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Block trade reporting for over-the-counter derivatives markets

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Contents

Executive summary

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) requires the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) to establish rules that provide for the real-time public reporting of swaps[1] transactions, as well as exemptions to the real-time reporting rules for large notional swap transactions and block trades (referred to collectively as "block trades" throughout this paper).

A major challenge facing the CFTC and SEC is balancing the benefits of increased post-trade transparency in over-the-counter (OTC) derivatives markets with potentially adverse effects on market liquidity and pricing for end users. Both agencies have proposed reporting rules that include exemptions for some large trades, though the CFTC and SEC proposals differ substantially in how such block trades are treated.

The International Swaps and Derivatives Association (ISDA) and the Securities Industry and Financial Markets Association (SIFMA) have jointly prepared this paper, with support from Oliver Wyman, to help inform decisions about appropriate block trade reporting rules for OTC markets. After reviewing the goals of transparency as well as the importance of block trade reporting exemptions, the paper reviews and assesses trade reporting regimes used in the securities and futures markets. Using trade-level data from the interest rate and credit swap markets, it then illustrates distinctive market characteristics that should inform an appropriate trade reporting approach for the OTC derivatives markets. Finally, it assesses the CFTC and SEC proposals, identifying a number of potential shortcomings and providing recommendations on how they could be refined.

While not the primary focus of our research, one of the central conclusions of this paper is that transparency can be increased in the OTC derivatives markets while preserving liquidity. Other key findings include

- Special rules for block trades have been effectively used in equity, bond, and futures markets to ensure that dealers are able to execute block trades on behalf of clients without taking on unmanageable levels of risk, thus maximizing liquidity. Introducing similar rules in the OTC derivatives markets will have an equally beneficial effect

- Mechanisms used to balance the benefits and costs of transparency for large trades include minimum block trade size thresholds, reporting delays, and limited disclosure of block trading terms

[1] "Swaps" is used throughout this paper to refer to OTC derivatives subject to regulation under Dodd-Frank by both the CFTC and the SEC (which has authority to regulate "security-based swaps" in the legislation), unless otherwise noted.

- Trade reporting rules typically are developed and refined over time. TRACE, for example, was phased in over three years for the US corporate, municipal, and agency bond markets. Reporting rules for the London Stock Exchange experienced several adjustments since 1986 to cope with changing market conditions. Trade reporting rules for OTC derivatives should likewise be phased in, allowing regulators time to test and refine preliminary standards

- Liquidity in OTC derivative markets is fragmented and varies considerably depending on the specific product and terms of the contract (reference entity for CDS, maturity for all products, etc.) traded, making a "one size fits all" approach to trade reporting exemptions problematic

- The existing CFTC and SEC proposals for block trade reporting would likely increase (rather than decrease) costs for end users, including institutional investors and corporations, seeking to manage risk or raise capital

- The CFTC proposal establishes thresholds and reporting delays for block trades that would have a significant adverse effect on trading in less liquid instruments. The proposed rules would impose block minimum size requirements without appropriately differentiating between instruments with very different levels of liquidity

- The SEC proposal, requiring full disclosure of notional trade size (albeit on a delayed basis) for block trades, would likely impair liquidity for larger transactions in the credit default swap ("CDS") market, potentially leaving end users with significant credit risk exposures

- TRACE-type volume dissemination caps should be employed for all OTC derivatives products to ensure end users have sufficient sources of liquidity

Block trade rules should be set so that liquidity is not impaired, in order to preserve the ability of investors and companies to hedge their risks in a cost-effective way. Rules should be tailored to products – reporting rules for less liquid products should reflect differences from more liquid products, for example. New rules for trade reporting should be introduced using a phased approach. Reporting rules should be re-evaluated on a regular basis to ensure they reflect the changing characteristics of the market.

1. Transparency and block trading

1.1. Goals of transparency

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) calls on the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) to adopt final rules for the public reporting of transaction and pricing data for all "swap transactions" by July 15, 2011. Similar reforms are also being drafted by regulators in Europe.

A major policy objective of Dodd-Frank is to bring greater transparency to the OTC derivatives markets in the United States, while not adversely impacting liquidity in these markets; in this regard, Dodd-Frank mandates that regulators take into account the impact of liquidity when issuing rules regarding transparency.[2] The SEC and CFTC state in their recent notices of proposed rulemaking[3] that the objectives of increased transparency are

- To provide regulators with access to comprehensive and timely market data, facilitating the task of ensuring the safety and soundness of the financial system
- To promote lower transaction costs, greater competition, broader participation, and improved liquidity through the public dissemination of trade data

These objectives are meant to be achieved, in part, through real-time, public reporting of all OTC derivatives transactions (real-time is defined to be as soon as practicable).

1.2. The cost of transparency – Illiquidity

There is broad agreement that transparency can enhance market liquidity. However, some forms of trade transparency can impair liquidity. Immediate reporting of large trades will make hedging the risk in those trades more difficult as other market participants anticipate the hedging trades that will be needed. These extra hedging costs will be passed on to end users such as pension funds and companies. The result will be higher costs for end users that rely on the OTC derivatives markets to manage risk.

[2] See Dodd-Frank Sec. 727, which states that rules issued regarding the public availability of transaction and pricing data for swaps shall contain provisions "that take into account whether the public disclosure will materially reduce market liquidity."

[3] See *Real-Time Public Reporting of Swap Transaction Data; Proposed Rule*, Commodity Futures Trading Commission, December 7, 2010 (http://www.cftc.gov/ucm/groups/public/@lrfederalregister/documents/file/2010-29994a.pdf) ("CFTC proposal") and *Regulation SBSR – Reporting and Dissemination of Security-Based Swap Information*, Securities and Exchange Commission, November 19, 2010 (available at http://www.gpo.gov/fdsys/pkg/FR-2010-12-02/pdf/2010-29710.pdf) ("SEC proposal") for the detailed notices of proposed rulemaking.

For example, when a corporation plans to raise a significant amount of capital by issuing a fixed-rate bond, it is exposed to the risk that interest rates rise by the time it is ready to issue the bond. The firm can hedge that risk by entering into an interest rate swap with a market maker. The cost of the interest rate swap to the corporation will be directly related to the price at which the market maker believes it can hedge the risk. If, however, the terms of interest rate swap with the corporate end-user are reported in real time to the market, then other potential counterparties will know that a market maker has executed a large swap and needs to hedge the risk. As a result, these counterparties are likely to adjust pricing (bid-offer spreads) in anticipation of the trade, increasing the risk of loss to the market maker.[4] A rational market maker might react to this increased risk by (1) refusing to enter into the large transaction with the corporate end-user (thereby reducing liquidity), or (2) by increasing the price of the interest rate swap offered to the corporate end-user (thereby increasing the firm's financing costs) to provide a buffer against the increased risk. Either result is clearly detrimental to the end-user's interests, and will have a negative impact on that end-user's ability to raise capital, damaging investment in our economy.[5]

Post-trade transparency in one transaction effectively leads to pre-trade signaling for subsequent hedging related transactions. The knock-on negative effects – including decreased liquidity, reduced ability to trade, and increased costs to hedge risks – will be passed on to swaps end-users and those whose interests they represent. A reduced ability to hedge risk or an increased cost to hedging risk will ultimately affect the economic activity of companies and the savings and pensions of individuals.

The impact of transparency rules in major markets has been the subject of a number of academic studies.[6] Several studies have found evidence of an adverse impact of transparency in a range of markets. Madhavan, Porter and Weaver (2005), writing about the Canadian stock markets, report "that the increase in transparency reduces liquidity. In particular, execution costs and volatility increase after the limit order book is publicly displayed."

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[4] The size and direction of a transaction can be inferred before size is publicly disseminated based on the liquidity premium in the reported price.

[5] Similarly, a lender may wish to hedge a portion or all of a large new lending commitment to a corporation using credit derivatives. If this new large hedging transaction is reported to the public before market makers can hedge their risk, the cost and availability of the hedge will be negatively affected. This will then impact the lender's ability to extend credit or result in an increase in the cost of credit provided. Either event would, in turn, affect the corporation's ability to finance and expand its operations, and ultimately have a negative effect on the economy and job creation.

[6] Bessembinder, H., Maxwell, W., Venkataraman, K., 2006. Market transparency, liquidity externalities, and institutional trading costs in corporate bonds. Journal of Financial Economics 82, 251-288.

Edwards, A., Harris, L., Piwowar, M., 2007. Corporate bond market transaction costs and transparency. The Journal of Finance 62, 1421–1451.

Madhavan, A., Porter, D., Weaver, D., 2005. Should securities markets be transparent?. Journal of Financial Markets 8, 265-287.

The same impact has been observed in other geographies. When the London Stock Exchange (LSE) abolished fixed commissions in 1986, it initially required immediate publication of prices. After experiencing a reduction in liquidity, the exchange allowed the prices of trades exceeding £100,000 to be published after a 24-hour delay. In 1991, the LSE changed its rules once again to introduce a 90-minute delay for trades that exceeded a "social threshold"[7] of three times a normal market size trade. The LSE has since changed the rules numerous times to achieve a better balance between transparency and liquidity.

Futures exchanges have also recognized the impact of real-time reporting on liquidity of listed futures and options. Some exchanges allow members to execute large transactions bilaterally provided the terms are reported to the exchanges after a short delay. Chicago Mercantile Exchange (CME) and Chicago Board of Trade (CBOT) rules require reporting within five minutes for interest rate products during regular trading hours and 15 minutes at other times.

Futures are relatively simple, fungible instruments that trade in markets with thousands of participants, including large numbers of individual investors. Contracts are of small size and liquidity can run to hundreds of thousands of trades per day. Block trades are very rare (less than one per day) for many products, as block minimum sizes are very high relative to the average ticket size and the trading that can be executed during the short delay periods. End users either execute transactions piecemeal, taking basis and market risk, or rely on OTC markets to conduct large trades.

1.3. Block trade exemptions

To preserve a high level of liquidity, market regulators frequently allow reporting exemptions for block trades. In defining block trade exemption rules, market governing bodies have three general mechanisms at their disposal: (1) minimum block trade size thresholds, (2) trade reporting delays, and (3) limited disclosure.

- **Minimum trade size thresholds** – By definition, block trade exemptions require clear definitions of the criteria that qualify transactions as block trades subject to special reporting requirements. This threshold or "minimum block size" is commonly a function of the average trade size or the cumulative distribution of trades for a specific instrument. Market regulators frequently target a percentage of transactions that will qualify as block trades, but also take into consideration a wide range of market factors (e.g. average daily trade volume).

- **Reporting delays –** Reporting delays of appropriate length allow market participants to hedge the market risk of block trades during the delay period. The delay mechanism is most effective when instruments or contracts are very liquid and either

[7] Social thresholds are based on trade sizes that are representative of a particular product or asset class, which is usually an average trade size for that product or asset class.

fungible or highly standardized,[8] and minimum block sizes are set at reasonable levels. If these requirements are met, participants are able to hedge entirely the market risk of block trades during the reporting delay.

- **Limited disclosure** – Many products do not have sufficient liquidity to ensure that risks from a block trade can be sufficiently hedged during a relatively short reporting delay period. In many cases, markets permit participants in block trades to report limited information regarding block trades. The most common form is a volume dissemination cap – the market is informed that a transaction above the cap has occurred, but not the exact size of the transaction. Markets may also grant volume dissemination caps for more liquid products in cases where the block trade is a multiple of the block minimum. The limited disclosure mechanism ensures that price discovery remains intact for block trades while protecting post-block trade hedging needs from being anticipated by other market participants.

1.4. Considerations for implementation

When establishing rules for block trade exemptions, market governing bodies should consider a number of factors

- **Block trade thresholds should be set so that disclosure of such trades does not adversely impact liquidity**. The purpose of block trade exemptions is to maximize liquidity by allowing traders to efficiently cover the risks associated with the execution of large trades.

- **Rules should be tailored to products and assume one size does not fit all**. The OTC derivatives market contains a wide variety of products. Some products are reasonably liquid and standardized, and block trading rules can be defined with some degree of confidence as to their effect on liquidity. Other products may have much less liquidity and a large percentage of this small volume may consist of block trades.

- **Reporting rules for less liquid products should reflect differences from more liquid products**. Block minimum size for these illiquid products need to be smaller, delays longer, and information less complete to ensure end users get the best possible pricing.

- **In some markets, the aggregate size of block trades represents a significant share of overall turnover**. For example, 45% of trading turnover on the LSE is subject to a delay in trade reporting (but only 5% of the number of trades). This seems to be a

[8] Standardized products are those for which market quotes are easily available. They include stocks, bonds and futures contracts. In the OTC markets, credit default swaps and some credit indices have become highly standardized. Interest rate swaps with spot start and 3- or 6-month LIBOR as the floating rate index also exhibit reasonably high levels of standardization.

natural consequence for many OTC derivatives products given their large average size and low level of trading frequency.

- **All market participants should be able to (cost effectively) hedge their risk**. Block trading rules should be designed to allow market makers to cover their risks, and thereby provide efficient, low-cost liquidity to other market participants. In liquid, standard instruments trading volumes need to be examined relative to minimum block sizes and reporting delays. For illiquid and customized (non-standard) products, market makers are not able to offset risk in short periods of time and the disclosure of limited information may be the only viable alternative.

- **For highly customized products, price transparency may be uninformative and misleading**. An OTC derivative contract can be customized to such a degree that its transparency does not meaningfully inform the rest of the market. In fact, reporting prices for such products can be misleading for market participants trading similar, but different products.

- **New rules for trade reporting should be introduced cautiously, as the impact on market liquidity for OTC derivatives is unpredictable**. Raising thresholds over time does not risk damage to market liquidity in the same way that immediate introduction of high thresholds would. Experience bears this out. The LSE initially implemented real-time reporting, but soon had to introduce 24-hour reporting delays for some trades given the initial impact on liquidity. Conversely, TRACE gradually phased in shorter block trade reporting delays (moving from 75 to 15 minutes).

- **Block trading formulas should be re-calibrated regularly and methodologies reviewed periodically to ensure they both remain appropriate for changing markets.**

- **Great care should be taken to ensure that the specificity of trade data reporting does not compromise the anonymity of participants.**

2. Transparency in securities and futures markets

Real-time post-trade reporting requirements have been introduced in a number of markets in the US and Europe. Almost all efforts to implement real-time reporting have recognized the need for block trading exemptions to preserve market liquidity. Regulators and other market governing bodies have recognized that dealers will only make markets when given the ability to hedge risk economically. Each of the mechanisms described in Section 1 (minimum block trade size thresholds, reporting delays, and limited disclosure of transaction data) are commonly used, often in combination with one another, to balance transparency and liquidity.

Below we briefly review the evolution of trade reporting for UK equities on the LSE, the trade reporting regime for US exchange-traded futures and the impact of the introduction of the TRACE trade reporting system for US corporate, municipal and agency bonds. Collectively and individually, these case studies demonstrate that inadequate block trading exemptions impair liquidity and affect market structure. Indeed, the challenge is to devise a post-trade transparency framework where the overall benefit of increased transparency is maximized by preserving market liquidity.

2.1. Trade reporting in the equity markets: the experience of the LSE

The LSE trade reporting experience highlights the need for accommodating block trades through exemptions to real-time reporting rules even in highly liquid markets. Rules governing the trading of equity shares in the London markets were the subject of sweeping changes on October 27, 1986, an event widely referred to as the "Big Bang." The changes included abolishing fixed commissions, eliminating most of the restrictions on the ownership of brokers and introducing electronic trading.

As part of these changes, the LSE introduced a trade reporting regime designed to promote total transparency. It required all trades in major stocks to be reported within five minutes. It became apparent that near immediate and full transparency hurt liquidity as market makers faced increased risks with their equity positions known virtually instantaneously.[9] Real-time reporting rules were modified in early 1989, when the LSE permitted trades in excess of £100,000 to be reported on a delay of up to 24 hours after execution.

As illustrated in detail in Appendix 1, block trading rules continued to evolve, becoming more flexible and detailed over time. Some of the first social thresholds (block size thresholds defined as a multiple of normal trade sizes) were incorporated in the early 1990s. Current rules provide for reporting delays that vary from 60 minutes up to three trading days for very large trades. Throughout this period, the LSE has set its size

[9] Ganley, J., Holland, A., Saporta, V., Vila, A., 1998. Transparency and the design of securities markets. Financial Stability Review 4, 8-17.

thresholds and reporting delay periods in a manner that enables dealers to offset risk during the reporting delay period.

The current post-trade reporting delay regime has produced very interesting results. In terms of the number of trades, almost 95% of trades are reported without any delay; in terms of value, approximately 55% of trade value is reported without any delay, and a full 30% is reported at the end of the current trading day or later.[10] These data show that the market still supports significant levels of block trading, albeit with a multi-tiered reporting delay framework, a fact that might be difficult to ascertain from the assessment of the LSE reporting delays contained in the CFTC's December 7, 2010 proposal.[11]

Table 1: Current LSE equity deferred publication framework[10]

Delay band	No delay	60 mins	180 mins	End of day	End of day 2	End of day 3	End of day 4
Value of trades	55.4%	7.7%	6.9%	17.0%	3.1%	6.5%	3.3%
Number of trades	94.8%	2.7%	0.9%	0.5%	0.3%	0.7%	0.1%

The evolution of the LSE rules demonstrates that the right mix of real-time reporting and block trading exemptions is a difficult balance to strike. A real-time reporting regime, even in highly liquid securities, requires ongoing analysis and frequent review.

2.2. Trade reporting in the US futures markets

The unique characteristics of the US futures markets highlights the potential consequences of block trade thresholds set well above normal trade sizes and should guide the implementation of any trade reporting regime for OTC derivatives (where block trades are more common and critical to market liquidity).

Futures markets are generally highly liquid and well-suited to central order books that accommodate small trades and broad market participation. Futures trade in standardized, small contracts (in contrast to the OTC markets, in which each contract is customized and can be very large). Futures markets require reporting as soon as trades are executed. Block trades are permitted with brief reporting delays that generally range from 5 to 15 minutes.

[10] www.londonstockexchange.com TradElect parameters.

[11] "The London Stock Exchange ("LSE") allows the publication of the trade to be delayed, if requested, for a specified period of time which is dependent on the volume of the trade compared to the average daily turnover, as published by LSE, for that particular security. LSE rules require member firms to submit trade reports to LSE as 'close to instantaneously as technically possible and that the authorized limit of three minutes should only be used in exceptional circumstances.'" (CFTC proposal, p. 76166)

The delay allowed for reporting futures block trades can be examined in light of the level of trading for each product. Table 2 below provides block trading and other market details for selected CME Group products. The table shows, for select futures contracts, the potential number of block trades (e.g. 200 contracts for gold futures) that could be completely offset over the course of a typical five-minute delay period. We calculate the average number of contracts that are traded during the delay period (e.g. 2,196 for gold futures) based on the year-to-date average daily volume, and then calculate how many minimum block trades this would accommodate.

Table 2: Block trading details for selected CME Group futures products[12]

Futures Contract	Minimum block size (number of contracts) (A)	2010 YTD ADV (B)	Contracts traded in 5-minute delay period based on ADV (C)	Number of block trades offset in delay (C:A)	Average trade size (number of contracts)	Average number of block trades per day
Gold	200	171,277	2,196	11	2	<1
Silver	200	42,120	540	3	2	<1
Copper	100	40,842	524	5	2	<1
Natural Gas	100	246,663	3,162	32	2	10
Light "Sweet" Crude Oil	100	679,282	8,709	44	3	>50
Ethanol	10	2,477	32	3	3	3
30-day Fed Funds	2,000	52,009	667	0	50	<1
30-Year Treasury Bonds	3,000	326,481	4,186	1	10	<1
5-year Treasury Notes	5,000	509,712	6,535	1	15	<1

As shown in the table, most block trades in energy products and metals can be offset during the delay. However, block trades in interest rate products cannot typically be offset during the reporting delay despite significant activity in these contracts. The table also shows that block trades are relatively rare in all the contracts in the table and are virtually non-existent in the contracts where the delay provides the least opportunity to offset risk.

A natural outgrowth of the high block trading thresholds is small average trades and a scarcity of transactions of even modest size. Contracts for Natural Gas and US Treasury

[12] Trading data for November 21, 2010, CME Group.

Notes futures illustrate this point, shown in Figure 4 and Figure 5 of Appendix 2. We examined trading activity for both of these contracts on the CME on November 21, 2010. 98% of transactions in Natural Gas futures included less than ten contracts; likewise, 98% of transactions in 5-year US Treasury Notes futures had an underlying principal of less than $5 MM (with a single trade exceeding the $500 MM block minimum).

As a result of this market and reporting structure, participants that wish to buy relatively large contracts (e.g. $200-300 MM of 5-year US Treasury Notes futures) need to split the order into many smaller orders, thereby assuming aggregation risk as other market participants infer from the initial trades that there are more trades to come. The aggregate trade can easily become expensive, as it takes longer to execute and markets move adversely. Practically, the futures market block trading rules have resulted in larger users moving to other markets – primarily to US government securities markets themselves and the OTC derivatives markets.

For a market such as OTC derivatives where the trade sizes are less concentrated in small transactions (in fact, the SEC proposal acknowledges that for products with very low trading frequencies most trades can actually be considered block trades, as each trade makes up a significant portion of daily volume[13]), it will be challenging for real-time transparency to support active trading in the sizes that market participants require for active risk management unless minimum block sizes are set appropriately.

2.3. Trade reporting in the corporate bond markets: the experience of TRACE

In 2002, The Trade Reporting and Compliance Engine (TRACE) mandated the public dissemination of corporate, municipal, and agency bond trading data.

Similar to the OTC derivatives market, these bonds are traded over-the-counter on a secondary basis. Market makers collectively hold inventory in thousands of different bonds in order to meet the expected demand of the market and to support client activities. The TRACE bond reporting system was introduced in phases, starting in 2002. It initially applied only to 500 large investment grade securities and 50 high yield issues, and instituted a 75-minute delay for block trades. TRACE was subsequently applied to about 4,650 debt securities in 2003, and the block reporting requirement reduced to 45 minutes. This phased introduction allowed the market impact of the changes to be assessed.

The current TRACE reporting timeframe was introduced in 2005. Under these rules, dealers are required to report trades within 15 minutes of their execution. Reporting consists of the particular bond, time and date, price, yield, whether the bond was bought or sold, and the size. Size is disclosed if a trade is less than $5 MM for investment grade

[13] "For example, a single trade that is equivalent in size to a full- or half-day's average volume may be considered out-sized. On the other hand, if a particular SBS trades only once or twice per day then every trade would be equivalent to a full or half-day's average size." (SEC Proposal, p. 75231)

bonds, and if less than $1 MM for non-investment grade bonds; otherwise, size is reported as being above those thresholds.

There is a significant body of research on the effects of TRACE on market practices including research that addresses TRACE's impact on liquidity. Bessembinder and Maxwell (2008)[14] present a number of interesting findings. The authors find that trading costs decreased for smaller trades following the introduction of TRACE. This occurred because less-active market participants that typically trade in smaller sizes now had a better informed view of market prices, which improved their bargaining position. This conclusion was arrived at independently by several studies.[15]

With an average trade size of $2.7 MM for institutional corporate bond trades in the OTC market and 85% of trades greater than $1 MM,[16] it is clear that a block level of $5 MM for investment grade bonds and $1 MM for non-investment grade bonds is indeed relatively low. This exemption provides for real-time transparency for the majority of trades, but at the same time limits the disclosure of trade size for the significant portion of trades that qualify as block trades. The framework provides transparency, and also accommodates trading in large sizes.

TRACE's introduction has achieved one of its primary objectives – to better inform smaller investors about recent bond trading prices and has done so while allowing block trades to continue.

[14] Bessembinder, H., Maxwell, W., 2008. Transparency and the corporate bond market. Journal of Economic Perspectives 22, 217-234.

[15] Bessembinder, Maxwell, and Venkataraman (2006); Edwards, Harris, and Piwowar (2007); and Goldstein, M., Hotchkiss, E., Sirri, E., 2007. Transparency and liquidity: A controlled experiment on corporate bonds. Review of Financial Studies 20, 235-273.

[16] Bessembinder, H., Kahle, K., Maxwell, W., and Xu, D., 2009, Measuring abnormal bond performance. Review of Financial Studies 22, 4219-4258.

3. The OTC derivatives markets

The over-the-counter (OTC) derivatives market emerged in the early 1980s in response to inefficiencies in the global debt markets. Some borrowers were able to raise debt in the floating rate markets at comparatively lower rates than the fixed rate markets, and vice versa. Early interest rate swaps allowed borrowers to "swap" fixed versus floating rate payments on a common notional amount, resulting in lower financing costs for both parties.

Swaps proved to be extremely flexible risk management tools, allowing end users to manage a wide range of interest rate and currency risk[17] as well as lower financing costs. However, matching counterparties with perfectly offsetting requirements was often impossible and hampered the growth of the market. Interest rate swaps only became commonplace when financial intermediaries began taking the other side of contracts, warehousing and hedging risk on a portfolio basis without actually matching offsetting client positions. By the early 1990s, these contracts became the instrument of choice for end users to manage interest rate and currency risk. Soon thereafter, a comparable derivatives market for the management of corporate, sovereign, and other credit risk emerged (though it pales in comparison to the size of the interest rate swaps market).

From its inception, the OTC derivatives market has been an institutional market with almost no retail participation. Indeed, it is illegal for most individual investors to trade OTC derivative contracts. The first users of the market were large borrowers – corporations, banks, securities firms, sovereigns and supranational agencies, such as the World Bank and the European Investment Bank – who used swaps to adjust the risk profile of their liabilities. Institutional investors, mutual funds, hedge funds and insurance companies subsequently emerged as key users (and, in some cases, providers) of derivatives, employing them to implement a variety of investment strategies.

The OTC derivatives markets evolved to maximize the flexibility of instruments for end users. Market participants made use of the flexibility of OTC contracts to disaggregate and manage a range of complex risks in a very precise manner. This has produced a number of unique attributes that distinguish OTC derivatives markets considerably from securities and standardized futures and options

- **Limited market activity** – Despite the hundreds of trillions of dollars in notional outstanding OTC rates derivatives contracts, there is actually limited trading activity in the market. Roughly 5,500 contracts are executed each day across interest rates swaps, caps, floors, swaptions and other debt-related products in over 20 currencies.[18] Even if products are categorized into multi-year maturity buckets, the most liquid contracts

[17] Interest rate swaps can be customized to nearly any underlying reference interest rate, currency, and starting and ending dates; thus, users are able to offset unwanted risks very precisely by engaging in the OTC derivatives markets.

[18] TriOptima trade-level interest rate swap repository data over a 45-trading day period from August 1 to September 31, 2010.

with maturities between five and ten years only trade 500 times per day (or less than one per minute globally assuming a 12-hour trading day). The global universe of outstanding OTC interest rate products, approximately five million transactions, consists of the same number of trades as conducted in exchange traded interest rate products on the CBOT and CME over the course of just 15-20 days.[19, 20]

- **Large individual transactions –** The OTC derivatives marketplace primarily serves large institutions with the need for large transactions. Individual trades by large institutions may well represent activity for hundreds or thousands of distinct accounts managed on behalf of small institutions and retail investors. The average size of a ten-year USD interest rate swap was $75 MM during 2010,[21] whereas comparable transactions in futures and securities markets are substantially smaller ($2 MM for ten-year US Treasury Notes futures[22] and $3 MM for US corporate bonds,[23] respectively). Other OTC products also tend to have substantially larger average transaction sizes than their futures and cash counterparts. In many markets, OTC derivatives markets have been the preferred (or only viable) venue for block trades.

- **Limited participation** – The OTC derivatives market is an institutional marketplace with a relatively small number of active participants. JP Morgan estimates that there are only 500 active participants in USD interest rate swaps and less than 250 in the credit derivatives markets.[24] Active participants tend to be large institutions, banks, securities firms, insurance companies, asset management firms (which represent a number of smaller investors) and major corporations – this is due largely to balance sheet requirements for trading in these markets. By contrast, the number of active participants in the most liquid futures contracts (e.g. WTI Crude, S&P Index contracts) is in the tens of thousands and includes a significant number of retail investors.

- **Customization** – There is no theoretical limit to the number of unique contracts that can be executed in the OTC derivatives marketplace. In vanilla interest rate swaps alone, there are more than 100,000 discrete instruments, [25] differentiated by underlying currency, maturity and floating rate indices; in the credit default swaps market, there are hundreds of thousands of discrete single-name contracts, differentiated by coupons

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[19] As measured by the TriOptima Trade Repository Report as of December 17, 2010, available at http://www.trioptima.com/repository/historical-reports.html.

[20] CME Group Exchange ADV Report, October 2010; CME Group daily trading activity for January 10, 2011.

[21] TriOptima trade-level interest rate swap repository data over a 45-trading day period from August 1 to September 31, 2010.

[22] Trading data for November 21, 2010, CME Group.

[23] Bessembinder, H., Kahle, K., Maxwell, W., and Xu, D., 2009, Measuring abnormal bond performance. Review of Financial Studies 22, 4219-4258.

[24] Active market participants are defined as those trading at least five times per year in that product; the number of actual users is much greater.

[25] J.P. Morgan internal research and analysis.

(at least two per entity) and maturities (40 quarterly maturities out to ten years) on thousands of unique reference entities.

- **Privately negotiated transactions –** Because a significant share of trades are customized and liquidity is provided by a relatively small number of participants, the OTC derivatives market has not naturally evolved into an exchange-traded market with thousands of participants like other instruments.

- **Professional risk intermediation** – Dealers offer OTC derivative contracts with terms that are difficult to perfectly match on a consistent basis. Because of this and the long duration of most contracts, dealers need to manage large portfolios of outstanding contracts with significantly different risk profiles. This activity requires a substantial investment in specialized staff, advanced technology and capital resources. Roughly 15 to 20 bank dealers are major market makers and competition for client business is extremely strong among this group.

Many of the key differences between OTC and exchange traded derivatives markets are briefly summarized in the table below.

Table 3: OTC derivatives and exchange traded derivatives market size and participation[26]

Product	Active participants	Total Instruments	Ratio of market participants to instruments	Average number of trades per day
Exchange traded markets				
WTI futures	>20,000	70	>300	>250,000
S&P e-Minis	>150,000	5	>30,000	>200,000
OTC derivatives markets				
Single-name CDS	200	75,000+	<0.003	4,000
Index CDS	200	100	2.0	2,000
Vanilla interest rate swaps	500	100,000+	<0.005	1,000

3.1. The rates markets

3.1.1. Interest rate swaps

The OTC rates derivatives market is one of the largest and most important financial markets in the world today, yet only several thousand transactions are executed daily across a wide range of currencies, reference rates, and maturities.

[26] J.P. Morgan internal research and analysis.

Liquidity in rates derivatives is highly fragmented. The interest rate swaps market (the most liquid segment of the market) is generally characterized by

- Low volumes in specific buckets (currency, maturity, etc.)
- Highly volatile daily trading volumes within specific contracts
- Relatively large transaction sizes and concentrated trading volumes

Approximately 4,000[27] interest rate swap transactions across all currencies and maturities are executed per day by the 14 largest dealers.[28] Of those, approximately 1,500 trades are in USD contracts with 500 trades per day in the 5-10 year maturity range. The number of transactions executed in specific maturity buckets is much smaller: on average fewer than 100 seven-year USD interest rate swaps are completed on a typical trading day.[29] USD and Euro interest rate swaps are the most commonly traded OTC interest rate derivatives. Trading in other currencies is significantly lower.

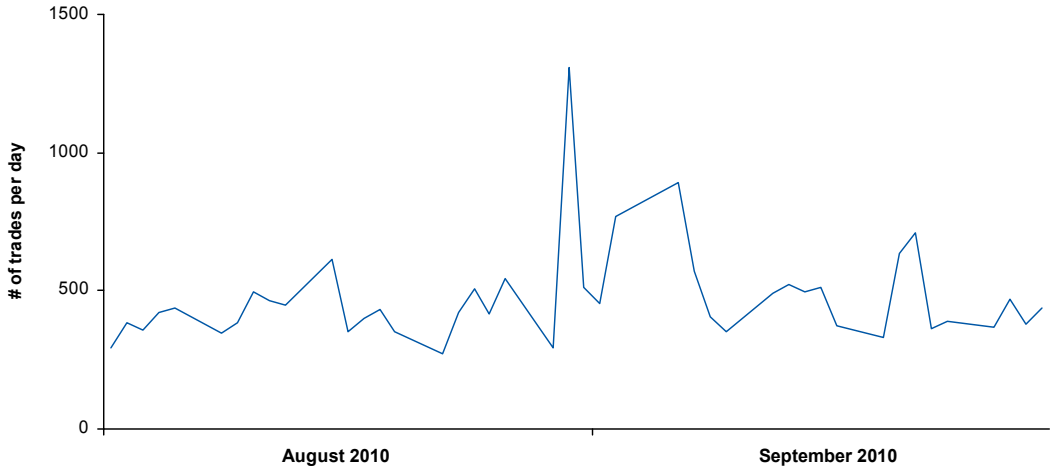
Liquidity (as measured by trading volume) fluctuates considerably over time. Figure 1 shows the daily trading activity for the 14 largest derivatives dealers in USD interest rate swaps with 5-10 year maturities, the most common maturity range, from August to September 2010. Trading volume across this broad set of contracts ranged from 300 to 1,000 contracts per day, with significant spikes in activity driving up the average daily volume. Volatility within specific maturity buckets is even greater.

[27] Compared to the 1,000 trades per day listed in Table 3, the estimate of 4,000 trades per day for all interest rate swaps includes non-vanilla interest rate swaps with odd maturities, non-spot starts, and non-major currencies.

[28] ISDA estimates that the 14 largest dealers hold approximately 80% of OTC interest rate derivatives contracts outstanding (Mid-Year 2010 Market Survey Results).

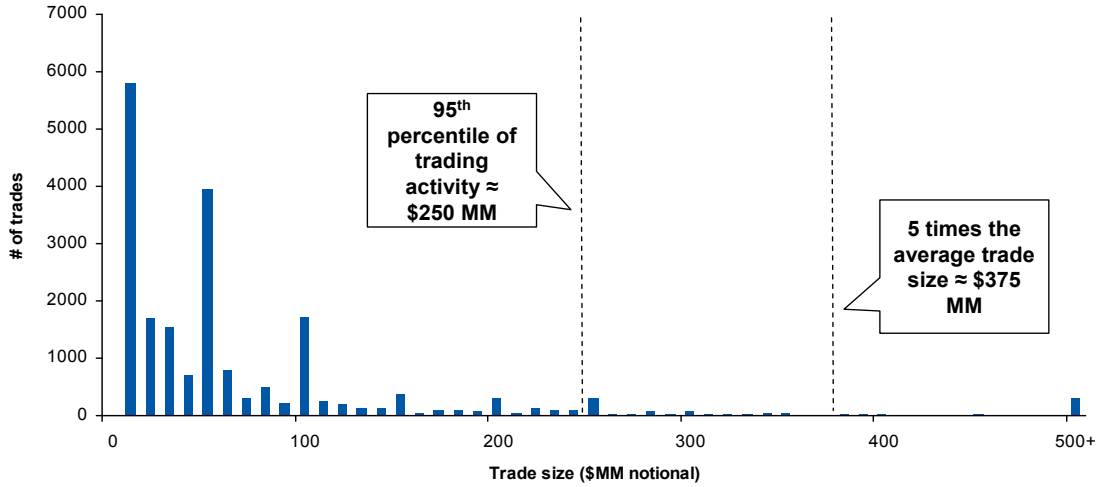
[29] TriOptima trade-level interest rate swap repository data over a 45-trading day period from August 1 to September 31, 2010.

Figure 1: Daily trading activity in USD 3-month Libor interest rate swaps at 5-10 year maturity[30]



The average transaction size for US$ interest rate swaps in the 5-10 year maturity bucket is $75 MM with a significant number of transactions in excess of $200 MM. This is in stark contrast with the futures markets where trade sizes are much smaller and 95% of the trades in five-year Treasury Notes futures are less than $5 MM in size. The distribution of transaction sizes for comparable contracts in the OTC and futures markets is provided in Figures 2 and 3 below.

Figure 2: Trade size distribution in USD 3-month Libor interest rate swaps at 5-10 year maturity[30]



[30] TriOptima trade-level interest rate swap repository data over a 45-trading day period from August 1 to September 31, 2010.

Figure 3: Trade size distribution for Dec 10 5-year US Treasury Note futures product for November 21, 2010[31]

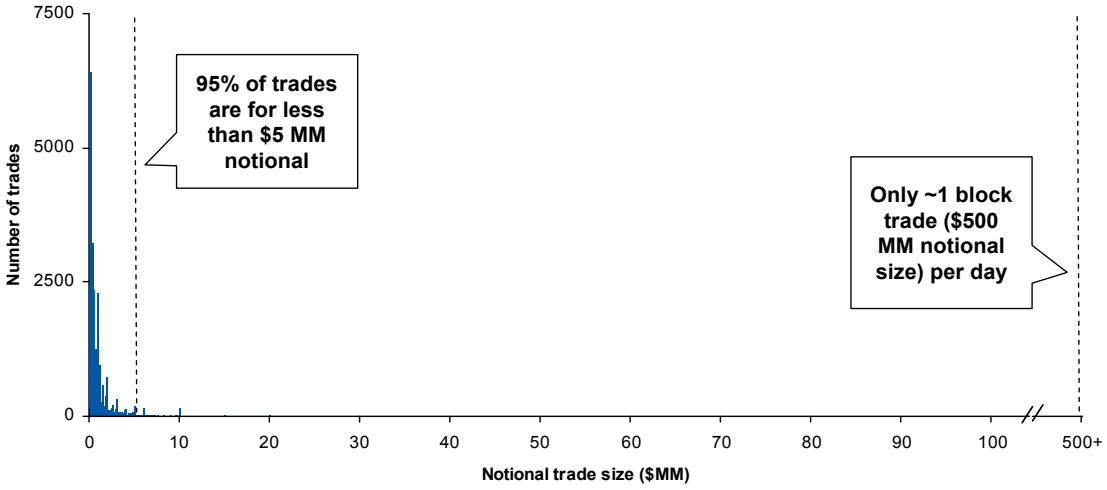


Figure 2 also shows thresholds derived from the CFTC proposed rules on minimum block size trades – $250 MM (95th percentile) and $375 MM (five times the average trade size). The CFTC proposal would require real-time reporting for over 98% of the market.

One of the stated goals of real-time reporting regulation is to tighten pricing spreads in the OTC markets. In a recent blind test conducted by Atrevida Partners,[32] three large investment firms each solicited executable price quotes from dealers on five separate IRS transactions. For each transaction, three quotes were requested The dealer quotes were compared to Bloomberg screen pricing as well as to one another. The best quotes averaged 0.001% (one-tenth of a basis point) from the mid-market yield on Bloomberg. The average spread between the best and worst quote (of the three total quotes) was 0.0038% (0.38 basis points) and as a percentage of the average quote this spread was 0.30%. The test indicates that pricing in the interest rate swap market is very competitive despite the low volume of trades done each day by dealers. In addition, the close relationship between Bloomberg and dealer quotes indicates that pricing is highly transparent for customers.

3.1.2. Other OTC rates derivatives products

In addition to interest rate swaps, the OTC rates derivatives products consist of many other product categories. The largest of these include forward rate agreements ("FRAs"),

[31] Trading data for November 21, 2010, CME Group.

[32] "Interest Rate Swap Liquidity Test" - a report sponsored by ISDA and conducted by Atrevida Partners in conjunction with market participants in November 2010.

swaptions, caps and floors, and basis swaps. In all, these products represent approximately 27% of outstanding notional and 20% of outstanding contracts.[33] (Both of these figures may overstate the relative percentage of actual activity in these products as interest rate swaps undergo regular "compression" cycles in which contracts are torn up.)

TriOptima lists 12 distinct categories of rates products. A snapshot of each product and key market data is presented below.

Table 4: Overall "snapshot in time" trade summary by product type[33]

	Notional ($TN)	Trade Count ('000s)	Average Trade Size ($MM)
Interest rate swaps	291	3,030	96
Overnight index swaps (OIS)	57	96	531
Sub total	**342**	**3,116**	**110**
FRAs	51	145	351
Swaptions	28	193	143
Basis swaps	20	89	223
Caps/floors	12	78	151
Cross currency swaps	8	115	72
Exotic IRS	6	78	76
Other products	5	76	65
Sub total	**129**	**774**	**167**
Total	**471**	**3,890**	**121**

TriOptima data is for the 14 largest dealers, which skews the average trade size data considerably as does the methodology for double counting cleared transactions (primarily interest rate swaps and OIS interest rate swaps). But the data is clear with respect to the non-interest rate swap products – trade size also varies considerably. These variations along with differences in trade frequency and risk characteristics require that the products should be examined independently with respect to block minimums, reporting delays and disclosure requirements.

The TriOptima data indicates that the 14 largest dealers have approximately four million outstanding contracts. These dealers represent an estimated 80% of the total notional, implying that approximately five million OTC rate contracts are outstanding globally. By contrast, the CME Group trades approximately 300,000 tickets per day in the US government and Eurodollar futures contracts. The entire population of OTC interest rate trades represents slightly more than the 15 days of activity in the interest rate futures market of the CME Group. Approximately 5,500 OTC interest rate derivative

[33] As measured by the TriOptima Trade Repository Report as of December 17, 2010, available at http://www.trioptima.com/repository/historical-reports.html.

transactions are executed globally each day, equal to just 2% of the number of trades conducted in the corresponding CME Group futures contracts. US$ trades are less than 1% of the daily volume in corresponding futures markets.

3.2. The credit derivatives markets

Like other OTC derivatives markets, the OTC credit derivatives markets are marked by low volumes and large transaction sizes. The market is composed of approximately 4,000 single-name reference entities, on which protection is written (sold) or purchased, and 100 indices comprised of single-name reference entities. Volume and size characteristics of the CDS market are summarized on the following page (graphs containing additional CDS market data are contained in Appendix 3).

Overall average daily volume is approximately 6,500 contracts, of which 4,500 are single-name reference entities and 2,000 are credit indices. Approximately 1,000 single name reference entities are traded more frequently and consistently. They include approximately 930 corporate and 65 sovereign entities. In all, average daily trading volume for these 1,000 names amounts to approximately three trades per day for each reference entity. Each reference entity will have at least 80 quotable contracts: 40 different maturities and two different coupons. In all, there are over 80,000 individual contracts for these 1,000 names. The vast majority of individual contracts trade very infrequently.

Table 5: Summary of CDS trading behavior[34,35]

	Number of reference entities (RE)	Daily Trading Activity			Trade Size		
		Average daily trades per RE	% of RE with <5 trades per day	% of RE with >20 trades per day	Mean ($MM)	80th percentile ($MM)	90th percentile ($MM)
Single-name							
Corporates	935	3	79%	<1%	8	7	10
Sovereigns	65	8	56%	11%	13	16	24
Total	1000	3	77%	1%	8	8	11
Indices							
High Grade	80	15	79%	14%	15	100	150
High Yield	35	20	65%	16%	20	30	55
Total	**115**	**17**	**75%**	**15%**	**16**	**80**	**120**

[34] DTCC Credit Default Swap (CDS) trade repository for all trades from March-June 2010

[35] Trade size distribution determined by number of transactions (e.g. for a sample of 100 trades, the 80th percentile represents the threshold, in $MM, that separates the smallest 80 trades and the 20 largest trades)

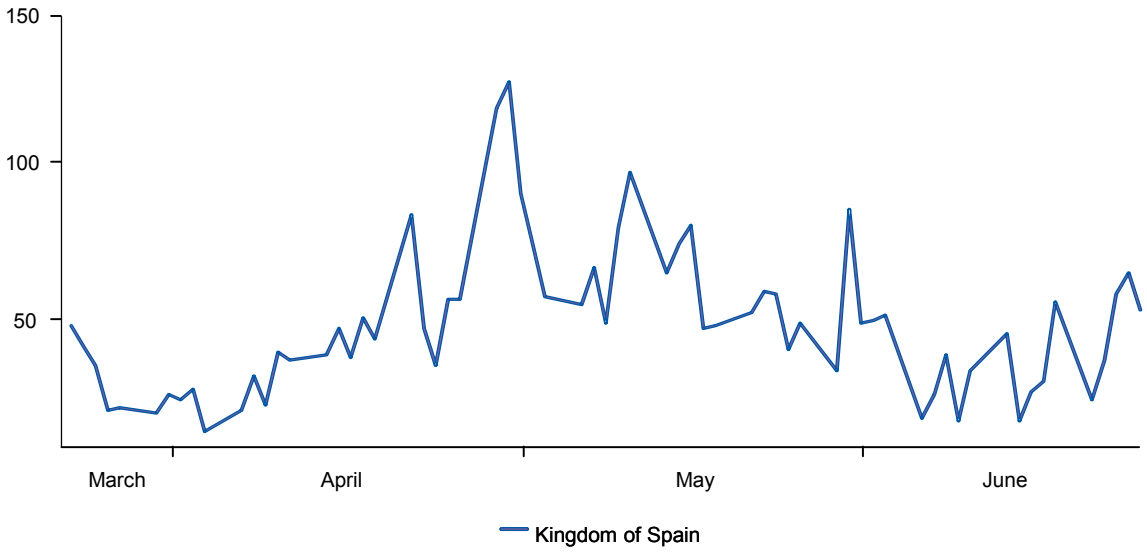
Of the corporate reference entities, nearly 80% trade less than five contracts per day, with many names that average less than one trade per day. The table above shows that only two corporate reference entities traded 20 or more times per day (across all contracts outstanding on a given reference entity) over the three-month period. In a 12-hour trading day, this represents one trade done globally every 36 minutes.

It should also be noted that the table is a snapshot of the entire market on an average day. This means that a reference entity that trades 20 times on a given day may trade less than 20 times on a subsequent day. Average trade size for corporate reference entities is $8 MM and more than 90% of trades are for less than $10 MM

Of the sovereign names, approximately 55% trade less than five times per day. The table shows that seven sovereign reference entities trade 20 or more times per day. Average size for a sovereign name is $13 MM and 90% of trades are for less than $25 MM.

To show an example of trading in the sovereign CDS market, Figure 3 shows daily trading activity for the Kingdom of Spain, one of the most frequently traded single-name reference entities. Daily trade volumes have varied over a three-month period from fewer than 10 contracts to as many as 125. The average number of contracts traded is 35 per day and the average turnover of the "on-the-run" five-year contract is 21 trades per day. This trading volume is in stark contrast to that of equity and liquid futures contracts.

Figure 3: Most actively traded sovereign CDS daily trading activity[36]



It is useful to compare the TRACE process with what might be appropriate for the CDS market. TRACE took three years to implement and ended up with volume dissemination caps of $5 MM for investment grade bonds and $1 MM for high yield. The average size

[36] DTCC OTC CDS trade repository; 3 month data set of CDS trades from March to June, 2010.

trade in single name corporate CDS ($7 MM) is higher than the average investment grade corporate bond trade ($2.7 MM) and trading activity is much lower in CDS and dealers often take weeks or more to close out large positions. [37] We believe that trade reporting requirements for CDS products should be phased in and adjusted over time, as was the case with TRACE, both with respect to mechanics as well as volume dissemination cap sizes.

There are far fewer credit indices traded compared to single-name reference entities. Analyzing the aggregate trading in each index, we find there are about 100 liquid indices. The ten most active indices make up 75% of the total daily volumes; the four most active indices make up 50% of the market's total trading volume. Each of the top four indices trades more than 100 times per day, whereas 75% of the remaining indices trade less than ten times per day. The average contract size is approximately $75 MM for investment grade indices and $30 MM for high yield indices.[38] We believe a process similar to TRACE can be developed as well for credit indices, differentiating investment grade from high yield instruments, and setting the volume dissemination caps at relatively low initial levels to ensure liquidity remains in the market.

The OTC credit derivatives markets illustrate well a common feature of swaps markets in general – the market is fragmented across a wide range of instruments. This market fragmentation means that individual instruments trade infrequently, even in asset classes considered to be relatively liquid. For example, CDS contracts on most reference entities trade less than five times per day, and there are dozens of contracts per reference entity. This distinctive level of trading frequency should directly inform the development of an effective block trade reporting approach.

[37] Bessembinder, H., Kahle, K., Maxwell, W., and Xu, D., 2009, Measuring abnormal bond performance. Review of Financial Studies 22, 4219-4258.

[38] DTCC OTC CDS trade repository; 3 month data set of CDS trades from March to June, 2010.

4. Analysis of proposed rules

4.1. CFTC proposal

Dodd-Frank has designated the CFTC as the primary market regulator for certain OTC swaps contracts. It includes certain swaps tied to interest rates, currencies, commodities, baskets or broad-based indices of equities and indices of indebtedness of groups of reference entities (credit indices). The legislation requires real-time reporting (as soon as practically possible) for certain swaps, but assigns regulators the task of developing reporting rules that reflect the effects of real-time reporting on market liquidity. The CFTC published its proposed rules on real-time reporting in the Federal Register on December 7, 2010. In this section of the paper, we examine the proposed rules with respect to interest rate and credit index swaps.

The proposed rules require that all swaps be reported in real time unless a transaction meets the minimum block trading size, in which case the transaction is subject to a 15-minute delay in reporting. All transactions, whether executed on a swap exchange or bilaterally, are subject to real-time reporting and subject to the same minimum trading sizes in order to qualify for the 15-minute delay.

Minimum block trading sizes are determined generally by Swap Data Repositories (SDRs). SDRs aggregate swap products within asset classes into smaller groups called Swap Instruments. The rule itself defines a Swap Instrument as "a grouping of swaps in the same asset class with the same or similar characteristics." In the explanation of the proposed rules, the CFTC "believes that it is appropriate to group particular swap contracts into various *broad* (emphasis added) categories of swap instruments." It goes on to state, "the Commission believes that within each asset class there should be certain criteria that are used to determine a category of swap instrument. For example, swaps in the interest rate swap asset class may be considered the same swap instrument if they are denominated in the same major currency (or denominated in any non-major currency considered in the aggregate) and if they have the same general tenor." Additionally, "... a single category of swap instrument may be 'US dollar interest rate swaps in a short maturity bucket, including swaps, swaptions, inflation-linked swaps, etc. and all underlying reference rates.'" With respect to credit indices, they all are presumed to be the same Swap Instrument.[39]

Public dissemination of the notional amounts of transactions is subject to a rounding convention. This convention provides, among other things, that notional principal of contracts in excess of $250 MM be reported as $250 MM+. The explanation of the proposed rules cites the rounding convention as providing a degree of anonymity. As discussed below, this is an important element in preserving the availability of block trading.

[39] CFTC proposal, pp. 76153, 76172.

The minimum block trading sizes are then subject to a two-part test. The first part, called the Distribution Test, is the notional amount that is greater than 95% of the transactions of a Swap Instrument, where the rounding convention has first been applied. The second part, called the Multiple Test, is the result of multiplying a block multiple by the social size of the Swap Instrument. The block multiple is proposed to be five and the social size is the largest of the Swap Instrument's mode, median or mean. The minimum block trading size is then simply the higher of the results produced by the Distribution Test and the Multiple Test.

Analysis of the CFTC proposed rules

As proposed, we see three significant areas where improvements might be made to the current CFTC proposal

- **Narrower definition of swap instruments with appropriately tailored rules –** We believe the definition of Swap Instrument contained in the proposed rules is excessively broad. For example, it classifies a two-year plain vanilla interest rate swap and a three-year Bermuda options contract as the same Swap Instrument. The liquidity of each of these products is vastly different and disclosure of a $250 MM trade in each product will have a different impact on market liquidity for each one. For interest rate products, it would be more advisable to retain the critical tenor division but also allow for additional Swap Instruments in the interest rate product market. For example, fixed rate interest rate swaps against major floating reference bases might be grouped into three Swap Instruments (short, medium and long term). Similarly, swaptions, caps and floors with European or American exercise provisions could be another group of three Swap Instruments. Another grouping might apply to liquid basis swaps and all other products might comprise one or more additional groupings.

- **Broader application of rounding convention –** A second issue relates to the rounding convention as its use mitigates the very short delay of 15 minutes. Many large transactions, whether they are OTC derivatives, equities or corporate bonds, cannot be offset within a relatively short reporting delay. This has been the motivation for equity exchanges to permit long, multi-day delays while other markets such as the corporate bond market have used volume dissemination caps. TRACE uses such caps of $5 MM and $1 MM for investment grade and non-investment grade bonds, respectively, in conjunction with a reporting requirement of 15 minutes. As written, the rounding convention would permit the most liquid interest rate derivatives products to be executed in very large size (e.g. $1 BN or more) and dealers would be able to offset risk, confident that the market only knows of a $250 MM+ trade. The rounding convention will not, however, provide similar protection to other swaps products that may be less liquid. We believe it would be most useful to adopt rounding conventions for each of the expanded set of Swap Instruments recommended above, and that such rounding conventions reflect the liquidity characteristics of the specific Swap Instruments.

- **Broader test of block trading to account for average daily volume –** The two-part test used to define "block trades" may fail to capture the full breadth of block trading activity. The example provided in the CFTC proposed rules provides an illustration of a swap instrument with all transactions between $50-60 MM in notional size.[40] However, the "social size" for the instrument is $55 MM, yielding a minimum block size of $275 MM. This text neglects to specify that the average daily volume was $1,375 MM, placing the block size threshold at approximately 20% of daily trading volume for the instrument. As a general matter, we believe block minimums for single trades should be established at levels well below 20% of average daily volume. Both the Distribution Test and the Multiple Test should be bounded by a percentage well below 20% of average daily volume. We also believe that aggregate block trading activity should not have a pre-determined limit. As noted in Section 2.1, LSE block trading activity, amounts to 45% of aggregate trading volume without damaging the transparency of overall prices.

- **Initial reporting delay of greater than 15 minutes –** The CFTC's proposed delay period is inadequate to allow market participants to hedge risks from large trades or trades in illiquid instruments. The changes described above might eliminate the need for longer reporting delays but longer reporting delays for blocks should also clearly be considered.

4.2. SEC Proposal

Dodd-Frank has designated the SEC as the primary market regulator for security-based swaps. These include swaps tied to equities of single entities as well as single-name CDS and narrow-based baskets or indices of securities. The SEC published proposed rules on November 19, 2010. In this section, we will examine the proposed rules with respect to single-name CDS.

The proposed rules require that all security-based swaps be reported in real time unless a transaction meets minimum block trading size. The proposed rules specify general guidelines for setting block trading thresholds but do not set specific levels. The proposed general guidelines appear to be less certain than the proposed rules for real-time reporting from the CFTC. However, the SEC states that it will assess the distribution of single-name CDS trades and determine some size cut-off which will be the block trading minimum. The example used by the SEC suggests that the minimum block trade size will be $15 MM to $30 MM. The minimum will not vary by maturity of the instrument or by the type or liquidity of the reference entity.

Block trades will still require real-time reporting of execution and pricing but the notional size will be suppressed for a minimum of eight hours and a maximum of 26 hours, based strictly on the time of day a transaction is executed.

[40] CFTC proposal, p. 76162.

Analysis of the SEC proposed rules

The SEC is proposing a methodology that differs substantially from the TRACE reporting system. TRACE requires 15-minute reporting of all trades but has a volume dissemination cap of $5 MM for investment grade securities and $1 MM for non-investment grade securities. Trades larger than the caps are merely noted as such. There is no second wave of transaction reporting that includes actual notional size. By contrast, the SEC proposes reporting complete notional size transaction data (albeit with substantial reporting delays).

We believe that this reporting of actual block trading notional amounts will impede the execution of very large trades. This is problematic because the CDS market is characterized by a significant number of very large trades relative to the cash corporate bond market. This is due in part to the fact that corporate bond trades involve securities of modest size, while the CDS market references an entity's entire stock of debt with the same seniority. We agree that the CDS block sizes should be larger than TRACE's volume dissemination caps, but we believe the CDS market is better suited for large trades and does not have the same protection under the current proposal as does the market of smaller trades (corporate bonds).

As noted in Section 4.3 below, another approach towards single-name CDS reporting has been proposed by the Committee of European Securities Regulators (CESR). CESR will require immediate reporting of transactions under the "social threshold" (€5 MM or lower). Transactions greater than €5 MM and less than €10 MM will require end of day trade size and price information. Trades in excess of €10 MM will be disclosed at the end of the trading day without actual size data. This multi-tiered reporting system is more appropriate for very large trades than the system proposed by the SEC. The disclosure of very large trade sizes in relatively illiquid markets may impact liquidity and prices for extended periods.

As we have noted, one product (corporate bonds) will have a more favorable reporting environment for block trading than another (single-name CDS) if the SEC's proposal becomes final. Another jurisdiction (Europe) is considering a second reporting environment that also provides more protection to block trading than the SEC. We believe that reporting of actual size trades, albeit with a delay, will reduce the number of block trades and most likely the aggregate volume of single-name CDS trading. We do not think a goal of the process of establishing minimum block trade sizes is to reduce the actual number of block trades. Instead, the goal should be to balance the need for transparency with its effect on liquidity.

The single-name CDS market is much different than the markets for much more liquid instruments. Dealers are apt to have single-name CDS positions on their books for days, if not weeks or months. Market knowledge of the existence of these positions will impact prices for considerable periods of time. Both the TRACE process and the

recommendations of CESR contain volume dissemination caps. We believe these should also be part of the block trading rules for CDS products.

4.3. European proposals

The rulemaking process regarding trade transparency in Europe started shortly after the Markets in Financial Instruments Directive (MiFID) introduction in 2007, and the rulemaking process continues (e.g. MiFID II). The directive brought significant changes to the European regulatory framework for secondary markets. Already, CESR assessed the impact of these changes for corporate bonds, structured finance products, and credit derivatives markets, but since other OTC derivatives markets were not studied originally, CESR is now considering a post-trade transparency regime for the following financial instruments: interest rate derivatives, equity derivatives, foreign exchange derivatives and commodity derivatives.

The general framework used by CESR (for CDS products) has been one of tiered trade size buckets by asset class, with varying levels of transparency for each. In the lowest bucket, price and volume reporting is proposed to be in real time, or as close to real time as possible. In the middle bucket, price and volume reporting is proposed to be at the end of the trading day. In the highest bucket, price reporting without actual volume (but with an indicator that the trade is indeed in this highest bucket) is proposed to be at the end of the trading day.

CESR recommends that the calibration of block thresholds and time delays for the proposed regime should ideally be based on the liquidity of the instrument in question. However, due to the nature of these OTC markets, there is currently an absence of trading data which can reliably be used to calibrate a transparency regime. CESR therefore recommends that initial calibration be based on the average trading size of each of the markets in question. Once the regime is implemented this information will quickly become available for regulators to further study the market and refine the proposed framework. At the core of CESR's recommendations is the need to undertake a post-implementation review for all asset classes, with plans to reach conclusions one year after introducing the new transparency obligations.

5. Conclusion

The foregoing discussion clearly demonstrates that a very high degree of transparency can be introduced to the OTC derivatives market while preserving its liquidity. Building an effective trade reporting system for the OTC derivatives market, however, is a significant challenge, partly because there is no established framework for real-time public reporting in OTC derivatives today. Models that function well in securities or futures markets are poorly suited to OTC derivatives, which are characterized by a diversity of instruments, low trade frequency but large transaction sizes for many instruments, and a relatively small number of large, sophisticated participants. Regulators will need to walk a fine line to effectively balance market transparency with liquidity.

The proposed rules of the CFTC and SEC recognize this goal, but are more appropriate for transactions in cash securities or futures than for transactions in OTC derivatives. If established, they could pose a significant risk of impairing market liquidity or dramatically increasing execution costs.

Drawing on the lessons from three trade reporting regimes and market data on interest rate and credit derivatives, we propose several considerations that an effective trade reporting regime for OTC derivatives should reflect

- Block trade thresholds should be set so that liquidity is not impaired, in order to preserve the ability of investors and companies to hedge their risks in a cost-effective way

- Rules should be tailored to products and markets. Rules for less liquid products should be different from rules for more liquid products. One size does not fit all

- New rules for trade reporting should be phased in and refined over time. Rules should be re-calibrated and methodologies re-assessed in light of experience and market changes

- Block trades may constitute a significant amount of trading volume for certain products

- For highly customized products, price transparency may be uninformative and misleading

- Volume dissemination caps such as those found in TRACE are important means of mitigating the effects on liquidity of real time reporting for all OTC derivatives products

The proposed rules by the CFTC and SEC should be modified with these considerations in mind. Most importantly, rules should calibrate block trade thresholds to reflect trade

volume and liquidity for specific instruments and limit disclosure for certain large block trades.

Appendix 1

Table 6: LSE experience with post-trade transparency regimes[41]

Time Period	Rule	Reason for change
Oct '86 – Feb '89	All trades in actively traded stocks[42] in 5 minutes[43]	LSE considers transparency as an important feature of the new trading system
Feb '89 – Jan '90	Prices in trades >£100,000 in actively traded stocks in 24 hours. Other trades as before	To help increase low volumes and mitigate losses made by market makers
Jan '90 – Jan '91	Trades >£100,000 in actively traded stocks same as before. Other trades in actively traded stocks in 3 minutes	To increase transparency
Jan 91 – Dec 93	Trades >3x NMS[44] in 90 minutes. Other trades in 3 minutes	OFT report (1990) stated that current regime was uncompetitive
Dec 93 – Jan 96	Trades >75x NMS within 5 days or until 90 per cent unwound, whichever is the earliest. 3x NMS - 75x NMS in 60 minutes. Other trades in 3 minutes	These trades were viewed as particularly informative and immediate publication would harm liquidity
Jan 96 – Dec 99	Trades >6x NMS within 60 minutes. Trades >75x NMS as before. Inter-dealer trades excluded from publication delay. Other trades in 3 minutes	OFT Report (1994) reiterated the conclusions of the 1990 report based on the empirical evidence of Gemmill (1996). Also, a SIB report (1995) recognised the possibility of a trade-off between transparency and liquidity
…	…	…
Present day[45]	4 average daily trading (ADT) bands created for each currency, with greater delays (60 minutes up to 3 trading days after trade) allowed for transactions of increasing size within each band	To distinguish between different levels of trading across products

[41] Ganley, J., Holland, A., Saporta, V., Vila, A., 1998. Transparency and the design of securities markets. Financial Stability Review 4, 8-17.

[42] The most actively traded securities in the Stock Exchange Automated Quotations System (SEAQ). About 100 securities came into this category when it was in official use by the London Stock Exchange. These were shares of companies with high turnover and high market capitalization.

[43] Publication refers to date, time and the name of the stock, whether the trade was a buy or a sell, its price and volume. Until 1991, publication delays referred to price only. Subsequently, publication delays referred to both price and volume.

[44] NMS (Normal Market Size) is given by (2.5%/250x(customer turnover in the past 12 months)/(closing mid-price on last day of quarter)).

[45] www.londonstockexchange.com TradElect parameters.

Appendix 2

Figure 4: Trade size distribution for Dec 10 natural gas futures product for November 21, 2010[46]

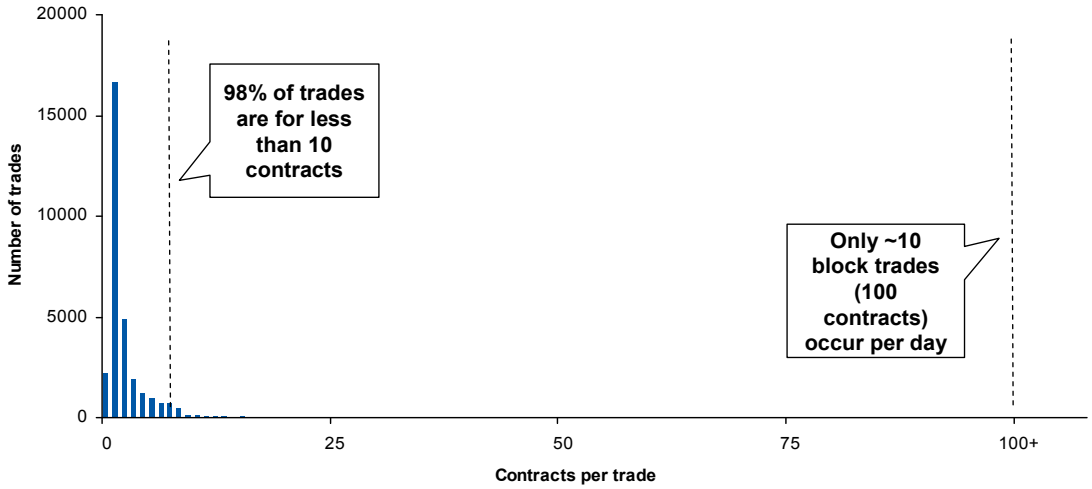
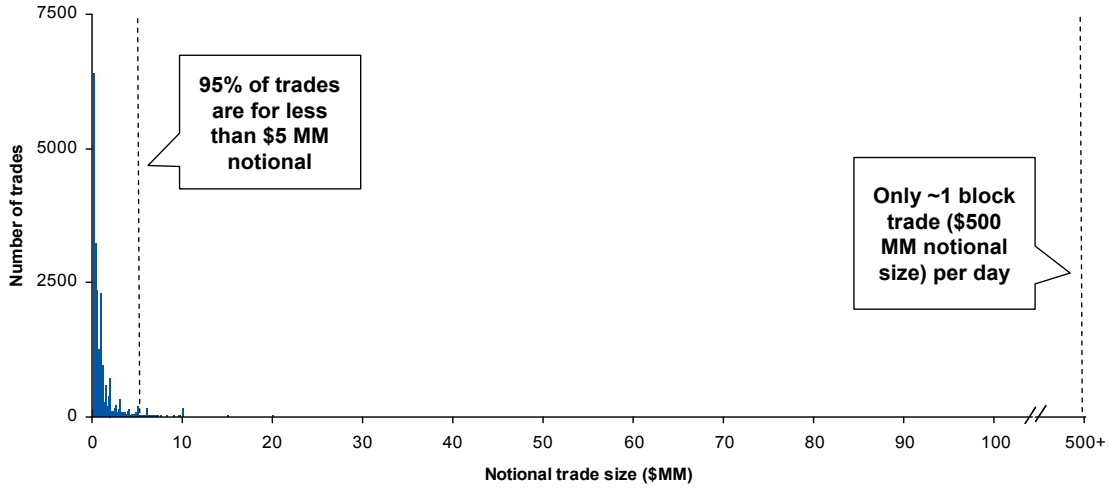


Figure 5: Trade size distribution for Dec 10 5-year US Treasury Note futures product for November 21, 2010[46]



[46] Trading data for November 21, 2010, CME Group.

Appendix 3

Figure 6: Trade frequency distribution of the 930 most actively traded single-name corporate reference entities (all coupons and maturities)[47]

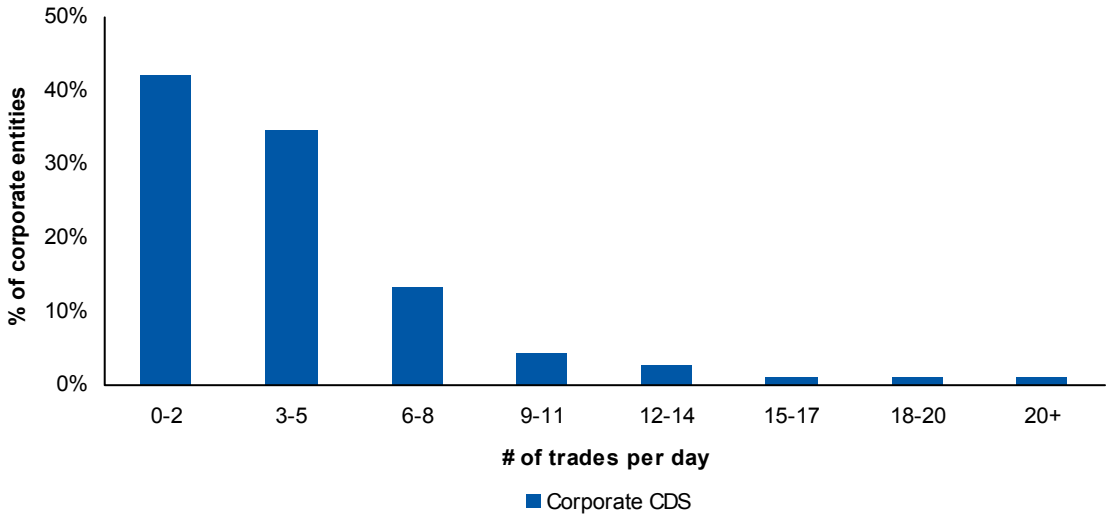
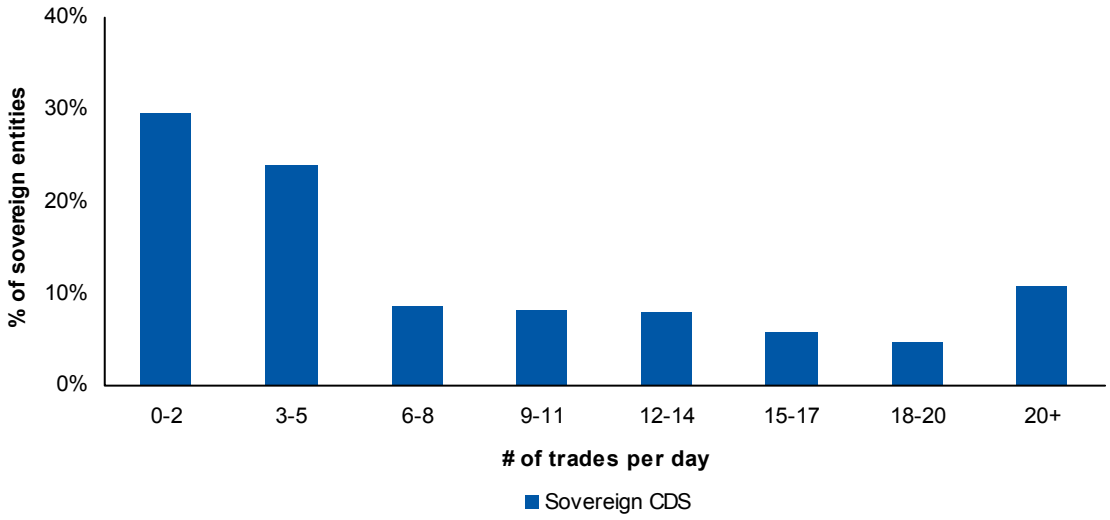


Figure 7: Trade frequency distribution of the 65 most actively traded single-name sovereign reference entities (all coupons and maturities)[47]



[47] DTCC OTC CDS trade repository; 3 month data set of CDS trades from March to June, 2010.

Figure 8: Trade size distribution of 5Y USD based single-name corporate CDS reference entities[48]

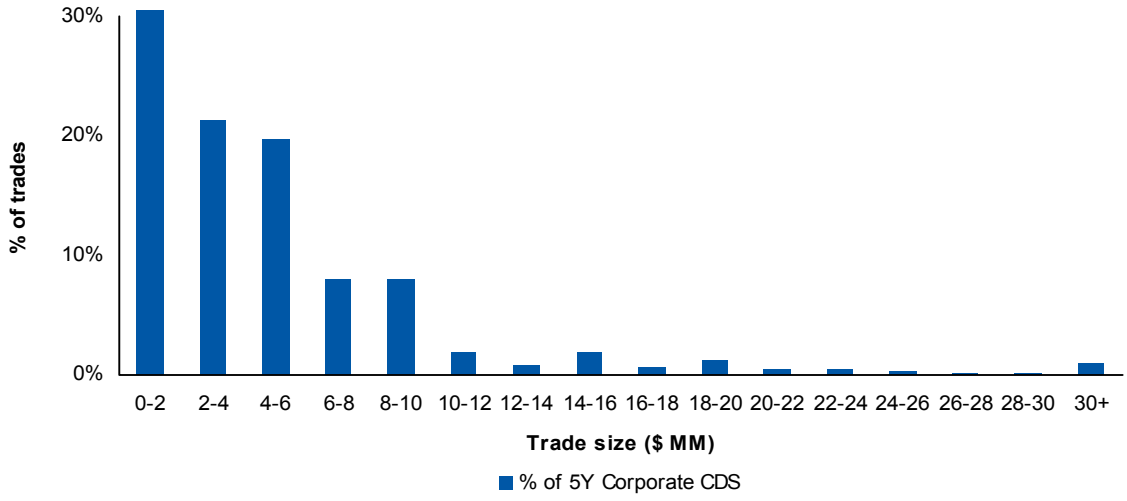
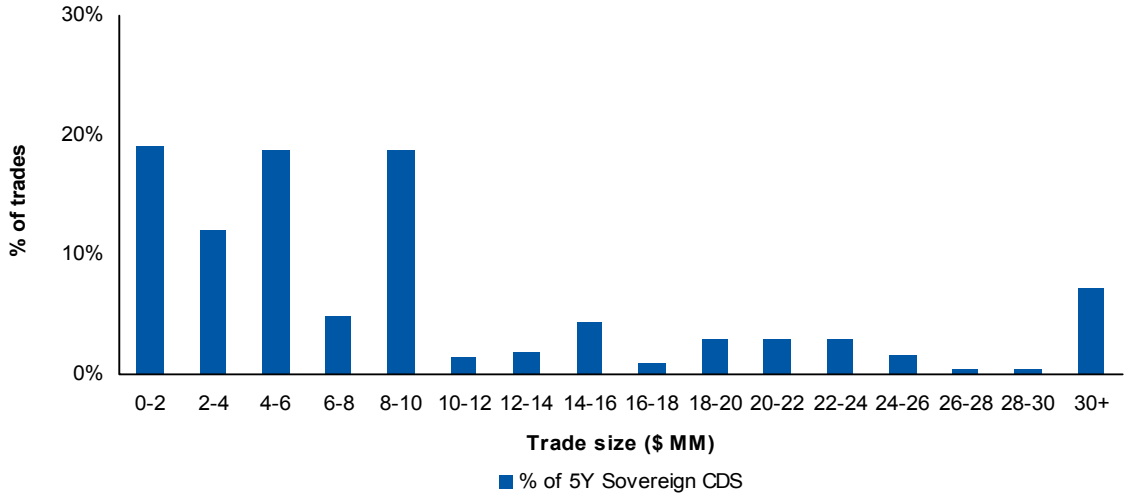


Figure 9: Trade size distribution of 5Y USD based single-name sovereign CDS reference entities[48]



[48] DTCC OTC CDS trade repository; 3 month data set of CDS trades from March to June, 2010.

Figure 10: Trade frequency distribution for index based CDS contracts[49]

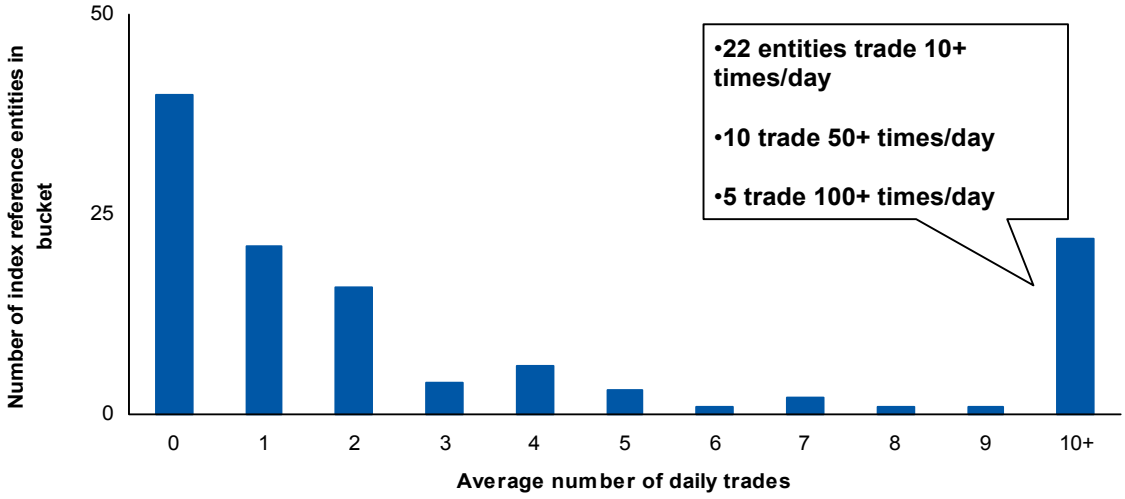
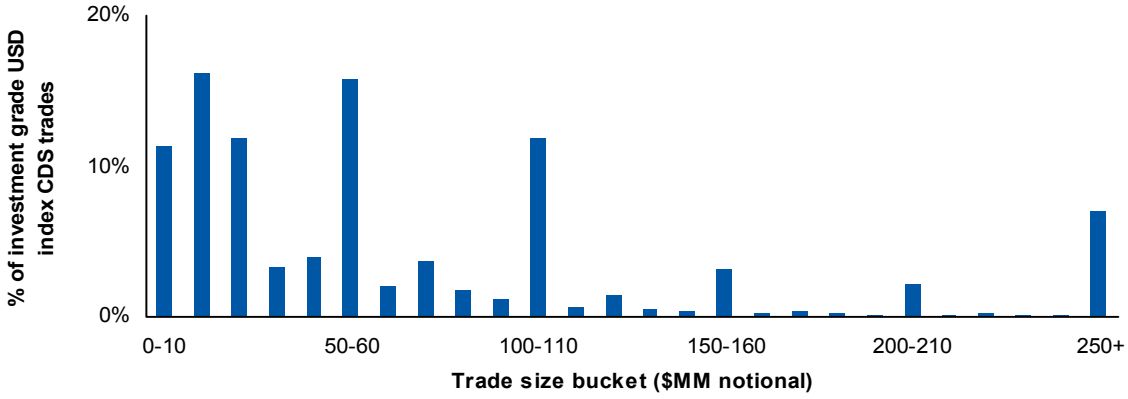
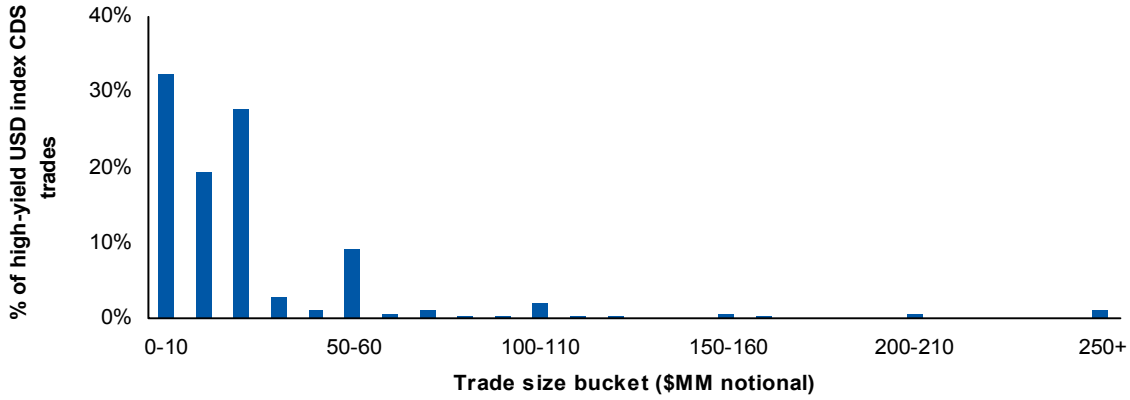


Figure 11: Trade size distribution of investment grade USD based index CDS reference entities[49]



[49] DTCC OTC CDS trade repository; 3 month data set of CDS trades from March to June, 2010.

Figure 12: Trade size distribution of high yield USD based index CDS reference entities[50]



[50] DTCC OTC CDS trade repository; 3 month data set of CDS trades from March to June, 2010.