

# CME Clearing Q4 2021 Quantitative Disclosures Call

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April 2022

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# Speakers

## **Robert Taylor**

Director, Capital Policy, Regulatory Reporting & Cross-Border Licensing

## **Emily Hendrix**

Senior Director, Risk Policy, Recovery & Resolution

## **Sean Downey**

Clearing Chief Compliance Officer & Head of Policy

# Agenda

1 Introduction

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2 Q4 2021 PQD Highlights

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3 Review of Key PQDs

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4 Q&A

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# Introduction

## CME Clearing: Q4 2021 Quantitative Disclosures Call

### CME Clearing provides clearing and settlement services for a broad range of exchange-traded futures and options on futures and cleared swaps

- Chicago Mercantile Exchange Inc. (“CME”) is registered with the Commodity Futures Trading Commission (“CFTC”) as a derivatives clearing organization (“DCO”) and was designated as a systemically important financial market utility under Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act by the Financial Stability Oversight Council
  - CME Clearing is subject to the core principles for DCOs defined under the Commodity Exchange Act and CFTC regulations promulgated thereunder (e.g., Part 39 of CFTC Regulations), including those applicable to systemically important DCOs (e.g. Subpart C of Part 39)
- CME Clearing operates two distinct clearing services that each have their own independent financial safeguards waterfall
  - The Base products financial safeguards waterfall primarily covers the clearing of futures and options on futures and non-IRS cleared swaps
  - The IRS products financial safeguards waterfall primarily covers the clearing of IRS and contracts portfolio margined with IRS

### Consistent with Part 39 of CFTC Regulations, CME Clearing adheres to the CPMI-IOSCO’s *Principles for financial market infrastructures* published in April 2012 (“PFMI”)

- CME Clearing publishes a quantitative disclosures in line with the recommendations laid out under CPMI-IOSCO’s *Public quantitative disclosure standards for central counterparties* (“PQDs”) published in February 2015\*
- CME Clearing’s quantitative disclosure document is updated on a quarterly basis and provides a comprehensive view into key quantitative metrics pertaining to CME Clearing’s clearing services

\* <https://www.cmegroup.com/clearing/cpmi-iosco-reporting.html>

## Q4 2021 Highlights\*

### CME Clearing: Q4 2021 Quantitative Disclosures Call

- **0** Actual or Theoretical Default Fund breaches over the observation period (12 months)
- **3** Margin coverage breaches occurred over the observation period (3 months)
- Achieved margin coverage of **99.97%** in Base and **100%** in IRS over the observation period (12 months)
- **0** Liquidity coverage breaches over the observation period (12 months)
- **99.9%** operational availability across CME Clearing's core systems over the observation period (12 months)

## Financial Resources

**\$221 Billion** Total Amount of Initial Margin

### Total Value of Mutualized Default Resources

**\$9.98 Billion** Prefunded Participant Contributions

**\$250 Million** CME Contributed Capital

**\$17.6 Billion** Participant Commitment Resources

*\*Note, this document uses the terminology used in the PQDs for consistency with the published disclosures, which in some cases differs from the CME Group Exchanges Rules – e.g., CME Group Exchange Rules use the term “Guaranty Fund”, opposed to “Default Fund”.*

# Review of Key PQDs

# Mutualized Default Fund Resources

## CME Clearing: Q4 2021 Quantitative Disclosures Call

**\$22.2 billion** total available mutualized resources as of the end of Q4 2021 in the event of a Base Clearing Member default

### Base Financial Safeguards Waterfall

Required Default Fund Contributions	\$ 5,902,920,686
Designated CME Contribution	\$100,000,000
Assessment Powers	\$ 16,233,031,885
<b>Total</b>	<b>\$ 22,235,952,571</b>

**\$5 billion** total available mutualized resources as of the end of Q4 2021 in the event of an IRS Clearing Member default

### IRS Financial Safeguards Waterfall

Required Default Fund Contributions	\$ 3,798,430,479
Designated CME Contribution	\$150,000,000
Assessment Powers	\$ 1,335,963,603
<b>Total</b>	<b>\$ 5,284,394,082</b>

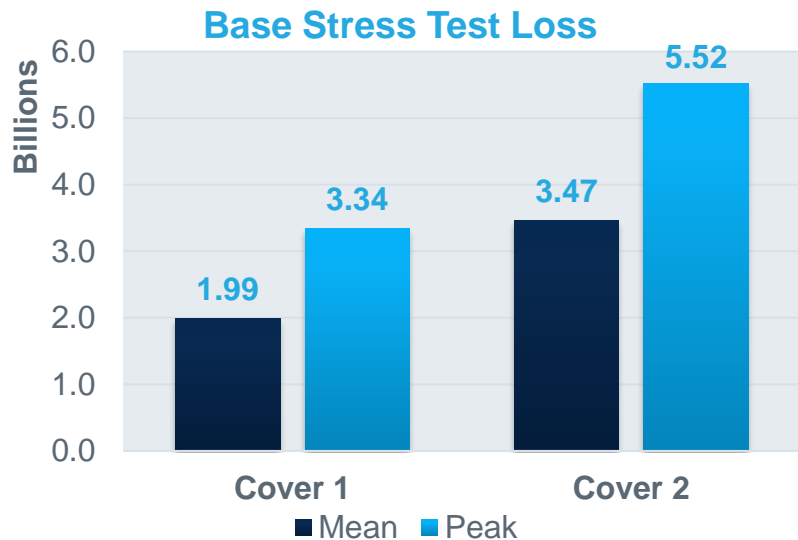
*PQD References: 4.1.1, 4.1.4, and 4.1.8*



# Default Fund Stress Testing Results

CME Clearing: Q4 2021 Quantitative Disclosures Call

Cover 2 standard **met at all times** for Base Default Fund – i.e., estimated stress losses (in excess of initial margin) never greater than Base Default Fund



Note, results use a 12 month period.

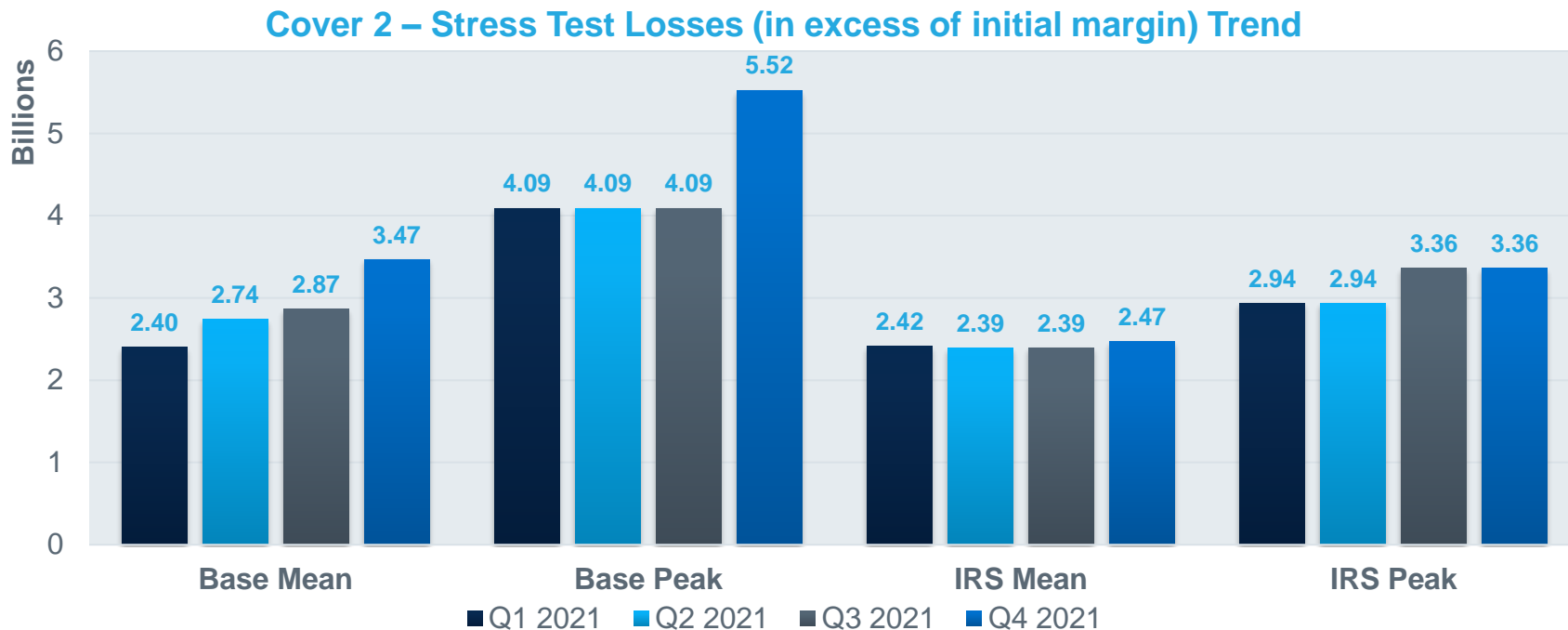
PQD References: 4.4.3 and 4.4.7

Cover 2 standard **met at all times** for IRS Default Fund – i.e., estimated stress losses (in excess of initial margin) never greater than IRS Default Fund



# Default Fund Stress Testing Results

CME Clearing: Q4 2021 Quantitative Disclosures Call



Note, results use a 12 month period.

PQD References: 4.4.7

# Initial Margin Required

CME Clearing: Q4 2021 Quantitative Disclosures Call

**\$159 billion** total initial margin required as of the end of Q4 2021

## Base Products

	Q3 2021	Q4 2021
House – Net	\$ 32,027,489,311	\$ 27,497,056,552
Client – Gross*	\$ 132,134,642,363	\$ 131,525,577,507
<b>Total</b>	<b>\$ 164,162,131,674</b>	<b>\$ 159,022,634,059</b>

*\*All client margins are required on a gross basis – i.e., client net margining is not permitted.*

**\$31 billion** total initial margin required as of the end of Q4 2021

## IRS Products

	Q3 2021	Q4 2021
House – Net	\$ 7,292,709,871	\$ 6,107,038,380
Client – Gross*	\$ 24,723,009,992	\$ 24,456,770,786
<b>Total</b>	<b>\$ 32,015,719,863</b>	<b>\$ 30,563,809,166</b>

*\*All client margins are required on a gross basis – i.e., client net margining is not permitted.*

# Excess Margin Held

CME Clearing: Q4 2021 Quantitative Disclosures Call

**\$23.12 billion** excess margin held for Base products as of the end of Q4 2021

## Base Excess Margin Held



**\$6.67 billion** excess margin held for IRS products as of the end of Q4 2021

## IRS Excess Margin Held

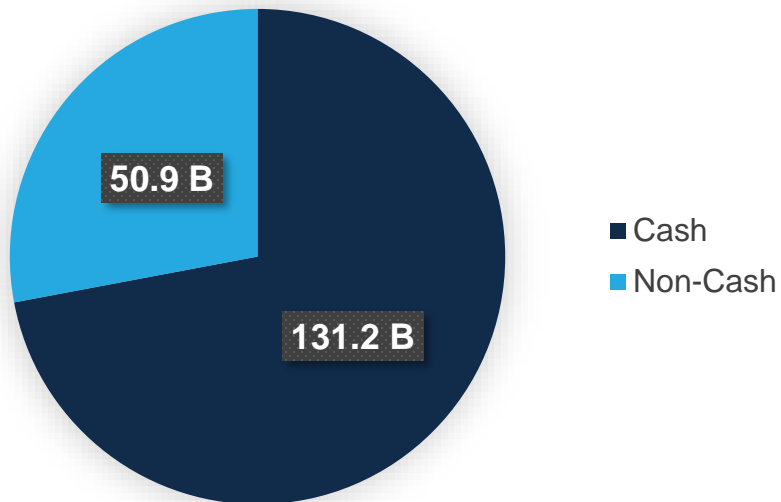


Note, excess margin held is the margin held above the required amount.  
PQD References: 6.1.1 and 6.2.15

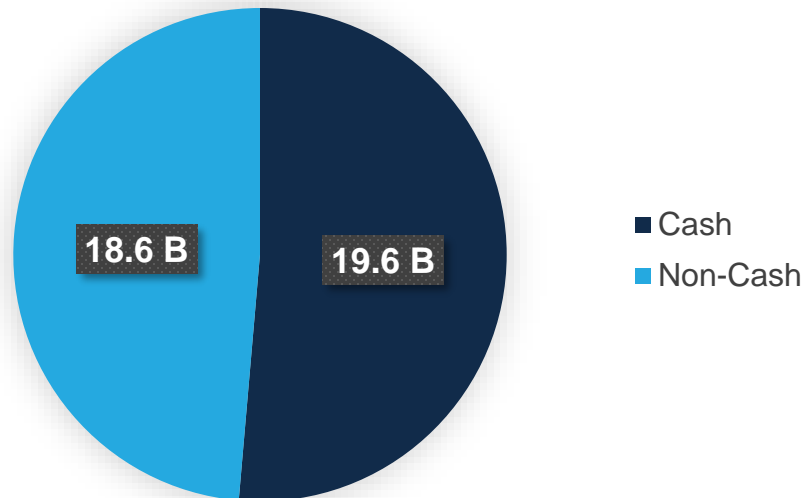
# Collateral Composition of Initial Margin – Cash vs Non-Cash

CME Clearing: Q4 2021 Quantitative Disclosures Call

## Base



## IRS

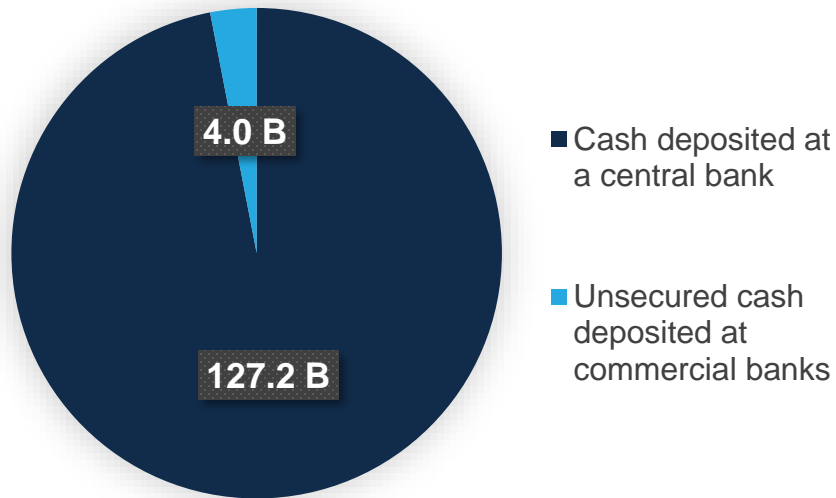


*Note, figures provided reflect post-haircut amounts as of the end of Q4 2021.  
PQD References: 6.2.1 thru 6.2.14*

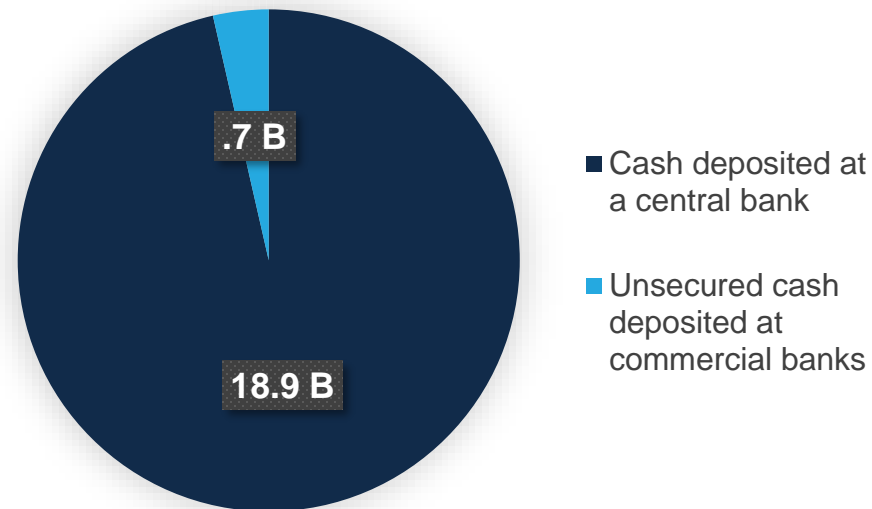
# Collateral Composition of Initial Margin – Cash Breakdown

CME Clearing: Q4 2021 Quantitative Disclosures Call

Base



IRS

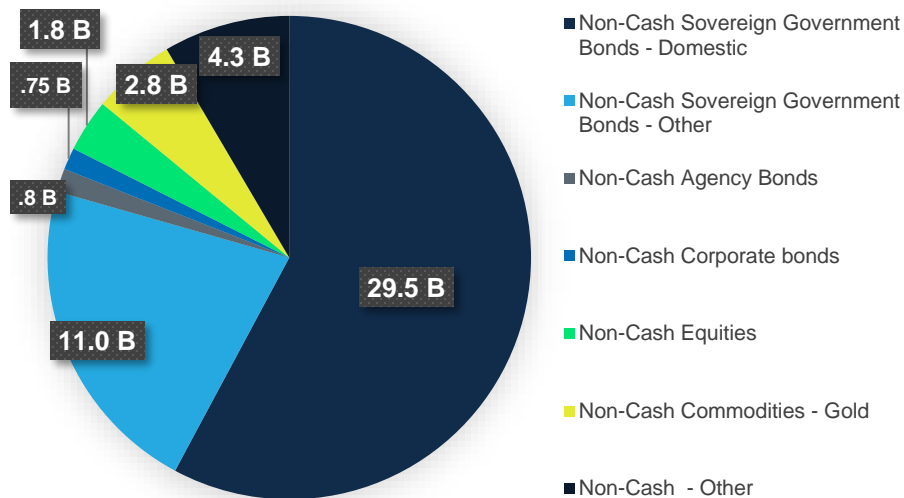


Note, figures provided reflect post-haircut amounts as of the end of Q4 2021.  
PQD References: 6.2.1 thru 6.2.14

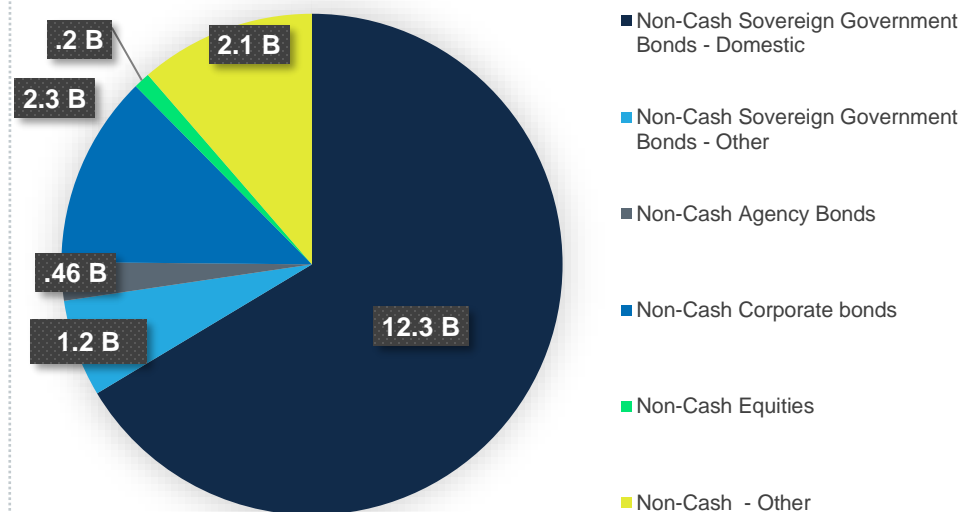
# Collateral Composition of Initial Margin – Non-Cash Breakdown

CME Clearing: Q4 2021 Quantitative Disclosures Call

## Base



## IRS

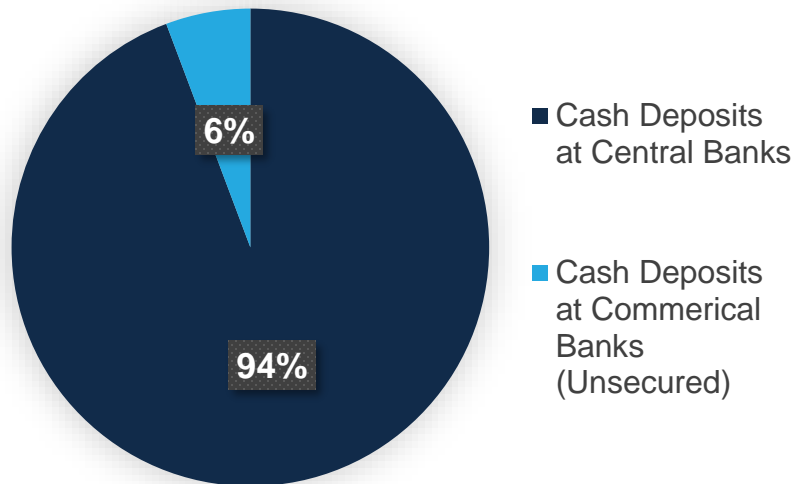


Note, figures provided reflect post-haircut amounts as of the end of Q4 2021.  
PQD References: 6.2.1 thru 6.2.14

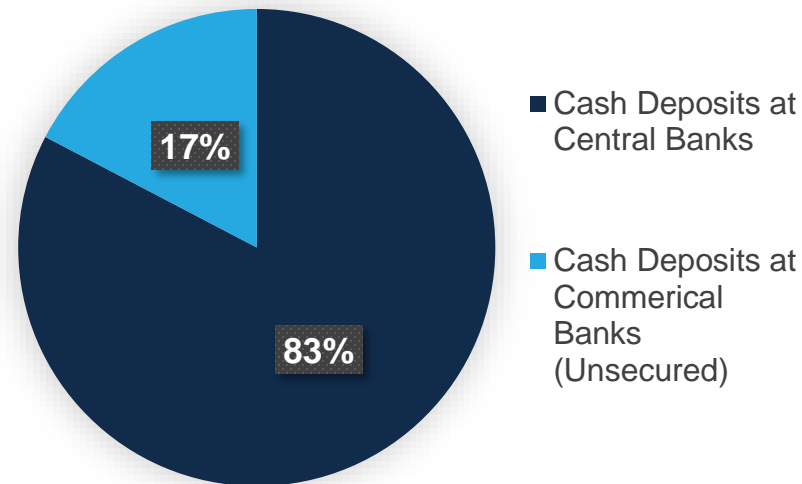
# Total Cash Received from Participants – Held/Deposited/Invested

CME Clearing: Q4 2021 Quantitative Disclosures Call

## Base



## IRS



Note, total cash received includes both initial margin and guaranty fund deposits.

PQD References: 16.2.1 thru 16.2.14



# Margin Backtesting Results

CME Clearing: Q4 2021 Quantitative Disclosures Call

3 margin breaches occurred during Q4 2021

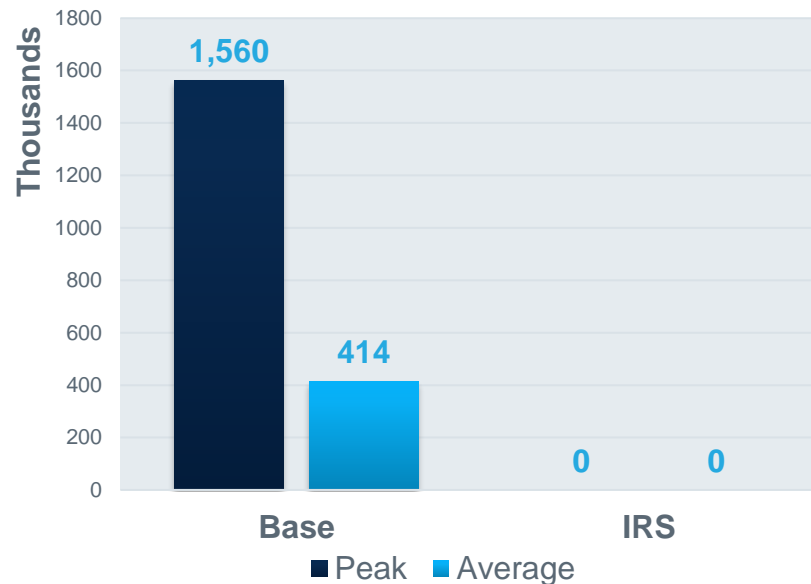
## Backtesting Results\*

	Base	IRS
# of Margin Breaches	7	0
Achieved Coverage Level	99.97%	100%

\*Reporting period captures the previous 12 months. Three Margin breaches disclosed in Q1 2021, one margin breach occurred during Q3 2021 and three margin breaches occurred during Q4 2021.

PQD References: 6.5.1.1 thru 6.5.5

## Uncovered Exposure\*

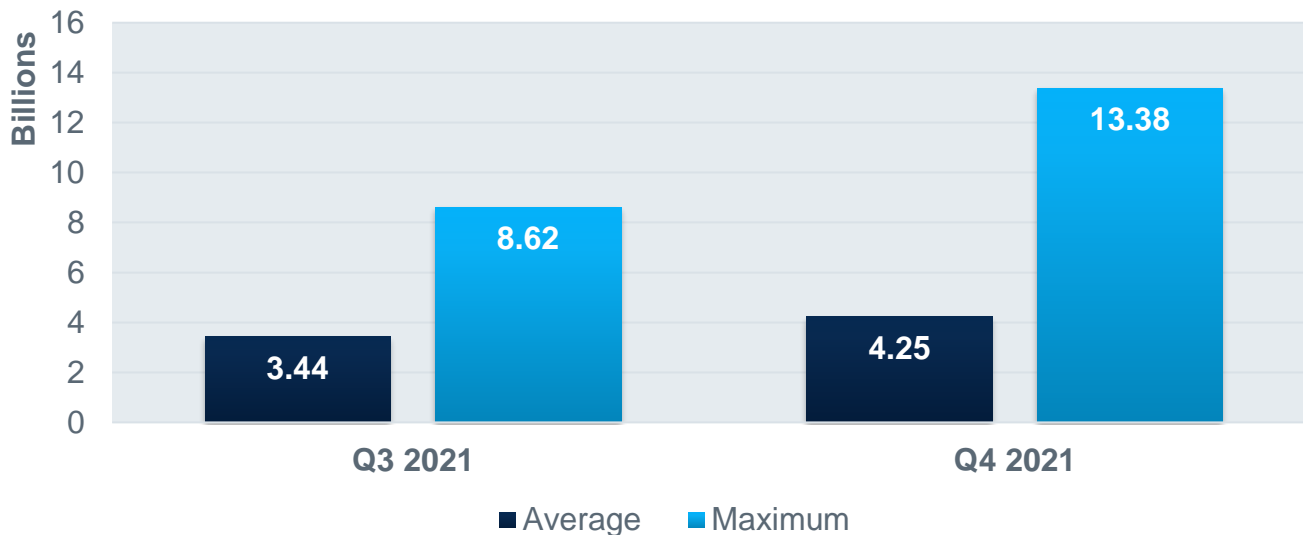


# Settlement Variation Flows

CME Clearing: Q4 2021 Quantitative Disclosures Call

Average variation paid to CME increased by 25% and maximum variation paid to CME increased by 55% in Q4 2021

## Variation Margin Paid to CME



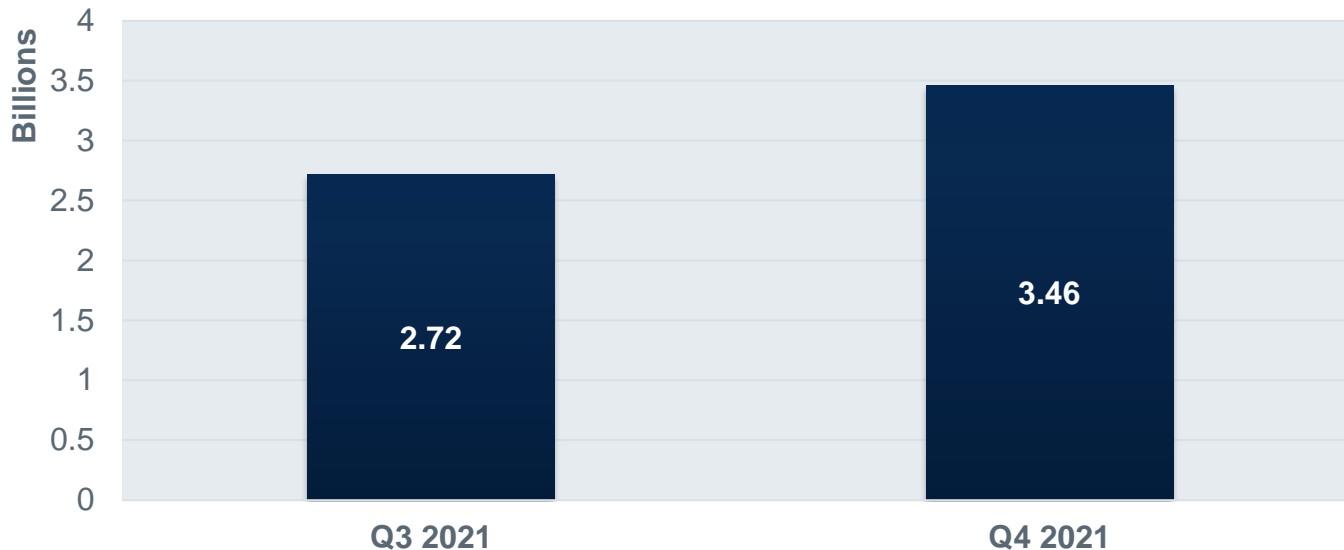
Note, figures include any intraday variation payments. Settlement variation is exchanged on a net basis.

PQD References: 6.6.1 and 6.7.1

# Maximum Initial Margin Call Across All Clearing Members

CME Clearing: Q4 2021 Quantitative Disclosures Call

## Maximum Total Initial Margin Call



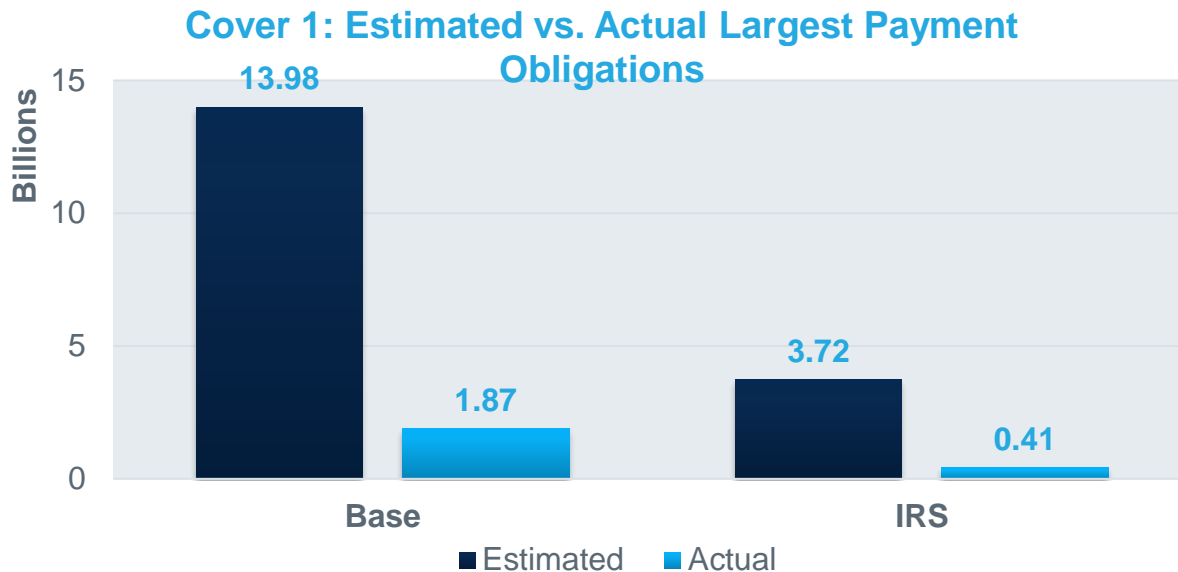
*Note, figures include any intraday initial margin payments. Customer initial margin is collected on a gross basis.*

*PQD Reference: 6.8.1*

# Liquidity Stress Testing Results

CME Clearing: Q4 2021 Quantitative Disclosures Call

There were no theoretical or actual liquidity coverage breaches during Q4 2021



*Note, largest estimated payment obligations are reported over the reporting quarter, whereas the largest actual payment obligations are reported over the previous 12 months.  
PQD References: 7.3.1 and 7.3.4*

# Size and Composition of Qualifying Liquidity Resources

CME Clearing: Q4 2021 Quantitative Disclosures Call

<b>Composition of Qualifying Liquidity Resources</b> <i>– as of the end of Q4 2021</i>	<b>Amount</b>
Cash Deposited at Central Bank of Issue	146,153,371,570
Cash Deposited at other Central Banks	0
Cash Deposited at Commercial Banks (Secured) including Reverse Repo	0
Cash Deposited at Commercial Banks (Unsecured)	10,935,730,993
Secured Committed Lines of Credit (including FX Swaps and Committed Repo)	7,500,000,000
Unsecured Committed Lines of Credit	0
Highly Marketable Collateral and Convertible into Cash with Prearranged and Highly Reliable Funding Arrangements	31,300,000,000
Other	7,101,387,438
<b>Total</b>	<b>202,990,490,000</b>

*PQD References: 7.1.2 thru 7.1.8*

# Operational Availability

## CME Clearing: Q4 2021 Quantitative Disclosures Call

CME Clearing had 99.9% operational availability across its core systems over the previous 12 months

- There were 2 failures affecting the core systems over the previous 12 months. The first failure occurred in Q3 2021 and the second occurred in Q4 2021.
- CME Clearing's recovery time objective is **two hours**

Core Systems		
	Target Availability	Actual Availability
Ability to accept executed trades for clearing	99.00%	99.94%
Ability to view and manage market and credit risks	99.00%	99.98%
Ability to process and manage settlement and collateral	99.00%	99.98%

PQD References: 17.1.1 and 17.2.1

# Number of Clearing Members

## CME Clearing: Q4 2021 Quantitative Disclosures Call

### Clearing membership continues to remain stable at CME Clearing



Note, "Direct" references Clearing Members that only clear house business and "General" references Clearing Members that can also clear for clients.  
PQD References: [18.1.1.1](#) and [18.1.1.2](#)

# Q & A



# Thank you

For questions regarding the CME Clearing's CPMI-IOSCO  
Qualitative or Quantitative Disclosures, please contact:

[CMEPFMIResponse@cmegroup.com](mailto:CMEPFMIResponse@cmegroup.com)

