



# **DTCC**

Securing Today. Shaping Tomorrow.®

Q1 2020

## **FIXED INCOME CLEARING CORPORATION**

AND

## **NATIONAL SECURITIES CLEARING CORPORATION**

QUANTITATIVE DISCLOSURES FOR CENTRAL COUNTERPARTIES

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## EXECUTIVE SUMMARY

In February 2015, CPMI-IOSCO issued its final report on Quantitative Disclosure Standards for Central Counterparties (“CCPs”), which provides specific quantitative disclosure requirements for CCPs relative to a number of the PFMI principles. These disclosures are intended to complement the narrative disclosures included in the CPMI-IOSCO Disclosure Framework\*. This document contains the quantitative disclosures for the two divisions of the Fixed Income Clearing Corporation (“FICC”) — the Government Securities Division (“GSD”) and Mortgage-Backed Securities Division (“MBSD”) — and the National Securities Clearing Corporation (“NSCC”). FICC and NSCC are wholly owned subsidiaries of The Depository Trust & Clearing Corporation (“DTCC”).

The attached disclosures include, in addition to those required by CPMI-IOSCO, some supplemental disclosures as proposed by the Payments Risk Committee’s Recommendations for Supporting Clearing Member Due Diligence of Central Counterparties (Feb 2013).

The information provided in this disclosure is reported as of the dates specified. For further information, please contact **CPMI-IOSCO\_Quant@dtcc.com**.

\* The Disclosure Frameworks for FICC and NSCC can be found at **www.dtcc.com**

## SUPPLEMENTAL EXPANATORY NOTE

### **Management Note**

Despite the world-wide spread of COVID-19 beginning in 2019, Treasury yields and current coupon TBA declined at a modest pace in January through most of February, and the S&P 500 equity index was generally increasing over this period. Concern about the effects of the pandemic increased more notably in late February, reflective of severe risk-off market reaction to the spread of COVID-19. The ten-year yield plunged over 80 basis points between February 24 to March 9, and the S&P 500 dropped over 14 percent during the same period. To counter further deteriorations in the market, on March 3, 2020 the FOMC cut the federal funds target rate by 50 basis points. After a sharp fall, yields reversed their course, with the ten-year rising by more than 60 basis points between March 9 to March 18. This was driven by dislocation between the U.S. Treasury futures and bond markets as well as foreign investors and foreign central banks selling Treasury notes and bonds. Beginning in mid-March with the Fed's support of the fixed-income markets in addition to another 100 basis point cut to the federal funds target rate, liquidity improved and volatility declined, which resulted in decreasing but stabilized yields. These market moves observed during COVID-19 pandemic were extreme, and the events have been added to the DTCC's stress testing scenario inventory.

### **Clearing Fund Backtesting Results**

At DTCC, backtesting is conducted to measure the sufficiency of the overall Clearing Fund coverage by comparing a Member's Required Deposit to the 3-day observed P&L for the Member's portfolio and aggregated into the CCP-level backtesting coverage data that is provided in this disclosure. The backtesting assesses the adequacy of 3-day liquidation period assumption in the event of Member default, and all VaR models at DTCC are currently calibrated at a minimum of 99% coverage.

### **FICC-Mortgage-Backed Securities Division (MBSD)**

The consecutive days of market moves observed during this time period was beyond the VaR model calibration, and backtesting coverage in MBSD declined as the empirical relationship between TBAs and Treasuries collapsed given the magnitude of the uncertainty in the market and the subsequent Fed purchase plan. For the trailing 12-month period, MBSD's backtesting coverage fell to 97.3%, and during the first quarter the median backtesting deficiency was \$6.6 million with a maximum backtesting deficiency of \$1.5 billion incurred by a large directional portfolio (greater than \$100 billion in market value) on March 19, 2020.

Given the March volatility, MBSD took the following steps pursuant to its Rules: (i) lowered the intraday surveillance thresholds on March 3<sup>rd</sup>; (ii) issued intraday margin calls for almost \$37 billion during the month of March; (iii) applied Backtesting Charges to those members with backtesting coverage below 99%; and (iv) developed a plan to re-introduce a VaR floor at MBSD. In April and May, MBSD's monthly backtesting coverage was at 94.17% and 99.76%, respectively.

<sup>1</sup>The backtesting results do not reflect any excess Clearing Fund on deposit or subsequent margin calls (inclusive of intraday margin calls) during the backtest period. For the largest March backtest deficiency, the excess deposit or intraday margin calls would have covered the backtesting deficiency.

## SUPPLEMENTAL EXPANATORY NOTE CONT'D

### **Clearing Fund Backtesting Results (cont'd)**

#### **FICC-Government Securities Division (GSD)**

For the trailing 12-month period, GSD's backtesting coverage fell to 98.2%, and during the first quarter the median backtesting deficiency was \$12 million with a maximum backtesting deficiency incurred by a large dealer portfolio (greater than \$10 billion net long exposure on the long end of the curve) on March 9, 2020 for \$797 million.

While both divisions of FICC have an equally weighted VaR model, with a 10 year lookback period that is augmented with the stress period 2008-2009, the clearing portfolios at GSD are primarily Treasury positions and exhibited market value changes that aligned with empirical risk factors – mainly interest rates. The interest rate and volatility fluctuations in March were extreme and influenced the VaR calibration as GSD saw Clearing Fund Requirements increase about 10% versus pre-March levels. The backtesting deficiencies are primarily attributable to the market moves in conjunction with changes in portfolio size or composition. Pursuant to its Rules, GSD applied Backtesting Charges to those members with backtesting coverage below 99% to mitigate exposures to portfolio changes not captured by the margin model. Note that GSD has a formal intraday margin collection based on noon positions, and this was supplemented with additional intraday calls based on intraday monitoring. In April and May, GSD's monthly backtesting coverage was 99.75% and 99.74%, respectively.

#### **National Securities Clearing Corporation (NSCC)**

At the end of the first quarter of 2020, NSCC's 12-month trailing backtesting coverage level was at 99.5%, and the median backtesting deficiency for the quarter was \$4.1 million, which included a maximum backtesting deficiency incurred on March 16, 2020, for \$318.2 million. This was the day when the S&P 500 experienced a one-day drop of 12%.

NSCC's volatility charge relies on a parametric VaR methodology for liquid equities and applies haircuts to other eligible products. NSCC's VaR methodology has both equal weighted and front weighted historical return calibrations. In the first quarter, the front weighted VaR model, which included 153 days of lookback, calibrated quickly to the heightened volatility. From February to March, the average Volatility charge at NSCC increased 146%. The VaR construct allows NSCC to address dynamic changes in equity risk premiums and idiosyncratic risks typically linked to uncertainty about economic fundamentals, such as economic outlook, earnings forecasts, interest rates and central bank actions, among other things. Given the March volatility and pursuant to its Rules, NSCC made intraday margin calls for almost \$50 billion during that month and applied Backtesting Charges to those members with backtesting coverage below 99% to mitigate exposures to portfolio changes. In both April and May, NSCC's monthly backtesting coverage was 99.9%.

<sup>2</sup>The backtesting results do not reflect any excess Clearing Fund on deposit or subsequent margin calls (inclusive of intraday margin calls) during the backtest period. For the largest backtest deficiency, the excess deposit or intraday margin calls would have lowered the backtest deficiency amount.

<sup>3</sup>The backtesting results do not reflect any excess Clearing Fund on deposit or subsequent margin calls (inclusive of intraday margin calls) during the backtest period. The largest March backtest deficiency was less than the excess deposit.

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 4.1 - Total value of default resources (excluding initial and retained variation margin), split by clearing service if default funds are segregated by clearing service</b>							
4.1.1	Prefunded - Own Capital Before	Quarterly/ Quarter End	USD \$MM	58.7		86.6	The Company maintains an amount referred to as the corporate contribution, to be applied to losses of the Company as provided in the clearing agency rules. The amount of the corporate contribution is generally equal to 50% of the Company's general business risk capital requirement.
4.1.2	Prefunded - Own Capital Alongside		USD \$MM	n/a	n/a	n/a	
4.1.3	Prefunded - Own Capital After		USD \$MM	n/a	n/a	n/a	
4.1.4	Prefunded - Aggregate Participant Contributions - Required		USD \$MM	22,190	11,056	18,310	NSCC and each FICC Division calculates and collects Clearing Fund from its Members using a risk-based margin methodology. These amounts (a Member's "Required Fund Deposit") operate as the Member's margin, and the aggregate of all such Members' deposits is, collectively, the Clearing Fund, which operates as NSCC's/FICC (with respect to each division's) default fund.
4.1.5	Prefunded - Aggregate Participant Contributions - Post-Haircut Posted		USD \$MM	29,225	13,218	19,617	
4.1.6	Prefunded - Other		USD \$MM	n/a	n/a	n/a	For NSCC, on September 5, 2017, the US cash equities markets moved to a T+2 settlement cycle. Accordingly, after that date, the clearing fund has been calculated to take into account the shortened settlement cycle.
4.1.7	Committed - Own/parent funds that are committed to address a participant default (or round of participant defaults)		USD \$MM	n/a	n/a	n/a	
4.1.8	Committed - Aggregate participant commitments to address an initial participant default (or initial round of participant defaults)		USD \$MM	n/a	n/a	n/a	
4.1.9	Committed - Aggregate participant commitments to replenish the default fund to deal with a subsequent participant default (or round of participant defaults) after the initial participant default (or round of participant defaults) has been addressed		USD \$MM	n/a	n/a	n/a	
4.1.10	Committed - Other		USD \$MM	n/a	n/a	n/a	

<b>Disclosure 4.2 - Kccp - Quarter End</b>							
4.2.1	Kccp - Kccp need only be reported by those CCPs which are, or seek to be a "qualifying CCP" under relevant law.	Quarterly	USD \$MM	578	n/a	n/a	

<b>Disclosure 4.3 - Value of pre-funded default resources (excluding initial and retained variation margin) held for each clearing service</b>								
4.3.1	Cash deposited at a central bank of issue of the currency concerned	Pre Haircut	Quarterly/	USD \$MM	8,458	4,870	17,202	See Explanatory Note from 4.1
		Post Haircut		USD \$MM	8,458	4,870	17,202	
4.3.2	Cash deposited at other central banks	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.3	Secured cash deposited at commercial banks (including reverse repo)	Pre Haircut		USD \$MM	50	100	375	
		Post Haircut		USD \$MM	51	102	383	
4.3.4	Unsecured cash deposited at commercial banks	Pre Haircut		USD \$MM	521	345	821	
		Post Haircut		USD \$MM	521	345	821	



Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes	
				GSD	MBSD			
<b>Disclosure 4.3 - Value of pre-funded default resources (excluding initial and retained variation margin) held for each clearing service - Cont'd</b>								
4.3.4.2	Unsecured cash invested in Money Market Mutual Funds	Pre Haircut	Quarterly/ Quarter End	USD \$MM	512	295	488	See Explanatory Note from 4.1
		Post Haircut		USD \$MM	512	295	488	
4.3.4.3	Unsecured cash invested in US Treasury Bills	Pre Haircut		USD \$MM	0	0	0	See Explanatory Note from 4.1
		Post Haircut		USD \$MM	0	0	0	
4.3.5	Non-Cash Sovereign Government Bonds - Domestic	Pre Haircut		USD \$MM	15,818	7,373	769	See Explanatory Note from 4.1
		Post Haircut		USD \$MM	15,238	7,142	746	
4.3.6	Non-Cash Sovereign Government Bonds - Other	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.7	Non-Cash Agency Bonds	Pre Haircut		USD \$MM	3,632	480	0	See Explanatory Note from 4.1
		Post Haircut		USD \$MM	3,378	447	0	
4.3.8	Non-Cash State/municipal bonds	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.9	Non-Cash Corporate bonds	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.10	Non-Cash Equities	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.11	Non-Cash Commodities - Gold	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.12	Non-Cash Commodities - Other	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.13	Non-Cash Commodities - Mutual Funds / UCITs	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	
4.3.14	Non-Cash Commodities - Other	Pre Haircut		USD \$MM	0	0	0	
		Post Haircut		USD \$MM	0	0	0	

<b>Disclosure 4.4 - Credit Risk Disclosures</b>								
4.4.1	State whether the CCP is subject to a minimum "Cover 1" or "Cover 2" requirement in relation to total pre-funded default resources.		Quarterly		Cover 1	Cover 1	Cover 1	
4.4.2	For each clearing service, state the number of business days within which the CCP assumes it will close out the default when calculating credit exposures that would potentially need to be covered by the default fund.			Bus. Days	3	3	3	This is our risk horizon for liquidation and hedging of market risk.
4.4.3	For each clearing service, the estimated largest aggregate stress loss (in excess of initial margin) that would be caused by the default of any single participant and its affiliates (including transactions cleared for indirect participants) in extreme but plausible market conditions. (Previous 12 Months)	Peak Day/ Previous 12 Months		USD \$MM	1,455	1,408	1,614	Amounts correspond to largest Cover 1 ratio
		Mean Avg/ Previous 12 Months		USD \$MM	584	954	434	
4.4.4	Report the number of business days, if any, on which the above amount (4.4.3) exceeded actual pre-funded default resources (in excess of initial margin).			Bus. Days	0	0	0	
4.4.5	The amount in 4.4.3 which exceeded actual pre-funded default resources (in excess of initial margin) (Previous 12 Months)	Amt Exceeded/ Previous 12 Months		USD \$MM	0	0	0	
4.4.6	For each clearing service, the actual largest aggregate credit exposure (in excess of initial margin) to any single participant and its affiliates (including transactions cleared for indirect participants) (Previous 12 Months)	Peak Day/ Previous 12 Months		USD \$MM	776	2,582	222	Amount represents Peak/Average VaR model back test results.
		Avg/ Previous 12 Months		USD \$MM	96	306	27	

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes	
				GSD	MBSD			
<b>Disclosure 4.4 - Credit Risk Disclosures - Cont'd</b>								
4.4.7	For each clearing service, the estimated largest aggregate stress loss (in excess of initial margin) that would be caused by the default of any two participants and their affiliates (including transactions cleared for indirect participants) in extreme but plausible market conditions (Previous 12 Months)	Quarterly	Peak Day/ Previous 12 Months	USD \$MM	1,270	1,846	2,200	Amounts correspond to largest Cover 2 ratio
			Mean Avg/ Previous 12 Months	USD \$MM	947	1,480	660	
4.4.8	Number of business days, if any, on which the above amount (4.4.7) exceeded actual pre-funded default resources (in excess of initial margin) and by how			Bus. Days	0	0	0	
4.4.9	The amount in 4.4.7 which exceeded actual pre-funded default resources (in excess of initial margin) (Previous 12 Months)		Amt Exceeded/ Previous 12 Months	USD \$MM	0	0	0	
4.4.10	For each clearing service, what was the actual largest aggregate credit exposure (in excess of initial margin) to any two participants and their affiliates (including transactions cleared for indirect participants)? (Previous 12 Months)		Peak Day/ Previous 12 Months	USD \$MM	1,099	3,543	301	Amount represents Peak/Average VaR model back test results.
			Avg/ Previous 12 Months	USD \$MM	143	481	42	

**Disclosure 5.1 - Assets eligible as initial margin, and the respective haircuts applied**

5.1.1	Assets eligible as initial margin and the respective haircuts applied	Update as changes are made	Website/ Hyperlink	<a href="http://www.dtcc.com/~media/Files/Downloads/legal/rules/ficc_gov_rules.pdf">http://www.dtcc.com/~media/Files/Downloads/legal/rules/ficc_gov_rules.pdf</a>	<a href="http://www.dtcc.com/~media/Files/Downloads/legal/rules/ficc_mbsd_rules.pdf">http://www.dtcc.com/~media/Files/Downloads/legal/rules/ficc_mbsd_rules.pdf</a>	<a href="http://www.dtcc.com/~media/Files/Downloads/legal/rules/nsc_rules.pdf">http://www.dtcc.com/~media/Files/Downloads/legal/rules/nsc_rules.pdf</a>	
				Section: "SCHEDULE OF HAIRCUTS FOR ELIGIBLE CLEARING FUND SECURITIES"	Section: "SCHEDULE OF HAIRCUTS FOR ELIGIBLE CLEARING FUND SECURITIES"	Section: "PROCEDURE XV", "III. Collateral Value of Eligible Clearing Fund Securities"	

**Disclosure 5.2 - Assets Eligible for pre-funded participant contributions to the default resources, and the respective haircuts applied (if different from 5.1)**

5.2.1	Assets Eligible for pre-funded participant contributions to the default resources, and the respective haircuts applied (if different from 5.1)	Update as changes are made		See 5.1 above	See 5.1 above	See 5.1 above	
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**Disclosure 5.3 - Results of testing of haircuts**

5.3.1	Confidence interval targeted through the calculation of haircuts	Quarterly		Percentage	99%	99%	99%	
5.3.2	Assumed holding/liquidation period for the assets accepted			Bus. Days	3 Days	3 Days	3 Days	See Explanatory Note from 4.4.2
5.3.3	Look-back period used for testing the haircuts				10 years +	10 years +	10 years +	The lookback period, "10 years +", starts Jan 1, 2008 and continues to the last day of this quarter tested & reported herewith. Based on current stress testing retention process all Historic Scenario Dates previously derived that are on, or after Jan 1, 2008 are retained.
5.3.4	Number of days during the look-back period on which the fall in value during the assumed holding/liquidation period exceeded the haircut on an asset.		Treasury	Bus. Days	22	22	22	See hyperlinks under 5.1 for list of eligible assets and the respective haircuts applied. For Treasuries, based on the "10 years +" lookback period (including 2008 and onward), 2 days for 20 yrs. and 22 days for 30 yrs. tenors were observed, where a change in rate caused a breach of respective HC. The total day count for Treasuries is 22 (as 2 days caused a breach for both tenors, 20 & 30 yrs.). For Agencies and Mortgages no breaches were observed under current HCs.
		Agency	Bus. Days	0	0	0		
		Mortgages	Bus. Days	0	0	0		

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes	
				GSD	MBSD			
<b>Disclosure 6.1 - Total initial margin required split by house, client gross, client net and total (if not segregated)</b>								
6.1.1	Total initial margin required split by house, client gross, client net and total (if not segregated)	House (Net)	Quarterly	USD \$MM	22,190	11,056	18,310	See Explanatory Note from 4.1.4  <sup>1</sup> Not applicable. GSD/MBSD/NSCC does not hold client margin. See NSCC/FICC's Disclosure Frameworks, Principle 14 discussion.
		Client (Gross)		USD \$MM	n/a <sup>1</sup>	n/a <sup>1</sup>	n/a <sup>1</sup>	
		Client (Net)		USD \$MM	n/a <sup>1</sup>	n/a <sup>1</sup>	n/a <sup>1</sup>	
		Total		USD \$MM	22,190	11,056	18,310	
<b>Disclosure 6.2 - For each clearing service, total initial margin required, split by house and client (or combined total if not segregated)</b>								
<i>Not applicable. GSD/MBSD/NSCC does not hold client margin. See NSCC/FICC's Disclosure Frameworks, Principle 14 discussion. For aggregate numbers, see 6.1.1 above.</i>								
6.2.1	Cash deposited at a central bank of issue of the currency concerned	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a	
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a	
6.2.2	Cash deposited at other central banks	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a	
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a	
6.2.3	Secured cash deposited at commercial banks (including reverse repo)	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a	
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a	
6.2.4	Unsecured cash deposited at commercial banks	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a	
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a	
6.2.5	Non-Cash Sovereign Government Bonds - Domestic	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a	
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a	
6.2.6	Non-Cash Sovereign Government Bonds - Other	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a	
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a	
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a	

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 6.2 - For each clearing service, total initial margin required, split by house and client (or combined total if not segregated) (cont'd)</b>							<i>Not applicable. GSD/MBSD/NSCC does not hold client margin. See NSCC/FICC's Disclosure Frameworks, Principle 14 discussion. For aggregate numbers, see 6.1.1 above.</i>
6.2.7	Non-Cash Agency Bonds	House IM Pre Haircut	Quarterly	USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a
6.2.8	Non-Cash State/municipal bonds	House IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a
6.2.9	Non-Cash Corporate bonds	House IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a
6.2.10	Non-Cash Equities	House IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a
6.2.11	Non-Cash Commodities - Gold	House IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a
6.2.12	Non-Cash Commodities - Other	House IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a
6.2.13	Non-Cash - Mutual Funds / UCITS	House IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		House IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Client IM Post Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Pre Haircut		USD \$MM	n/a	n/a	n/a
		Total IM Post Haircut		USD \$MM	n/a	n/a	n/a

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 6.2 - For each clearing service, total initial margin required, split by house and client (or combined total if not segregated) (cont'd)</b>							<i>Not applicable. GSD/MBSD/NSCC does not hold client margin. See NSCC/FICC's Disclosure Frameworks, Principle 14 discussion. For aggregate numbers, see 6.1.1 above.</i>
6.2.14	Non-Cash - Other	House IM Pre Haircut	Quarterly	USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		House IM Post Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Client IM Pre Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Client IM Post Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Total IM Pre Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Total IM Post Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
6.2.15	Cash deposited at a central bank of issue of the currency concerned; Total (if not segregated)	House IM Pre Haircut	Quarterly	USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		House IM Post Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Client IM Pre Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Client IM Post Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Total IM Pre Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
		Total IM Post Haircut		USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>

<b>Disclosure 6.3 - Initial Margin rates on individual contracts, where the CCP sets such rates</b>							
6.3.1	Initial Margin rates on individual contracts where the CCP sets such rates		Update as changes are made		<i>n/a</i>	<i>n/a</i>	<i>n/a</i>

<b>Disclosure 6.4 - Type of initial margin model used (e.g. portfolio simulation or risk aggregation) for each clearing service and the key model design parameters for each initial margin model applied to that clearing service</b>							
6.4.4	Type of initial margin model used (e.g. portfolio simulation or risk aggregation) for each clearing service and the key model design parameters for each initial margin model applied to that clearing service		Update as changes are made		Historical Simulation + Haircut	Historical Simulation + Haircut	Parametric VaR + Haircut

<b>Disclosure 6.5 - Results of back-testing of initial margin. At a minimum, this should include, for each clearing service and each initial margin model applied to that clearing service</b>							
6.5.1	Number of times over the past twelve months that margin coverage held against any account fell below the actual marked-to-market exposure of that member account – based on daily back-testing results	Once-a-day/ Previous 12 Months	Quarterly	Count	510	371	158
6.5.2	Number of observations ((Number of accounts * number of days))	Previous 12 Months		Count	28,348	16,222	31,345
6.5.3	Achieved coverage level [aggregate CCP-level backtest coverage]	Previous 12 Months		Percentage	98.2%	97.7%	99.5%
6.5.4	Where breaches of initial margin coverage (as defined in 6.5(a)) have occurred, report on size of uncovered exposure	Peak Size/ Previous 12 Months		USD \$MM	797	1,526	318
6.5.5	Where breaches of initial margin coverage (as defined in 6.5(a)) have occurred, report on size of uncovered exposure	Average Size/ Previous 12 Months		USD \$MM	30	35	18

<b>Disclosure 6.6 - Average Total Variation Margin Paid to the CCP by participants each business</b>								
6.6.1	Average Total Variation Margin Paid to the CCP by participants each business day	Average	Quarterly	USD \$MM	5,106	2,088	1,363	For GSD, VM is a cash pass-through process across the members; for MBSD and NSCC, VM charges are included as part of the Clearing Fund requirements.  MTM debits were aggregated across all members to reflect the variation margin paid to all members.

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes	
				GSD	MBSD			
<b>Disclosure 6.7 - Maximum total variation margin paid to the CCP on any given business day over the period</b>								
6.7.1	Maximum total variation margin paid to the CCP on any given business day over the period	Maximum	Quarterly	USD \$MM	12,010	9,821	7,280	See Explanatory Note from 6.6
<b>Disclosure 6.8 - Maximum aggregate initial margin call on any given business day over the period</b>								
6.8.1	Maximum aggregate initial margin call on any given business day over the period	Maximum	Quarterly	USD \$MM	3,134	6,428	8,541	Amount represents the largest aggregate deficit over amounts on deposit. This is the actual call made, to be reduced by any excess collateral that was held. Call amount would be inclusive of any intraday calls made.
<b>Disclosure 7.1 - Liquidity Risk</b>								
7.1.1	State whether the clearing service maintains sufficient liquid resources to 'Cover 1' or 'Cover 2'.		Quarterly/ Quarter End		Cover 1	Cover 1	Cover 1	
7.1.2	Size and composition of qualifying liquid resources for each clearing service; (a) Cash deposited at a central bank of issue of the currency concerned			USD \$MM	8,458	4,870	22,664	
7.1.3	Size and composition of qualifying liquid resources for each clearing service; (b) Cash deposited at other central banks			USD \$MM	n/a	n/a	n/a	
7.1.4	Size and composition of qualifying liquid resources for each clearing service; (c) Secured cash deposited at commercial banks (including reverse repo)	Repo Only		USD \$MM	50	100	375	
7.1.5	Size and composition of qualifying liquid resources for each clearing service; (d) Unsecured cash deposited at commercial banks	Commerical Bank Deposits		USD \$MM	521	345	2,121	
		Money Market Funds		USD \$MM	512	295	488	
		US Treasury Bills		USD \$MM	n/a	n/a	n/a	
7.1.6	Size and composition of qualifying liquid resources for each clearing service; (e) secured committed lines of credit (ie those for which collateral/security will be provided by the CCP if drawn) including committed foreign exchange swaps and committed repos			USD \$MM	90,746	56,234	11,216	For FICC, amount represents a rules-based facility, Capped Contingency Liquidity Facility ("CCLF"). For NSCC, the amount represents a secured line of credit with a syndicate of lenders excluding the largest contributor to the line of credit.
7.1.7	Size and composition of qualifying liquid resources for each clearing service; (f) unsecured committed lines of credit (ie which the CCP may draw without providing collateral/security)			USD \$MM	n/a	n/a	n/a	
7.1.8	Size and composition of qualifying liquid resources for each clearing service; (g) highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements even in extreme but plausible market conditions			USD \$MM	19,451	7,854	769	Amounts include Clearing Fund securities.

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 7.1 - Liquidity Risk - Cont'd</b>							
7.1.9	Size and composition of qualifying liquid resources for each clearing service; (h) other		USD \$MM	43,080	2,337	0	<p>For GSD and MBSD, the portfolio of a defaulting member, comprised of highly marketable collateral would also be available as a liquidity resource. Value and composition of that portfolio would vary by day and by member. 3/31 was not an MBSD class-settlement day. For GSD/MBSD, amount represents the Repo Value of Underlying Securities.</p> <p>NSCC's Supplemental Liquidity Deposit ("SLD") program provides for additional rules-based liquidity resources around monthly option expiry periods. Option expiry settlement cycles typically present elevated liquidity needs to NSCC. Members may be required to provide additional funding based on historical activity, or may voluntarily pre-fund outside liquidity needs. Sizing of supplemental liquidity resources will vary based on the historical activity presented by NSCC's largest members as well as market dynamics during the current settlement cycle. (As of 3/31 there were no SLD deposits on hand)</p> <p>Resources reported in Section 7.1 are as of 3/31/20 and do not correspond to the dates of the actual largest obligations. On the dates of the actual largest obligations, sufficient liquidity resources were available.</p>
7.1.10	State whether the CCP has routine access to central bank liquidity or facilities.			n/a	n/a	n/a	
7.1.11	Details regarding the schedule of payments or priority for allocating payments, if such exists, and any applicable rule, policy, procedure, and governance arrangement around such decision making.			n/a	n/a	n/a	

<b>Disclosure 7.2 - Size and composition of any supplementary liquidity risk resources for each clearing service above those qualifying liquid resources above.</b>							
7.2.1	Size and composition of any supplementary liquidity risk resources for each clearing service above those qualifying liquid resources in 7.1	Quarterly/ Quarter End	USD \$MM	GSD can use collateralized loans from clearing banks as additional liquidity resources.	MBSD can use collateralized loans from clearing banks as additional liquidity resources.	NSCC can use collateralized loans/equity repo utilizing the cash market securities that were destined to defaulter as collateral.	

<b>Disclosure 7.3 - Liquidity Risk</b>							
7.3.1	Estimated largest same-day and, where relevant, intraday and multiday payment obligation in total that would be caused by the default of any single participant and its affiliates (including transactions cleared for indirect participants) in extreme but plausible market conditions	Forward looking/ Quarterly	USD \$MM	60,035	42,285	29,902	<p>For GSD and MBSD, values are estimated liquidity obligations post netting that are based on trades that are due to settle the following business day.</p> <p>For NSCC, values are estimated liquidity obligations that are based on multi-day obligations throughout the (T+2) settlement cycle plus the Long Allocation and CALM offsets.</p>
7.3.2	Number of business days, if any, on which the above amount exceeded its qualifying liquid resources (identified as in 7.1, and available at the point the breach occurred), and by how much.	Quarterly	Bus. Days USD \$MM	0 0	0 0	0 0	
7.3.3	Actual largest intraday and multiday payment obligation of a single participant and its affiliates (including transactions cleared for indirect participants) over the past twelve months; Peak day amount in previous twelve months	Previous 12 Months	USD \$MM	76,973	32,780	10,299	<p>GSD/MBSD/NSCC did not utilize any of its liquidity resources to cover any member payment obligations.</p> <p>NSCC reflects multi-day settlement obligations. GSD obligations that are based on trades that are due to settle the following business day. MBSD obligations are based on bilateral trades due to settle the next business day.</p>
7.3.4	Estimated largest same-day and, where relevant, intraday and multiday payment obligation in each relevant currency that would be caused by the default of any single participant and its affiliates (including transactions cleared for indirect participants) in extreme but plausible market conditions	Forward looking/ Quarterly	USD \$MM	60,035	42,285	29,902	See Explanatory Note from 7.3.1

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 7.3 - Liquidity Risk - Cont'd</b>							
7.3.5	Number of business days, if any, on which the above amounts exceeded its qualifying liquid resources in each relevant currency (as identified in 7.1 and available at the point the breach occurred), and by how much	Quarterly	Bus. Days USD \$MM	0 0	0 0	0 0	See Explanatory Note from 7.1.9 reference for SLD
<b>Disclosure 12.1 - Percentage of settlements by value effected using a DvP, DvD or Pvp settlement mechanism</b>							
12.1.1	Percentage of settlements by value effected using a DvP settlement mechanism	Quarterly	Percentage	100%	100%	100%	FICC data provided with respect to GSD GCF Repo and non-GCF Repo CCP services and MBSB clearing services.
12.1.2	Percentage of settlements by value effected using a DvD settlement mechanism		Percentage	n/a	n/a	n/a	NSCC data provided with respect to CNS, NSCC's CCP service, which uses a model 2 DvP Settlement mechanism.
12.1.3	Percentage of settlements by value effected using a Pvp settlement mechanism		Percentage	n/a	n/a	n/a	
<b>Disclosure 12.2 - Percentage of settlements by volume effected using a DvP, DvD or Pvp settlement mechanism</b>							
12.2.1	Percentage of settlements by volume effected using a DvP settlement mechanism	Quarterly	Percentage	100%	100%	100%	FICC data provided with respect to GSD GCF Repo and non-GCF Repo CCP services and MBSB clearing services.
12.2.2	Percentage of settlements by volume effected using a DvD settlement mechanism		Percentage	n/a	n/a	n/a	NSCC data provided with respect to CNS, NSCC's CCP service, which uses a model 2 DvP Settlement mechanism.
12.2.3	Percentage of settlements by volume effected using a Pvp settlement mechanism		Percentage	n/a	n/a	n/a	
<b>Disclosure 13.1 - Quantitative information related to defaults</b>							
13.1.1	Quantitative information related to defaults; Amount of loss versus amount of initial margin	Ad-hoc		n/a	n/a	n/a	
13.1.2	Quantitative information related to defaults; Amount of other financial resources used to cover losses			n/a	n/a	n/a	
13.1.3	Quantitative information related to defaults; Proportion of client positions closed-out/ported			n/a	n/a	n/a	
13.1.4	Quantitative information related to defaults; Appropriate references to other published material related to the defaults			n/a	n/a	n/a	
<b>Disclosure 14.1 - Total Client Positions held as a share of notional values cleared or of the settlement value of securities transactions</b>							
14.1.1	Total Client Positions held in individually segregated accounts	Quarterly/ Quarter End		n/a	n/a	n/a	Not applicable for the US cash markets. See NSCC and FICC Disclosure Frameworks, Principle 14 discussion.
14.1.2	Total Client Positions held in omnibus client-only accounts, other than LSOC accounts			n/a	n/a	n/a	
14.1.3	Total Client Positions held in legally segregated but operationally comingled (LSOC) accounts			n/a	n/a	n/a	
14.1.4	Total Client Positions held in comingled house and client accounts		Percentage	100%	100%	100%	



Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes	
				GSD	MBSD			
<b>Disclosure 15.1 - General business risk</b>							Values representative of the 2019 Annual Audited Financial Statements. Values will remain static until publication of the 2020 Annual Audited Financial Statements (Q4 2020).	
15.1.1	Value of liquid net assets funded by equity	Annual	USD \$MM	278		525		
15.1.2	Six months of current operating expenses		USD \$MM	113		159		
<b>Disclosure 15.2 - General business risk; Financial Disclosures</b>							Values representative of the 2019 Annual Audited Financial Statements. Values will remain static until publication of the 2020 Annual Audited Financial Statements (Q4 2020).	
15.2.1	Total Revenue	Annual	USD \$MM	272		418		
15.2.2	Total Expenditure		USD \$MM	233		331		
15.2.3	Profits		USD \$MM	39		87		
15.2.4	Total Assets		USD \$MM	33,311		13,697		
15.2.5	Total Liabilities		USD \$MM	32,991		13,082		
15.2.6	Explain if collateral posted by clearing participants is held on or off the CCP's balance sheet				Collateral is held on Balance Sheet		Collateral is held on Balance Sheet	
15.2.7	Additional items as necessary		USD \$MM	n/a		n/a		
<b>Disclosure 15.3 - General business risk; Income breakdown</b>							Values representative of the 2019 Annual Audited Financial Statements. Values will remain static until publication of the 2020 Annual Audited Financial Statements (Q4 2020).	
15.3.1	Percentage of total income that comes from fees related to provision of clearing services	Annual	Percentage	100%		100%		
15.3.2	Percentage of total income that comes from the reinvestment (or rehypothecation) of assets provided by clearing participants		Percentage	n/a		n/a		
<b>Disclosure 16.1 - Total cash (but not securities) received from participants, regardless of the form in which it is held, deposited or invested, split by whether it was received as initial margin or default fund contribution</b>								
16.1.1	Total cash (but not securities) received from participants, regardless of the form in which it is held, deposited or invested, received as initial margin	Quarterly/ Quarter End	USD \$MM	9,541	5,610	18,886	See Explanatory Note from 4.1	
16.1.2	Total cash (but not securities) received from participants, regardless of the form in which it is held, deposited or invested, received as default fund contribution		USD	n/a	n/a	n/a		
<b>Disclosure 16.2 - How total cash received from participants (16.1) is held/deposited/invested, including;</b>								
16.2.1	Percentage of total participant cash held as cash deposits (including through reverse repo)	Quarterly/ Quarter End	Percentage	100%	100%	100%		
16.2.2	Percentage of total participant cash held as cash deposits (including through reverse repo); as cash deposits at central banks of issue of the currency deposited		Percentage	89%	87%	91%		
16.2.3	Percentage of total participant cash held as cash deposits (including through reverse repo); as cash deposits at other central banks		Percentage	0%	0%	0%		
16.2.4	Percentage of total participant cash held as cash deposits (including through reverse repo); as cash deposits at commercial banks (Secured, including through reverse repo)		Percentage	1%	2%	2%		

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 16.2 - How total cash received from participants (16.1) is held/deposited/invested, including; - Cont'd</b>							
16.2.5	Percentage of total participant cash held as cash deposits (including through reverse repo); as cash deposits at commercial banks (Unsecured)	Quarterly/ Quarter End	Percentage	5%	6%	4%	
16.2.6	Percentage of total participant cash held as cash deposits (including through reverse repo); in money market funds		Percentage	5%	5%	3%	
16.2.7	Percentage of total participant cash held as cash deposits (including through reverse repo); in other forms		Percentage	0%	0%	0%	
16.2.8	Percentage of total participant cash held as cash deposits (including through reverse repo); percentage split by currency of these cash deposits (including reverse repo) and money market funds by CCY; Specify local currency in comments		Percentage	100%	100%	100%	USD
16.2.9	Percentage of total participant cash held as cash deposits (including through reverse repo); weighted average maturity of these cash deposits (including reverse repo) and money market funds		Bus. Days	1	1	1	
16.2.10	Percentage of total participant cash invested in securities; Domestic sovereign government bonds		Percentage	0%	1%	0%	
16.2.11	Percentage of total participant cash invested in securities; Other sovereign government bonds		Percentage	0%	0%	0%	
16.2.12	Percentage of total participant cash invested in securities; Agency Bonds		Percentage	0%	0%	0%	
16.2.13	Percentage of total participant cash invested in securities; State/municipal bonds		Percentage	0%	0%	0%	
16.2.14	Percentage of total participant cash invested in securities; Other instruments		Percentage	0%	0%	0%	
16.2.15	Percentage of total participant cash invested in securities; percentage split by currency of these securities; Specify local currency in comments;		Percentage	0%	1%	0%	USD
16.2.16	Percentage of total participant cash invested in securities; weighted average maturity of securities; Specify local currency in comments;		Bus. Days	0	0	0	
16.2.17	Provide an estimate of the risk on the investment portfolio (excluding central bank and commercial bank deposits) (99% one-day VaR, or equivalent)		USD \$MM	< 1	< 1	< 1	
16.2.18	State if the CCP investment policy sets a limit on the proportion of the investment portfolio that may be allocated to a single counterparty, and the size of that limit.			Yes	Yes	Yes	Size of limits will vary depending on credit rating and other factors.
16.2.19	State the number of times over the previous quarter in which this limit has been exceeded.		Count	0	0	0	

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 16.3 - Rehypothecation of participant assets (ie non-cash)</b>							
16.3.1	Total value of participant non-cash rehypothecated (Initial margin)	Quarterly/ Quarter End	USD \$MM	0	0	0	Rehypothecation used for liquidity purposes only in the event of a default.
16.3.2	Total value of participant non-cash rehypothecated (Default fund)		USD \$MM	0	0	0	
16.3.3	Rehypothecation of participant assets (ie non-cash) by the CCP where allowed; initial margin; over the following maturities: Overnight/one day; one day and up to one week; One week and up to one month; One month and up to one year; One year and up to two years; Over two years		ON_1D	USD \$MM	0	0	0
			1D_1W	USD \$MM	0	0	0
			1W_1M	USD \$MM	0	0	0
			1M_1Y	USD \$MM	0	0	0
			1Y_2Y	USD \$MM	0	0	0
16.3.4	Rehypothecation of participant assets (ie non-cash); default fund; over the following maturities: Overnight/one day; one day and up to one week; One week and up to one month; One month and up to one year; One year and up to two years; Over two years		2Y+	USD \$MM	0	0	0
			ON_1D	USD \$MM	0	0	0
			1D_1W	USD \$MM	0	0	0
		1W_1M	USD \$MM	0	0	0	
		1M_1Y	USD \$MM	0	0	0	
		1Y_2Y	USD \$MM	0	0	0	
		2Y+	USD \$MM	0	0	0	
<b>Disclosure 17.1 - Operational availability target for the core system(s) involved in clearing (whether or not outsourced) over specified period for the system</b>							
17.1.1	Operational availability target for the core system(s) involved in clearing (whether or not outsourced) over specified period for the system	Quarterly	Percentage	99.6%	99.6%	99.6%	This target and the actual results below are calculated at the individual product-line level and then averaged across all of the systems identified below, in accordance with the established calculation for the applicable SLA.
<b>Disclosure 17.2 - Actual availability of the core system(s) over the previous twelve month period</b>							
17.2.1	Actual availability of the core system(s) over the previous twelve month period	Quarterly	Percentage	99.96%			Availability is calculated across multiple systems. Specifically, CMU, CNS, Risk Management, GSD, MBSD and Trade Capture. Since Risk Management is across FICC and NSCC, actual availability cannot be captured at the individual entity level. Actual availability is across all three in total.
<b>Disclosure 17.3 - Total number of failures</b>							
17.3.1	Total number of failures and duration affecting the core system(s) involved in clearing over the previous twelve month period (Duration of Failure)	Quarterly	Count / hh:mm:ss	2/ 3:53:00			Total number of failures and duration are for Reg SCI reportable failure incidents impacting the CCP systems. Incidents that do not result in a direct business impact are not included. One incident accounted for 3 hours and 15 minutes of the total reported duration time, but did not result in any missed client SLAs.
<b>Disclosure 17.4 - Recovery time objective(s)</b>							
17.4.1	Recovery time objective(s) (e.g. within two hours)	Quarterly	Time	Within 2 Hours	Within 2 Hours	Within 2 Hours	Recovery time objective is within 2 hours.

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 18.1 - Number of clearing members, by clearing service</b>							For GSD, there are Broker/Dealers, Government Sponsored Entities, Banks For MBSD, there are Broker/Dealers, Hedge Fund, Mortgage Companies, Government Sponsored Entities, Registered Investment Companies, etc. For NSCC there are Broker/Dealers, certain stock exchanges (for omnibus account reporting), and one CSD.
18.1.1.1	Number of general clearing members	Quarterly/ Quarter End	Count	130	78	64	FICC does not distinguish membership categories between members that clear for others and self-clearing. Accordingly, the total number of FICC members are reported here.
18.1.1.2	Number of direct clearing members		Count	0	0	84	
18.1.1.3	Number of others category (Describe in comments)		Count	0	0	0	Numbers do not include types of members that are not eligible for CCP services: GSD Comparison-Only members, MBSD Electronic Pool Notification (EPN)-only members, and NSCC has several limited membership categories that are not reported here.
18.1.2.1	Number of central bank participants		Count	0	0	0	
18.1.2.2	Number of CCP participants		Count	0	0	0	
18.1.2.3	Number of bank participants		Count	43	16	13	
18.1.2.4	Number of other participants (Describe in comments)		Count	87	62	135	Includes Broker/dealers, Stock Exchanges, CSD's and Trust members. Excludes Banks.
18.1.3.1	Number of domestic participants		Count	95	76	146	
18.1.3.1	Number of foreign participants		Count	35	2	2	US Branches/Agencies of Non US legal entities will be considered Non-US (foreign)

<b>Disclosure 18.2 - Open Position Concentration</b>							
18.2.1	For each clearing service with ten or more members, but fewer than 25 members; Percentage of open positions held by the largest five clearing members, including both house and client, in aggregate	Average End of Day	Quarterly	Percentage	n/a	n/a	n/a
		Peak End of Day		Percentage	n/a	n/a	n/a
18.2.2	For each clearing service with 25 or more members; Percentage of open positions held by the largest five clearing members, including both house and client, in aggregate	Average End of Day	Quarterly	Percentage	25%	39%	34%
		Peak End of Day		Percentage	30%	44%	35%
18.2.3	For each clearing service with 25 or more members; Percentage of open positions held by the largest ten clearing members, including both house and client, in aggregate	Average End of Day	Quarterly	Percentage	39%	67%	53%
		Peak End of Day		Percentage	41%	71%	51%

<b>Disclosure 18.3 - Initial Margin Concentration</b>							
18.3.1	For each clearing service with ten or more members, but fewer than 25 members; Percentage of initial margin posted by the largest five clearing members, including both house and client, in aggregate	Average End of Day	Quarterly	Percentage	n/a	n/a	n/a
		Peak End of Day		Percentage	n/a	n/a	n/a
18.3.2	For each clearing service with 25 or more members; Percentage of initial margin posted by the largest five clearing members, including both house and client, in aggregate	Average End of Day	Quarterly	Percentage	40%	44%	27%
		Peak End of Day		Percentage	45%	53%	29%
18.3.3	For each clearing service with 25 or more members; Percentage of initial margin posted by the largest ten clearing members, including both house and client, in aggregate	Average End of Day	Quarterly	Percentage	54%	60%	45%
		Peak End of Day		Percentage	58%	76%	47%

\* Member's deposits include excess deposits exceeding the requirement that can be withdrawn by members.

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes
				GSD	MBSD		
<b>Disclosure 18.4 - Segregated Default Fund Concentration</b>							
18.4.1	For each segregated default fund with ten or more members, but fewer than 25 members; Percentage of participant contributions to the default fund contributed by largest five clearing members in aggregate	Quarterly/ Quarter End	Percentage	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	See Explanatory Note from 18.3
18.4.2	For each segregated default fund with 25 or more members; Percentage of participant contributions to the default fund contributed by largest five clearing members in aggregate		Percentage	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	
18.4.3	For each segregated default fund with 25 or more members; Percentage of participant contributions to the default fund contributed by largest ten clearing members in aggregate		Percentage	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	
<b>Disclosure 19.1 - Tiered participation arrangements, measures of concentration of client clearing</b>							
19.1.1	Number of clients (if known)	Quarterly/ Quarter End	Count	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	See Explanatory Note from 14.1
19.1.2	Number of direct members that clear for clients		Count	<i>n/a</i>	<i>n/a</i>	<b>64</b>	NSCC: Number denotes members that clear for other Broker/Dealers.
19.1.3	Percent of client transactions attributable to the top five clearing members (if CCP has 10+ clearing members)		Percentage	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	See Explanatory Note from 14.1
19.1.4	Percent of client transactions attributable to the top ten clearing members (if CCP has 25+ clearing members)		Percentage	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	See Explanatory Note from 14.1
<b>Disclosure 20.1 - FMI Links, Value of Trades</b>							
20.1.1	Value of trades cleared through each link – as a share of total trade values/total notional values cleared in that service	Quarterly	USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	NSCC does not maintain any interoperable links as described by these items. CDS Clearing and Depository Services, Inc. (the Canadian CSD) is a full service member of NSCC, and is subject to margining and the other requirements of membership as a member. The CDS relationship is described in NSCC's Disclosure Framework under Principle 20. The GSD/CME Cross-Margining Agreement, which is described in GSD's disclosure with respect to PFMI Principle 20, is not an interoperable link as described by sections 20.1 through 20.6 of the quantitative disclosure.
<b>Disclosure 20.2 - FMI Links, Initial Margin or equivalent financial resources provided</b>							
20.2.1	Initial margin or equivalent financial resources provided to each linked CCP by the CCP to cover the potential future exposure of the linked CCP on contracts cleared across link	Quarterly/ Quarter End	USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	See Explanatory Note from 20.1
<b>Disclosure 20.3 - FMI Links, Initial Margin or equivalent financial resources collected</b>							
20.3.1	Initial margin or equivalent financial resources collected from each linked CCP to cover potential future exposure to the linked CCP on contracts cleared across link (at market value and post-haircut)	Quarterly/ Quarter End	USD \$MM	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	See Explanatory Note from 20.1

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes		
				GSD	MBSD				
<b>Disclosure 20.4 - FMI Links, Results of Back-testing coverage</b>									
20.4.1	Number of times over the past twelve months that coverage provided by margin and equivalent financial resources held against each linked CCP fell below the actual marked-to-market exposure to that linked CCP – based on daily back testing results; Intraday or Continuous or Once-a-day	Quarterly	Count	n/a	n/a	n/a	See Explanatory Note from 20.1		
20.4.2	Number of observations (i.e. number of accounts multiplied by number of days covered in the back test); Intraday or Continuous or Once-a-day		Count	n/a	n/a	n/a			
20.4.3	Achieved coverage level; Intraday or Continuous or Once-a-day		Percentage	n/a	n/a	n/a			
<b>Disclosure 20.5 - FMI Links, Additional pre-funded financial resources provided to</b>									
20.5.1	Additional pre-funded financial resources (if any) beyond initial margin and equivalent financial resources provided to each linked CCP, that are available to the linked CCP to cover exposures to the CCP and whether part of, additional to, or separate from the standard default fund	Quarterly/ Quarter End	USD \$MM	n/a	n/a	n/a	See Explanatory Note from 20.1		
<b>Disclosure 20.6 - FMI Links, Additional pre-funded financial resources collected from</b>									
20.6.1	Additional pre-funded financial resources (if any) beyond initial margin and equivalent financial resources provided to each linked CCP, that are available to the linked CCP to cover exposures to the CCP and whether part of, additional to, or separate from the standard default fund	Quarterly/ Quarter End	USD \$MM	n/a	n/a	n/a	See Explanatory Note from 20.1		
<b>Disclosure 20.7 - FMI Links, Cross Margining</b>									
20.7.1	Value of trades subject to cross margining, by clearing service, as a percentage of total trade values/total notional values cleared	Quarterly/ Quarter End	Percentage	17%	n/a	n/a	NSCC does not maintain any cross margining arrangements. NSCC does maintain an arrangement with OCC for the settlement of exercised and assigned options, which is described in NSCC's Disclosure Framework under Principle 20. GSD has a cross-margining arrangement with the Chicago Mercantile Exchange. For GSD under section 20.7, disclosures are quarterly averages.		
20.7.2	Reduction in total initial margin held by the CCP as a result of cross margining, as a percentage of total initial margin that would otherwise have been held.		Percentage	0.13%	n/a	n/a			
<b>Disclosure 23.1 - Disclosure of rules, key procedures, and market data; Average Daily Volumes</b>									
23.1.1	Average Daily Volumes by Asset Class, CCY and OTC/ETD		OTC	Quarterly	380,645	19,226	61,012,967	For GSD/MBSD and NSCC, average daily volume data is based on sides (as opposed to trades). For NSCC: OTC: Includes OMGEO, NASDAQTRF, MUNI BONDS, FINRA ORF, ETF CR/RD, ECN/QSR, and CORP/UIT Bonds For NSCC: Exchange: Includes OCC, NYSE ARCA, NYSE AMEX, NYSE2, NYSE, NYSE NATIONAL, NASDAQ PHLX, NASDAQ BX, NASDAQ, IEX EXCHANGE, DIRECT EDGE X, DIRECT EDGE A, CHX, BATS BYX and BATS	
			NSCC_Exchange		-	-	135,317,707		
23.1.2	Notional Value of trades cleared by Asset Class, CCY and OTC/ETD		OTC	USD \$MM	5,059,122	460,138	880,316		
			NSCC_Exchange	USD \$MM	-	-	741,719		
<b>Disclosure 23.2 - Disclosure of rules, key procedures, and market data; Non-Yet-Settled</b>									
23.2.1	Gross notional outstanding/total settlement value of novated but not-yet settled securities transactions by Asset Class, CCY and OTC/ETD		CDS_OTC	Quarterly/ Quarter End	USD \$MM	1,180	543	236	Sources: FICC and NSCC financial statements, as available in the DTCC public website
<b>Disclosure 23.3 - Disclosure of rules, key procedures, and market data; Execution Facility</b>									
<b>Frequency: Quarterly</b>									
23.3.1	Average daily volumes submitted by Execution facility or matching/confirmation venue	Quarterly			n/a	n/a	See 23.1 above	For NSCC: OTC - Includes OMGEO, NASDAQTRF, MUNI BONDS, FINRA ORF, ETF CR/RD, ECN/QSR, and CORP/UIT Bonds	
23.3.2	Notional contract values submitted by Execution facility or matching/confirmation venue			USD \$MM	n/a	n/a	See 23.1 above	Exchange - Includes OCC, NYSE ARCA, NYSE AMEX, NYSE2, NYSE, NASDAQ PHLX, NASDAQ BX, NASDAQ, DIRECT EDGE X, DIRECT EDGE A, CHX, BATS BYX and BATS	

Disclosure Reference	Disclosure Description	Frequency	Data Type	FICC		NSCC	Explanatory Notes	
				GSD	MBSD			
<b>Payment Risk Committee Disclosure 1 - Concentration Measures</b>								
	Initial Margin Required	Top 3 Members	Quarterly/ Quarter End	USD \$MM	<b>6,856</b>	<b>5,134</b>	<b>3,897</b>	Aggregated by deposit account.
	Number of Members with x% of Initial Margin Requirement	> 20%	Count	<b>0</b>	<b>1</b>	<b>0</b>		
		15% to 20%	Count	<b>1</b>	<b>0</b>	<b>0</b>		
		10% to 15%	Count	<b>0</b>	<b>1</b>	<b>0</b>		
		5% to 10%	Count	<b>3</b>	<b>3</b>	<b>4</b>		
		< 5%	Count	<b>149</b>	<b>96</b>	<b>144</b>		
	Total Initial Margin Posted (Market Value)	Total	USD \$MM	<b>29,784</b>	<b>13,403</b>	<b>19,640</b>		

<b>Payment Risk Committee Disclosure 2 - Intial Margin Detail</b>							
Initial Margin Breakdown by Component	VaR / Volatility	Quarterly/ Quarter End	USD \$MM	<b>21,186</b>	<b>3,480</b>	<b>11,357</b>	The Value-at-Risk (VaR) and Volatility components are based on the potential price fluctuations of unsettled positions.
	Coverage Component (CC)		USD \$MM	<i>n/a</i>	<i>n/a</i>	<b>676</b>	With the implementation of SVaR for FICC, Margin Proxy is now used as a backup VaR methodology in the event of a significant vendor data disruption. The Coverage Component is a back-test-like component that is meant to address potential model deficiencies. The Coverage Component is designed by NSCC to mitigate the risks associated with a Member's Required Deposit being insufficient to cover projected liquidation losses to the Coverage Target by adjusting a Member's Required Deposit towards the Coverage Target.
	Blackout Period Exposure Adjustment		USD \$MM	<b>27</b>	<i>n/a</i>	<i>n/a</i>	Blackout Period Exposure: Refers to the exposure to GSD and Reverse Repo participants of the potential overvaluation of MBS Collateral in GCF Repos during the Blackout Period. An adjustment to Clearing Fund Requirements (increase to Repo participants and decrease to Reverse Repo participants) is made based on MBS positions in Member's GCF portfolios during the Blackout Period. The adjustment is based on the average realized pay-down rate transactions. The adjustment is made during the Blackout Period, the first 5 to 7 business days each month.
	CME Cross Margin		USD \$MM	<b>-29</b>	<i>n/a</i>	<i>n/a</i>	GSD has a cross-margining arrangement with the Chicago Mercantile Exchange. The amount represents the aggregate margin savings for common members who elect to participate in the cross-margining arrangement.
	Margin Req. Differential (MRD)		USD \$MM	<i>n/a</i>	<i>n/a</i>	<b>4,117</b>	The NSCC MRD is designed to address position-variability risk by estimating the shortfall of end-of-day VaR and mark-to-market compared with the next day's intraday risk and the risk that the next margin call will not be satisfied.
	Market to Market (MTM)		USD \$MM	<i>n/a</i>	<b>0</b>	<b>703</b>	As a cash market CCP, NSCC uses a continuous net system where securities within the settlement system are marked daily to the prior night's closing price. Net portfolio debits per Member are collected as part of the Member's Required Deposit; net portfolio credits are not included. In FICC, GSD maintains a pass-through MtM process whereby it collects MTM debits from those Members with debits and passes those to the Members with MTM credits. For MBSD, there is a Deterministic Risk Component ("DRC") in the Clearing Fund Requirement that reflects mark-to-market results on outstanding positions, regardless of settlement date, cash items and adjustments that are the result of netting, and principal and interest exposure on failed positions. At least once daily, MBSD calculates the DRC that reflects the mark-to-market of the portfolio to account for the difference between the contract price and current market prices, interest and other cash settlement obligations. DRC can be a credit or debit amount. If the DRC is a debit, this amount will increase the Clearing Fund requirement. If the DRC is a credit, it can be used to reduce the amount of the Required Fund requirement (subject to the VaR Floor).
	Illiquid		USD \$MM	<i>n/a</i>	<i>n/a</i>	<b>288</b>	NSCC may apply an additional charge on positions in OTC Bulletin Board or Pink Sheet securities based on size, average daily volume or price; and financial condition of the participant. This charge is separate from both VaR and SPC.
	Special Charge		USD \$MM	<b>531</b>	<b>170</b>	<b>108</b>	Special charges include backtesting charges and other Clearing Fund premiums.
	Other Charges		USD \$MM	<b>475</b>	<b>7,406</b>	<b>1,061</b>	At NSCC, includes FIS and CNS Fails charges. For GSD & MBSD, includes Membership Type Adjustments.