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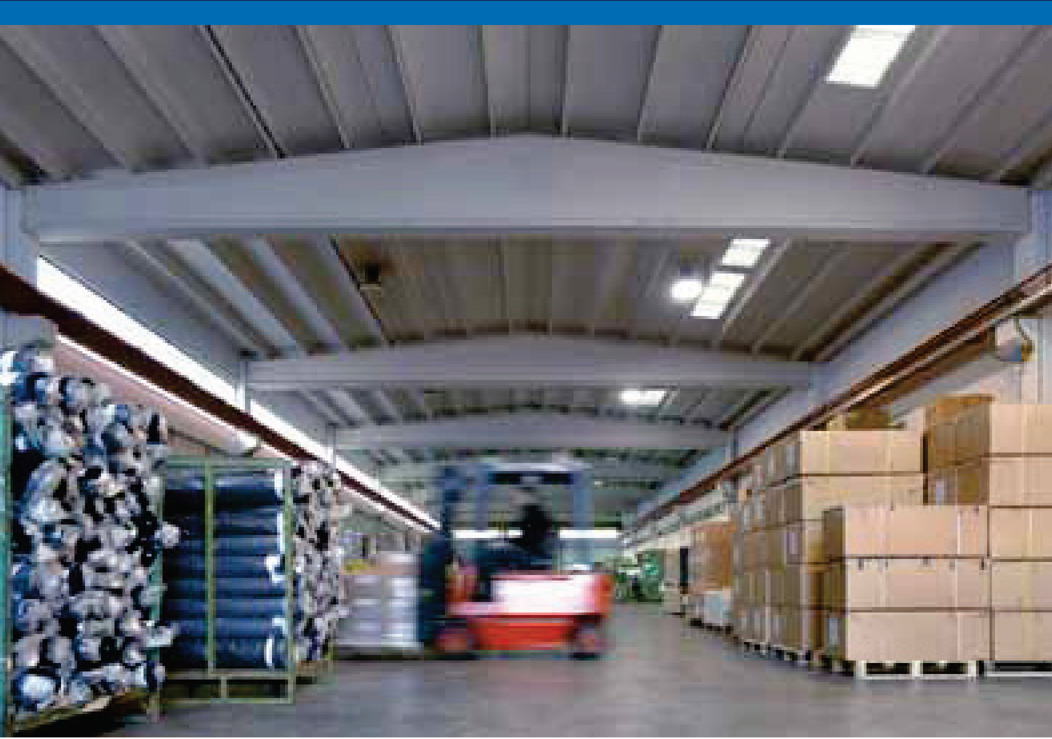

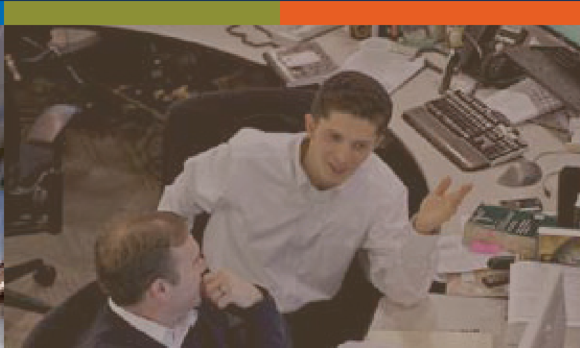

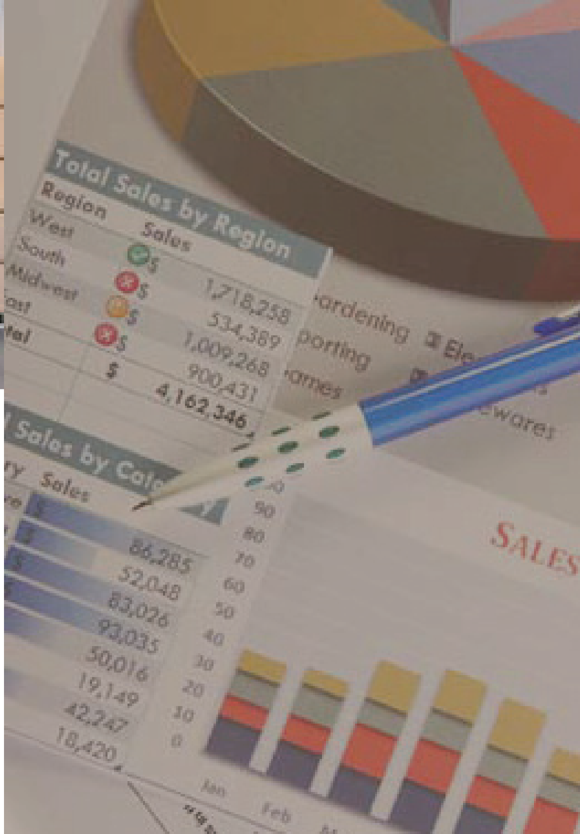

EVALUATING CRITICISMS OF DERIVATIVES END-USER EXEMPTION

NOVEMBER 28, 2011

Evaluating Criticisms of Derivatives End-User Exemption

November 28, 2011

The purpose of this document is to evaluate the merits of an unambiguous end-user exemption from margin requirements under Title VII of Dodd-Frank. This document provides background on the public policy debate on margin and evaluates the key criticisms of an end-user exemption from margin requirements. The document is structured as follows:

- Executive Summary
- Key policy tools to address systemic risk in the derivatives market
- Overview of the public policy debate on derivatives end users
- Proposed margin rules
- Economic impact
- Evaluation of end users' contribution to systemic risk
- Evaluation of key criticisms of an end-user exemption from margin

Executive Summary

- Policy makers implemented three key policy tools to address systemic risk in the derivatives market: (1) central clearing, (2) margin, and (3) capital requirements.
- Congress intended that margin requirements should not apply to hedging transactions executed by end users.
- The CFTC and prudential regulators have proposed margin rules that interpret authority to impose margin on end users. Unlike the CFTC, prudential regulators believe they are *required* to impose margin on end user transactions.
- Quantitative assessments of the impact of margin requirements are sufficient to confirm that final margin rules will have a significant impact on the economy.
- The application of margin requirements to end-user transactions should be conditioned on end-users' contribution to systemic risk. End users do not meaningfully contribute to systemic risk because:
    - End users represent a small fraction of the market
    - Losses and write-downs on end-user derivatives have been small
    - End users do not use the kinds of derivatives that were closely associated with the crisis
    - End users utilize derivatives to reduce risk
    - End-user risks are heterogeneous and dispersed across tens of thousands of companies
- Some have criticized the end-user exemption and legislation intended to preserve it. Criticisms can be distilled into five areas:
    - **Criticism #1**: End-user hedges pose risk as do all derivatives, and they should not receive special treatment.

    - ***Our Response***: End users do not pose meaningful risk to financial stability and policy makers should distinguish between risk and systemic risk when determining whether and to whom a public policy mandate on margin exists. (See page 13 for additional critique)
  - **Criticism #2**: The rules proposed by regulators simply codify existing market practice.
    - ***Our Response***: The proposed rules create new burdens for companies and could disrupt risk management and financing markets in important ways. (See page 15 for additional critique)
  - **Criticism #3**: Legislation that would reverse the rule mandates unsound banking practices.
    - ***Our Response***: Proposed legislation does not preclude banks from carrying out their normal risk management practices, it precludes government from mandating requirements which they have never mandated in the past and which are unnecessary for the mitigation of systemic risk. (See p. 16 for additional critique)
  - **Criticism #4**: End users' criticisms of the rule are predicated on a misunderstanding about the value and origin of margin requirements.
    - ***Our Response***: The proposed margin rule creates real problems for end users. It would preclude many end users from negotiating credit terms in their derivatives contracts that are critical to preserving liquidity and which have limited or no effect on financial stability. (See p. 18 for additional critique)
  - **Criticism #5**: End users inaccurately understand the cost of unmargined trades.
    - ***Our Response***: Corporate treasurers are capable of assessing the trade-off between cost and liquidity and it is essential that they retain the ability to continue to weigh this trade-off. (See p. 19 for additional critique)

In this paper, we evaluate and address each of these criticisms and conclude the following: "*…end users do not contribute to systemic risk and that, consequently, they should not be subject to margin requirements. We have established that (1) Congress did not intend to impose such requirements on end users, (2) the application of margin requirements to end-user transactions is not necessary to bring stability to the financial system, (3) margin requirements could have a significant impact on the economy, and (4) the application of margin requirements to end-user transactions will disrupt financial and risk management markets for end users. Imposing margin on entities whose derivatives use jeopardizes financial stability can improve the safety and soundness of the financial system; however, if misapplied to end-user transactions, margin requirements could pose the risk of harming end users and, consequently, the economy.*"

Key Policy Tools to Address Systemic Risk in the Derivatives Market

Title VII of Dodd-Frank sought to accomplish four objectives: (1) reduce systemic risk, (2) increase transparency, (3) protect unsophisticated users, and (4) prevent fraud and market abuse.[1] To address the foremost of these goals – to reduce systemic risk – policymakers identified and implemented three key policy tools:

- **Clearing**: Speculative swaps and swaps executed by financial entities are subject to a new central clearing requirement. The objective of this requirement is to reduce risk in the system – especially by major market participants – by requiring initial and variation margin (i.e., cash or highly liquid securities) to back trades.
- **Capital**: Swap dealers and other major derivatives players will be required to increase regulatory capital to cushion them from loss on their derivatives transactions.
- **Margin**: Certain trades that are not sufficiently standardized for central clearing are subject to bilateral margin requirements, in which initial and variation margin are posted between parties to a transaction.

Overview of Public Policy Debate on Derivatives End Users

As the public policy debate on derivatives unfolded, an additional priority emerged amongst policy makers: *protect end users from unnecessary regulatory burdens*. This priority was revealed in an exemption for certain end users from clearing and trading requirements and is evidenced by the legislative history for Title VII of the Dodd-Frank Act. Examples of this history are as follows:

- Former Senate Banking Chairman Dodd and Senate Agriculture Chairman Lincoln wrote the following in a letter for the Congressional record:
    - *"If regulators raise the costs of end user transactions, they may create more risk. It is imperative that the regulators do not unnecessarily divert working capital from our economy into margin accounts, in a way that would discourage hedging by end users or impair economic growth."*[2]
    - *"…a consistent Congressional directive throughout all drafts of this legislation, and in Congressional debate, has been to protect end users from burdensome costs…"*[3]
- Former House Agriculture Chairman Peterson said the following in a colloquy:

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[1] Letter from Secretary Geithner to Senator Reid on May 13, 2009: www.treasury.gov/initiatives/Documents/OTCletter.pdf

[2] 156 CONG. REC. S6192 (July 22, 2010).

[3] 156 CONG. REC. S6192 (July 22, 2010).

- *"[W]e have given the regulators no authority to impose margin requirements on anyone who is not a swap dealer or a major swap participant."*[4]
- Former House Financial Services Chairman Frank, in response to Chairman Peterson, said the following in a colloquy:
  - *"[T]he gentleman is absolutely right. We do differentiate between end users and others. The marginal requirements are not on end users."*[5]

The current Chairmen of the authorizing committees in the House and Senate have reaffirmed this priority for protecting end users from regulatory burdens.

- Current Senate Banking Chairman Johnson, Senate Agriculture Chairman Stabenow, House Financial Services Chairman Bachus, and House Agriculture Committee Chairman Lucas wrote the following in a letter to regulators:
  - *"While we have been encouraged by many of your comments regarding capital and margin requirements, we write to reiterate the critical importance of establishing a regulatory regime that will not create economic disincentives for end-users to access the derivatives markets."*
  - *"…**regulators should exempt end-users from margin requirements** and seek to limit other regulatory burdens that could have the unintended effect of driving up costs for end users and increasing systemic risk for our economy."* [6] (emphasis added)
- Current Senate Agriculture Chairman Stabenow and House Agriculture Chairman Lucas wrote the following in a letter to regulators:
  - *"In crafting Title VII of Dodd-Frank, Congress was explicit in providing exemptions from mandatory clearing, exchange trading and margin for end-users hedging commercial risks. We are concerned that recent rule proposals may undermine these exemptions, substantially increasing the cost of hedging for end-users, and needlessly tying up capital that would otherwise be used to create jobs and grow the economy."*[7]
- Current Senate Agriculture Chairman Stabenow and Ranking Member Roberts wrote the following in a letter to regulators:
  - *"We appreciate your sensitivity to the concerns of commercial and agricultural end users, who use derivatives to manage risks associated with their operations. As these people and businesses really had nothing to do with the financial crisis, we urge you to continue conversations with these market participants and to take their concerns into*

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[4] 156 CONG. REC. H5248 (June 30, 2010) (colloquy of Representatives Frank and Peterson).
[5] 156 CONG. REC. H5248 (June 30, 2010) (colloquy of Representatives Frank and Peterson).
[6] agriculture.house.gov/pdf/letters/HouseSenateEndUserLetter.pdf
[7] www.fdic.gov/regulations/laws/federal/2011/11c62ad79.PDF

consideration as you write final rules so that their costs of risk management allow them to remain competitive."[8]

This priority has also been emphasized by regulators domestically and around the globe.

- Treasury Secretary Geithner said the following in a speech to the International Monetary Conference:
    - *"…the law makes provisions for economically essential contracts that are not suitable for central clearing – for example, trades by non-financial end-users…"*[9]
- Commissioner Barnier from the European Commission stated the following in a speech at the Brookings Institution:
    - *"And I know that it is not only energy companies or energy end users, sir, who are using derivatives in a very legitimate way in order to protect themselves, to hedge themselves against risk concerning volatility in terms of currency for instance."*[10]
- Managing Director Menon at the Monetary Authority of Singapore observed the following in a speech:
    - *"Comprehensive implementation of centralized clearing is not without challenge, we need to determine carefully the products for mandatory central clearing, particularly those employed by commercial end users…The cost of clearing can potentially increase their hedging cost, cause a cut back in needed investment or an increase in unhedged positions."*[11]

Proposed Margin Rule

In April 2011, the CFTC and prudential regulators each proposed rules that would implement the margin provisions of the Act. The prudential regulators' rule applies to bank swap dealers – and would therefore apply to the vast majority of the market – and the CFTC's rule applies to non-bank swap dealers – a much smaller segment of the market. The rules are similar in some respects but have key differences as well. Both rules, contrary to congressional intent,[12] interpret an authority to impose margin requirements on end-user transactions. However, the CFTC believes it has authority not to

[8] www.chathamfinancial.com/wp-content/uploads/2011/03/Stabenow-Letter-to-Gensler-022211.pdf
[9] www.treasury.gov/press-center/press-releases/Pages/tg1202.aspx
[10] The Brookings Institution, "The Shape of E.U. Financial Regulation and Its Impact on the United States and Europe," June 3, 2011.
[11] www.mas.gov.sg/news_room/statements/2011/SG_Approach_to_the_Regulation_of_Capital_Markets.html
[12] An extensive analysis of congressional intent and key legal considerations is included in the Coalition for Derivatives End-Users comment letter to prudential regulators (. www.fdic.gov/regulations/laws/federal/2011/11c51ad79.PDF) and in a legal memo from Gibson, Dunn & Crutcher LLP (www.federalreserve.gov/newsevents/files/gibson_dunn_correspondence_20101120.pdf)

impose margin on financial and non-financial end-user transactions. It has elected to utilize this discretion by applying margin requirements only on those trades in which a financial end user is a party. The prudential regulators, in contrast, have indicated that they believe the legislative text requires them to impose margin on all market participants, including both financial and non-financial end users. In the preamble to their proposed rule, prudential regulators note, "*[The legislative text] provides that the margin requirements apply to all non-cleared swaps and security-based swaps into which a covered swap entity enters, regardless of the type of transaction or the nature of the counterparty*."[13] They further note that the margin sections of the Act "*do not, by their terms, exclude a swap with a counterparty that is a commercial end user*." Perhaps the most significant difference between the two rules is that the prudential regulators' rule creates – even for non-financial end users – a legal obligation to post liquid collateral if the market value moves beyond a specific threshold, whereas the CFTC's rule does not.

Prudential regulators believe they have authority to scale the margin requirement to contemplate the risk of market participants. They have thus created different margin requirements for "high risk" financial end users, "low risk" financial end users, and non-financial end users. With respect to non-financial end users the rule does not require full collateralization of a swap portfolio's negative value. Rather, it requires collateral when the negative value of a portfolio exceeds a threshold established by the bank. The threshold is required to be "appropriate" for the credit risk of the non-financial end user.[14] To be sure, banks do establish credit exposure limits, and some end users agree to post collateral when the market values of their portfolios exceed those limits. However, many counterparties have never been required to post cash collateral.[15] A Coalition for Derivatives End-Users survey indicated that 39% of end users are not subject to agreements requiring them to cash collateralize their trades.[16] Generally, for these end users it is a high priority to avoid agreements that require cash collateral (or cash equivalent collateral). Often, such end users' balance sheets are comprised predominantly of physical assets (e.g., property, equipment, etc.), and they use those assets to secure their debt and derivatives agreements. In other cases, just as the end users' creditworthiness enables them to borrow on an unsecured basis, they also have the ability to enter into derivatives on an unsecured basis. Although it is feasible that some end users could meet margin requirements by drawing on revolving credit facilities or by borrowing new funds, many end users will be unable to address the margin

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[13] www.occ.treas.gov/news-issuances/news-releases/2011/nr-ia-2011-46a.pdf

[14] We note that regulators have defined deemed that end users as include only those entities that are commercial and– not those that are financial. We think this definition is flawed and share the views expressed on this issue by the Coalition for Derivatives End-Users in its comment letter on the prudential regulators' margin rules. www.fdic.gov/regulations/laws/federal/2011/11c51ad79.PDF

[15] The proposed rule restricts eligible collateral to cash, treasuries, and – to a more limited extent – agencies. We use the term "cash" in this document to encompass each of these.

[16] An analysis of the Coalition for Derivatives End-Users' Survey on Over-the Counter Derivatives (Feb. 11, 2011), available at: www.centerforcapitalmarkets.com/wp-content/uploads/2010/04/Coalition-for-Derivatives-End-Users-OTC-Derivatives-Survey_Final-Version-2-11-11.pdf

requirement in this way or will find doing so expensive or risky. Many end users will respond by hedging less, ceasing to hedge altogether, or by using less efficient methods for managing their business risk. For example, some may shift risk to customers or suppliers – introducing additional price volatility into consumer and industrial products.[17] Others could attempt, where possible, to address risks through non-derivatives (e.g., loan agreements, purchasing contracts, lease agreements, etc.). Still others will retain these risks, leading to more caution when putting capital at risk in the economy and/or more volatile business outcomes and stock prices. Each of these alternatives is problematic.

Some have suggested that regulators have long had authority to impose margin and that the proposed rules simply codify this authority. If indeed this is an accurate assessment of pre-existing legal authority, this analysis fails to address three important considerations: (1) whether the authority has been used in the past – especially on end-user transactions, (2) whether the crisis suggests this authority is necessary or essential, and (3) that the proposed rule *obligates* that such authority, if existent, be used, rather than allowing regulators discretion to apply this requirement where necessary or essential (e.g., on transactions or with entities that pose risk to financial stability). We consider these issues in greater detail in our evaluation of Criticism #3.

Still others have suggested that the exact impact of the rule is dependent on how the rule is implemented. They note that regulators have latitude with respect to how to use their supervisory authority as it relates to determining whether bank-set thresholds are appropriate. Whereas the careful implementation of this authority may diminish some concern for end users, there are others for whom the careful implementation of the rule will not diminish concern and where this rule could have a determinative impact on their ability to utilize derivatives as part of their financing and risk management strategies. Among these end users are those that invest in physical assets – including property companies and those with infrastructure investments (e.g., power plants) held in project subsidiaries.[18] Such entities have limited or no access to liquid resources in the event of margin calls. If market mechanisms evolve to address this problem, it could add significant, potentially prohibitive expense.

Assessing Economic Impact

Quantitative assessments of the impact of margin requirements are sufficient to confirm that final margin rules will have a significant impact on the economy. Prudential regulators and the CFTC did not perform a quantitative cost-benefit analysis of their proposed margin rules. However, the Office of the Comptroller of the Currency performed an economic analysis of the prudential regulators' margin rule

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[17] An example of such risk shifting is discussed in the June 9, 2011 Wall Street Journal article entitled, "Boeing to Hedge Aluminum As Producers Shun Fixed-Price Deals": online.wsj.com/article/BT-CO-20110609-713195.html

[18] 15 real estate trade associations elaborate on this concern in a comment letter on the prudential regulators' proposed margin rule: www.fdic.gov/regulations/laws/federal/2011/11c28ad79.PDF

with respect to the entities it regulates.[19] The analysis estimates that the initial margin requirements of the rule will require approximately **$2.05 trillion** to be set aside by OCC-regulated banks. This analysis is inadequate for a number of reasons, including the following:

- It does not contemplate netting benefits, a factor that would decrease the actual margin requirement.
- It assumes no incremental variation margin will be required to be posted, a factor that would increase the actual margin requirement.
- It contemplates the margin impact only for banks, without considering the incremental margin impact on financial and non-financial end-users.
- It relies on current swap values, without giving consideration to stressed market scenarios that could increase margin requirements.

Despite the inadequacies of this analysis, its numbers are similar to other estimates.

- *TABB Group* estimated a central clearing requirement applied to all OTC derivatives would require additional collateral of as much as **$2.2 trillion** globally.[20]
- *The Natural Gas Supply Association and National Corn Growers Association* estimated that the margin and capital requirements, if all US over-the-counter derivatives were required to be cleared, would exceed **$1.3 trillion** annually.[21]
- At the time the legislation was enacted, *ISDA* estimated that margin requirements could cost US companies as much as **$1 trillion** in capital and liquidity requirements.[22]

These estimates are themselves no doubt inadequate for any number of reasons. For example, they are generalized assessments of the impact of a full margin requirement and do not contemplate the nuances of the proposed margin rules or contingencies related to their implementation, such as where credit exposure thresholds are set for certain counterparties. Additionally, these estimates may not sufficiently differentiate between the impact of clearing-related margin requirements and the impact of margin requirements on uncleared swaps. Notwithstanding the deficiencies of these analyses, the significant magnitude of the range of estimates shows that final margin rules will likely have a significant impact on the economy.

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[19] www.regulations.gov/#!documentDetail;D=OCC-2011-0008-0002
[20] www.tabbgroup.com/PageDetail.aspx?PageID=16&ItemID=972
[21] www.sec.gov/comments/s7-39-10/s73910-83.pdf
[22] www.isda.org/media/press/2010/press062910.html

End Users & Systemic Risk

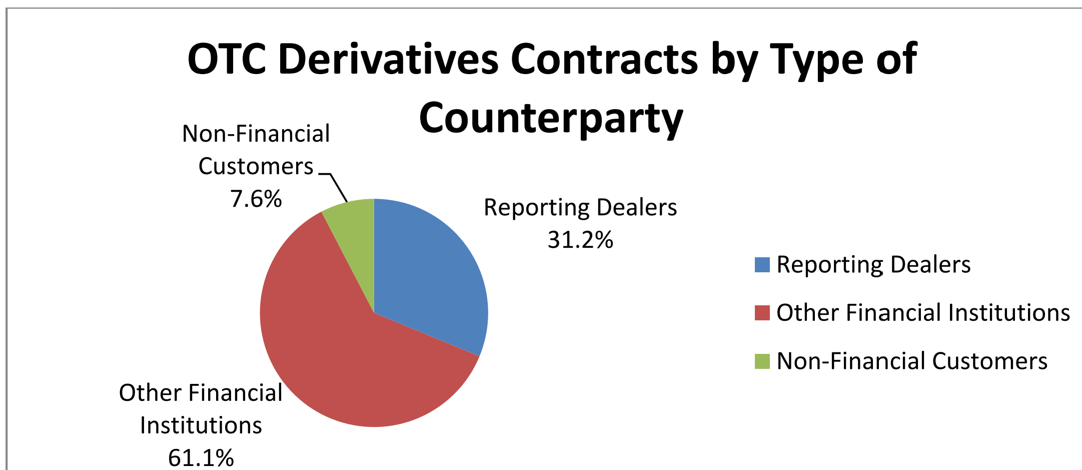
Some would argue that the regulatory burdens imposed on end-user transactions are justified by an increase in financial stability. Certainly, if these requirements were necessary to achieve stability, such an argument would have merit. As such, it is imperative to evaluate end users' contribution to systemic risk and the incremental regulatory benefit of imposing these requirements on end users.

An examination of available data reveals that end users pose minimal risk to financial stability. This conclusion is predicated on several factors.

- End users represent a small fraction of the market
- Losses and write-downs on end-user derivatives have been small
- End users do not use the kinds of derivatives that were closely associated with the crisis
- End users utilize derivatives to reduce risk
- Heterogeneous risks are dispersed across tens of thousands of companies

A Small Fraction of the Market

End users represent a small fraction of the derivatives market. Non-financial end users comprise only 7.6% of the market.[23] According to the Bank of International Settlements, the balance of the market is comprised of reporting dealers and other financial institutions. The following graph shows the allocation of market participants.



[23] Source: Bank for International Settlements, OTC derivatives market activity in the first half of 2011, November 2011. www.bis.org/publ/otc_hy1111.pdf

The BIS participant categories are fairly broad, and BIS does not specify the participants encompassed by each category. However, we understand that these categories likely comprise the following.

Category	Firms included in Category
Reporting Dealers	Commercial Banks Investment Banks Securities Houses
Other Financial Institutions	Regional and Community Banks Mutual Funds Pension Funds Hedge Funds Currency Funds Money Market Funds Building Societies (e.g., UK Thrifts) Leasing Companies Insurance Companies Central Banks Other Non-Dealer Financial Institutions
Non-Financial Customers	Any other counterparty including: Corporate end users Municipal governments

Though the "Other Financial Institutions" category is the largest of the three, those in this category that do not otherwise qualify as swap dealers and whose swap portfolios are sufficiently large as to pose risk to financial stability, will be designated as major swap participants and thus will be subject to robust oversight and regulatory requirements under Title VII.

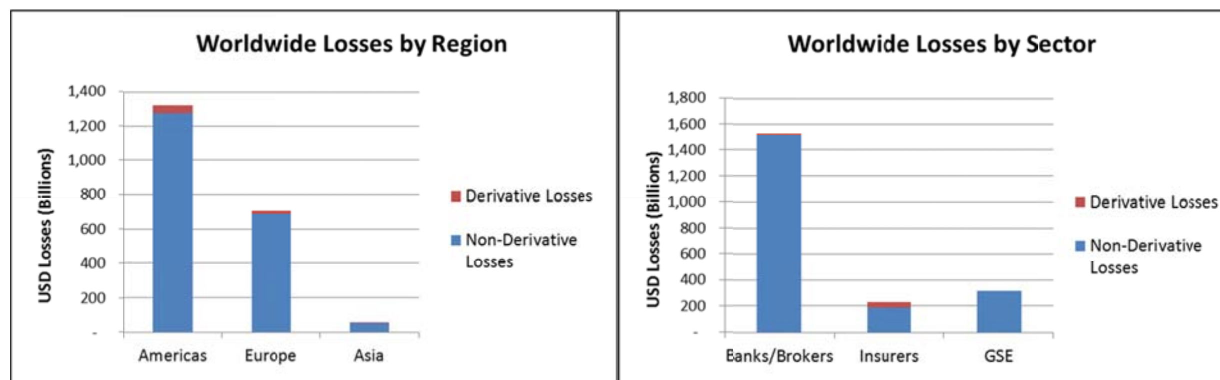
Limited Losses and Write-Downs

Since inception of the credit crisis, financial institutions worldwide have recognized approximately $2.08 trillion in losses on all types of financial products, including loans, CDOs, asset-backed securities, derivatives, etc.[24] Of note, less than 4% of such losses were the result of derivatives (more than half of which came solely from AIG). In fact, of the financial products that resulted in losses for financial

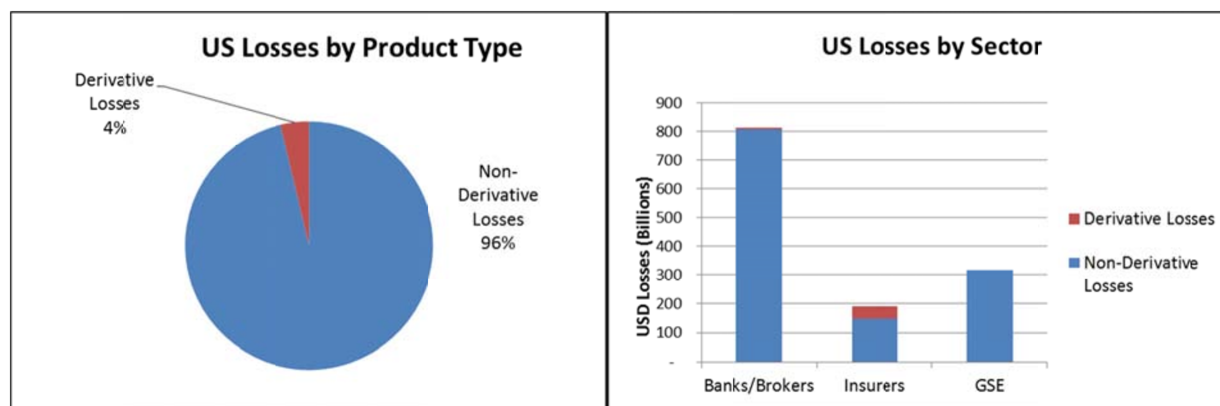
[24] Source: Bloomberg WDCI function as of 11/15/2011

institutions, there were eight other categories of financial products that comprised a greater share of losses than derivatives.

The first graph below shows the distribution of worldwide losses by financial institutions across geographies and shows the component of those losses attributable to derivatives ($66.9 billion in derivatives losses out of $2.08 trillion in total losses). The second graph shows the allocation of losses across financial institution types and the component of those losses attributable to derivatives.



Approximately 64% of the global losses on all types of financial products occurred at institutions in the US.[25] In the US, derivatives have accounted for less than 5% of total US losses among all financial institutions. Of that amount, insurers accounted for 88% of US derivative losses; AIG alone accounted for 76% of all US losses on derivatives. Notably, bank/broker losses on derivatives represented less than 1% of their total losses ($5.9 billion losses on derivatives out of $814 billion in total losses). The first graph below shows the component of US financial institution losses attributable to derivatives ($49 billion in derivatives losses out of $1.32 trillion in total losses). The second graph shows the distribution of financial institution losses in the US across financial institution segments and shows the component of those losses attributable to derivatives.



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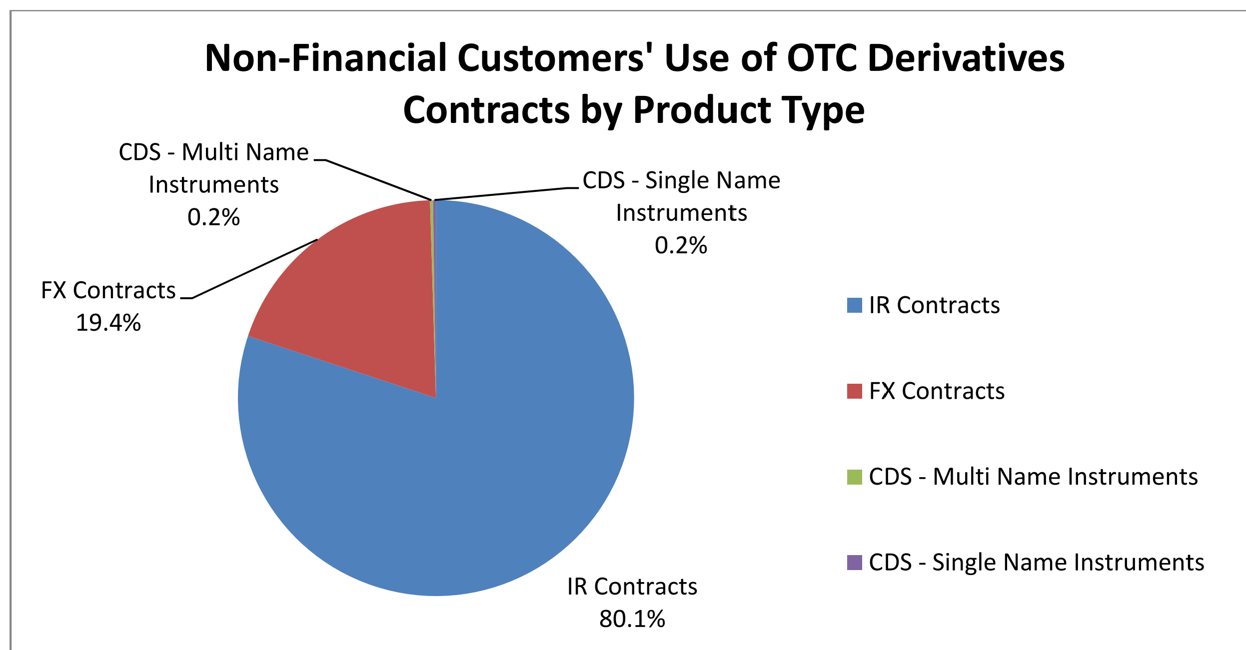
[25] The data set aggregates losses for the Americas. However, because the vast majority of these losses occurred at US financial institutions, we attribute these losses to the US.

The data clearly show that derivatives made a relatively small contribution to financial institution losses in the US and around the world. And, the losses that did occur were largely the result of a single systemically significant derivatives user - AIG. Such derivatives users will be regulated as major swap participants under Title VII of Dodd-Frank.

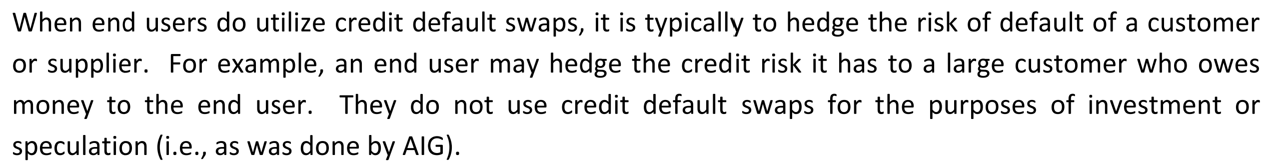
The Office of the Comptroller of the Currency offers the following commentary in its quarterly report on derivatives explaining the low incidence of loss on derivatives. *"The low incidence of charge-offs on derivatives exposures results from two main factors: 1) the credit quality of the typical derivatives counterparty is higher than the credit quality of the typical C&I borrower; and 2) most of the large credit exposures from derivatives, whether from other dealers, large non-dealer banks or hedge funds, are collateralized daily, typically by cash and/or government securities."*[26]

End-User Product Selection

Although derivatives did contribute to the financial crisis, not all kinds of derivatives played a central role in the crisis. Mortgage-related credit default swaps were the product most closely associated with AIG's failure. End users use credit default swaps to a very limited extent, and are not likely to use mortgage-related credit default swaps. The following graph shows that less than 0.5% of derivatives products used by end users are credit default swaps.[27]



[26] occc.treas.gov/topics/capital-markets/financial-markets/trading/derivatives/dq211.pdf
[27] Source: Bank for International Settlements, OTC derivatives market activity in the first half of 2011, November 2011. www.bis.org/publ/otc_hy1111.pdf



When end users do utilize credit default swaps, it is typically to hedge the risk of default of a customer or supplier. For example, an end user may hedge the credit risk it has to a large customer who owes money to the end user. They do not use credit default swaps for the purposes of investment or speculation (i.e., as was done by AIG).

End Users Utilize Derivatives to Reduce Risk

End users utilize derivatives to reduce ordinary business risks. They do not generally use derivatives for investment purposes or to speculate; they do not generally deal in derivative products; and their derivatives use is not so significant that their failure could jeopardize financial stability. In fact, if any of these conditions were true about any end user or any end-user transaction, the end user or the transaction would be subject to the salient economic requirements of the Act.

When hedging a business risk, the value of the hedge is generally offset by the value of some underlying exposure. For example, if a farmer enters into a hedge to eliminate risk to falling wheat prices at harvest, the hedge will take on negative value when wheat prices rise. However, the negative value associated with the wheat hedge will be offset by the increase in value of the wheat. The net loss to the company when contemplating the change in value of the hedge and the change in value of the wheat is zero. When a company hedges the interest rate risk of a bond, the changes in value of the bond attributable to changes in interest rates are offset by the changes in value of the swap. Again, the net financial impact, absent transaction costs, of a swap and the underlying exposure is effectively nil.

Although the value of a hedger's swap and a speculator's swap may be identical at the point of default, the speculator's swap tends to increase the probability of default, whereas the hedger's swap tends to reduce the probability of default. As such, it is reasonable from a public policy perspective to treat swaps that reduce risk more favorably than those that do not reduce risk. Indeed, Dodd-Frank contemplates the lower risk posed by hedging transactions in certain instances. In the prudential regulators' proposed margin rule, it observes, *"…persons using derivatives predominantly to hedge or mitigate risks arising from their business, rather than to speculate for profit, are likely to pose less risk to the covered swap entity (e.g., because losses on a hedging-related swap will usually be accompanied by offsetting gains on the related position that it hedges)*."

Dispersion and Heterogeneity of Risks

Bank exposure to end users is dispersed across tens of thousands of entities. The CFTC estimates that there are approximately 30,000 end users[28] - a number that could be quite conservative. The derivatives exposures these entities create are particular to each entity. The type of risk exposure, the direction of the hedge, the timing of the hedge, the hedge currency, and the hedge duration are each factors that make one end user's derivatives risk profile different from another's.[29] That these idiosyncratic risks are dispersed across so many entities limits the extent to which these risks could overwhelm a bank's capacity to absorb loss. The significant quantity of end users and heterogeneity of their risks create risk silos and in effect limit the extent to which the aggregation of risk exposure could adversely affect a banks' financial wellbeing. For end-user exposures to create financial system instability, thousands of end users would need to simultaneously fail, at the same time as their idiosyncratic derivatives risks have adversely affected the value of their derivatives positions. The improbability of such an event further mitigates end users' contribution to systemic risk.

Summary of End Users & Systemic Risk

The aforementioned attributes form a strong basis for concluding that end users pose minimal risk to financial stability. Indeed, these attributes no doubt contribute to Chairman Bernanke's repeated statements concerning end users:

- *"The Board does not believe that end-users other than major swap participants pose the systemic risk that the legislation is intended to address."* [30]
- *"Non-financial end users appear to pose minimal risks to the safety and soundness [of] covered swap entities and to U.S. financial stability."*[31] *(Letter to Chairman Stabenow)*

End users' minimal contribution to systemic risk renders other points of concern about end-user margin ancillary to the public policy debate. This is because the application of margin requirements to end user transactions should be conditioned on whether end users meaningfully contribute to system risk. However, in the balance of this document we address other criticisms leveled at the end-user exemption and legislation that is intended to preserve it.

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[28] 75 FR 80747
[29] We elaborate on the heterogeneity of end user risks in our evaluation of Criticism #1
[30] Letter from Federal Reserve Chairman Bernanke to Senator Crapo
[31] commoditymkts.files.wordpress.com/2011/07/bernanke-letter-to-stabenow.pdf

Evaluation of Key Criticisms

Some have sought to frame the end-user exemption – from clearing and/or margin – as a loophole that would weaken financial reform. They have, in some cases, mischaracterized end users' arguments in favor of an exemption and then leveled piercing criticism at those mischaracterized arguments. In the balance of this document we identify and analyze the key criticisms.

Criticism #1*: End-user hedges pose risk as do all derivatives, and they should not receive special treatment*

Following are examples of statements that reflect this criticism.

- "*A risk is a risk is a risk. If a derivative sold to an end-user without a margin creates a credit risk, we should want our financial regulators to call that spade a spade. When legislators start creating special categories of risks which regulators are directed to pretend don't exist, it's a recipe for yet another financial disaster*."[32] ("Betting the Business" blog entry by John Parsons & Antonio Mello on 8/3/11; hereafter referred to as "Parsons/Mello")
- "*The macro mistake is to ignore the entire purpose of the regulation…The objective of this and other elements of the reform is to reduce the total risk in the system.*"[33] (Parsons/Mello 2/14/11)
- "*…a derivative inescapably creates a credit risk for the swaps dealer – if the dealer's customer cannot fulfill its obligations, the dealer is exposed to losses.*"[34] ("AFR Bulletin: Prudential Standards for End User Derivatives" and related cover letter sent 4/25/11; hereafter referred to as "AFR Bulletin")

An unmargined derivatives exposure is analogous to the exposure a bank faces on a loan or that a bond investor faces on a bond. The logical conclusion of a view that holds that "*a risk is a risk is a risk*" is that banks should cease to be allowed to offer secured[35] or unsecured loans to their borrowers. Prohibiting secured or unsecured lending is plainly inconsistent with public policy objectives targeted at the lending markets (i.e., to encourage banks to lend), and we would argue that ending or curtailing secured or unsecured hedging is similarly inconsistent with these same public policy objectives. When considering that unmargined derivatives exposures are equivalent to secured and unsecured loan exposures, it becomes clear that subjecting end-user derivatives exposures to margin requirements is the very action that treats these exposures as a "*special category*." Policy should focus on the degree and amount of

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[32] bettingthebusiness.com/2011/08/03/playing-pretend-with-credit-risk/
[33] bettingthebusiness.com/2011/02/14/the-collateral-boogeyman-is-back/
[34] ourfinancialsecurity.org/blogs/wp-content/ourfinancialsecurity.org/uploads/2011/04/AFR-End-Users-4-25-111.pdf
[35] By secured loans we refer to loans that that are secured by physical assets, priority interests in equity, priority interests in cash flow, etc.

the risk as opposed to the form it takes, and should seek to reduce and contain any *systemic* risk regardless of the form it takes.

The central flaw of these criticisms is that they fail to distinguish between systemic risk and other kinds of risk. Taking measured risks is foundational to our economic and banking systems. It is when these risks individually (as was the case with AIG) or in aggregate (as was the case with excessive home mortgage exposures generally) pose risk to the financial system that a public policy mandate is justified.

Derivatives risks posed by individual firms that are so significant as to jeopardize financial stability are addressed through application of the major swap participant provisions of the legislation. The section of this document entitled “End Users & Systemic Risk” attempts to establish that end-user hedging in aggregate has not heretofore posed risk to financial stability nor is it likely to do so in the future. This is because, as noted in that section of the document, end users represent a small fraction of the market, historical losses and write-downs on end-user derivatives have been small, end users do not use the kinds of derivatives closely associated with the financial crisis, end users utilize derivatives to reduce risk, and end-user risks are dispersed across tens of thousands of entities. One additional reason that end-user transactions have not contributed to systemic risk is likely that end-user risks (and consequently end-user hedging positions) are not highly correlated with each other. Company risks tend toward heterogeneity for numerous reasons, including the following:

(1) **Hedged Risk**: Each end user hedges risks that are specific to its business. A company which produces beer may be primarily exposed to aluminum prices, whereas an airline may be primarily exposed to oil prices.
(2) **Direction of Hedge**: A supplier and purchaser may hedge the same underlying risk but in an opposite direction (e.g., one may pay a fixed rate in the hedge, the other may receive a fixed rate in the hedge). Changes in the hedged rate will thus have the opposite effect on the value of their respective hedge positions.
(3) **Timing**: Each end user hedges risks that occur at times that are specific to the end user. The timing of hedging activity may be driven by purchasing and sale activity, company forecasts, company financing activity, or any number of other factors. Because the hedged rates differ, the value of equivalently sized positions will also differ.
(4) **Currency**: Each end user may have risks arising in different currencies. A manufacturer purchasing supplies from Brazil has different risks from a technology company selling software in Germany.
(5) **Duration**: The duration of each company’s risk and the resultant duration of its hedges will vary widely from company to company. An owner of office buildings will enter into long-term hedges that attempt to match the duration of fixed rate office leases. A homebuilder will enter into shorter term hedges that match the shorter hold period of residential land plots.

***Criticism #2**: The proposed rule simply codifies existing market practice*

Following are examples of statements that reflect this criticism.

- "*The rule simply codifies existing market practices that have long been followed in the derivatives market.*" (AFR Bulletin)
- "*By requiring that swaps dealers set some credit limit for uncollateralized exposure to a commercial end user, the regulators have simply asked that dealers follow standard risk management practices used in the market today. Regulators leave swaps dealers free to set their own credit exposure limits for commercial end users; these limits are not set in the rule. Therefore, the rule does not interfere with current market practices*." (AFR Bulletin)

It is true that swap dealers carefully evaluate the credit risk of end users and establish a credit exposure limit for each end user. It is true that when the market value of an end user's swaps exceeds a pre-agreed threshold (often set at the credit exposure limit), SOME end users post cash[36] collateral to secure the quantity of exposure in excess of the threshold. However, there are many end users that NEVER post cash collateral to secure their derivatives positions. 39% of respondents to a Coalition for Derivatives End-Users' survey indicated that they do not enter into arrangements which mandate the posting of cash collateral. When a dealer has a maximum credit exposure tolerance to an end user, the dealer will simply stop entering into additional hedges with the end user if those hedges are likely to bring the aggregate credit exposure above the credit exposure limit. And dealers can dynamically reassess credit exposure limits as a company's credit profile changes – they are not locked into legal agreements that codify a credit limit based on an old snapshot of a company's credit profile.[37]

End users who require such arrangements do so for sound reasons. Typically, these end users prioritize the preservation of liquidity above the lowering of cost. Such end users' balance sheets may be largely comprised of physical assets and/or they may not have ready access to liquid collateral. A contingent requirement to post liquid collateral – especially one that comes at a time of market stress – may be especially burdensome. The prospect of a contingent collateral requirement will often cause such end users to avoid hedging altogether.

The proposed rule could significantly alter the financing and risk management strategies of end users that use physical assets to secure their derivatives transactions. Often, a swap and floating rate loan are offered in combination by a single bank. In such cases, the swap is secured by the physical asset(s) that secures the underlying loan. The combined swap and loan have properties that are similar to a fixed rate loan. However, the swap offers benefits to both the borrower and the lender. For example, the

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[36] We use the term "cash"" in this document to encompass cash and cash equivalents, including treasuries and – in limited cases – agencies.

[37] For a subset of end users, these agreements can be designed to adjust with changing credit profiles. Dynamic readjustment is practically infeasible for many or most end users, however.

breakage/prepayment characteristics of the swap/loan combination are much more favorable to the borrower,[38] and the cost may be lower when compared to a fixed rate loan. The more favorable breakage/prepayment costs afford the borrower greater flexibility –a necessary feature in certain circumstances. Additionally, because banks often rely on floating rate funding, they may prefer providing floating rate loans to customers. Offering swaps in connection with floating rate loans allows them to meet their customers' need for fixed rate financing, while simultaneously offering the bank the interest rate risk profile they deem necessary or preferable. Because the proposed rule does not allow for physical assets to satisfy margin requirements in excess of the threshold, companies utilizing this financing/risk management strategy may be forced to abandon a model that serves them well and does not undermine financial stability.

These examples evidence the burdens the proposed margin rule could create for companies. Far from "simply codifying market practice," the proposed rule could disrupt risk management and financing markets in important ways. Two important changes to existing market practice are summarized as follows:

(1) The proposed rule creates a legal obligation to post liquid collateral if the market value of a transaction or portfolio moves beyond a specific threshold. Such a government mandated obligation has not existed in the past. Many end users have never been subject to a margin requirement.
(2) The proposed rule precludes an end user from satisfying the margin requirement with less liquid forms of collateral, including property and equipment.

These issues are among the clear and significant departures from current market practice.

Criticism #3*: Legislation that would reverse the rule mandates unsound banking practices*

Following are examples of statements that reflect this criticism.

- *"Because this rule maintains traditional and prudent risk management rules, an attempt to reverse it could actually make risk standards for derivatives lower than they were before the Dodd-Frank Act was passed."* (AFR Bulletin)
- *"…the Act was not intended to reverse standard risk management practices followed by dealers in extending credit through derivatives, or to force regulators to abandon their long-standing*

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[38] Swap termination payments are a function of changes in interest rates. Fixed rate loan termination payments (e.g., yield maintenance, make whole, etc.) are a function of changes in interest rates plus the present value of unpaid credit spreads. The portion of the prepayment penalty associated with credit spreads serves as a significant economic disincentive to prepayment of fixed rate loans.

requirement that banks hold capital against derivatives risk exposures. To do so would be to mandate unsound banking practices. Giving derivatives risk some special exemption from standard risk management practices would be a serious failure to learn the lessons of the financial crisis." (AFR Bulletin)

- *"This bill[39] demands that financial regulators turn a blind eye to certain specific risks on a bank's balance sheet. If the risk arises from the sale of a non-margined derivative to an end-user, the bank is supposed to pretend the risk doesn't exist. The regulator cannot demand that the bank hold capital against that risk."[40]* (Parsons/Mello 8/3/11)
- *"This legislation[41] seeks to tie the regulators' hands. For credit risk accumulated through a variety of other loans, credit lines and similar products, the regulator is free to properly assess risk and demand the bank set aside an appropriate amount of capital. But credit risk associated with the sale of non-margined derivatives to end-users is to be privileged and exempt."* (Parsons/Mello 8/3/11)

Legislation to address concerns about the imposition of margin on end-user transactions has been introduced in both the House (HR 2682)[42] and the Senate (a component of SA 814). The above criticisms seem to reflect a belief that such legislation precludes banks from carrying out their normal risk management procedures with respect to end users. In some cases, these normal risk management procedures will include the imposition of margin requirements.

These criticisms are unfounded. The legislation precludes the *government* from mandating margin requirements on end users. It does not preclude *banks* from carrying out their normal risk management procedures. Rather, it allows banks and end users to maintain the ability to negotiate margin requirements with each other, without interposing regulators into that negotiation.

Some have argued that regulators have long had authority to require swap dealers to collect margin from their end-user counterparties. If true, this power would likely emanate from the regulators' broader mandate to ensure the safety and soundness of banks through supervision of banks' credit risk management practices. If this authority does exist, there are two important considerations in assessing whether this or similar legislation would "*actually make risk management standards for derivatives lower*" or "*mandate unsound banking practices*." The first is determining whether regulators have found such authority useful in the past and have demonstrated that usefulness by requiring swap dealers to collect margin from their end-user counterparties. The second is whether the financial crisis

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[39] Refers to HR 2682

[40] bettingthebusiness.com/2011/08/03/playing-pretend-with-credit-risk/

[41] Refers to HR 2682

[42] HR 2682 exempts transactions by non-financial end users from margin requirements; SA 814 sought to include language that would exempt transactions by non-financial end users and certain financial end users from margin requirements.

demonstrated that such authority is now necessary to mitigate systemic risk. We believe that each of these questions will be answered in the negative. Additionally, the proposed rule would make an important change to such authority, if it exists. Rather than leaving the imposition of margin at the discretion of regulators, it would *obligate* regulators to impose margin, even on entities or classes of entities it deems to have no ability to undermine financial stability.

It should also be noted that margin is not the only policy mechanism for mitigating risk to uncleared trades executed by end users. Capital requirements imposed on bank counterparties – including those imposed on derivatives transactions – are also designed to cushion banks against derivatives losses. The prudential regulators' margin rule acknowledges the value of capital requirements in addressing the risk of uncleared swaps. The rule notes, "*…financial end users that are subject to regulatory capital requirements are likely to pose less risk as counterparties (e.g., because the requirements ensure that minimum amounts of capital will be available to absorb any losses on their derivatives transactions)*."[43] The rule further notes, "*The Agencies have preliminarily determined that compliance with these regulatory capital requirements is sufficient to offset the greater risk to the swap entity and the financial system arising from the use of non-cleared swaps, helps ensure the safety and soundness of the covered swap entity, and is appropriate for the greater risk associated with non-cleared swaps and non-cleared security-based swaps held as a covered swap entity. In particular, the Agencies note that the capital rules incorporated by reference into the proposed rule already address, in a risk-sensitive and comprehensive manner, the safety and soundness risks posed by a covered swap entity's derivatives positions. In addition, the Agencies preliminarily believe that these capital rules sufficiently take into account and address the risks associated with the derivatives positions that a covered swap entity holds and the other activities conducted by a covered swap entity*."

Thus, the criticism that "*the regulator cannot demand that the bank hold capital against that risk*," is simply untrue. Capital requirements already exist, will be increased when Basel III is implemented, and are effective in cushioning against losses associated with non-cleared trades.

Criticism #4*: End users' criticisms of the rule are predicated on a misunderstanding about the value and origin of margin requirements*

Following are examples of statements that reflect this criticism.

- *"…these authors, along with many others, think of margins as something imposed by government fiat. They don't see margins as an innovation of the private market."*[44] *(Parsons/Mello 7/7/11)*

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[43] 76 FR 27564

[44] bettingthebusiness.com/2011/07/07/historical-fact-and-lobbying-fiction-on-end-users-and-margins/

- *"…margining derivative transactions is a practice that was historically imposed by end-users on end-users for the efficacy of economic transactions among end-users. Pretending that it is a practice only imposed by government and one only appropriate to be imposed on financial companies is at odds with history. The delusion is also at odds with actual practice in the OTC derivatives market, even pre-Dodd-Frank reform. A large percentage of OTC swaps sold by dealer banks to end-users are margined." (Parsons/Mello 7/7/11)*

End users are seeking to preserve margin as a private market mechanism. Indeed, they are merely asking regulators to follow congressional intent as has been clearly expressed prior to and since the passage of Dodd-Frank. Margin rules proposed by regulators effectively interpose government into the negotiations of two private parties. Indeed, we appreciate the value of interposing government into transactions between entities whose derivatives use poses risk to financial stability. End users, other than major swap participants, do not pose risk to financial stability. As such, we see no public policy justification for removing private contracting rights when end users are party to a transaction.

Though it is true that many end users do enter into margin arrangements with their bank counterparties, it is also true that many do not. Indeed, many place a premium on avoiding these contingent margin requirements. For them, contingent margin requirements may represent a "time bomb" in their financial structure – something that could demand liquid resources when the preservation of those resources is most essential, or something that could otherwise demand liquid resources that exist in very limited supply. The prudential regulators' rule would thus preclude many end users from negotiating credit terms in their derivative contracts that are critical to preserving liquidity and which have limited or no effect on financial stability.

Criticism #5*: End users inaccurately understand the cost of unmargined trades*

Following are examples of statements that reflect this criticism.

- *"The micro mistake is the delusion that absent a collateral requirement companies are able to trade derivatives at no cost to their balance sheet."[45] (Parsons/Mello 2/14/11)*
- *"Hidden in the argument is the unstated premise that in the OTC market before reform it was somehow possible to get something for nothing...Complaints that mandatory clearing will raise end-users' costs of hedging are all premised on the fallacy that the dealer is giving the end-user a free lunch."[46] (Parsons/Mello 10/7/10)*

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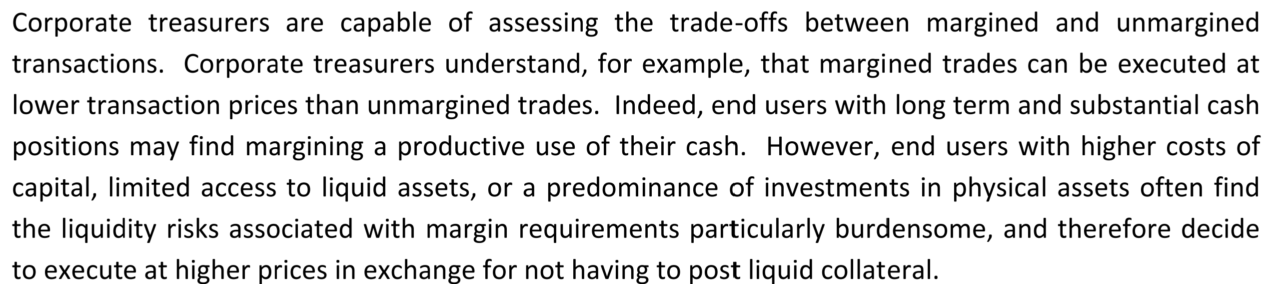
[45] bettingthebusiness.com/2011/02/14/the-collateral-boogeyman-is-back/

[46] bettingthebusiness.com/2010/10/07/otc-3-the-collateral-boogeyman-%e2%80%93-the-delusion-of-%e2%80%9cfree%e2%80%9d-credit-from-your-friendly-neighborhood-derivatives-dealer/



Corporate treasurers are capable of assessing the trade-offs between margined and unmargined transactions. Corporate treasurers understand, for example, that margined trades can be executed at lower transaction prices than unmargined trades. Indeed, end users with long term and substantial cash positions may find margining a productive use of their cash. However, end users with higher costs of capital, limited access to liquid assets, or a predominance of investments in physical assets often find the liquidity risks associated with margin requirements particularly burdensome, and therefore decide to execute at higher prices in exchange for not having to post liquid collateral.

Corporate treasurers do not look at cost in isolation when considering the relative merits of margined and unmargined trades; they look at the trade-offs between cost and liquidity. In fact, this trade-off is one corporate treasurers analyze across the product spectrum and is not unique to derivatives transactions. For example, when an end user obtains a loan and secures that loan with a specific asset, it must determine whether to pay a higher credit spread and receive higher loan proceeds (i.e., an increase in cost for the benefit of an increase liquidity), or pay a lower credit spread and receive lower loan proceeds (i.e., a decrease in cost at the cost of a decrease in liquidity). The trade-offs involved in this lending analysis are similar to the trade-offs involved in the margined trade vs. unmargined trade analysis.

Some have argued that information asymmetry in this market ensures that the pricing of unmargined trades will always tilt the analysis in favor of margined transactions. This analysis is predicated on an assessment that pricing transparency in the OTC derivatives market is extremely limited – a function of the customized nature of transactions and the individualized pricing that customization requires. It is true that portions of the OTC derivatives market are less transparent than some other markets, and that dealers have profited from information asymmetry. However, it should be noted that the transparency gap in the market has narrowed considerably over the last decade, fueled by a growth in technology and advisory services aimed at addressing this very issue. Additionally, Title VII acknowledged this problem and sought to address it through various policy tools. Real-time reporting, swap execution facilities, and business conduct requirements were the policy tools Congress determined would be targeted at the transparency gap. Congress did not intend for margin to be a tool focused on transparency; rather, margin was to be targeted at systemic risk. The legislative text makes this clear. The following terms in the margin section of the Act demonstrate this intent: "*to offset the greater risk*," "*safety and soundness*," "*appropriate for the risk*," and "*preserving the stability of the United States financial system*."[47]

Some have suggested that the liquidity burden imposed by margin requirements could be mitigated if end users borrowed funds to meet the margin requirements. Some end users may have revolving credit facilities from which they can draw to meet contingent margin requirements. Others may create new

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[47] Sections 731 and 764 of the Dodd-Frank Act

credit facilities – which some have called "margin lending facilities" – to satisfy contingent margin requirements.

However, there are numerous shortcomings with a model that assumes loans will address borrowers' margin needs. Some of these shortcomings are as follows:

(1) **Form over Substance**: Margin lending facilities do not eliminate credit risk. They simply transfer that credit risk from a derivative into a loan. If an end user were to become insolvent, the loss the bank would incur would be of equivalent magnitude whether that loss came in the form of a loan or a derivative. As such, margin lending facilities play virtually no role in mitigating systemic risk. This model is a change in the form of credit risk rather than a change in substance.

(2) **New Risks**: Margin lending facilities could shift certain risks from a swap dealer to an end user. Specifically, if the term and amount of a margin lending facility do not match the term and future value of the related derivatives, the end user could be forced to rely on other sources of capital to fund that portion of exposure that exceeds the parameters of the margin lending facility. This could have the effect of reducing some risk for the bank, but it would come at the expense of the end user, which would be left carrying the risk. This risk could create an unwelcome and unpredictable liquidity event for the end user. For example, if an end user enters into a 5-year hedge and funds margin using a credit facility with a 2-year maturity, it faces the risk that it will be unable to extend or replace that facility at maturity, at which point it would be forced to come up with a different source of funds to meet the margin requirements. If the facility maturity comes at a time of market stress or at a time when the company is stressed, it may be quite expensive or impossible to replace the facility, and could feasibly force the company into bankruptcy. Because this risk shifting has the effect of reducing risk for banks, it is worth considering the magnitude of this risk reduction benefit. In this case, we would look to the historical loss experience of banks to determine whether this risk has been large or is likely to be large in the future. Historical loss experience suggests this risk is not large and is not likely to be large in the future (see "End Users & Systemic Risk" section of this document). Without creating an aggregate risk for the banking system, such a mechanism could create acute problems for particular end users. As such, the relatively small benefit to the banking system associated with such facilities is likely to be overwhelmed by the burden such facilities would place on affected end users.

(3) **Cost & Complexity**: Margin lending facilities would add a new layer of complexity to the risk management process. Borrowers would be forced to negotiate an additional set of documents and would pay fees that are customary when establishing new lending agreements. Such fees could include legal fees, origination fees, unused facility fees, prepayment fees, etc. These fees could be mitigated to some extent by any cost savings that are achievable on the margined derivative. However, we expect costs, on balance, will outweigh the benefits of such arrangements. This expectation is a function of mechanisms – both currently available (e.g.,

technology tools, advisory services) and that will become available through Dodd-Frank (e.g., SEFs, real-time reporting, business conduct standards) – that allow borrowers to achieve efficient pricing on their unmargined derivatives. At the same time, there will be times when the cost savings on margined trades will exceed the additional costs associated with margin lending facilities. In some cases, this could result from end users' not availing themselves of available transparency mechanisms and/or from the cost of regulatory capital requirements applied to unmargined trades. Still, end users should retain the discretion to weigh the trade-offs associated with their particular situation, rather than being forced into a model which may be more costly and complex.

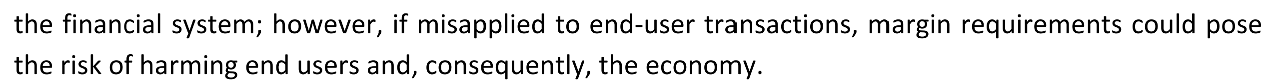
(4) **Interest Rate Risk**: One of the reasons end users depend on derivatives is to reduce risk. They appreciate derivatives' contribution toward creating price certainty, facilitating an end user's ability to plan and forecast their expenses. Margin lending facilities, because of their inherently uncertain balances, would typically be floating rate facilities. Accordingly, end users would be subject to unknown debt balances based on future margin call needs as well as unknown interest rate expense based on those debt balances. Ironically, in the case of interest rate swaps, end users hedge in order mitigate or eliminate interest rate risks inherent in their balance sheets, and margin lending facilities would actually increase those risks.

(5) **Debt Covenants**: Debt covenants in existing credit agreements may preclude end users from taking on the additional indebtedness of margin lending facilities.

(6) **Strategic Uses**: Borrowers may rely on their revolving credit facilities for strategic uses and thus may look to avoid utilizing them as regular financing. For example, borrowers with maturing debt obligations may seek to ensure that they have sufficient unused capacity on their revolving credit facilities to pay off these maturing obligations. This is especially important during stressed market conditions when the availability or cost of replacement financing may be limited or non-existent. Also, borrowers may prefer to retain credit facility capacity to make strategic investments, including the purchase of assets, the purchase of other companies, bond or stock repurchases, etc. A margin requirement will require them to maintain some capacity on their revolving credit facilities to meet margin calls, and may diminish their ability to maintain adequate capacity for strategic needs.

Conclusion

In this paper we have argued that end users do not contribute to systemic risk and that, consequently, they should not be subject to margin requirements. We have established that (1) Congress did not intend to impose such requirements on end users, (2) the application of margin requirements to end-user transactions is not necessary to bring stability to the financial system, (3) margin requirements could have a significant impact on the economy, and (4) the application of margin requirements to end-user transactions will disrupt financial and risk management markets for end users. Imposing margin on entities whose derivatives use jeopardizes financial stability can improve the safety and soundness of



the financial system; however, if misapplied to end-user transactions, margin requirements could pose the risk of harming end users and, consequently, the economy.

ABOUT CHATHAM

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