Project Dissertation Report on

Are the firms ready for Initial Margin phase 5 & 6 today?

Submitted By

Nikhil Gill

Roll No: 2K19/DMBA/60

Under the Guidance of

Prof. Chandan Sharma

Delhi School of Management

Delhi Technological University

Bawana Road Delhi - 110042

CERTIFICATE

This is to certify that the work titled **'Are the firms ready for Initial Margin phase 5 & 6 today?'** as part of the final year Major Research Project submitted by Nikhil Gill in the 4th Semester of MBA, Delhi School of Management, Delhi Technological University during January-May 2021 is his original work and has not been submitted anywhere else for the award of any credits/ degree whatsoever.

The project is submitted to Delhi School of Management, Delhi Technological University in partial fulfillment of the requirement for the award of the degree of Master of Business Administration.

Prof. Chandan Sharma
Faculty Advisor

Prof. Archana Singh
Head of Department (DSM, DTU)

DECLARATION

I hereby declare that the work titled 'Are the firms ready for Initial Margin phase 5 & 6 today?' as part of the final year Major Research Project submitted by me in the 4th Semester of MBA, Delhi School of Management, Delhi Technological University, during January-May 2021 under the guidance of Prof. Chandan Sharma, it is my original work and haven't been submitted anywhere else.

This research paper has been written by myself in my own words without copying it from anywhere else. All that appears in this report which is not my creation has been duly and appropriately referred cited acknowledged.

Nikhil Gill

(Roll Number. 2K19/DMBA/060)

ACKNOWLEDGMENT

I am short of words to express my gratitude and appreciation for all the people who have helped me complete my dissertation and without their support, co-operation and good wishes, this endeavor of mine would not have been possible. I would like to thank my faculty advisor Prof. Chandan Sharma, who helped me to take up the topic 'Are the firms ready for Initial Margin phase 5 & 6 today?' and guided me to complete this project properly. The project provided me with an excellent opportunity to explore the area of Derivatives.

I am highly indebted to Delhi School of Management, Delhi Technological University for giving me an opportunity to work on this project. Lastly, I would like to express my gratitude to all the honorable faculty members for sharing their experience and expertise on this project.

Finally, I will always be indebted to my alma mater, my school and college that have made me what I am today.

Nikhil Gill

(Roll Number. 2K19/DMBA/060)

EXECUTIVE SUMMARY

Derivatives has gained popularity in the recent times into the mindset of general public. Although, derivatives have been used by mankind since a very long time. Since the inception of time, mankind haven't liked the general idea of uncertainty. More so, they did not like the idea of economic uncertainty. Therefore, the need of offsetting these uncertainties led to the evolution of contracts.

This final policy framework presented in the document establishes are firms ready for Initial Margin Phase 5 & 6 for non-centrally cleared derivatives as agreed by the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO).

The objective of the research paper is to understand and evaluate the current scenario of firms in adopting regulatory measures, one such is the SIMM Model that includes IM requirements as designed by ISDA in an attempt to redesign and regulate the accounts of all Non-centrally cleared Derivatives, to study how and why are the firms not ready for the next phase of regulatory IM Phase 5 & 6 as per the schedule announced by ISDA, what are the reasons behind the release of a one-year extension to Phase 4, and delay for Phases 5 & 6 and what are and will be the serious logistical challenges faced by the firms to implement these phases.

TABLE OF CONTENTS

List of Figures

List of Tables

Chapter I

1. INTRODUCTION

The over-the-counter derivatives segment in the financial world plays a major role and the products of a non-cleared segment of the OTC derivatives market add significant value to the economy like enabling governments, counterparties, industrial companies, banking institutes, etc., to manage activities as such to effectively balance the risk in their operations and finance other securities and funds meet their obligations.

The traditional mechanism of the functioning of derivatives is undergoing major changes. Following the consequences of margin practices during the financial crisis, the institutions are in dire need to regulate the margin calculations and comply with the final framework issued by the BCBS and IOSCO as the reports state that 25% of the interest rate derivatives market, 33% of the CDS market, and significant percentages of other types of OTC derivatives will remain non-cleared.

The non-cleared OTC derivatives are likely to remain non-cleared, as they do not fit the eligibility requirements of clearinghouses (CCPs).

1. Interest rate swap options and options,
2. cross-currency swaps,
3. single-name credit default swaps and
4. various types of equity and commodity swaps

1.1 Background

The economic and financial crisis 2007 has exposed the significant weakness owing to three specific reasons - Firstly, the Deregulation of financial derivatives was a key underlying cause of the financial crisis, Secondly, the banks had chopped up the original mortgages and resold them in tranches, making the derivatives impossible to price and thirdly, Financialization - the increased use of leverage in the financial system. It is identified that the lack of transparency in the regulation of derivatives instruments led to the great recession of 2007-09. The need to have transparency in OTC derivatives markets and regulation and clearing of every contract, reduction of systematic risk through OTC derivatives are the major factors focused on by the regulators to make sure there wouldn't be another such crisis in the future.

Followed by the analysis of the consequences of the financial crisis, the Group of Twenty (G20) initiated a reform program to reduce the systemic risk from OTC derivatives in 2009. The four elements comprising the reform is as follows [10]

- All standardized OTC derivatives should be traded on exchanges or electronic platforms, where appropriate.
- All standardized OTC derivatives should be cleared through central counterparties (CCPs).
- OTC derivatives contracts should be reported to trade repositories.
- Non-centrally cleared derivatives contracts should be subject to higher capital requirements.

In the year 2011, the G20 had come up with a reform program introducing margin requirements to Non-Centrally cleared derivatives to ensure transparency and standardization of contracts. Followed by this decision, they called up the BCBS and IOSCO to scrutinize the process, develop and reframe consistent global standards for the margin requirements. To this, the BCBS and IOSCO with the consultation of CPSS and CGFS formed a union named as Working Group on Margining Requirements (WGMR) in October in the year 2011. WGMR aims to develop a framework or a proposal on margin requirements for non-centrally cleared derivatives which will be further consulted by mid of 2012. [10]

Thus, the proposal was released for consultation by July 2012 which is lined up for review by 28th September 2012. This was assessed by a quantitative impact study known as QIS for the liquidity and impacts associated with the requirements. By 2013, a large number of comments were received on the near-final margin framework after the first consultation as well as QIS results. [10]

According to the G20 financial regulatory reforms and Margin Requirements, the new margin framework proposed by regulators consists of two elements: Variation Margin (VM) and Initial Margin (IM).

1.1.1 What is Variation Margin (VM)?

Variation margin is a payment typically made daily in cash to reflect the changes in the market value of a trade or portfolio trade, in the OTC derivatives market, variation margin is traditionally seen as a buffer against counterparty default; in listed derivatives, it is treated as settlement.

Variation margin requirements for non-trade derivatives went live in March 2017. Counterparties entry into any kind of non-cleared derivatives having a notional value of $500k+ must agree and exchange variable margin bilaterally daily.

1.1.2 What is Initial Margin (IM)?

Initial margin is the amount of collateral securities that an investor is supposed to maintain with a broker, an exchange, or with a bank.

The Standard Initial Margin Model (SIMM) is likely to become the market standard for initial margin calculations. The SIMM model is designed to provide a common methodology for the calculations of the IM for Uncleared over-the-counter derivatives. With the help of the SIMM model, it would be easier for the counterparties to have a standard approach for the calculation of the initial margin.

The signs of delaying the implementation of phases can be tracked from the earlier decisions taken up by the responsible committees from the following announcements:

Considering the complexities involved in operational and legal compliances of the final margin requirements framework, the BCBS and IOSCO have decided to take the following actions:

1. Delay the requirement to collect and post IM by 9 months.
2. Delay the requirement to exchange VM by 9 months and thus the overall period is subjected to a 6-month phase-in-period.

1.1.3 <u>Benefits of Final Margin Framework:</u>

The final margining framework for non-centrally cleared derivatives consists of benefits as follows:

1. Reduction of Systematic Risk:

   When it comes to OTC Derivatives, not all are standardized and cleared by the central party. The recent crisis is resulted because of the materialization of these types of non-cleared derivatives amounting to hundreds of trillion dollars in notional terms. Margin requirements for non-centrally cleared derivatives would be expected to reduce contagion and spillover effects by ensuring that collateral is available to offset losses caused by the defaulting derivative counterparty in the course of the period/contract. Margin requirements can also have broader macro prudential benefits, by reducing the financial system's vulnerability to potentially destabilizing procyclicality and limiting the build-up of uncollateralized exposures within the financial system.

2. Promotion of Central Clearing:

   In many jurisdictions, central clearing will be mandatory for most standardized derivatives. But clearing imposes costs, in part because the clearinghouses require margin to be posted and collected within some stipulated period. Margin requirements on non-centrally cleared derivatives, by reflecting the generally higher risk associated with these derivatives, will promote central clearing, making the G20's original 2009 reform program more effective. This could, in turn, contribute to the reduction of systemic risk.

The key principles addressing eight main elements as demonstrated by the BCBS's and IOSCO's final policy catering the IM requirements for the over the counter derivatives are:

1. Appropriate margining practices should be in place with respect to all derivatives transactions that are not cleared by CCPS.

2. All concerned financial firms and required non-financial entities ("covered entities") that indulge in non-centrally cleared derivatives must indulge into margin practices as to mitigate counterparty risk posed by such transactions.

3. The matrix for the calculation of IM & VM that serves as the base line for the margin collection from the counter parties should-
    i. Be consistent across entities covered by the requirements and reflect the potential future exposure (initial margin) and current exposure (variation margin) associated with the portfolio of non-centrally cleared derivatives in question and

    ii. Ensure that all counterparty risk exposures are fully covered with a high degree of confidence.

4. The collection of assets as a collateral for the IM & VM purposes can be liquidated in a reasonable amount of time to generate proceeds that could sufficiently protect collecting entities covered by the requirements from losses on non-centrally cleared derivatives in the event of a counterparty default, these assets should be highly liquid and should, after accounting for an appropriate haircut be able to hold their value in a time of financial stress

5. The margin has to be exchanged by both the counterparties without netting of the amounts to be collected by each counterparties (on a gross basis) and to be seized in such a manner to ensure that:-

6. Transactions between a firm and its affiliates should be subject to appropriate regulation in a manner consistent with each jurisdiction's legal and regulatory framework

7. Regulatory regimes should interact so as to result in sufficiently consistent and non-duplicative regulatory margin requirements for non-centrally cleared derivatives across jurisdictions

8. The cost associated to the margins need to be spread between various phases in a specific period of time to ensure that the margin cost is adequately managed. The Regulators need to acknowledge a review of the Initial Margin standards once the phase requirements are in appropriate place and are functioning to assess the impact of Initial Margin to ensure harmony among various national jurisdictions and the regulating bodies.

1.2 The ISDA Master Agreement

The ISDA Master Agreement is a customary contract used to oversee all the over the counter (OTC) derivatives transactions between various parties. Various same class transactions across different assets classes are grouped under the same agreement.[3]

The preamble of the ISDA Master agreement gives-

Section 1 - Interpretation
Section 2 - Obligations
Section 3 - Representations
Section 4 - Agreements
Section 5 - Events of Default and Termination Events
Section 6 - Early termination, Close-Out Netting
Section 7 - Transfer
Section 8 - Contractual Currency
Section 9 - Miscellaneous
Section 10 - Offices, Multibranch parties
Section 11 - Expenses
Section 12 - Notices
Section 13 - Governing law and Jurisdiction

Section 14 - Definitions

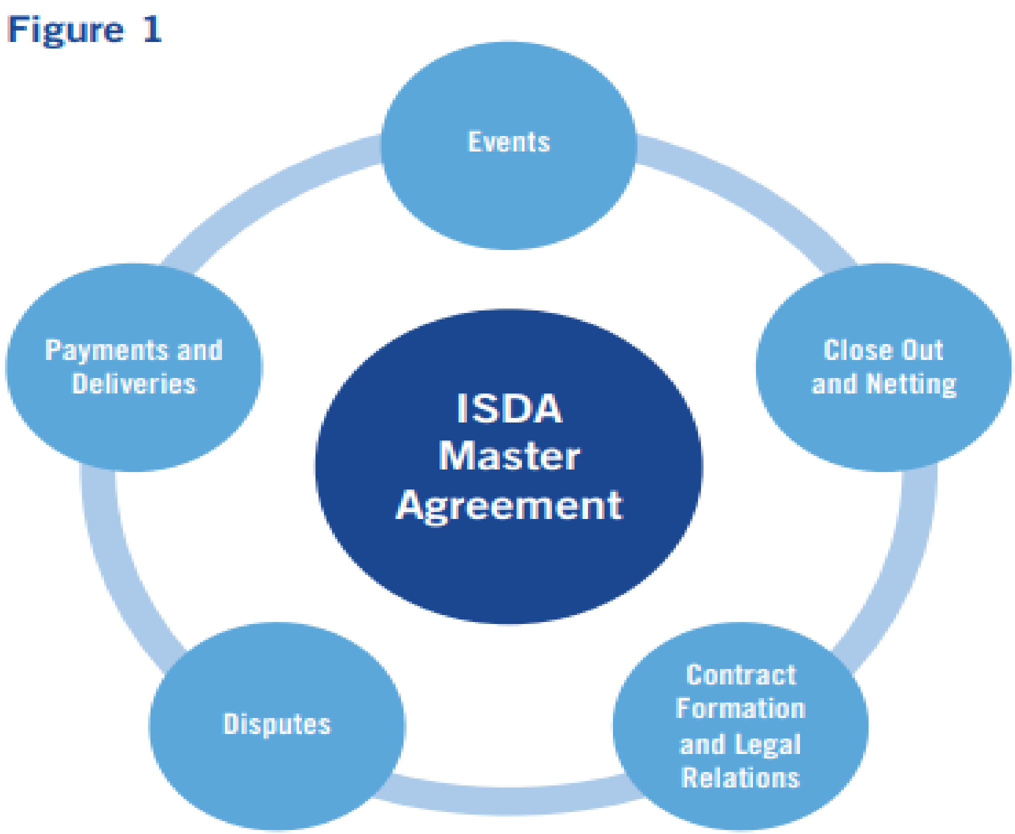
Signatures

The ISDA Master Agreement has all the definitions which both the parties in a contract are to comply with. The only things that can be inserted in the pre-printed form of the Master Agreement are:

1. Agreement Date - On the first page of the agreement.
2. Parties Name - On the first and last page of the agreement.

However, it is possible to understand the entire structure of the ISDA Master Agreement into five core themes - Events, Close Out and Netting, Contract Formation and Legal Relations, Disputes, and Payments and Deliveries.

Fig 1.1: ISDA Master Agreement [13]

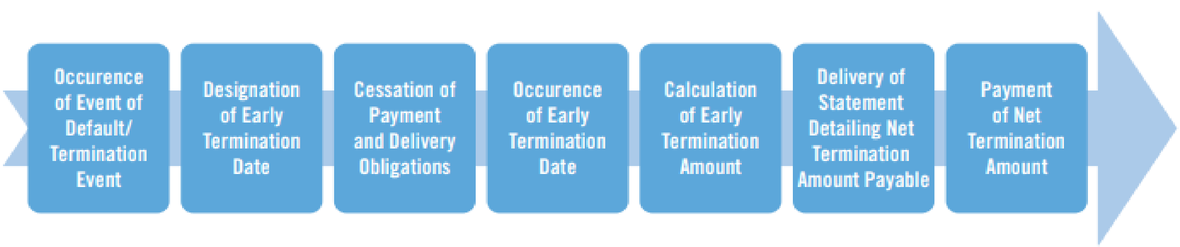


1. **Events**: Section 5 covers the events, events of default, and termination of events under various subsections - It primarily sets out the events that default under various clauses and provisions that the date of the early termination will be assigned and closeout will be applied under all the transactions. This section also defines all the clauses that occur outside the contracts and how they will imply the other parties' ability to perform their obligations under their transactions.

2. **Payments and Deliveries**: The operational nature of payments obliged under each transaction is detailed in this agreement. Let's say, on a pre-confirmed statement denotes a payment on a specific date, a specific month, a calculation has to be performed, and based on the outcome/result, the following payment is made on a specific date to another party. The obligations to make payments, different layers of obligations, and confirmation of the payments are elaborated more in this section of the agreement. Also, it follows the mode and timings of the following payments based on the calculations of preceding transactions.

3. **Close out and Netting:** In specific cases, the concerned trade participants may be required to cease the entered agreement under the section 6 of ISDA master agreement. The ISDA master agreement outlines all supporting points on termination process or the closeout of any ongoing transaction. Further, the ISDA Master agreement also contains provisions to determine one party's financial exposure on net basis to ensure proper risk mitigation. This provision of ISDA master agreement of determining credit risk and regulatory capital perspective is one crucial element.

Fig 1.2: Closeout and Netting of transactions under ISDA [13]



4. **Disputes**: The ISDA Master Agreement details how the parties involved at both sides of a contract and the process to resolve disputes that might arise.

Under the ISDA Master Agreement, resolving of dispute is dependent on several factors including:-

- ISDA Master Agreement governing laws
- Verified data, details, and circumstances of the dispute
- Parties relationship
- Terms of the ISDA Master Agreement concerning the issue(s) in dispute.

5. **Legal Relationship and contract Formation**: Apart from the above mentioned four core dimension mentioned, the ISDA Master Agreement also contains several provisions aimed at creating a legally effective and robust contractual relationship between the parties. These include provisions on how the contract might be amended, any representations made by the parties, and how notices are effectively delivered.

Chapter II

2. LITERATURE REVIEW

2.1 Analysis of Phase 4 & 5

Rules and Requirements of Uncleared Margin Rules (UMR):

1. The global UMR requires that swap dealers exchange (collect and post) initial margin (IM) with financial entities and with other swap dealers against uncleared swap positions. Exempt are the commercial end-users and various government entities while all covered entities under UMR are subject to a gradual phase-in of the requirements.
2. The compliance phases are based on the average aggregate notional amount (AANA) of swaps, calculated based on the daily average of the notional amount of swaps over June, July, and August of the year 2019. Except for swaps with commercial end-users, all swaps must be counted toward the AANA, including swaps that are exempt from IM. (Note: AANA is calculated on a corporate group level, and swaps between affiliates are included but counted only once).
3. The covered entities participating in each phase of compliances released by ISDA are those entities, at the group level, that had the largest average aggregate notional amount (AANA) of swaps.
4. Phases 1, 2, and 3, brought into scope, the entities with more than $3 trillion, $2.25 trillion, and $1.5 trillion AANA, respectively. Phase 4 is scheduled to lower the threshold to $750 billion AANA as of September 1, 2019, and to bring all remaining entities into scope with more than $8 billion, as of September 1, 2020, in Phase 5.

   Note: However, an entity remains out of scope if its AANA is below a material swap exposure (MSE) of $8 billion.

Note: AANA is the total sum of the outstanding amount of non-cleared derivatives positions during the prescribed observation period on a gross notional basis. This calculation is inclusive of all affiliates within the counterparty group.

As a result of global coordination, the UMR and its compliance schedule are similar in the United States and other jurisdictions. For example, the only difference between the U.S. and European phase-in is that the numerical thresholds in the latter are in Euros rather than U.S. dollars, that is, Phase 5 in Europe applies to entities with between €8 and €750 billion AANA. [9]

Fig 2.1: Timeline of Phases

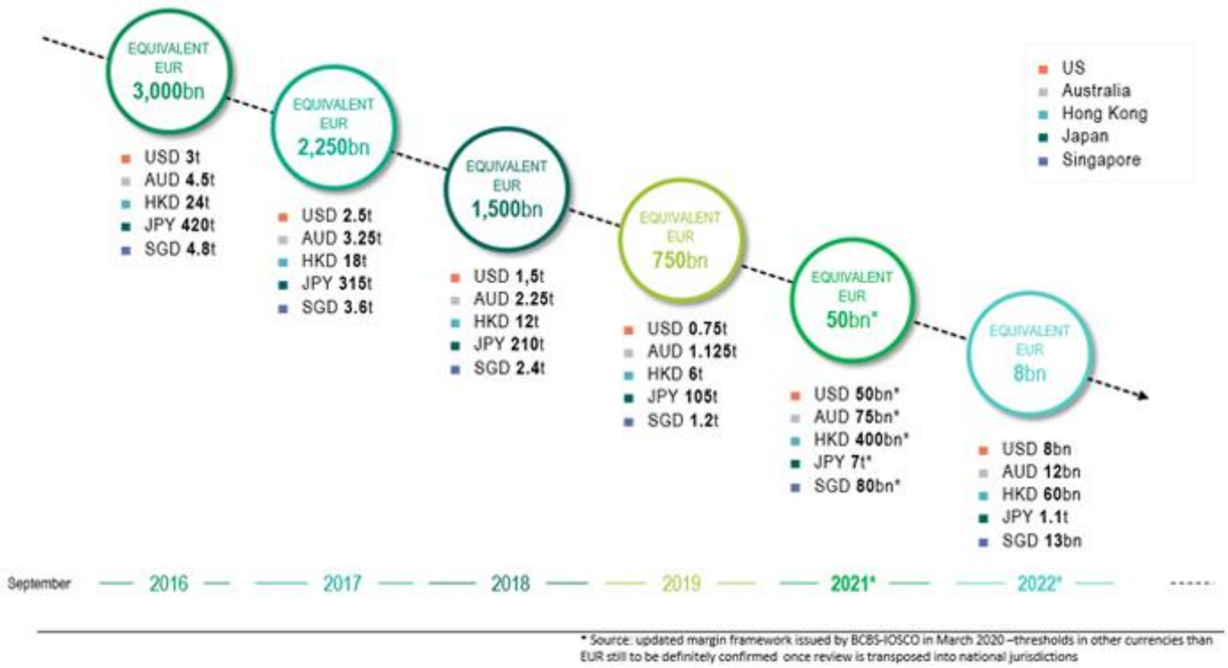


Table 2.1: Number of Entities and AANA covered in IM Phases

Phase(s)	Number of Entities	Total AANA ($billions)	Average AANA per Entity ($billions)
1, 2, and 3	23	292,338	12,710
4	20	20,049	1,002
5	704	38,275	54

The relevant schedule in the United States is shown above:

Although not shown in the table, there are tens of thousands of entities that have AANAs below the $8 billion MSE and, therefore, will continue to remain out of scope after Phase 5.

Nearly 60% of entities coming into scope in Phase 5 have AANAs of less than $25 billion, and over 75% have AANAs less than $50 billion. These subsets of entities comprise about 15% and 30% of total Phase 5 AANA, respectively

Fig 2.2: CFTC/PR Margin Rules Compliance Schedule – Upcoming Phases

Phase	AANA Threshold	Calculation Period	IM Compliance Date
4	>USD 750 billion	March, April + May of 2019	September 1, 2019
5**	>USD 50 billion	March, April + May of 2020	September 1, 2020
6*	>USD 8 billion	June, July + August of 2020	September 1, 2021

Experts from around the world share the opinion that phase 5 implementation of final margin requirements observes around 700 newly in scope entities(small financial users) who have their positions exempt from IM requirements, wherein the phases through 1 to 4 bring in just 40 entities. The newly-in-scope entities in phase 5 have IM falling below the existing threshold of $50 million. So this makes the smaller firms entering as part of phase 5 pay the least attention to the compliance path due to lack of resources available. Some regulators also argue that there is no need for these entities as they pose minimum or no systematic risk. [9]

2.2 Relief Measures demanded by Industrialists:

Following up on these arguments, industry representatives have begun to ask international regulators for various forms of relief, such as [9]

1. Extending the phase-in schedule;
2. Permanently raising the MSE threshold - market participants have called for raising the MSE threshold from $8 billion to either $50 billion or $100 billion;
3. Excluding physically-settled foreign exchange (FX) swaps—which are exempt from IM—from the calculation of AANA;
4. And simplifying the compliance process.

2.3 Findings and Analysis of US Reporting Entities:

We try to address the relief measures requested by industrialists and further suggest the possible solutions to these relaxations to the regulators.

Data Source: We have used the data of US reporting entities' interest rate swaps (IRS), index and single-name credit default swaps (CDS), FX swaps, and equity swaps(except single-name CDS are available to the CFTC through reporting by Swap Data Repositories (SDRs)) [9]

[Note: Data on single-name CDS are available to the CFTC through DTCC's Trade Information Warehouse.
Data on IM currently exchanged on these positions was not available.
Due to current data limitations, commodity swaps are not included in this study. It is of least significant as the commodity swaps constitute less than 0.35% of global swaps notional amounts.]

For compliance purposes:

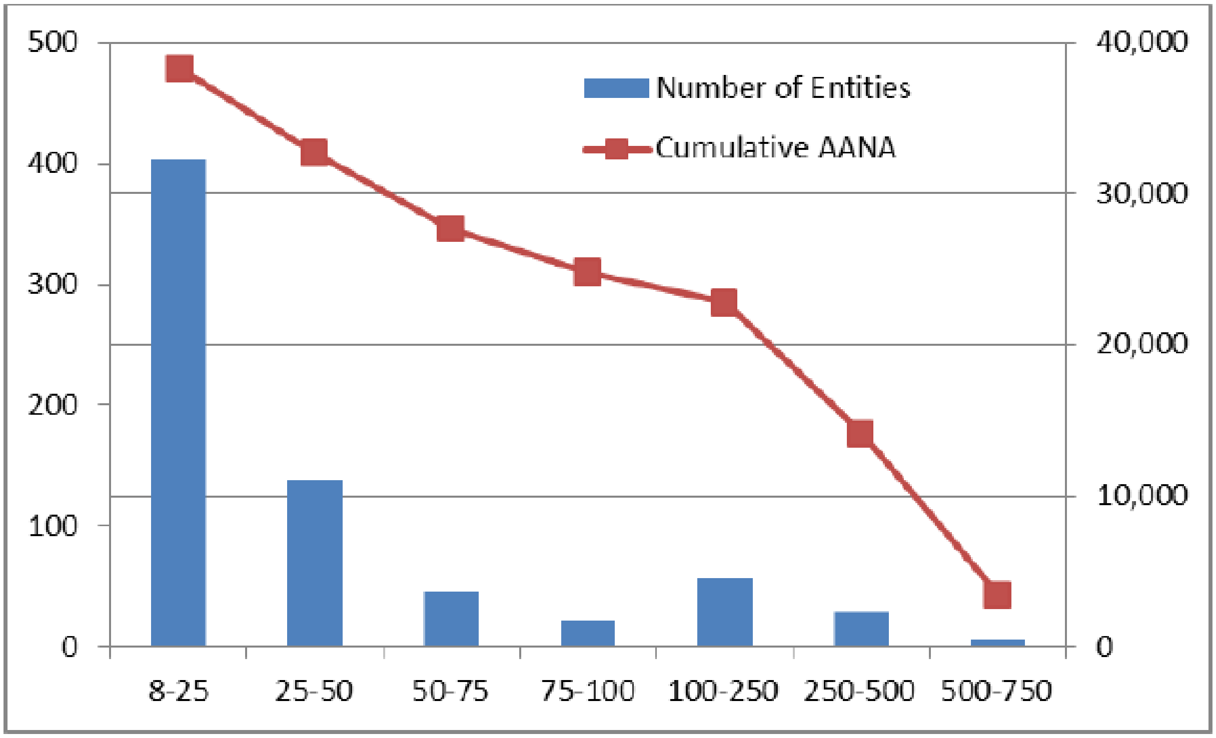
1. AANA is computed as a daily average over three months.
2. For simplicity, however, this study computes AANA from a single day's snapshot of positions on convenient dates around September 2018.
3. All notional amounts are converted to U.S. dollars at then prevailing exchange rates.

Analyzing the total amount attributed to each phase of IM, we have Phases 1 through 4 capture only 40 entities, while Phase 5 could bring 700 entities in scope, which together encompass only 11% of the AANA across all phases. [9]

Table 2.2: Proportion of entities with AANA in phase 5 [9]

Phase 5 (total of 700)	AANA	% of total AANA
60% of entities	less than $25 billion	15%
75% of entities	less than $50 billion	30%

Fig 2.3: Phase 5 Entities by AANA Bucket.



The blue bars (left axis) show the number of entities in each bucket. The solid red line (right axis) shows the cumulative AANA across buckets, starting from the rightmost bucket. [9]

In Figure 3, the $50 billion and $100 billion thresholds have some significance, as market participants have called for raising the MSE threshold from $8 billion to either $50 billion or $100 billion.

The vast majority of the 704 Phase 5 entities are in the smallest two AANA buckets, with 403 entities, or 57%, in the $8 to $25 billion bucket and 139 entities, or another 20%, in the $25 to $50 billion buckets. There are 70 entities (10%) in the $50 to $100 billion range, and the remaining 92 entities (13%) fall in the over $100 billion range.

The red line in Figure 3 (right axis) gives the cumulative AANA across buckets, starting from the rightmost bucket. For example, the cumulative amount of AANA covered by Phase 5 entities with AANAs in the five rightmost buckets, i.e., from $50 to $750 billion, is about $28 trillion.

Along this line, the following statistics may be computed. Entities in the $8 to $25 billion bucket encompass $5.6 trillion AANA, or about 15% of the $38.3 trillion Phase 5 total, while entities in the two leftmost buckets, with AANAs between $8 and $50 billion, encompass $10.6 trillion AANA or 28% of the Phase 5 total.

Recalling from Table 1 that the entirety of Phase 5 AANA is 11% of the AANA of all phases combined, entities with AANAs below $50 billion constitute 28% of 11% or about 3% of AANA across all phases of the UMR. [9]

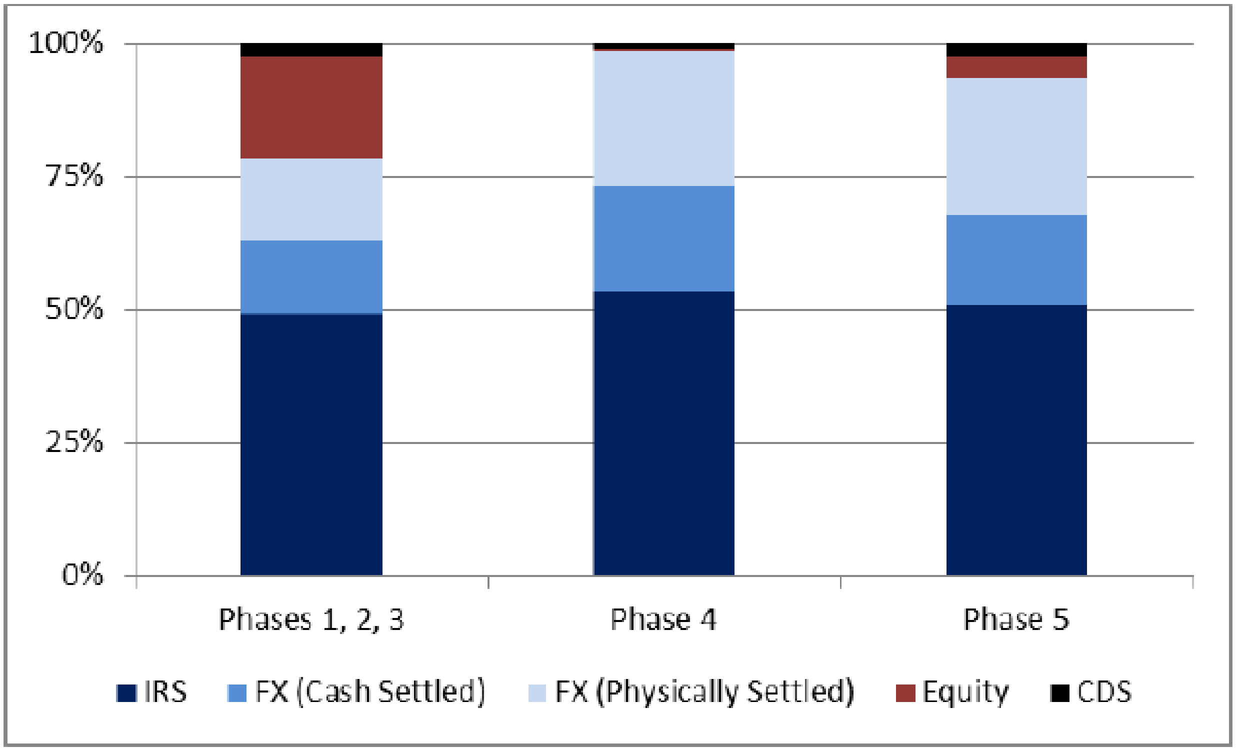
Table 2.3: Phase 5 Entities and their AANAs by Sector [9]

	Swap Dealers	Banks	Hedge Funds	Asset Managers	Insurance Companies	Pension Funds	Corporates	Gov't Sector	Unclassified
Number of Entities	20	158	163	153	48	54	65	14	29
Total ANA ($billions)	4,045	9,180	10,412	6,598	3,985	1,445	1,226	840	544
Average ANA ($billions)	202	58	64	43	83	27	19	60	19

Phase 5 entities will span a variety of business sectors. The above Table 2 analyzes the Phase 5 entities by sector. The first row gives the number of Phase 5 entities in each sector; the second row gives the total Phase 5 AANA in each sector, and the third row gives the average AANA of entities in that sector. It should be noted that the government sector used here matches the rules of the UMR, by, for example, including U.S. municipalities but excluding central banks.

By count, banks, hedge funds, and asset managers predominate. By total AANA, banks, hedge funds, and, to a lesser extent, asset managers, are the largest by average AANA, however, swap dealers are many times as large as entities in other sectors.

Fig 2.4: shows how AANA breaks down by product across the IM phases.



Entities in all phases have about the same percentage of IRS swaps, but, overall, Phase 4 and 5 entities have a much larger percentage of FX products and a much smaller percentage of equity products than entities in Phases 1, 2, and 3. [9]

The data used for this study do not allow for the precise identification of physically vs. cash-settled FX swaps. All FX options, NDFs (non-deliverable forwards), and exotic derivatives are considered cash-settled, while all FX forwards and swaps are considered physically settled. Using this approximation, Figure 3 reveals that Phase 4 and 5 entities have a significant fraction of their AANA in physically-settled FX swaps.

The extent of AANA in physically-settled FX swaps has a particular policy implication. Under current rules, all FX swaps have to be included in AANA even though physically-settled FX swaps are exempt from IM requirements. Therefore, an entity with more than $8 billion of physically settled FX swaps but little of any other product would be captured by one IM phase or another, and would have to prepare for the exchange of IM, but would never actually need to collect or post IM. For this reason, market participants have asked regulators to exclude physically-settled FX swaps from AANA.

Table 2.4: Effects of Excluding Physically-Settled FX Swaps from AANA [9]

AANA Includes all Swaps	
Phase 5 in-scope entities (AANA between $8 and $750 billion)	704
Average AANA	$54 billion
AANA Excludes Physically-Settled FX Swaps	
Phase 5 entities remaining in scope	501
Average AANA (all swaps)	$69 billion
Phase 5 entities falling out of scope	203
Average AANA (all swaps)	$19 billion

Table 3 describes the impact of excluding physically-settled FX swaps from AANA. Of the 704 Phase 5 entities predicted to be in scope, 501 (71%) would remain in scope, while 203 (29%) would fall out of scope, i.e., would have their AANAs fall below $8 billion.

Table 3 also shows that average AANA—computed with all swaps—is significantly higher for entities remaining in scope than for those falling out of scope. In other words, on average, excluding physically-settled swaps exempts the smallest swap counterparties from the IM regulatory regime. There are a small number of cases, however, in which entities with relatively large AANAs fall out of scope because their AANAs are concentrated in physically settled FX swaps.

2.4 Results of Analysis:

The trusted resources estimate that the following are the conclusions after complementing the research work of market participants:

- The entities participating in phases 1 through 4 were just 40 while the entities participating in phase 5 are around 700 whose AANA encompasses 11% of total AANA calculated across all the phases.

- Nearly 60 percent of entities coming into scope in Phase 5 have AANAs of less than $25 billion, and over 75 percent have AANAs less than $50 billion. These subsets of entities comprise about 15% and 30% of the total Phase 5 AANA, respectively.
- Phase 5 entities bring in a variety of business sectors. The average AANA of newly in-scope swap dealers, however, will be many times that of any other sector.
- Excluding physically-settled Foreign Exchange swaps from AANA could reduce the number of Phase 5 entities by nearly 30 percent.
- Phase 5 compliance could require implementing nearly 7,000 IM relationships. Excluding physically-settled FX swaps from AANA could reduce that number to under 5,000.

2.5 Impact of COVID-19 on Initial Margin Phase-In

The framework by IOSCO-BCBC on Margin Requirements for non centrally cleared derivatives regulations have established centralized standards for margin requirements for non centrally cleared derivatives, to be executed in various phases in overtime. With response to the industry concern stats and the data which elaborates the amount of difficulty in implementing, the IOSCO & BCBS has published statements regarding the revised timeline for the Initial Margin phase-in to the UMR requirements. The regulators of these master agreement has and have been taking concerned actions to confirm and codify these suggestions.

The SIMM itself is designed to be conservative – it is calibrated based on the past three years of historical data and one year of market stress, the market volatility makes it tough for the calculations right now along with the following reasons.

BCBS-IOSCO along with the global regulators are addressing the challenges of the final phase of IM, however, the impact of the COVID-19 pandemic has added to the persisting burden of intensive calculations of SIMM resulting in a year extension for the IM phase 5 & 6.

COVID-19 pandemic is restricting the firms from meeting documentation and operational requirements for the regulation of IM compliance by 1st September 2020 for Phase 5 and 1st September 2020 for Phase 6.

As the overall impact of the COVID-19 pandemic may not be known for some time, many firms have suggested that the decisions regarding a new timeline for the implementation of further phases of the IM requirements be delayed and reconsidered when the relevant facts and circumstances are known.

Market volatility, staff displacement, limited access to legal and operational documents, limited availability of communication with counterparties along future market uncertainty, the firms are avoiding future updates and may be unable to complete, deploy or test infrastructure needed to support regulatory IM requirements. All these factors are pushing the dates for IM phase 5 & 6 further.

Another COVID-19 pandemic impact on IM phase 5 & 6 is that the electronic execution is a means of signing virtually rather than by wet ink signature which is scanned and exchanged. The electronically executed agreements may not be enforced in every counterparty jurisdiction and would need to be diligent on a case-by-case basis. As the whole industry is entirely working from home at present, getting the document signed and scanned could consume a lot of time leading to the ill-timely execution of regulatory documents by the contracting parties.

At present, the companies are focusing on minimizing the losses from the current crisis and managing their portfolios instead of focusing on the implementation of the Uncleared Margin Rules (UMR), as the main focus right now is to hedge the risk of the investors resulting into dealing of initial margin regulations phases.

2.6 How companies are working to implement these phases

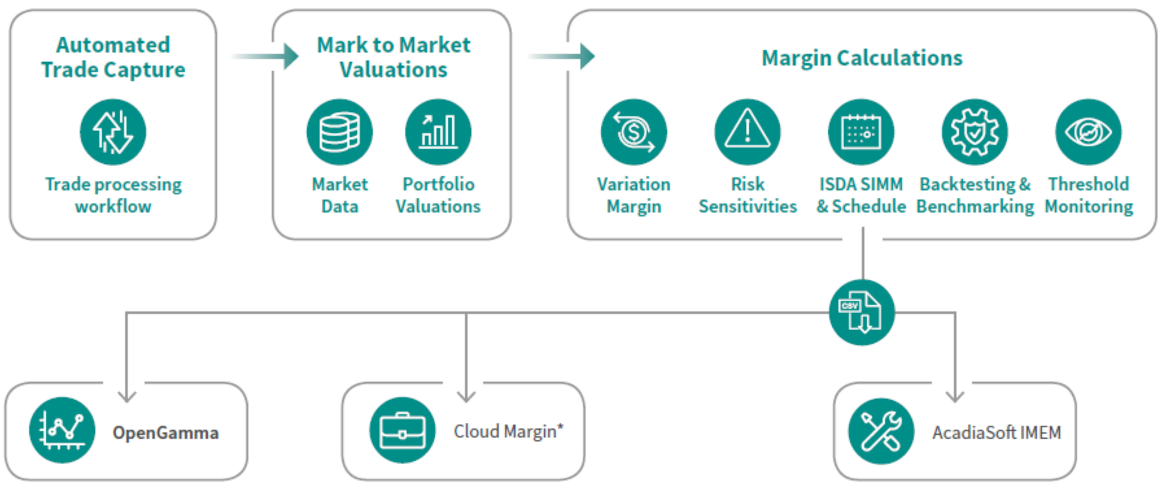
One way how companies are working to implement the IM phase is to devote their resources, time, and workforce for the documentation and the calculation of the Initial Margin.
But there is another way, phase 5 and 6 companies can outsource the service from companies who have understood the dynamics of the model and are willing to share their knowledge and resources like IHS Markit and Nomura.

- IHS Markit has come up with a Calculation service provided as part of an end-to-end Initial Margin ecosystem. [1]

Portfolio Valuations -Initial Margin Calculation Service

By leveraging advanced analytics and proprietary data sets, the expert analysts at IHS Markit calculate initial margin and provide trusted calculations that feed into variation margin, all delivered to the client in a format that flows into your preferred collateral management and reconciliation platforms. March 2020 announced a year delay for each of the final UMR phases to allow in-scope entities to set up an optimized compliant process that reduces costs in the long term by minimizing disputes via high-quality calculations as well as by selecting the 'right' counterparty to minimize margin.

Fig 2.5: Trusted Calculations and Workflow Integrations



Margin calculations can be easily integrated into existing collateral and reconciliation platforms to drive margin call management, dispute resolution, collateral selection and optimization, reporting, portfolio reconciliation, cross-asset coverage, exposure, and reconciliation.

- Nomura has understood the working of the SIMM model for the initial margin calculations and is now ready to get its services outsourced. [2]

They have released a document regarding frequently asked questions to make its viewers understand regarding IM model:-

1. *What margin rules apply to Nomura?*

   Nomura has various trading entities in different jurisdictions across the world. Nomura will be disclosing all of the jurisdictions whose rules apply to each entity via the ISDA Amend Self-disclosure tool (more than one jurisdiction's rules may apply to certain entities). The self-disclosure tool aims to extract the minimum set of regulatory information for each trading entity to ensure counterparties can agree with compliant documentation to trade and exchange regulatory margin in line with all of the regulations that apply to a particular relationship.

   A paper version of Nomura's self-disclosure under the margin rules will also be made available to those of our trading counterparts who are not using the ISDA Amend service.

2. *What documentation is required to ensure trading is not interrupted from 1 March 2017?*

   Assuming an ISDA Master Agreement is already in place for our derivatives trading relationship, a VM rule-compliant CSA must be in place before 1 March 2017.

   The regulations require that the CSAs include minimum regulatory standards such as zero thresholds, low minimum transfer amount, and restrictions on the eligible collateral that can be used.

   The documentation can be entered into through either a bilateral negotiation or via the ISDA Protocol.

   The bilateral negotiation will entail the exchange of VM CSA documentation, agreement on the terms by both parties, and execution of the document by signing the CSA.

   The ISDA Protocol, which will launch on MarkIT's ISDA Amend tool, will allow users to implement regulatory compliant documentation without the formalities of bilaterally signing VM CSAs. Terms are entered into the tool and agreed upon through an automated matching process. Once agreed, the terms are legally binding.

   Nomura will be able to provide more details on the ISDA protocol once it is live.

3. *How will Nomura work with counterparties to ensure readiness?*

   Nomura has initiated a global project team and employed the help of vendors to help ensure all of our counterparties who want to re-paper with Nomura can do so before the 1 March 2017 so that trading is not interrupted.

Nomura will be managing an outreach effort to agree on document execution preferences and a timeline for complete negotiations.

4. *What is the ISDA Regulatory Margin Self-disclosure Letter?*

   A letter intended to provide traders and firms a standard form for providing information related to the regulatory regimes which apply to entities involved in non-cleared derivatives trading. This information is vital to ensuring CSAs that are agreed adhere to all regulatory jurisdictions that apply to a given trading relationship.

   Each counterparty will provide, among other things, the entity's legal entity identifier (LEI), legal name, parent entity group, applicable jurisdictions, and it's Average Aggregate Notional Amount ("AANA"). The AANA is used to determine if the entities in the counterparty group fall in the scope of the regulations – an average aggregate notional in non-cleared derivatives of less than approximately 8 billion dollars across the group would exempt all entities in that group from Variation Margin regulations. Conversely, if a counterparty group is in scope, all entities within that group are in scope even if an individual entity falls below the threshold.

   Nomura would like to encourage all counterparties to review and complete the pdf version or the electronic version in ISDA Amend as soon as possible.

Chapter III

3. RECOMMENDATION AND CONCLUSION

This chapter details the recommendations and conclusion of the study 'Are the firms ready for Initial Margin phase 5 & 6 today?' based on the empirical analysis and findings.

3.1 Logistical Challenges faced during Final Stages of Initial Margin Phase-In

3.1.1 Newly in Scope Counterparties (NISCs)

In the final phase of the initial margin, many Newly in Scope Counterparties (NISCs) are finding the implementation process challenging. Limited human resources and a push by NISCs to comply immediately before the deadline may congest or overwhelm industry resources. [3]

Another reason why NISCs are facing problems is that they are less familiar or experienced with such critical rules and few resources to devote to necessary and comprehensive planning - all within so condensed time frame. [3]

The impact of the final phase of the implementation will be global as the NISCs trade globally requiring the key attention of dealers, custodians, middleware vendors, and consultants at the same time. [3]

3.1.2 Entity Assessment and Disclosure

Average Aggregate Notional Amount (AANA) is the sum of the total outstanding amount of non-cleared derivatives positions during the prescribed observation period on a gross national basis. [4]

Market participants may have difficulty determining their AANAs and communicating that determination to counterparties promptly. [4]

The calculation for AANA are very completed and so complex that the concerned firms may need to have required systems development work for the following:

- The determinations of AANA should be determined on corporate consolidated group level;
- The currencies for margin practices may needed to be calculated in multiple currencies (depending on which jurisdictions' rule applies); Average Aggregate Notional Amount has to be determined at the principal level (i.e. spread across various investment managers, where used).

And the calculation across in-and out of-scope commodities must be reviewed from time to time in order to maintain their consistency in jurisdictional coverage. [3]

3.1.3 Credit Support Annexes

The main purpose of a CSA is to define and record the collateral offered by both parties in a derivatives transaction to ensure that they can cover any losses.

The risk associated with OTC derivatives is higher as compared to derivatives traded through stock making collateral as credit support for their trades. The calculations of these collaterals are different in different countries, agencies, and counterparties making it very complex and difficult to be on a specific point for the CSA amount. [3]

Although the required standard template form for CSAs are published by ISDA, but still they would require immense amount of negotiations in terms of, acceptable collateral operational requirements (e.g. timings of collateral transfer), GRID vs SIMM coverage for risk, jurisdictional consortium of each counterparty, pledge account, and custodial arrangements. [3]

If any NISCs chooses to opt subject all trades (past and new trades) to regulatory Initial Margin requirements by combining all the trade transactions into one Credit Support Annexes to diverge the operational complexities linked with mapping and tracking various CSAs for all their trades, a higher Initial Margin will result, operational challenges associated with subjecting past trade agreements to regulate Initial Margin will also increase. Therefore, the CSAs of a given transaction would depend on when the specific trade agreement had/ will take place. [3]

3.1.4 Custodial Arrangements.

Since 2016 all the organizations in scope for Initial Margin are required to open account, prepare exclusive extended documents, and construct connectivity with customers offering UMR.

Due to these custodial agreements, various other obligations also rise up. For example, build Anti Money Laundering (AML), Know Your Customers (KYC), and many other required obligations at each custodian. These mandatory documentation processes can take months along with mandatory verification of third-party service provider cybersecurity for new custody and relationship. Additional to above mentioned hassle, the NISCs also need to build networking infrastructure with custodians that communicate collateral exchange and the same must be tested months in advance. [3]

3.1.5 Lack of Global Harmonization and "Higher of" IM.

There is a lack of global harmonized margin regulations. The regulations for margin practices are although provided by IOSCO-BCBS, but, many national regulators have also provided their own interpretation of final framework of respective rule sets in homogenies manner of the final framework provided by IOSCO-BCBS.

Due to non-harmonized UMR, these additional amendments by national regulators are resulting into additional complexity to already complex ecosystem of margin practices. [3]

3.2 Loopholes in SIMM model

3.2.1 Federally Regulated Financial Institution (FRFI).

There is no uniform definition of FRFI throughout the globe, for example, let's take the five top financial countries of the globe Singapore, Hong Kong, Canada, the USA, and Luxembourg. For these top financial countries, we do not have one specific definition of FRFI. In Singapore we have Singapore Exchange Limited (SGX) as FRFI who has already quit the role of CCPs, now the question is that SGX is still a federally regulated financial institution that is now not CCP anymore.

These are players under the radar when it comes to the SIMM model for the calculation

- Global Systemically Important Banks (G-SIB):- Banks above a set of indicators to national supervisory authorities are acknowledged as G-SIB and then they are evaluated to assess their absorbency requirements. [3]
- Domestic Systemically Important Banks (D-SIB):- A bank who has become significant due to its size, cross jurisdictional activities, complexity, lack of substitute, and interconnection. Banks above 2% of the country's GDP are clubbed into this category. [4]
- Federally Regulated Financial Institutions (FRFI):- FRFI could be a trusted company, a bank, or a similar financial institution which could be supervised, regulated, and subject to periodic examination by a federal agency or state. [7]

3.2.2 The miss out.

- The definition we have from BCBS-IOSCO along with the Committee on Payment and Settlement Systems (CPSS) why they missed out on insurance companies, reinsurance, etc.
- The reason behind this model was to estimate any kind of coming threat and hedging the risk. If the model has exempted no risk reinsurers companies like Prudential and Munich, will it not have any kind of financial crises in the globe if they fail? If not, then why the US government bailed AIG in 2008 saying that the fall out of AIG would lead to a global crisis. These companies are not considered financial institutes but if they fall they can trigger a crisis.

3.2.3 The problem of margin practices.

Currently, throughout the globe the margin calculations are different. In Hong Kong it is known as Security Policy Manual (SPM), in Singapore, it is referred to as Security and Futures Act (SFA). There is no uniform margining policy we have worldwide. And because of this, it creates a very big impact. For example, Chicago Mercantile Exchange (CME), which is a CCP, would have a different margin dealing in Hong Kong as to when dealing in Singapore, London Clearing House (LCH) would have different margin calculations, Hong Kong clearing would have different margining. Everybody is having a different margining system which is not right as the counterparty is needed to have a specific amount in IM calculation.

3.2.4 The money for margin requirements.

Non-centrally cleared derivatives are the derivatives that haven't been cleared by the CCP, and non-centrally cleared derivatives are generally passed through these federal regulated financial institutes. The non-centrally clay derivatives for Goldman Sachs amounts to be 40 trillion dollars, for Standard Chartered the amount is in trillions and for HSBC the amount is also in a trillion. How will the IM model mitigate the risk and how much margin would be calculated and where would the margin come from? [8]

3.2.5 Missing out on non-centrally cleared OTC derivatives.

The regulations generally apply to all non-centrally cleared OTC derivatives, which include Interest Rate, Credit Commodity, Foreign Exchange, and Equity derivative products. However non-cleared derivatives are defined inconsistently by different regulators and therefore some products are exempted from regulatory margin requirements in certain jurisdictions like Repo agreement, Security financing regulation (SFDR), Physical settled foreign exchange forward, foreign exchange swap, Cross-currency swaps, physically settled commodity derivatives, Single stock option, Equity basket option, and Equity index option.

3.2.6 Multiple margin calculation methodologies.

There are multiple methodologies used right now to computation the margin, we need to get it dissolved else it would create a mess up as by 2021 this regulation would be active and we still don't know how many banks are ready for this calculation.

3.2.7 The liquidation policy.

Many economies of the globe don’t have the right liquidation policy, for example, India, China, Venezuela, and many South Asian countries except Hong Kong and Singapore. Liquidation means that buyers and sellers need to have a common margin, for example, if

> I am dealing with a seller, then I need to have a margin and the seller also need to have a margin, if one of the parties default, the loss would be compensated by the margin. But the margin is not always cash it can be in commodities, securities, or collateral. And we do not have a specific definition of what collateral is. Since they are not defined properly the collateral portion is always an issue, and because the collateral portion meant is an issue we also know that not all the economies of the globe have a CDS market since all don't have a CDS market liquidation is always an issue. And there is no local effort done by the governments to have a CDS market in place

The ISDA SIMM model is currently doing what it is designed to do - it is providing a common industry-wide model that is effective enough to avoid any kind of stress in this volatile market. ISDA, alongside market participants and regulators, is closely monitoring the COVID-19 situation to ensure that the model continues to reflect the risk based on the evidence.

"If you can't fly, then run, if you can't walk run, then walk, if you can't walk, then crawl, but by all means keep moving." -- Martin Luther King Jr.

Chapter IV

4. LIMITATIONS AND FURTHER RESEARCH

To allow researchers with insight for further analysis, this chapter presents the limitation of study and scope for further work. The limitations of the study can be overcome when available with required resources such as manpower, time, and technology.

4.1 Limitations of the research

The study is subject to some limitations that may be explored in further works in the future. The study used secondary data which may not be reliable and accurate. The data on single-name CDS are available to the CFTC through DTCC's Trade Information Warehouse and the data on IM currently exchanged on these positions was not available for general public. Due to current data limitations, commodity swaps are not included in this study. It is of least significant as the commodity swaps constitute less than 0.35% of global swaps notional amounts. The impact of specific OTC derivatives was missed due to shortage and privacy concern of the data.

4.2 Further Research

In this study, the impact of cross country norms and regulations, different CCPs having different rules have had a huge impact on the outcome of the trades. Various OTC derivatives have been missed out by ISDA from the IM schedules.

1. **Comparison of different CCPs rules:** To observe the variation in the rules of different CCPs on IM of OTC derivatives.
2. **Reasons for not including all the OTC derivatives:** To observe the impact on the world economy due to not including all the OTC derivatives in IM schedules.
3. **Impact of different collaterals on the end deal:** To have comparison of cash v/s other than cash as collaterals (impact of beta on the IM calculations).
4. **Impact of margin calculation from VM to IM requirements in developing and under developed countries.**

Chapter V

5. References

[1] IHS Markit "Portfolio Valuations - Initial Margin Calculation Service" Retrieved from: https://cdn.ihsmarkit.com/www/pdf/0419/PortfolioValuations-Initial-Margin-Calculation.pdf

[2] Daniel Franks, Nigel Dickinson (2016) "Variation Margin - documentation and implementation" Retrieved from: https://www.nortonrosefulbright.com/en-gb/knowledge/publications/d0c66a79/variation-margin---documentation-and-implementation

[3] Tara Kruse, Kyle Brandon (July 2018) "Initial Margin for Non-Centrally Cleared Derivatives: Issues for 2019 and 2020". Retrieved from: https://www.isda.org/a/D6fEE/ISDA-SIFMA-Initial-Margin-Phase-in-White-Paper-July-2018.pdf

[4] ACADIASOFT "A Guide to Calculating Average Aggregate Notional Amount ("AANA")". Retrieved from: https://www.acadiasoft.com/umr_compass/wp-content/uploads/2020/01/AcadiaSoft_Factsheet_AANA_NEW-Oct2019_v2.pdf

[5] Basel Committee on Banking Supervision (January 2021) "Instructions for the end-2020 G-SIB assessment exercise" Retrieved from: https://www.bis.org/bcbs/gsib/reporting_instructions.htm

[6] Ajit Prasad, (2014) "Framework for dealing with Domestic Systemically Important Banks (D-SIBs)" Retrieved from: https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=31680

[7] Instructions for Form 5500, Cat. No. 13502B. Retrieved from: https://www.lawinsider.com/dictionary/regulated-financial-institution

[8] Tony Lobo (2016) “Riding the Regulatory Wave with an Efficient Collateral Management Solution” Retrieved from: https://www.tcs.com/blogs/collateral-management-solution

[9] Richard Haynes, Madison Lau, and Bruce Tuckman (2018) “Initial Margin Phase 5” Retrieved from: https://www.cftc.gov/sites/default/files/About/Economic%20Analysis/Initial%20Margin%20Phase%205%20v5_ada.pdf

[10] Basel Committee on Banking Supervision (BIS), Board of the International Organization of Securities Commissions (IOSCO) “Margin requirements for non-centrally cleared derivatives” (March 2015). Retrieved from: https://www.bis.org/bcbs/publ/d317.pdf

[11] ISDA, (2018) “Getting Ready for Initial Margin (IM) Regulatory Requirements”. Retrieved from: https://www.isda.org/a/iVmEE/ISDA-Initial-Margin-Fact-sheet.pdf

[12] IHS Markit, “Portfolio Valuations - Initial Margin Calculation Service”. Retrieved from: https://cdn.ihsmarkit.com/www/pdf/0220/Portfolio-Valuations-Initial-Margin-Calculation-Service-Factsheet.pdf

[13] ISDA (2020) “ISDA Legal Guidelines for Smart Derivatives Contracts: Interest Rate Derivatives” Retrieved from: https://www.isda.org/a/I7XTE/ISDA-Legal-Guidelines-for-Smart-Derivatives-Contracts-IRDs.pdf

[14] Christian Pauletto, (May 2012) “The History of Derivatives: A Few Milestones”. Retrieved from: https://www.researchgate.net/publication/349485381_The_History_of_Derivatives_A_Few_Milestones

Originilaty Report

2K19_DMBA_60_Initial Margin phase 5 & 6.docx
May 28, 2021
7683 words / 40935 characters

2K19_DMBA_60_Initial Margin phase 5 & 6.docx

Sources Overview

15%
OVERALL SIMILARITY

1	www.bis.org INTERNET	2%
2	www.derivativesandreporeport.com INTERNET	2%
3	conferences.ici.org INTERNET	2%
4	www.publicnow.com INTERNET	<1%
5	Australia Financial Markets Pty Ltd on 2021-05-05 SUBMITTED WORKS	<1%
6	www.imf.org INTERNET	<1%
7	www.risk.net INTERNET	<1%
8	University of Ulster on 2020-01-09 SUBMITTED WORKS	<1%

Approval Email

Request for final approval (Major Project) Inbox ×

Nikhil Gill Sun, May 23, 2:38 PM (5 days ago)

Hello sir, Hope you doing fine. I'm attaching my final Major Project report and the Plagiarism Report provided by Harsh sir from Turnit in this mail. Regards Ni

Chandan Sharma Sun, May 23, 4:06 PM (5 days ago)

to me

ok, approved, subject to guideline being followed.

Chandan Sharma
Assistant Professor
Delhi School of Management,
Delhi Technological University (Erstwhile Delhi College of Engineering)
Shahbad Daulatpur, Main Bawana Road, Delhi-110042, India

...

Thanks a lot. | Thank you for your response. | Noted with thanks.