f70aRCRD.htm

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