Notional amount outstanding is a widely used metric in the derivatives market, but it is more a measure of traded volume or transaction size and less a measure of risk. A recent research paper published by the US Commodity Futures Trading Commission (CFTC) highlights this point, and introduces an alternate metric for the interest rate derivatives market.

However, many derivatives regulations employ notional amount as a trigger or threshold to determine whether and how certain requirements will apply. This paper highlights a number of areas where derivatives rules are based on notional amount and similar measures. In so doing, the intention is to contribute to the important policy discussion about the merits of a risk-based regulatory framework.
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INTRODUCTION

"Notional amount is not a good measure of the size of the interest rate swap (IRS) market, that is, of the magnitude of transfer risk through IRS." ¹

Derivatives markets have undergone a significant transformation in response to reforms set out by the Group-of-20 (G-20) nations in 2009. Substantial progress has been made in each of the five major areas targeted by the G-20: central clearing, capital, margining, trade reporting and trade execution. As a result of these reforms, financial markets are stronger, safer and more resilient.

With these fundamental improvements securely in place, policy-makers and industry participants are now exploring ways in which financial regulation can be further enhanced to encourage growth, improve liquidity and increase efficiency. One way to enhance regulatory oversight is to recalibrate certain regulatory requirements to more appropriately reflect the risk associated with derivatives, and to reduce the cost and compliance burden for end users and smaller financial institutions that do not pose a systemic risk to the financial system.

In implementing the G-20 reforms, regulators have relied heavily on notional amount outstanding as a measure to curtail derivatives risk. For example, under CFTC rules, entities have to register as swap dealers and so comply with a variety of requirements if their aggregate gross notional amount of swaps over the prior 12 months is above $8 billion².

While notional amount is helpful in understanding the extent of trading activity, it is not a measure of risk. For example, if one counterparty enters into a fixed-for-floating swap with a notional amount of $100 million, there is no payment of $100 million and neither counterparty is at risk of losing $100 million during the life of the transaction.

Among other things, notional amount does not differentiate between derivatives transactions based on different underlying assets or reflect the level of risk in a firm’s derivatives portfolio. Risk in derivatives may be assessed based on other metrics, such as price changes, volatility, and leverage and hedge ratios.

There is now growing recognition of the value of a risk-based regulatory framework, in which regulatory and prudential supervisory requirements and mandates hinge on risk exposures and not on arbitrary and/or non-risk-based metrics and thresholds.

¹ CFTC paper: Introducing ENNs: A Measure of the Size of Interest Rate Swap Markets by Richard Haynes, John Roberts, Rajiv Sharma, and Bruce Tuckman, January, 2018
A paper earlier this year by the Office of the Chief Economist of the CFTC recognized this view and proposed entity netted notional (ENN) as a risk-based measure of size for the interest rate swap (IRS) market 3.

To advance discussion on the merits of a risk-based regulatory framework, ISDA has conducted an analysis of global derivatives rules to identify the major areas in which notional amount and other non-risk-based measures feature prominently. Each of the five major areas of regulatory reform is discussed, and a variety of jurisdictions is covered 4.

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3 See CFTC ENN Paper, supra note 1 (finding that “notional amount is not a good measure of the…magnitude of risk transfer through IRS” and that “[a] possible policy implication of the paper is to use a metric like ENNs instead of or in addition to notional amounts to set regulatory thresholds, that is, entity or market sizes below which various rules do not apply”)

4 This paper is not intended to provide an exhaustive list of all the regulations in which notional amount or other non-risk-based measures are used. Instead, we provide representative examples to demonstrate the widespread use of these metrics in derivatives regulation.
CENTRAL CLEARING OF DERIVATIVES

Many jurisdictions use notional amount as a threshold to determine inclusion or exemption from central clearing requirements.

Europe

The European Union (EU) clearing obligation assigns counterparties into four clearing categories with different compliance dates. Categories 2, 3 and 4 are based on notional amounts. For example, financial counterparties and alternative investment funds that are non-financial counterparties with an aggregate month-end average outstanding gross notional amount of non-centrally cleared derivatives for January, February and March 2016 above €8 billion belong to Category 2. Table 1 provides a description of each category and compliance dates.

Table 1: EU Clearing Obligation Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Compliance Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>June 21, 2016</td>
<td>Financial and non-financial counterparties that are clearing members of a central counterparty (CCP).</td>
</tr>
<tr>
<td>2</td>
<td>December 21, 2016</td>
<td>Financial counterparties and alternative investment funds that are non-financial counterparties with an aggregate month-end average gross notional amount outstanding of non-centrally cleared above €8 billion.</td>
</tr>
<tr>
<td>3</td>
<td>June 21, 2019*</td>
<td>Financial counterparties and alternative investment funds that are non-financial counterparties with aggregate month-end average gross notional amount outstanding of non-centrally cleared derivatives below €8 billion.</td>
</tr>
<tr>
<td>4</td>
<td>December 21, 2018</td>
<td>Non-financial counterparties (NFCs) not included in Categories 1, 2 or 3 with notional amount outstanding above the NFC threshold (NFC+s; see table below).</td>
</tr>
</tbody>
</table>

As noted in Table 1, Category 4 NFC+s are entities with derivatives activities exceeding certain thresholds. More specifically, if a non-financial counterparty’s non-hedging transactions exceed one of the clearing thresholds for a particular asset class on a 30-working-day rolling average, it will have to clear all future over-the-counter (OTC) derivatives in all asset classes for as long as it is over the clearing threshold. The NFC+ thresholds are based on gross notional amounts and are listed in Table 2.

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6 The dates in the table are effective dates for IRS denominated in the G-4 currencies. The dates for index credit default swaps (CDS) are February 9, 2017, August 9, 2017, June 21, 2019 and May 9, 2019, respectively. The dates for IRS denominated in some European economic area currencies are February 9, 2017, August 9, 2017, June 21, 2019 and August 9, 2019, respectively

7 Art. 3(1)(c) of Commission Delegated Regulation 2015/2205 was amended by art.1 of Commission Delegated Regulation (EU) 2017/751 of March 16, 2017
A proposal by the European Commission to amend the European Market Infrastructure Regulation (EMIR) includes changes to the NFC+ calculation: an NFC becomes subject to the clearing obligation if its aggregate month-end average position for the months of March, April and May exceeds the clearing thresholds. Additionally, the clearing obligation applies only for the asset class or asset classes for which the clearing threshold has been exceeded and for which a clearing obligation exists. The proposal also sets clearing thresholds for small financial counterparties, which are the same as for NFCs.\(^8\)

**US**

Although the US does not have clearing thresholds based on notional amount, the CFTC end-user exception rule exempts small banks, savings associations, farm credit institutions and credit unions with total assets of $10 billion or less from the definition of ‘financial entity’. This means they are not subject to the mandatory clearing requirement.\(^9\)

**Japan**

Mandatory clearing under Japanese regulation is based on OTC derivatives average month-end notional amount outstanding for the previous fiscal year from April to March.\(^10\) In particular, IRS and credit default swap (CDS) transactions must be cleared if the average notional amount outstanding of OTC derivatives transactions held by one party is more than ¥1 trillion (from December 1, 2014) and more than ¥300 billion (from December 1, 2015). Trust accounts with an average outstanding notional amount of more than ¥300 billion are also required to clear (from December 1, 2016).\(^11\)

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\(^9\) Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 648/2012 as regards the clearing obligation, the suspension of the clearing obligation, the reporting requirements, the risk-mitigation techniques for OTC derivatives contracts not cleared by a central counterparty, the registration and supervision of trade repositories and the requirements for trade repositories https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-208_en


\(^11\) Financial Instruments and Exchange Act, Article 156-62, Cabinet Office Ordinance on the Regulation of Over-the-Counter Derivatives Transactions, Article 2
Other Jurisdictions

While specific thresholds vary among jurisdictions, the reference to notional amount in clearing rules is common (see Table 3).

Table 3

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>The clearing regime applies to several types of clearing entities that hold total gross notional outstanding positions of A$100 billion or more.</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>The clearing threshold is currently set at $20 billion gross notional. Transactions that are booked in overseas branches are exempt from clearing if they do not exceed 5% of the total OTC derivatives portfolio and the aggregate for all exempt jurisdictions does not exceed 10% of the total position.</td>
</tr>
<tr>
<td>Singapore</td>
<td>A proposed exemption to mandatory central clearing includes banks that do not exceed a maximum threshold of $20 billion gross notional outstanding of derivatives booked in Singapore for each of the past four calendar quarters.</td>
</tr>
<tr>
<td>Canada</td>
<td>Mandatory clearing rules apply to counterparties that have a month-end derivatives gross notional amount outstanding exceeding C$1 billion, or a month-end notional amount under all outstanding derivatives combined with each affiliated entity exceeding C$500 billion.</td>
</tr>
</tbody>
</table>

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MARGIN REQUIREMENTS FOR NON-CLEARED DERIVATIVES

Global margin requirements for non-centrally cleared derivatives generally follow the framework established by the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO)\(^\text{16}\). The framework uses notional amount (generally, the average amount over a three-month period) to determine thresholds for initial margin (IM) rules and to set the schedule for the phase-in of IM requirements.

Table 4 outlines how several key jurisdictions have transposed the BCBS-IOSCO proposals within their national rules. In the EU, for example, firms with €3 trillion in notional amount outstanding (based on the average month-end total during a three-month period from March to May) were required to exchange IM from September 1, 2016. The threshold dropped the next year to €2.25 trillion in notional amount outstanding. On September 1, 2019, firms with €0.75 trillion in notional amount outstanding in the March-May period will be required to post IM. The threshold drops significantly the following year, and firms with €8 billion in notional amount will need to exchange IM.

Table 4: Notional Amount Thresholds for Margin Requirements

<table>
<thead>
<tr>
<th>Effective Dates(^*)</th>
<th>Europe</th>
<th>USA</th>
<th>Japan</th>
<th>Australia</th>
<th>Hong Kong</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep-1-16</td>
<td>€3.0 trillion</td>
<td>$3.0 trillion</td>
<td>¥420 trillion</td>
<td>A$4.5 trillion</td>
<td>HK$24 trillion</td>
<td>S$4.8 trillion</td>
</tr>
<tr>
<td>Sep-1-17</td>
<td>€2.25 trillion</td>
<td>$2.25 trillion</td>
<td>¥315 trillion</td>
<td>A$3.375 trillion</td>
<td>HK$18 trillion</td>
<td>S$3.6 trillion</td>
</tr>
<tr>
<td>Sep-1-18</td>
<td>€1.5 trillion</td>
<td>$1.5 trillion</td>
<td>¥210 trillion</td>
<td>A$2.25 trillion</td>
<td>HK$12 trillion</td>
<td>S$2.4 trillion</td>
</tr>
<tr>
<td>Sep-1-19</td>
<td>€0.75 trillion</td>
<td>$0.75 trillion</td>
<td>¥105 trillion</td>
<td>A$1.125 trillion</td>
<td>HK$6 trillion</td>
<td>S$1.2 trillion</td>
</tr>
<tr>
<td>Sep-1-20</td>
<td>€8 billion</td>
<td>$8 billion</td>
<td>¥1.1 trillion</td>
<td>A$12 billion</td>
<td>HK$60 billion</td>
<td>S$13 billion</td>
</tr>
</tbody>
</table>

\(^*\) These effective dates are for the US and Japan. The initial effective date for Europe was February 4, 2017, and for Australia, Hong Kong and Singapore was March 1, 2017. The remaining dates are aligned across these regions.

The scope of the margin rules in most key jurisdictions is similar to that of the clearing mandate. In the EU, counterparties with an aggregate month-end average notional amount of non-centrally cleared OTC derivatives below €8 billion and non-financial entities below the clearing threshold are exempt. In the US, entities with an average daily aggregate notional amount of non-cleared swaps, non-cleared security based swaps, foreign exchange forwards and foreign exchange swaps with all counterparties for June, July and August of the previous calendar year below $8 billion are not subject to the clearing obligation.

Additionally, small financial institutions, including small banks, savings associations, farm credit system institutions and credit unions with total assets of $10 billion or less, are exempt from the definition of ‘financial entity’, and so aren’t subject to IM and variation margin (VM) requirements when they use non-cleared swaps to hedge or mitigate commercial risk (similar to the exemption from the clearing obligation).

\(^{16}\) Margin Requirements for Non-Centrally Cleared Derivatives, March 2015, Basel Committee on Banking Supervision and Board of the International Organization of Securities Commissions https://www.bis.org/bcbs/publ/d317.pdf
In Japan, entities with an average of the total derivatives notional principal amount of less than ¥300 billion are exempt from VM requirements\textsuperscript{17,18}. The rule also exempts entities with an average of the total notional principal amount of non-cleared OTC derivatives transactions (for all entities in a group) of ¥1.1 trillion or less from the IM requirements (¥1.1 trillion is equivalent to the €8 billion threshold in the BCBS-IOSCO framework)\textsuperscript{19,20}.

Other Jurisdictions

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Covered entities with an aggregate month-end average notional amount of non-centrally cleared derivatives for the relevant reference period above A$3 billion must exchange VM. The rule also sets the qualifying level notional amount thresholds for the implementation timetable for IM requirements, consistent with the BCBS-IOSCO standards, but denominated in Australian dollars\textsuperscript{21}.</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Margin requirements apply to financial counterparties and significant non-financial counterparties, which include entities with an average aggregate notional amount of non-centrally cleared derivatives for a one-year period exceeding HK$60 billion. The rule also sets notional amount thresholds for the phase-in of IM requirements and risk mitigation standards consistent with the BCBS-IOSCO standards, but denominated in Hong Kong dollars\textsuperscript{22}.</td>
</tr>
<tr>
<td>Singapore</td>
<td>Entities with an aggregate month-end average notional amount of non-cleared derivatives contracts booked in Singapore for March, April and May of the year above $5 billion are included in the margin requirement. The guidelines also set notional thresholds for the phase-in schedule of IM requirements consistent with the BCBS-IOSCO standards but denominated in Singapore dollars\textsuperscript{23}.</td>
</tr>
<tr>
<td>Canada</td>
<td>Covered entities belonging to a group with an aggregate month-end average notional amount of non-centrally cleared derivatives for March, April, and May of that year at or above C$12 billion are subject to IM requirements. The guidelines set IM phase-in requirements based on the aggregate month-end average notional amount of non-centrally cleared derivatives\textsuperscript{24}.</td>
</tr>
</tbody>
</table>

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\textsuperscript{17}Cabinet Office Ordinance on Financial Instrument Businesses, etc. (Cabinet Office Ordinance No. 52 of 2007)

\textsuperscript{18}Comprehensive Guidelines for Supervision of Financial Instruments Business Operators, etc apply to entities exempted from the Cabinet Office Ordinance on Financial Instrument Business, etc

\textsuperscript{19}Supplementary Provisions of Article 123 of the Cabinet Office Ordinance on Financial Instrument Businesses

\textsuperscript{20}Average amount is calculated based on the amount on the last day of each month from March until May of the year that is one year before the year in which the reference time falls, or if the reference time falls in September to December, from March until May of that year


\textsuperscript{24}OSFI BSIF Guideline on Margin Requirements for Non-Centrally Cleared Derivatives http://www.osfi-bsif.gc.ca/Eng/Docs/e22.pdf
**DERIVATIVES TRADE EXECUTION/TRADING OBLIGATION**

Notional amount outstanding also come into play for trade execution and trading obligation requirements in Europe and Asia.

In the EU, the trading obligation applies only to trades between financial counterparties (FCs) and between FCs and NFC+s (non-financial counterparties with a notional amount above a certain threshold). In Japan, the trading obligation applies only to entities with a notional amount outstanding that exceeds ¥6 trillion, calculated as the average of month-end notional during the previous fiscal year. In Singapore, a proposed rule on the mandatory trading of OTC derivatives applies to banks with gross notional outstanding of OTC derivatives contracts booked in Singapore for each of the past four quarters exceeding S$20 billion.

**DERIVATIVES TRADE REPORTING**

Regulators in certain jurisdictions rely on notional amount outstanding when determining whether counterparties are subject to a reporting obligation.

In Hong Kong, for example, reporting is required if the sum of the notional amounts of all outstanding OTC derivatives transactions within the product class (whether or not the transactions are specified OTC derivatives transactions) exceeds $30 million. Singapore sets the reporting threshold at $8 billion based on the aggregate gross notional amount for the year ending on the last day of a quarter for the derivatives contracts booked in Singapore.

In the EU, notional amounts are also used to determine whether a trade should have delayed reporting. Trades that are considered to be large in scale (LIS) may be exempted from post-trade transparency obligations by the relevant national competent authority. For example, for fixed-to-floating, single currency IRS determined to have a liquid market, the LIS post-trade threshold floor is €10 million in notional.

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25 Financial Instruments and Exchange Act, Article 40-7, Cabinet Office Ordinance Amended on November 2014, Article 125-7-2
26 MAS Consultation Paper on Draft Regulations for the Mandatory Trading of Derivatives Contracts
27 Securities and Futures (OTC Derivatives Transactions- Reporting and Record Keeping Obligations) Rules https://www.elegislation.gov.hk/hk/cap571A!en@2016-10-20T00:00:00
In addition, non-financial entities that do not exceed the notional thresholds for clearing (NFC-) do not have to report collateral, mark-to-market or mark-to-model valuations for their open positions. A proposal is currently being considered in the EU that would exempt NFC-s from reporting requirements, moving the responsibility to report transactions to the financial counterparties to the trade.

In the US, notional amounts are also used to determine whether a trade should be considered a ‘block’ under CFTC rules and therefore be subject to delayed reporting. The CFTC determines appropriate minimum block sizes and cap sizes for certain asset classes based on 50%, 67% and 75% notional amount calculations. Several examples are included in Table 6.

<table>
<thead>
<tr>
<th>Products</th>
<th>Tenor</th>
<th>50% Notional Amount (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRS (super-major currency group)</td>
<td>Less than or equal to 46 days</td>
<td>6,400</td>
</tr>
<tr>
<td>IRS (major currency group)</td>
<td>Less than or equal to 46 days</td>
<td>2,200</td>
</tr>
</tbody>
</table>


32 Proposal for Regulation of the European Parliament and of the Council amending Regulation (EU) No 648/2012 as regards the clearing obligation, the suspension of the clearing obligation, the reporting requirements, the risk mitigation techniques for OTC derivatives contracts not cleared by a central counterparty, the registration and supervision of trade repositories and the requirements for trade repositories.


34 For the full list of products, refer to 17 CFR Appendix F to Part 43, Initial Appropriate Minimum Block Sizes by Asset Class for Block Trades and Large Notional Off-Facility Swaps.
CAPITAL

The Basel III capital framework has been finalized—with the exception of the revised market risk capital rules, which are currently under consultation. Many of these rules have been, or soon will be, transposed into regulations in individual jurisdictions. Several standards include references to derivatives notional amounts, as outlined in the Table 7.

Table 7

<table>
<thead>
<tr>
<th>Regulation / Standard</th>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage ratio(^{36})</td>
<td>Derivatives exposures</td>
<td>Derivative exposures are calculated using the current exposure method (CEM) as a sum of the replacement cost of the contract and an add-on, which is the potential future exposure over the remaining life of the contract calculated by applying an add-on factor to the notional principal amount of the derivative(^{37}). The CEM will eventually be replaced by the more risk sensitive standard approach for counterparty credit risk.</td>
</tr>
<tr>
<td>Credit valuation adjustment (CVA)(^{38})</td>
<td>Minimum capital requirements for CVA Risk</td>
<td>Any bank with an aggregate notional amount of non-centrally cleared derivatives of less than or equal to €100 billion is deemed as being below the materiality threshold.</td>
</tr>
<tr>
<td>Global systemically important bank (G-SIB) methodology(^{39})</td>
<td>Complexity</td>
<td>Notional amount of OTC derivatives is one of the factors to measure complexity.</td>
</tr>
</tbody>
</table>

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\(^{36}\) There are also other elements of the Basel III framework that are notional based, but not yet in effect
\(^{36}\) Basel III leverage ratio framework and disclosure requirements, January 2014 https://www.bis.org/publ/bcbs270.pdf
\(^{37}\) The same is true for calculation of exposure at default (EAD) for capital requirements, which for firms not using the internal model method is currently also based on CEM
\(^{38}\) Basel III: Finalising post-crisis reforms, December 2017 https://www.bis.org/bcbs/publ/d424.pdf
\(^{39}\) Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement https://www.bis.org/publ/bcbs255.pdf
CONCLUSION

This paper has highlighted a number of examples where notional amount outstanding is used in derivatives regulations in different jurisdictions. In some instances, such as those related to trade size, notional amount may be the most appropriate metric to use. In others, such as clearing and margin, a risk-based measure would be more appropriate.

The CFTC’s Office of the Chief Economist has taken an important step forward with the introduction of the concept of ENNs\(^\text{40}\). Market participants are looking to extend this work and apply it beyond the interest rate space to cover other derivatives asset classes.

While this paper does not propose alternative metrics for derivatives regulations, it identifies the predominant use of notional amount outstanding by regulators, and informs the discussion about whether the use of notional amount thresholds is appropriate for regulations that are intended to address risk.

\(^{40}\) See CFTC ENN Paper, supra note 1
ABOUT ISDA

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has more than 900 member institutions from 68 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association’s website: www.isda.org. Follow us on Twitter @ISDA.