CAPCO

INITIAL MARGIN: OUR POINT OF VIEW

SEPTEMBER 2020

INITIAL MARGIN BACKGROUND

Global regulators require a complex set of margin requirements to be followed for trading uncleared derivatives

Overview

- In response to the global financial crisis of 2008, the G20 agreed to a financial **regulatory framework for non-centrally cleared derivatives**, the Uncleared Margin Rules (UMR)
- In September 2013, the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO) jointly published a margin requirement framework establishing **global standards for the exchange of Variation Margin (VM) and Initial Margin (IM)** between market participants
- Uncleared Margin Rules (UMR) **began phasing in September 2016**. In 2017, all firms became compliant with variation margin (VM) requirements. As part of **phases 1-4, approximately 60 of the largest firms are currently in compliance with Initial Margin (IM) rules**. Before the effects of COVID-19, more than 200 Phase 5 firms were expected to go live on September 1, 2020.

Recent Regulatory Announcements

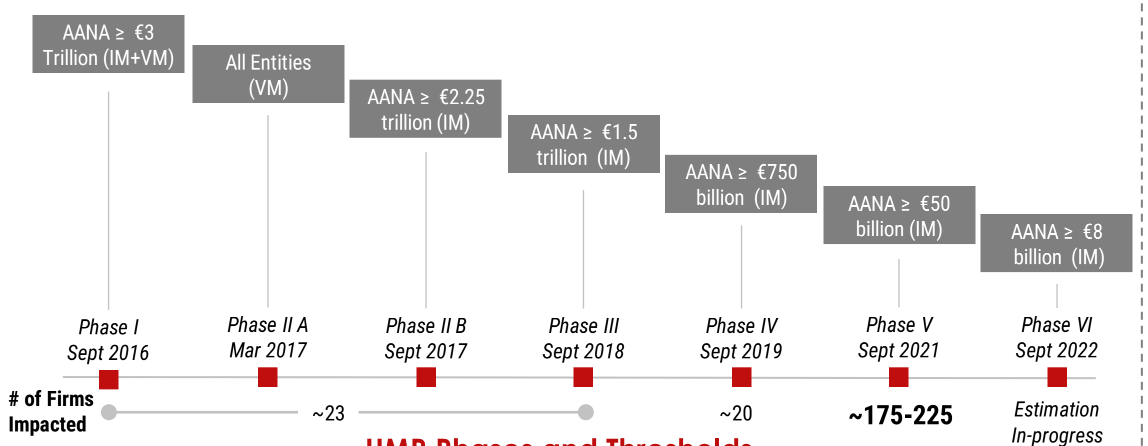
- On April 2, 2020, Basel and IOSCO announced a **12-month deferral for phase 5 and 6 for Initial Margin compliance**. BCBS highlights in a press release the displacement of staff and resources focused on the management of present risks as the rationale behind the delay. The extension will allow firms to focus on the impacts of COVID-19 while providing adequate time to comply with the delayed UMR requirements

In Scope Market Participants and Products

- Swap Dealers (SDs)
- Major Swap Participants (MSPs)
- Financial End Users (FEUs)**
- Majority of uncleared OTC derivatives with minor exclusions defined by regional regulators

Key Requirements

- Gross daily Initial Margin (IM) calculation
- Initial Margin segregation at a third-party custodian
- Collateral eligibility
- Account Control Agreement (ACA) and Credit Support Annex (CSA) renegotiations



UMR Phases and Thresholds

CAPCO'S POINT OF VIEW: PREPARING AND BECOMING IM COMPLIANT

Capco's ten tenets of Initial Margin outline the key considerations required to meet IM compliance for newly in-scope participants

The journey to IM compliance is lengthy and requires coordination across multiple divisions for newly in-scope counterparties

For phases I-IV, the typical implementation took 18-24 months

Phase V and VI implementations are expected to take 12-18 months for newly in-scope firms

With many market participants expected to come into scope, there will be increased demand on market resources

SELF-ASSESSMENT
Market participants are required to calculate average aggregate notional amount (AANA) daily for 3 months at a group level to determine in-scope vs. out-of-scope

SELF DISCLOSURE
At the end of the calculation period, if AANA is greater than the AANA threshold, all derivatives counterparties that are Swap Dealers should be notified

IM CALCULATION
Market participants must select a methodology and calculation agent. Regulatory approval is required

CUSTODIAL RELATIONSHIPS
Triparty and/or third-party custodial relationships must be established to satisfy segregation requirements. Comprehensive onboarding (inclusive of AML, KYC, legal negotiations, account & platform setup) along with infrastructure & connectivity buildout is required

CSA & LEGAL DOCUMENTS
CSAs must be executed in advance of regulatory go-live to be eligible for activity. Legal negotiations with counterparties will require participation with associated custodians

COLLATERAL ELIGIBILITY
Collateral must be segregated for regulatory IM. In certain regions concentration limits on certain collateral exist (e.g. high-quality government bonds and central bank securities)

TECHNOLOGY INFRASTRUCTURE
Technology enhancements across platforms are required to support IM calculation, collateral processing, and custodian segregation

PROCEDURES & CONTROLS
Clients and their brokers need to determine how the rules apply, any edge cases, collateral eligibility, and how calls are met, disputed, and reconciled

INTER-AFFILIATE TRADES
Special rules apply for the treatment of inter-affiliates swaps e.g. under US PR and CFTC rules where participants may need to calculate and post IM with financial end-user inter-affiliate entities

MONITORING
Following the regulatory deadline, market participants are required to proactively monitor their IM and be prepared to post if they breach defined thresholds

CAPCO'S POINT OF VIEW: KEY CHALLENGES FOR NEWLY IN-SCOPE FIRMS

Based upon our experience and interaction within the industry, phase V & VI firms will need to address several key challenges

New Custodial Relationships and Setups

Triparty and/or third-party custodial relationships need to be established to allow for the segregation of regulatory IM. Know Your Client (KYC), negotiations, technology and operational setup and testing can take up to several months for a new relationship to be established. Large swaps dealers have generally elected to utilize triparty custodial relationships to maximize processing efficiency; a third-party model should also be considered by phase V & VI market participants as they are usually more cost effective.

Complex IM Technology Functionality

A multi-layered set of functionality is required to meet the IM requirements, including items such as: calculating regulatory IM per counterparty agreement, sending/receiving collateral calls and posting IM at a custodian

Changes to Legal Documentation

All agreements may need to be repapered in preparation for go-live. This is required at the counterparty pairing level, which can require many negotiations to happen concurrently. Agreement on eligible collateral, including haircuts, and termination currency will also need to be established

Determining Impact of IM Obligations

Given the varying compliance scenarios between counterparty pairs and the existing relief thresholds that may or may not apply in each case (e.g. if Reg IM is less than $50 million with a particular counterparty then updated documentation is not required on go-live date), market participants are grappling with how substantial their Day 1 compliance obligation is

Understanding the Cost-Benefit of their Uncleared OTC Derivatives Activity

One of the stated objectives of BCBS and IOSCO regarding margin requirements for non-centrally cleared derivatives is the promotion of central clearing. Applying margin requirements to uncleared swaps increases capital costs and generally reduces the attractiveness of these products. Market participants are challenged to understand whether the increased cost of uncleared OTC trading as well as the cost of IM compliance is worth their current benefits

CAPCO'S POINT OF VIEW: NEW CHALLENGES FOR PHASE I - III FIRMS

Additional challenges are anticipated for phase I - III firms facing off with newly in-scope counterparties

Handling of Prime Brokerage (PB) vs. Non-PB Activity

Many buy-side firms are coming into scope under UMR Phases V and VI, which will in many cases impact sell-side Prime Brokerage divisions for uncleared OTC derivatives activity. Historically, separate teams, processes, and systems handle Prime Brokerage derivatives trading activity and corresponding margin calculations. Applying the regulatory IM calculation across PB and non-PB business areas is disruptive and complex

Dealing with Bespoke Client Scenarios

Given that more nuanced buy-side clients are coming into scope. At times, tailored calculations and operational processes are utilized. Additionally, clients and their brokers need to determine how the rules apply, any edge cases, collateral eligibility, and how calls are met, disputed, and reconciled

Client Communication Constraints Risking Delay of Setups

Client communications have been limited and hampered by clients moving too slowly and/or not recognizing the urgency of the upcoming regulations. There will be an influx of clients requiring setup. Lengthy setup processes (e.g. new third-party/triparty custodial account setup) place risk on go-live readiness

Lengthy Client CSA Negotiations

Negotiations can be lengthy, and the documentations process is often manual and bespoke. There can be time constraints, data quality issues, and system integration constraints

Handling of Regulatory IM vs. House IA

Many of the counterparties coming into scope currently meet House IA and will need to account for regulatory IM as well, resulting in three potential calculations: (1) greater of approach, where House IA is already segregated at a third-party; (2) allocated approach, for clients where the House IA is held bilaterally; or (3) distinct approach, where independent regulatory IM and House IA margin calls are called separately without any netting of collateral

IMPACT OF THE INITIAL MARGIN DELAY

Initial Margin initiatives at market participants have been impacted by the market volatility related to COVID-19. Phase V and VI firms can take advantage of the 12-month implementation delays

Key market-wide impacts of COVID-19 market volatility on UMR

- **Further clearing of OTC derivatives:** The current market volatility has seen firms move more trades to clearing (to reduce counterparty risk arising due to fails within margining process of uncleared trades) and increase the pace of trade compressions. The delay will give more time for firms to move portfolios to clearing and trade compression.
- **Adjustment to ISDA SIMM™ risk weight calibration process:** ISDA will potentially look at updating the methodology of risk weight calibration to account for market volatility seen in Q1 2020. The quarterly backtesting exercise being currently run (Q1 2020) will incorporate the recent stress period and will be used to recalibrate SIMM at the end of the year.
- **Reprioritization of trading, collateral operations, and treasury resources within counterparties:** Faced with scarce resources and current market volatility, some Phase 1-4 firms are slowing down the client onboarding activities for their Phase 5-6 counterparts, while some dealers will continue to engage with their Phase 5 and 6 counterparties.
- **Potential change in US Regulatory pre-approval process for Phase 5 and 6 firms to use the Standard Initial Margin Model (SIMM):** Regulators may request that firms adjust their pre-approval work to account for more recent portfolio and recent market volatility.

Advantages of 12-month delay for Phase 5 & 6 firms

- **Potential to scrap tactical approaches:** Many Phase 5 firms required tactical approaches (e.g., GRID-only IM calcs, etc.) for an interim period to comply with UMR by the Sept 2020 deadline. Given the 12-month delay, it will be feasible for some firms to move directly to a strategic solution if they keep positive momentum in their UMR programs.
- **Newly in-scope firms can pre-emptively improve monitoring capabilities:** Given the delay in the timeline, IM threshold monitoring applications can be implemented during this delay while other preparations are taking place. IM threshold monitoring is important as firms don't have to post IM or execute documentation until it's clear that they will actually breach their IM threshold. This will in turn help in reducing funding cost and saving on legal and operational resources.
- **More time to test and validate:** For firms ready with their strategic solution, this delay means more time available for industry testing and solves most potential day one issues.
- **Extended timeline for custodial onboarding:** Market volatility and the number of in-scope firms could cause a backlog for custodial onboarding. Firms will be able to benefit from the extended timeline to ensure appropriate setup as long as they continue with their compliance readiness programs in flight.

***Reference:** Joint Capco and Acadiasoft white paper on the UMR phase 5 and 6 delay*

APPENDIX

Capco has deep UMR execution expertise

We lead UMR implementations at some of the largest global financial services firms

At Capco we combine our insights and UMR accelerators to create a suitable strategies and roadmaps for firms to meet IM compliance

Our Collateral Management Capabilities

STRATEGIC COLLATERAL OPERATING MODELS	*Robust operating model design, tailored based on your strategic vision and risk appetite*
COLLATERAL PROCESS AND BOOKING MODEL RE-ENGINEERING	*Implementation of more efficient, effective and controlled collateral management processes*
INDUSTRY-WIDE COLLATERAL COMPLIANCE	
REGULATORY REMEDIATIONS AND RESPONSES	*Support reg. remediations (e.g. MRIAs,) by analysing the issue, implementing the solution and assisting with responses to regulators*
COLLATERAL MANAGEMENT SYSTEM IMPLEMENTATION	*System design, testing and implementation across the collateral mgmt. lifecycle (e.g. margin calculators, inventory mgmt. systems, call disputes workflow etc.)*

Our Initial Margin Capabilities

Our deep expertise in Initial Margin is derived from successful phase I-IV executions

- We've enabled custodian onboarding;
- Facilitated reg. approval documentation;
- Created calculation scenarios;
- Supported vendor solution integrations;
- Led Industry testing and IM go-live support

Our Current Types of UMR Work
Focus on phase V & VI readiness and acceleration services

1. **IM Assessments for newly in-scope phase V & VI firms**
   - Determination of key upfront business decisions;
   - Collateral Mgmt. Gap Analysis and Operating Model,
   - Implementation Roadmap and Cost Estimations
2. **AANA and IM Threshold Estimations**
   - Run AANA estimations for phasing considerations and estimate regulatory initial margin values per counterparty to confirm expected threshold breaches
   - Creation of AANA and IM tools for client to re-run calculations
3. **UMR Prime Brokerage Market Research (Upcoming)**
   - Conduct client workshops with hedge-fund clients, PB, custodians and vendors to determine client needs
   - Competitor benchmarking of existing PB phase IV solution with PB peers
4. **UMR Execution and Implementation Services**
   - **Existing phase I-IV firms -** we provide a variety of services for accelerating the onboarding of new clients (e.g. client outreach support, industry testing; go-live war room etc.)
   - **Newly in-scope Phase V & VI firms** - we support the end-to-end implementation, testing and go-live efforts

OUR INITIAL MARGIN CAPABILITIES: CASE STUDY #1

Phase I to V Execution Expertise - Large Investment Bank

Client Situation

- Tight regulatory timelines and a dynamic landscape of distinctive buy-side clients coming into scope, often with bespoke calculations/processes for UMR phases IV - VI
- The process to become compliant with UMR is lengthy and requires coordination across multiple divisions
- New challenges were met to apply SIMM across portfolios in two business divisions: OTC Bilateral and PB

Our Approach

- Leveraging Capco's experience with UMR phases I - III and regulatory SMEs, we engaged our client across multiple divisions to achieve a **UMR compliance roadmap,** currently being executed for phases IV - VI
- Our deep understanding of the regulation led to **robust calculation scenarios and edge case analysis** that span across counterparties that are in both OTC Bilateral and PB businesses
- We have partnered with stakeholders across the firm and externally with custodians to **support custodial onboarding** through to completion against tight timelines
- Capco supports **counterparty setups and testing**, leveraging vendor solutions to allow for business enablement and scalability

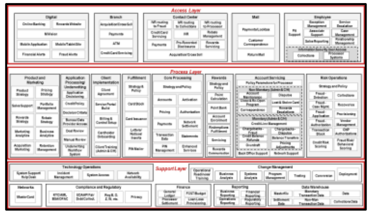
The Results

- Achievement of successful phase I-III compliance supported by Capco has provided a platform for robust phase IV, V, and VI readiness preparation as new counterparties come into scope
- The Investment Bank achieved a fully compliant custodial setups and integration of collateral UMR vendor solutions
- Capco continues to lead multiple aspects of the UMR initiative with a focus on onboarding of phase V and VI client counterparties

PB & OTC Bilateral Calculation Scenarios

Updated Regulatory Reporting

OTC Derivatives UMR Operating Model



Custodial Onboarding

OUR INITIAL MARGIN CAPABILITIES: CASE STUDY #2

Phase I to V Execution Expertise - Super Regional US Bank

Client Situation

- The bank was scoped in during UMR phase III
- The Derivative Collateral Management division engaged Capco in 2017 to provide end-to-end support to ensure operational readiness and regulatory compliance, while working through infrastructure constraints and manual processes
- complex challenges needed to be addressed due to bespoke processing across the firm and it's counterparties

Our Approach

- Capco led the **front-to-back implementation and go-live** across trading, operations, vendors, custodians, legal, and external counsel
- In addition Capco **supported OCC regulatory approval** and **represented the firm in industry forums**
- The bank elected to utilize ISDA's approved methodology **SIMM and AcadiaSoft** Exposure Manager to support the upstream IM calculation, allowing for business enablement and providing scalability. This was split into two phases:
  - Phase 1 - **Margining and Processing**: The integration of Colline Connect and AcadiaSoft MarginSphere
  - Phase 2 - **Settlement and Custody**: The integration of BNY and WF Trust as pledger, and Euroclear, Clearstream, and JP Morgan secondary custodians as receiver

The Results

- The bank achieved OCC regulatory approval to go-live and has been successfully operating in compliance since Sep 1st, 2018 with over 1.22 billion in posted collateral at the end of Q1 2019
- Overall improved workflow for margin call processing, including STP and integrated functionality with the bank's vendor systems
- Reduced operational and regulatory risks to the firm

Custodial Onboarding

Project Management

Collateral Management Target Operating Model

UMR Test Management

OUR INITIAL MARGIN CAPABILITIES: CASE STUDY #3

Phase I to V Execution Expertise - Phase V US Swaps Dealer

Client Situation

- The firm has over $50 billion notional outstanding in uncleared swaps and is therefore in scope for UMR phase V
- Tight regulatory timelines and a dynamic landscape of distinctive clients
- Approach requested by C-suite is to use in-house risk sensitivities to comply and calculate SIMM
- Siloed business divisions and functional support areas are in scope to apply SIMM with active project portfolios

Our Approach

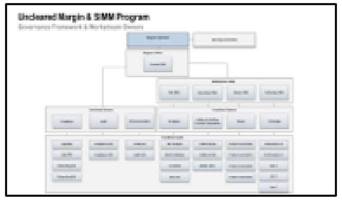
- Created multi-program overlays of an **IM roadmap to identify critical paths and key resource constraints** in order for C-suite to prioritize efforts
- Created **front-to-back target state documentation** to confirm required data flow and showcase key areas of impact (i.e. Front Office, Collateral, Risk)
- **Cost estimations** were compiled to identify areas requiring additional resourcing or new technology to support required SIMM architecture
- Created multiple **program governance options emphasizing strong communication and transparency** during execution phases to support a multi-business front to back implementation

The Results

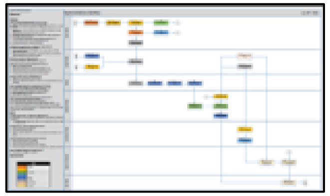
- Capco's execution and UMR subject matter expertise has positioned the client with an innovative yet reliable delivery model within the tight regulatory timeframe
- Capco's experience navigating OTC derivative and UMR vendor solutions allowed for effective negotiations with vendors to meet the firm's requirements
- Capco continues to lead various aspects of the UMR implementation effort, Regulatory approvals/testing and Industry testing efforts ahead of Sep 1st, 2020

IM Portfolio Map Overlay

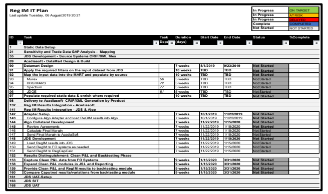
UMR Program Governance



Front to Back Reg IM Process Flow



IM Cost Estimations



OUR INITIAL MARGIN CAPABILITIES: CASE STUDY #4

Focus on Phase V & VI Impact Assessments - Phase VI Super Regional Bank

Client Situation

- The bank is in scope for UMR phase VI, and faces many manual operational processes around collateral management. Little to no integration between multiple trading systems has resulted in additional challenges in development of an IM solution.
- Capco was engaged to assist the firm validate scoping, measure impact and determine a suitable path to meet IM compliance by Sep 2021

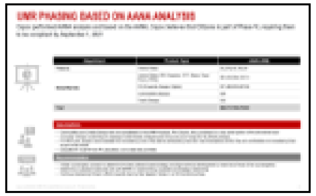
Our Approach

- Carrying out **AANA analysis to determine phasing** considerations
- Performing **IM threshold analysis to** determine IM per counterparty to determine the clients who are near the IM threshold
- Working with portfolio optimization techniques to support the IM monitoring solution
- Leveraging Capco's experience with UMR I-IV phases and UMR decisioning templates to help client with various **UMR business decisions** and options in the marketplace
- Working with regulatory and operational teams to assist the client in **understanding the IM rules**
- Developing a **UMR compliance roadmap** that is operationally efficient, cost effective while aligns to the clients growth strategy
- Partnering with the client to work with custodians and technology vendor platforms to **advise on various vendor solutions**

The Results

- Clarification of UMR scoping and targeted counterparties for implementation
- Scalable and operationally efficient IM solution
- Detailed cost estimates helped in acceleration of business decisions
- UMR Business Decision summary and rationale supported business case for implementation choices
- Capco continues to support the firm in various aspects of UMR compliance and broader Collateral Management initiatives

AANA and IM Threshold Analysis



Business Decisioning Templates

UMR IM Implementation Roadmap

UMR Cost Estimates

OUR INITIAL MARGIN CAPABILITIES: CASE STUDY #5

Focus on Phase V & VI Impact Assessments - Phase V US Commercial Bank

Client Situation

- The bank is in scope for UMR phase V. The client trades uncleared OTC derivatives (IR, FX, and Commodities) for the benefit of their commercial clients and to hedge interest rate risk
- The commercial bank was not confident in their own scoping analysis, and also needed help in determining suitable options for IM compliance
- Budget constraints added emphasis to choosing a cost effective the correct UMR compliant roadmap
- Capco was engaged to assist the firm confirm AANA scoping, measure impact and determine a suitable path to meet IM compliance by Sep 2020

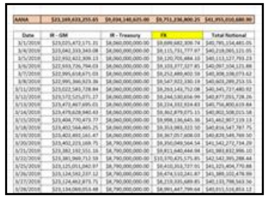
Our Approach

- Capco ran AANA calculations and confirmed the firms phase V status with an AANA of $55 billion
- Carrying out IM calculations, Capco identified counterparties that would breach the $50 million threshold for day 1
- Capco ran business decisioning sessions to agree on the most suitable path for the firm to meet IM compliance
- A day 1 operating model was established and gaps to meet the operating model were identified
- UMR cost estimations and roadmap creation are currently in-flight

The Results

- Confirmed scoping and narrowed focus on day 1 counterparties
- Selected a cost-effective path for compliance to meet IM obligations
- Identified gaps across trading, trade support, treasury, compliance etc to meet day 1 compliance

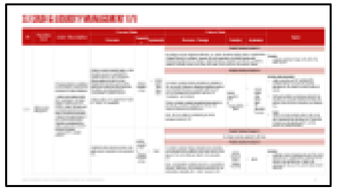
AANA Calculations



IM Estimations

IM Operating Model & Impact Assessment

Functional Gap Analysis



OUR INITIAL MARGIN CAPABILITIES: CASE STUDY #6

Focus on Phase V & VI Impact Assessments - Phase VI Super Regional Bank

Client Situation

- Our firm currently trades interest rate swaps, swaptions and credit derivatives with the main purpose of managing interest rate risk on the firm's mortgage portfolio
- The firm's estimated outstanding notional for uncleared OTC derivatives is approx. $95 billion
- Currently the firm outsources the majority of Variation Margin (VM) collateral processing (e.g. margin calc, calls, postings) to a 3rd party Business Processing Outsourcing provider
- Capco was engaged to assist the firm: measure impact; cost; and outline a roadmap to meet IM compliance by Sep 2020

Our Approach

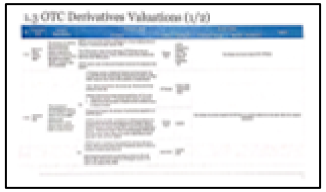
- The IM Assessment work defined a blueprint for the client to achieve compliance with IM regulations. This includes:
  - Provide a view of the **future IM compliant state and the IM gaps** across people, process and technology
  - Define an **execution roadmap** (i.e. a set of activities, timing, and dependencies) to meet US IM compliance
  - Provide a breakdown of **estimated costs** for implementation and run-the-business
  - Define an **IM Operational Readiness** worklist to allow the Firm to check full scope of IM compliance is covered

The Results

- Identification of key gaps to meet IM compliance across Trading, Middle Office, Operations, Legal, Technology etc.
- A reliable IM delivery roadmap/plan to meet tight regulatory timeframe
- Transparency into run the business and change the business costs to meet IM Compliance

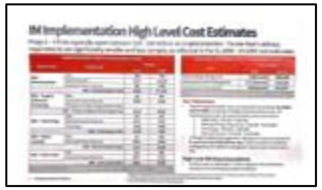
IM Impact Assessment Functional View

IM Future State Gaps List



IM Implementation Roadmap

IM Cost Estimations



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