Morgan Stanley International Limited Group

Pillar 3 Regulatory Disclosures Report

As at 31 December 2022

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1. Overview and Key Metrics

The principal activity of Morgan Stanley International Limited ("MSI") together with its subsidiaries (the "MSI Group") is the provision of financial services to corporations, governments and financial institutions. There have not been any significant changes in the MSI Group's principal activities during 2022 and no significant change is expected.

As at 31 December 2022, Morgan Stanley & Co. International plc ("MSIP") and Morgan Stanley Europe Holding SE Group ("MSEHSE Group") are reported as large subsidiaries within the MSI Group. MSIP is authorised by the Prudential Regulation Authority ("PRA") and regulated by the PRA and Financial Conduct Authority ("FCA"). MSEHSE Group, at a consolidated level, is under the direct supervision of the European Central Bank ("ECB") under the Single Supervisory Mechanism.

The Pillar 3 disclosures as at 31 December 2022 are prepared on the basis of the consolidated situation of the MSI Group. In addition, certain disclosures are required for MSIP as a large listed subsidiary of MSI Group, and MSEHSE Group as a large non-listed subsidiary of MSI Group. The detailed large subsidiary disclosure requirements are included in the MSEHSE Group disclosure that is published separately and can be found at https://www.morganstanley.com/about-us-ir/pillar-eu.html.

Directors Responsibility Statement

I confirm that I have taken all reasonable measures to ensure that the information included in this disclosure complies to the best of my knowledge with section 4 of the PRA rulebook on Disclosure (CRR) and has been prepared in accordance with established formal policies and internal processes, systems and controls.

Anthony Mullineaux

Chief Financial Officer

Morgan Stanley International Limited

Key Metrics

Table 1a: Key Metrics (UK KM1) – MSI Group and MSIP

$MM MSI Group[1 2 3]		a Q4'22	b Q3'22	c Q2'22	d Q1'22	e Q4'21
	Available own funds					
1	Common Equity Tier 1 ("CET1") capital	23,038	21,526	22,055	21,614	22,238
2	Tier 1 ("T1") capital	27,338	25,826	26,355	25,114	25,738
3	Total capital	35,123	33,865	34,680	31,226	32,124
	Risk-weighted exposure amounts					
4	Total risk-weighted exposure amount	160,504	165,740	166,499	177,213	164,374
	Capital ratios (as a percentage of risk-weighted exposure amount)					
5	Common Equity Tier 1 ratio (%)	14.35%	12.99%	13.25%	12.20%	13.50%
6	Tier 1 ratio (%)	17.03%	15.58%	15.83%	14.17%	15.70%
7	Total capital ratio (%)	21.88%	20.43%	20.83%	17.62%	19.50%
	Additional own funds requirements based on Supervisory Review and Evaluation Process ("SREP") (as a percentage of risk-weighted exposure amount)					
UK 7a	Additional CET1 SREP requirements (%)	1.68%	1.68%	1.68%	1.43%	
UK 7b	Additional AT1 SREP requirements (%)	0.56%	0.56%	0.56%	0.48%	
UK 7c	Additional Tier 2 ("T2") SREP requirements (%)	0.75%	0.75%	0.75%	0.63%	
UK 7d	Total SREP own funds requirements (%)	10.99%	10.99%	10.99%	10.54%	
	Combined buffer requirement (as a percentage of risk-weighted exposure amount)					
8	Capital conservation buffer (%)	2.50%	2.50%	2.50%	2.50%	
UK 8a	Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)	-	-	-	-	
9	Institution specific countercyclical capital buffer (%)	0.32%	0.07%	0.05%	0.04%	
UK 9a	Systemic risk buffer (%)	-	-	-	-	
10	Global Systemically Important Institution buffer (%)	-	-	-	-	
UK 10a	Other Systemically Important Institution buffer	-	-	-	-	
11	Combined buffer requirement (%)	2.82%	2.57%	2.55%	2.54%	
UK 11a	Overall capital requirements (%)	13.81%	13.56%	13.54%	13.08%	
12	CET1 available after meeting the total SREP own funds requirements (%)	8.17%	6.81%	7.07%	6.27%	
	Leverage ratio					
13	Total exposure measure excluding claims on central banks	454,835	473,219	464,889	501,433	534,827
14	Leverage ratio excluding claims on central banks (%)	6.01%	5.46%	5.67%	5.01%	4.81%
	Liquidity Coverage Ratio					
15	Total high-quality liquid assets ("HQLA") (Weighted value - average)	51,890	50,606	49,145	49,196	50,367
UK 16a	Cash outflows - Total weighted value	83,946	84,731	84,886	86,160	86,013
UK 16b	Cash inflows - Total weighted value	56,905	59,418	61,239	61,375	60,328
16	Total net cash outflows (adjusted value)	27,161	25,430	23,765	24,785	25,686
17	Liquidity coverage ratio (%)	193.54%	201.08%	206.79%	198.49%	196.09%
	Net Stable Funding Ratio[4]					
18	Total available stable funding	110,085				
19	Total required stable funding	95,602				
20	NSFR ratio (%)	115.16%				

1. The MSI Group is required to maintain a minimum ratio of Own Funds to Risk Weighted Exposure Amounts ("RWAs"). As at 31 December 2022, the MSI Group is in compliance with the PRA capital requirements.
2. Based on the guidance provided by the PRA under PS21/21, the MSI Group, a Leverage Ratio Requirements ("LREQ") entity, shall be subject to additional leverage ratio disclosure requirements beginning 1 January 2023.
3. From Q3'22, the calculation of Liquidity Coverage Ratio ("LCR") has changed to include an average of 12-month data points instead of an average Total HQLA over Total net cash outflows.
4. Net Stable Funding Ratio is computed as a trailing average of the last four spot quarter end positions. No prior comparative available.

MSI Group's Own Funds increased in Q4'22 due to an increase in CET1 capital post interim profit verification. The leverage ratio has increased in Q4'22 by 0.6% due to an increase in Tier 1 capital post interim profit verification and a decrease in leverage exposure.

$MM MSIP[1 2 3]		A Q4'22	b Q3'22	c Q2'22	d Q1'22	e Q4'21
	Available own funds					
1	Common Equity Tier 1 ("CET1") capital	17,902	17,158	17,266	16,836	17,022
2	Tier 1 ("T1") capital	22,202	21,458	21,566	20,336	20,522
3	Total capital	29,076	28,584	28,944	25,465	25,898
	Risk-weighted exposure amounts					
4	Total risk-weighted exposure amount	124,739	128,528	137,181	151,654	136,748
	Capital ratios (as a percentage of risk-weighted exposure amount)					
5	Common Equity Tier 1 ratio (%)	14.35%	13.35%	12.59%	11.10%	12.40%
6	Tier 1 ratio (%)	17.80%	16.70%	15.72%	13.41%	15.00%
7	Total capital ratio (%)	23.31%	22.24%	21.10%	16.79%	18.90%
	Additional own funds requirements based on Supervisory Review and Evaluation Process ("SREP") (as a percentage of risk-weighted exposure amount)					
UK 7a	Additional CET1 SREP requirements (%)	1.65%	1.65%	1.65%	1.51%	
UK 7b	Additional AT1 SREP requirements (%)	0.55%	0.55%	0.55%	0.50%	
UK 7c	Additional Tier 2 ("T2") SREP requirements (%)	0.73%	0.73%	0.73%	0.68%	
UK 7d	Total SREP own funds requirements (%)	10.93%	10.93%	10.93%	10.69%	
	Combined buffer requirement (as a percentage of risk-weighted exposure amount)					
8	Capital conservation buffer (%)	2.50%	2.50%	2.50%	2.50%	
UK 8a	Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)		-	-	-	
9	Institution specific countercyclical capital buffer (%)	0.33%	0.06%	0.05%	0.05%	
UK 9a	Systemic risk buffer (%)		-	-	-	
10	Global Systemically Important Institution buffer (%)		-	-	-	
UK 10a	Other Systemically Important Institution buffer		-	-	-	
11	Combined buffer requirement (%)	2.83%	2.56%	2.55%	2.55%	
UK 11a	Overall capital requirements (%)	13.76%	13.49%	13.48%	13.24%	
12	CET1 available after meeting the total SREP own funds requirements (%)	8.20%	7.20%	6.44%	5.09%	
	Leverage ratio					
13	Total exposure measure excluding claims on central banks	416,138	436,918	427,375	461,429	496,231
14	Leverage ratio excluding claims on central banks (%)	5.34%	4.91%	5.05%	4.41%	4.14%
	Liquidity Coverage Ratio					
15	Total high-quality liquid assets ("HQLA") (Weighted value - average)	41,800	41,940	41,980	41,519	40,982
UK 16a	Cash outflows - Total weighted value	77,931	79,654	80,648	80,932	79,717
UK 16b	Cash inflows - Total weighted value	55,296	57,987	59,739	59,933	59,248
16	Total net cash outflows (adjusted value)	22,818	21,866	21,159	21,346	20,896
17	Liquidity coverage ratio (%)	184.05%	192.72%	198.41%	194.51%	196.13%
	Net Stable Funding Ratio[4]					
18	Total available stable funding	94,906				
19	Total required stable funding	86,213				
20	NSFR ratio (%)	110.07%				

1. MSIP is required to maintain a minimum ratio of Own Funds to RWAs. As at 31 December 2022, MSIP is in compliance with the PRA capital requirements.
2. Based on the guidance provided by the PRA under PS21/21, MSIP, a LREQ entity, shall be subject to additional leverage ratio disclosure requirements beginning 1 January 2023.
3. From Q3'22, the calculation of LCR has changed to include an average of 12-month data points instead of an average Total HQLA over Total net cash outflows.
4. Net Stable Funding Ratio is computed as a trailing average of the last four spot quarter end positions. No prior comparative available.

MSIP's Own Funds increased in Q4'22 due to increase in CET1 capital post interim profit verification. The leverage ratio has increased in Q4'22 by 0.4% due to a decrease in leverage exposure and an increase in Tier 1 capital post interim profit verification.

Table 1b: Key metrics (EU KM1) – MSEHSE Group

$MM MSEHSE Group[1 2]		a Q4'22	b Q3'22	c Q2'22	d Q1'22	e Q4'21
	Available own funds (amounts)					
1	Common Equity Tier 1 ("CET1") capital	5,560	4,153	4,425	4,020	3,885
2	Tier 1 capital	6,631	5,134	5,473	4,684	4,568
3	Total capital	7,702	6,115	6,522	5,791	5,707
	Risk-weighted exposure amounts					
4	Total risk exposure amount	29,731	33,031	30,052	24,191	24,163
	Capital ratios (as a percentage of risk-weighted exposure amount)					
5	Common Equity Tier 1 ratio (%)	18.70%	12.57%	14.72%	16.6%	16.1%
6	Tier 1 ratio (%)	22.30%	15.54%	18.21%	19.4%	18.9%
7	Total capital ratio (%)	25.90%	18.51%	21.70%	23.9%	23.6%
	Additional own funds requirements to address risks other than the risk of excessive leverage (as a percentage of risk-weighted exposure amount)					
EU 7a	Additional own funds requirements to address risks other than the risk of excessive leverage (%)	2.75%	2.75%	2.75%	2.75%	2.75%
EU 7b	of which: to be made up of CET1 capital (percentage points)	1.55%	1.55%	1.55%	1.55%	1.55%
EU 7c	of which: to be made up of Tier 1 capital (percentage points)	2.06%	2.06%	2.06%	2.06%	2.06%
EU 7d	Total SREP own funds requirements (%)	10.75%	10.75%	10.75%	10.75%	10.75%
	Combined buffer and overall capital requirement (as a percentage of risk-weighted exposure amount)					
8	Capital conservation buffer (%)	2.50%	2.50%	2.50%	2.50%	2.50%
EU 8a	Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)	-	-	-	-	-
9	Institution specific countercyclical capital buffer (%)	0.35%	0.10%	0.04%	0.05%	0.04%
EU 9a	Systemic risk buffer (%)	-	-	-	-	-
10	Global Systemically Important Institution buffer (%)	-	-	-	-	-
EU 10a	Other Systemically Important Institution buffer (%)	-	-	-	-	-
11	Combined buffer requirement (%)	2.85%	2.60%	2.54%	2.55%	2.54%
EU 11a	Overall capital requirements (%)	13.60%	13.35%	13.29%	13.30%	13.29%
12	CET1 available after meeting the total SREP own funds requirements (%)	12.65%	6.53%	8.68%	10.57%	10.03%
	Leverage Ratio					
13	Total exposure measure	81,367	85,086	81,630	81,392	65,339
14	Leverage ratio (%)	8.15%	6.03%	6.71%	5.8%	7.0%
	Additional own funds requirements to address the risk of excessive leverage (as a percentage of total exposure measure)					
EU 14a	Additional own funds requirements to address the risk of excessive leverage (%)	-	-	-	-	-
EU 14b	of which: to be made up of CET1 capital (percentage points)	-	-	-	-	-
EU 14c	Total SREP leverage ratio requirements (%)	3.00%	3.00%	3.00%	3.00%	3.00%
	Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)					
EU 14d	Leverage ratio buffer requirement (%)	-	-	-	-	-
EU 14e	Overall leverage ratio requirement (%)	3.00%	3.00%	3.00%	3.00%	3.00%
	Liquidity Coverage Ratio					
15	Total high-quality liquid assets ("HQLA") (Weighted value - average)	11,188	9,789	8,458	8,958	9,522
EU 16a	Cash outflows - Total weighted value	20,503	19,455	16,969	14,822	12,696
EU 16b	Cash inflows - Total weighted value	13,360	13,809	12,886	10,056	6,574
16	Total net cash outflows (adjusted value)	7,454	6,196	4,747	5,295	6,475
17	Liquidity coverage ratio (%)[3 4]	158.37%	168.67%	178.19%	169.16%	147.06%
	Net Stable Funding Ratio					
18	Total available stable funding	15,455	12,805	12,437	14,225	13,670
19	Total required stable funding	7,895	9,838	9,666	7,723	6,587
20	NSFR ratio (%)	195.75%	130.16%	128.66%	184.19%	207.53%

1. MSEHSE Group is required to maintain a minimum ratio of Own Funds to RWAs. As at 31 December 2022, MSEHSE Group is in compliance with the EBA capital requirements.
2. MSEHSE Group reporting currency is EUR. All values have been converted from EUR to USD at a month-end spot rate of 1.0710.
3. The quarterly LCR balances reflect the average of the last 12-month period, which have been converted from EUR to USD at respective month-end FX rate (i.e., average FX rate 1.0534).
4. From Q3'22, the calculation of LCR has changed to include an average of 12-month data points instead of an average Total HQLA over Total net cash outflows.

In Q4'22, an increase in Own Funds is primarily driven by a CET1 capital issuance. The leverage ratio has increased in Q4'22 by 2% due to decrease in leverage exposure and an increase in Tier 1 capital.

Morgan Stanley Group

The MSI Group's ultimate parent undertaking and controlling entity is Morgan Stanley, a Delaware corporation which, together with its consolidated subsidiaries, form the Morgan Stanley Group. Morgan Stanley is a "Financial Holding Company" as defined by the Bank Holding Company Act of 1956, as amended, and is subject to regulation and oversight of the Board of Governors of the Federal Reserve System.

The MSI Group is a wholly owned sub-group of the Morgan Stanley Group. Whilst the MSI Group is a material sub-group, the information disclosed in this document is not necessarily indicative of the Morgan Stanley Group as a whole, nor is it comprehensively representative of the Morgan Stanley Group's activity in any particular region. Investors, stakeholders, creditors or other users seeking information on capital adequacy, liquidity, risk exposure and risk management policies should consult the public disclosures of Morgan Stanley Group.

Details of the latest Morgan Stanley Group Pillar 3 disclosure can be accessed at http://www.morganstanley.com/about-us-ir/pillar-us. Details of the latest Morgan Stanley Group LCR disclosure can be accessed at https://www.morganstanley.com/about-us-ir/lcr-disclosures-us.

Morgan Stanley is listed on the New York Stock Exchange and is required, by the US Securities and Exchange Commission ("SEC"), to file public disclosures, including Annual 10-K Report and Quarterly 10-Q Report. These can be accessed at https://www.morganstanley.com/pub/content/msdotcom/en/about-us-ir/sec-filings.

Additional Regulatory Supervision

As a provider of services to global clients, MSIP and Morgan Stanley Europe SE ("MSESE"), are registered with the Securities and Exchange Commission ("SEC") as a Securities Based Swap Dealer ("SBSD"). MSIP is complying with home country capital requirements in lieu of SEC capital requirements pursuant to applicable substituted compliance rules. Pursuant to interim no-action relief as of year end 2022 and then applicable substituted compliance rules with effect from 1 January 2023, MSESE is also complying with home-country capital requirements in lieu of SEC capital requirements.

MSIP, MSESE and Morgan Stanley Bank International Limited ("MSBIL") are also provisionally registered with the Commodity Futures Trading Commission ("CFTC") as a Swap Dealer. The CFTC are developing specific requirements to allow provisionally registered swap dealers to meet CFTC capital requirements by reference to local prudential standards. This work is country specific with a draft proposal for the UK and Germany still to be published. The provisional status exists until rules are finalised whereby, pursuant to interim no-action relief, the entities are currently complying with home-country capital requirements in lieu of CFTC capital requirements.

These swap dealer registrations provide a comprehensive regulatory framework applicable to the MSI Group's US-related swap and security-based swap dealer activities.

2. Regulatory Frameworks

2.1 Regulatory Overview

Basel Committee on Banking Supervision ("BCBS") sets the standard for international banking prudential regulation in a series of accords ("Basel Accords"). It is a forum for regular cooperation on the supervision of the banking system and is made up of national banks and supervisory authorities from 28 countries. The Basel Accords are not directly applicable legislation, and they apply only to internationally active banks. The Basel Accords have been updated a number of times, most recently through a series of reforms known collectively as Basel III. The Basel Accords are implemented in the United Kingdom ("UK") via the PRA Rulebook including retained European Union ("EU") Law under the European Union (Withdrawal) Act 2018. This includes the Capital Requirements Regulation ("CRR") as amended but also other technical standards issued by EU bodies, such as the European Banking Authority ("EBA"), that were in place as at 31 December 2020.

The Basel Accords are implemented in the EU through the CRR and the Capital Requirements Directive ("CRD") as well as standards issued by the EBA and the ECB. These regulations and technical standards continue to be relevant for EU subsidiaries of the MSI Group.

The framework consists of three "Pillars":

- Pillar 1 – Minimum capital and liquidity requirements: defines rules for the calculation of credit, market, operational and liquidity risk;
- Pillar 2 – Supervisory review process: including a requirement for firms to undertake an Internal Capital Adequacy Assessment ("ICAAP") and Internal Liquidity Adequacy Assessment ("ILAAP");
- Pillar 3 – Market discipline: requires expanded disclosures to allow investors and other market participants to understand capital and liquidity adequacy, particular risk exposures and risk management processes of individual firms.

This document represents the annual public Pillar 3 qualitative and quantitative disclosures in relation to the MSI Group, as at 31 December 2022. The remuneration disclosure is published separately and can be found at https://www.morganstanley.com/about-us-ir/pillar-uk.html.

Pillar 3 Disclosure

MSI Group Pillar 3 disclosures are prepared in accordance with the requirements of section 4 of the PRA Rulebook on Disclosure (CRR) applicable to CRR firms.

Both MSIP and MSEHSE Group are considered large subsidiaries of the MSI Group for Pillar 3 disclosures.

MSESE would normally be considered a large subsidiary of the MSI Group. However, as at 31 December 2022 it was exempted from the application of Article 6(1) of the CRR, pursuant to Article 7 of the CRR and section 2a para. 2 of the German Banking Act (Kreditwesengesetz – KWG) and was therefore not required to report on a stand-alone basis. Instead, capital standards were required to be met at the consolidated level of the EU parent, MSEHSE Group. As a result, for 'large subsidiary' disclosure purposes, the MSEHSE Group is disclosed instead.

As of 1 January 2023, the permission pursuant to Article 7 of the CRR was replaced by a permission pursuant to Article 9 of the CRR. Accordingly, while MSESE is now required to meet requirements under Article 6(1) of the CRR, it is able to meet those requirements by incorporating its subsidiary Morgan Stanley Bank AG on an individual consolidated basis ("MSESE Consol"). As such, for future disclosures, MSESE Consol will be considered a large subsidiary directly, rather than the MSEHSE Group.

Investment Firm Regulation / Directive

In the UK, the FCA introduced the Investment Firms Prudential Regime ("IFPR") with effect from 1 January 2022, with requirements set out in the Prudential Sourcebook for MiFID Investment Firms ("MIFIDPRU"). The IFPR introduced a tailored capital adequacy and liquidity framework for UK investment firms, based on their size and type of business activity, and made changes to governance and remuneration requirements.

In the EU, the Investment Firm Regulation ("IFR") and Investment Firm Directive ("IFD") were implemented with effect from 26 June 2021. Large systemic investment firms remain subject to existing requirements based on the CRR and CRD, whilst the new regime applies to other investment firms. This regime is largely consistent with that of the UK's IFPR.

The MSI Group remains subject to existing PRA requirements based on the CRR. Morgan Stanley Investment Management Limited ("MSIM"), a subsidiary within the MSI Group, is classified as a MiFID Investment firm and as such is subject to MIFIDPRU. MSIM is required to also produce a stand-alone Pillar 3 disclosure. The MSIM disclosure is published separately and can be found at https://www.morganstanley.com/about-us-ir/subsidiaries.

2.2 Regulatory Development of Prudential Requirements

The UK's withdrawal for the EU

Following the end of the transition period of the UK's withdrawal from the EU on 31 December 2020, His Majesty's Treasury decided to retain the regulators' TTP, which was introduced via the Financial Services and Markets Act 2000 (Amendment) (EU Exit) Regulations 2019.

The TTP allowed the Bank of England ("BOE"), the PRA and the FCA to phase-in changes to UK regulatory requirements so that firms can adjust to the UK's post-Transition Period regime in an orderly way.

The TTP was effective from 1 January 2021 and expired on 31 March 2022. During this period, from a prudential regulatory rules perspective, requirements as implemented by the EU largely continued to apply in the UK in the same way as prior to 31 December 2020. From 1 April 2022, there were some further changes that were not material to the MSI Group. The MSI Group continues to be compliant with the UK on-shored regulatory obligations, predominantly unchanged from the EU CRR.

Finalising Basel III reforms

A number of remaining standards of the Basel III reform package have still to be implemented. These standards, referred to by the BCBS and international regulators as the 'Finalisation of Basel III', provide updates to key components of the capital framework. These include revised market RWAs requirements through the Fundamental Review of the Trading Book, new Credit Valuation Adjustments ("CVA") RWAs requirements, revisions to the credit RWAs calculations covering both standardised and advanced treatments, and a new RWAs requirement for operational risk. They also introduce an aggregate floor for RWAs generated by the internal models, which will be set at 72.5% of total standardised RWAs. The output floor will be phased in over five years. Banks will also need to disclose their RWAs based upon the standardised approaches.

Following the impact of the COVID-19 pandemic and its impact on the global banking system, the BCBS deferred the remaining standards of the Basel III reform package by one year to 1 January 2023.

The PRA issued their draft rules to implement these final standards, which they referred to as Basel 3.1, on 30 November 2022 for consultation. These rules are expected to be effective from 1 January 2025. The proposed rules are largely consistent with the Basel III reform package with some adjustments to address UK specificities. Pending the publication of the final rules, expected later in 2023, there remains some uncertainty on the final requirements and the overall impact. The same uncertainty on final requirements and timing exists in the EU, where the European Commission published draft rules in October 2021.

3. Risk Management

3.1 Overview

The quantitative disclosures in this document are calculated with reference to regulatory methodologies set out in the PRA Rulebook including the onshored EU CRR ("PRA rulebook") and are not necessarily the primary exposure measures used by management.

The business strategy acts as a key driver for the MSI Group's business model, which in turn drives the risk strategy and the consequent risk profile of the MSI Group. The business strategy and risk strategy are considered and aligned as part of the annual strategic review or more frequently if necessary.

3.2 Risk Management Framework

Risk of loss is an inevitable consequence of the MSI Group's businesses activities and effective risk management is vital to the MSI Group's success. The MSI Group has a Risk Management Framework, which is embedded and operating appropriately. The Framework includes a well-defined, comprehensive risk governance structure with appropriate risk management expertise, including processes for periodically assessing its efficacy. The following section covers the core components of the Frameworks.

Risk Strategy and Appetite

The MSI Group's Risk Appetite Statement articulates the aggregate level and types of risk that the MSI Group is willing to accept in order to execute its business strategy and protect its capital and liquidity resources.

The Risk Appetite Statement includes risks that have both qualitative and quantitative elements such as market, credit, operational and liquidity risk, and risks that are qualitative across risk types including reputational, conduct and model risk, further details are set out later in this document.

The combination of qualitative risk appetite and tolerance statements and quantitative limits aims to ensure that MSI Group's businesses are carried out in line with the risk appetite approved by the MSI Board, and to protect Morgan Stanley Group's reputation in both normal and stressed environments.

The MSI Group's risk appetite is set by the MSI Board in conjunction with MSI Group's business strategy and in consideration of its capital & liquidity resource adequacy framework.

Some of the key ratios and figures which outline the risk profile of MSI Group are provided in UK KM1 and UK OV1, as well as the risk type specific chapters.

The cornerstone of the MSI Group's risk appetite is the pursuit of risk adjusted returns through prudent risk-taking that protects the MSI Group's capital base and franchise. Financial risks, such as market, credit, liquidity, valuation, leverage and earnings are inherent to its business and taken in order to generate appropriate positive risk adjusted returns for its shareholders. Financial risks could arise from changes in the market, and/or macroeconomic environment. Climate change is a driver of existing risks and is managed within the MSI Group's existing risk appetite. Non-financial risks, such as operational, compliance, reputational, conduct and model risks arise primarily from the provision of services and business processes. MSI Group does not have any appetite for transactions, business practices, clients or counterparties that could give rise to potentially significant franchise risk and jeopardise the firm's reputation.

Where appropriate, Risk Appetite Statements are created for the legal entities within the MSI Group. These undergo review alongside the MSI Group's Risk Appetite Statement and are reviewed, recommended and approved by the MSI Risk Committee, as appropriate, to the individual entity's boards for approval, at least annually. The entity's Risk Appetite Statements are aligned to the MSI Group's Risk Appetite Statement taking into account the entity's business model and individual regulatory requirements.

The MSI Group's Risk Appetite Framework requires a comprehensive approach to monitor, assess and report on the risk profiles of the MSI Group against the set risk limits and tolerances with regular reporting to the relevant Risk Committees and escalation to the Boards, as appropriate. The reporting includes quantitative measurements and qualitative assessments that enable a comparison of the MSI Group's current risk profile against risk limits and risk tolerances, where applicable.

Further details in relation to the Risk Management Framework for leverage, credit, market, operational, liquidity and valuation risks are set out in the respective chapters of this document. A summary of other material risks is outlined below:

Earnings at Risk is defined as risks to baseline earnings stability that are generally manifested over a longer time horizon than an instantaneous market shock. Risk can arise from decline in key revenue generators, significant loss of customer base, reduced standing amongst competitors, macroeconomic stress conditions, idiosyncratic or industry-wide factors, significant changes to expected expenses and shifting of business/product mix. This includes risks to Net Revenue, Net Interest Income ("NII"), Non-Interest Income, Non-Interest Expense and Balance Sheet that are impacted by more than just Market Risks and Credit Risks.

Compliance risk is defined as the risk of legal or regulatory sanctions, material financial loss or damage to reputation resulting from the failure to comply with laws, rules and regulations.

Conduct risk is defined as the risk of an adverse impact on clients, markets or the firm's reputation as a consequence of the conduct of the firm and/or its employees. Conduct risk includes both intentional and unintentional behaviours. The Conduct Risk Framework sets out a consistent and integrated approach for the identification, assessment and management of conduct risks, with oversight and escalation from the Europe, Middle East and Africa ("EMEA") Conduct Risk Committee and the EMEA Culture and Conduct Committee ("ECCC").

Reputational risk, is also referred to as franchise risk, describes the potential risks associated with the way in which the MSI Group conducts its business and the perception of the MSI Group by external parties including our shareholders, clients, regulators and the public. The MSI Group has policies in place to identify, escalate and report any situation which may pose potential franchise risk, which is overseen by the EMEA Franchise Committee.

Model Risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs. Model Risk can lead to financial loss, poor business and strategic decision making, or damage to a firm's reputation. Model risk increases with greater model complexity, higher uncertainty about inputs and assumptions, broader use, and larger potential impact (financial, regulatory and reputational). MSI Group manages the model risk through the embedded and effective Global Model Risk Management ("MRM") framework, which includes policy, procedures and controls. The MRM framework establishes standards for sound risk management of all models, covering roles and responsibilities related to development and independent review (validation) of the models, as well as governance, and oversight from senior management and the MSI Risk Committee.

Risk Culture

The MSI Group's risk management culture is rooted in five key principles: integrity, comprehensiveness, independence, accountability, and transparency.

The MSI Group has a risk culture that encourages open dialogue, effective challenge, escalation and appropriate reporting of risk to senior management, the MSI Risk Committee, the MSI Board and the MSI Group's regulators, as well as external disclosures of risk matters. Developing the MSI Group's risk culture is a continuous process and builds upon the firm's commitment to its values, including "Do the Right Thing", which make managing risk each employee's responsibility.

The senior management promotes the MSI Group's risk culture, which enable individuals across the organisation to make appropriate risk decisions. The MSI Group's Risk Appetite Statement is embedded in the MSI Group's risk culture and is linked to its short-term and long-term strategic, capital and financial plans, as well as compensation programmes.

The EMEA Compliance Department maintains an enterprise-wide, independent Compliance risk management programme as detailed in the Global Compliance Policy. The EMEA Compliance Department is responsible for:

- promoting a strong culture of compliance;
- defining an operating model and setting standards for compliance risk management;
- identifying, measuring, mitigating and reporting on compliance risks;
- maintaining a risk-based programme for monitoring and testing compliance risk management by the first line of defence across the MSI Group;
- providing management and staff with advice, guidance (including policies and, where appropriate, procedures) and training concerning the laws, regulations and policies associated with their responsibilities;
- managing a firmwide compliance risk reporting framework; reviewing new products and business initiatives; and
- supporting and facilitating the framework for managing significant communications with regulators and regulatory relationships maintained by the EMEA Regulatory Relations Group.

This is reinforced by the Code of Conduct which sets out the high standards of conduct and ethical behaviour expected from all employees.

The EMEA Compliance Department is also responsible for the design and development of an EMEA Conduct Risk Framework and for the execution of Compliance's related responsibilities as set out in the EMEA & MSI Group Conduct Risk Management Supplement, which is a supplement to the Global Conduct Risk Management Policy.

Risk Policies and Processes

Morgan Stanley Group has a number of well-established policies and processes which set out the standards that govern the identification, assessment, monitoring, management and mitigation of the various types of risk involved in its business activities. The MSI Group has implemented specific risk management policies to address local business and regulatory requirements where appropriate. These policies are approved by the MSI Board and reviewed at least annually.

The MSI Group Large Transactions Approval Policy establishes the approval process that employees must adhere to, prior to booking a large transaction, and supports EMEA Senior Management oversight of large transactions. Large transactions are defined as transactions that are anticipated to utilise resources in excess of defined thresholds. Thresholds relate to RWAs, leverage exposure, liquidity and funding. The policy also establishes the monitoring process for large transaction requests, approvals, policy and/or threshold violations, transaction executions and approval expiries. For each trade or related trades, that meet defined thresholds, EMEA Senior Management must approve prior to trade execution; they will assess approval based on factors including resource capacity on the entity, return on capital and return on leveraged assets.

Control Framework

The MSI Group operates a control framework consistent with the "Three Lines of Defence" model, with clear delineation of responsibilities between the Business Units and Support Functions (First Line), Independent Risk Management and Control Functions (Second Line) and Internal Audit Department (Third Line).

Business Units are responsible for managing their strategy and business activities in accordance with the MSI Group's risk appetite and its principles. Business Units establish controls to comply with MSI Group's risk policies and procedures, establish monitoring and escalation processes and establish review processes for new business ventures and unique, complex or significant transactions. Support Functions (such as Operations, Technology, Treasury, Legal, etc.) are independent of the Business Units and, in whole or in part, support strategy execution of the MSI Group's revenue-generating activities. These functions are accountable for risks associated with their activities and are responsible for actively assessing and managing these risks.

Independent Risk Management and Control Functions identify, measure, monitor and control risks. Independent Risk Management and Control Functions include, for example, functions performed by the EMEA Risk Division and EMEA Compliance Department.

The EMEA Head of Risk Management ("EMEA Chief Risk Officer") oversees the EMEA Risk Division and is a member of the MSI Board. The EMEA Risk Division is independent of the Business Units and Support Functions and assists senior management, the EMEA Risk Committee ("ERC"), which is chaired by the MSI Chief Executive Officer, and the relevant Boards in their oversight of risk through the control framework.

The EMEA Compliance Department is managed by the EMEA Head of Compliance, who ultimately reports to the Morgan Stanley Group Chief Legal Officer. The EMEA Compliance Department maintains an enterprise-wide, independent compliance risk management programme, under which the EMEA Compliance Department is responsible for promoting a strong culture of compliance.

The EMEA Internal Audit Department are the third line of defence and are an independent source of assurance to the MSI Board on financial and non-financial risks (pre-dominantly operational and compliance risks) and compliance controls. The EMEA Internal Audit Department reports to the MSI Audit Committee and is independent of the Business Unit, Support Functions and Risk Management. Internal Audit provides independent assurance on the design quality and operating effectiveness of the MSI Group's internal control environment, risk management and governance systems and control processes using a risk-based audit coverage model and audit execution methodology developed in line with professional auditing standards.

During 2022, there were no changes to the EMEA Heads of Risk Management, Compliance and the Internal Audit Department.

During 2023, Global Financial Crimes, Compliance and Operational Risk will be organised within a single second line Non-Financial Risk Framework.

Limits & Tolerance Framework

The MSI Group's risk appetite is translated into a comprehensive suite of limits and tolerance frameworks across four primary areas: market risk, credit risk, operational risk and liquidity risk. Other risks that are monitored regularly include leverage risk, valuation risk, conduct risk, reputational risk, model risk and earnings at risk. The MSI Group maintains risk limits and tolerances at various levels of the governance structure, including for key MSI Group legal entities as appropriate, to support linkages between the MSI Group's overall risk appetite, which is determined by the MSI Board, and more granular risk-taking decisions and activities. These limits and tolerance frameworks include a cascade of quantitative Risk limits which are approved and monitored by the Boards, the MSI Risk Committee, the ERC, and the Independent Risk Management and Control Functions. Risk limits, once established, are reviewed and updated on an annual basis at a minimum, with more frequent updates as necessary.

MSI Board-level risk limits address the most important aggregate level MSI Group-wide risk primarily through stress limits. The MSI Group employs integrated risk stress tests that set the boundary for risk-taking activities relative to the MSI Group's Risk Capital Resource Capacity by defining a set of limits. Figure 1 outlines the MSI Group's Risk Limit Framework for specific risk areas.

Figure 1: MSI Group Limit Framework

	MARKET RISK	CREDIT RISK	OPERATIONAL RISK	LIQUIDITY AND FUNDING RISK
RISK METRICS AND LIMITS	• MSI Group-wide macroeconomic scenario loss limits • Legal entity and Division Value at Risk ("VaR") and exposure limits • Granular risk exposure limits are allocated by desk/products	• MSI Group-wide macroeconomic scenario loss limits • MSI Group single name, country and industry credit limits • Climate Risk Industry Limits • Granular product limits for certain business areas	• Quantitative tolerances for each top operational risk and against an aggregate risk tolerance level	• MSI Board Liquidity Limits • Portfolio level liquidity and funding mix limits • Granular business area specific limits on liquidity and funding
	• MSI Board-level portfolio Climate Stress Loss Limit			

Stress Testing

Stress testing is one of the MSI Group's principal risk management tools, used to identify and assess the impact of severe stresses on its portfolios. It provides a flexible approach to understanding the aggregate risk for the MSI Group and assessing the MSI Group's resilience to different scenarios over a range of severities; additionally, it informs a number of processes and associated decisions. Stress testing also complements other MSI Group risk metrics by providing a clear and flexible approach to assessing the MSI Group's resilience in the face of various scenarios over a range of severities, relevant to current market conditions and forward-looking macroeconomic views. Most notably, stress testing is used for:

- Risk Management: Identifying areas of potential vulnerabilities in the portfolio, measuring portfolio losses and concentrations as a basis for senior management to review portfolio-level risk and determine risk mitigation actions and set exposure limits;
- Risk Aggregation: Estimate aggregate size of losses in adverse shocks;
- Capital and Liquidity Planning: Informing the proposed stressed capital and liquidity forecasts through severe but plausible stress tests;
- Strategy Planning: Identifying business model vulnerabilities through reverse stress testing and identifying the potential mitigating actions available as part of recovery planning;
- Regulatory Requirements: Meeting the relevant regulatory requirements for Stress Testing.

The stress test methodologies used by MSI Group include:

- Cross-risk stress tests ensuring that concentration risks are captured and measured across the material risks. These encompass a suite of severe but plausible macroeconomic scenarios which are designed to comprehensively capture material portfolio vulnerabilities of the MSI Group across market and credit risk. The MSI Group's aggregated risk appetite for market and credit risk, expressed through the Macro Stress Loss Limit, is monitored against the suite of macroeconomic scenarios. A subset of macro-economic scenarios is used for capital planning. Existential threats to the MSI Group's business model are captured through the MSI Group's Reverse Stress Tests ("RST"). The scenarios used in RST are extreme and borderline plausible and are designed for the MSI Group to become unviable and considered as failing or likely to fail. RST is used to inform the ICAAP, the ILAAP and is a key input for recovery planning.
- Risk specific stress tests to identify and measure vulnerabilities and concentrations that may arise in a particular risk area, country, or industry. The MSI Group conducts risk specific stress tests for operational risk, market risk, credit risk and liquidity risk.

The suite of Macroeconomic Scenarios is run on the complete MSI Group portfolio.

The key principles for Stress Testing Framework are to be sufficiently Frequent, Accurate, Complete and Timely across the range of diverse stress tests which reflect the global economic conditions that could potentially impact the future financial market and MSI Group's business. The MSI Group Stress Testing Framework utilises a range of stress testing methodologies to identify and assess the MSI Group's resilience to different scenarios. These include business area and product single and multifactor stress tests, holistic forward looking stress tests supported by a macroeconomic narrative and extreme stress tests designed to test business model failure. Stress tests are performed in line with internal policy and external regulatory requirements with results reported to senior management on a frequent basis.

Risk Reporting and Measurement

The MSI Group has a suite of risk reporting across the main risk types highlighted above. The reporting includes quantitative measurements and qualitative assessments that enable a comparison of the MSI Group's risk profile against risk limits and risk tolerance statements. The reporting identifies matters for escalation and highlights emerging risks. Material risk issues are investigated and escalated where appropriate, as per the specific escalation procedures set down by the MSI Group. Escalation triggers have been articulated, with separate triggers for notification and further escalation including to the MSI Board, where relevant. The EMEA Risk Management Division has constituted specific committees which provide senior management review of the risk reporting including stress testing and data quality information.

The risk reporting capabilities are supported by a well-controlled infrastructure, including Front Office risk systems and the MSI Group Risk Management systems.

The MSI Group has a number of well-established policies and procedures which set out the standards that govern and the risk frameworks covering independent identification, analysis, monitoring, reporting, and escalation of risks across the risk types, including frequency and scope of these monitoring and reporting activities. These policies are subject to MSI Board annual review and approval.

Risk Governance

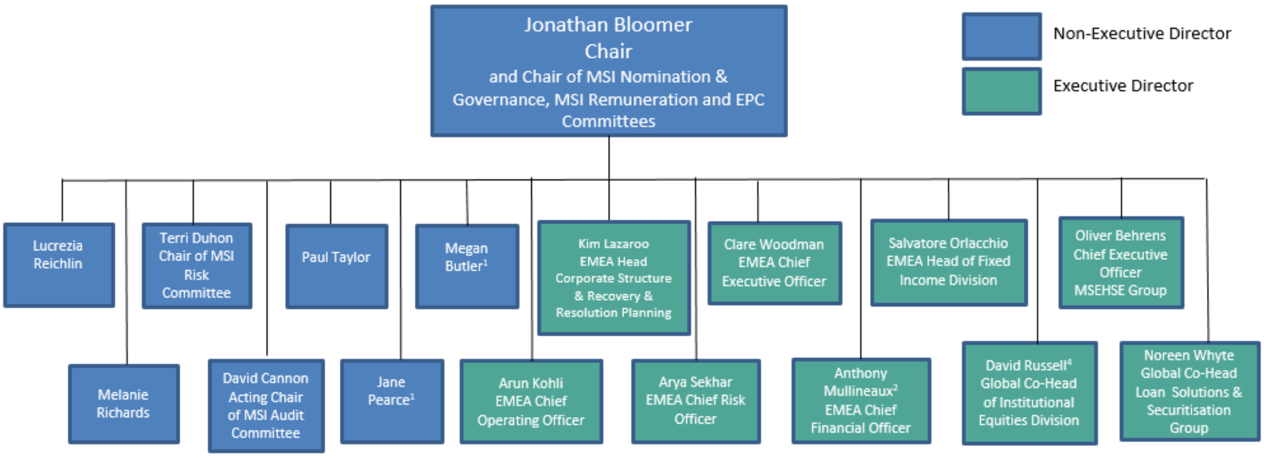
The MSI Group has a comprehensive risk management governance framework which includes MSI Board approved policies and a defined senior management risk oversight and escalation process at various levels of the governance structure, including for key MSI Group legal entities as appropriate.

The MSI Board has overall responsibility for the business and affairs of the MSI Group and is ultimately responsible for MSI Group risk management. The MSI Risk Committee and ERC assist and provide guidance to the MSI Board on the oversight of MSI Group risk management activities.

The MSI Board (and its committees) oversee the strategy for the MSI Group and provides oversight of the key risk and control issues that the execution of the strategy presents or is likely to present. The MSI Board has appointed four core committees: Audit, Risk, Remuneration and Nomination and Governance committees, and an EMEA 2022 Enhancement Programme Committee ("EPC"). Other than the EPC, each of the committees is comprised solely of non-executive directors. The MSI Board, through the MSI Risk Committee and executive management, is regularly informed of the MSI Group's risk profile and relevant trends impacting its risk profile.

As at 31 December 2022, the MSI Board was comprised of 17 directors (9 executive directors and 8 non-executive directors). Figure 2 provides an overview of the MSI Board of Directors.

Figure 2: MSI Board of Directors as at 31 December 2022

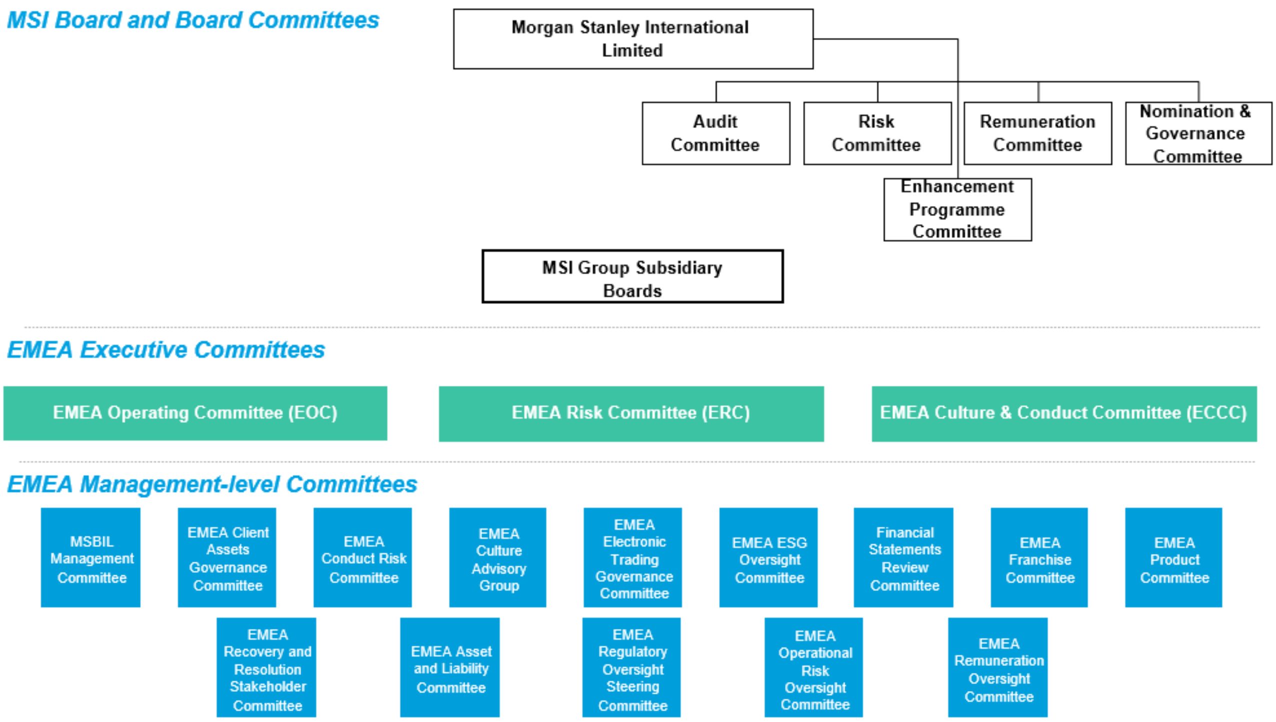


1. Megan Butler and Jane Pearce were appointed as non-executive directors on the 1 October 2022.
2. Anthony Mullineaux was appointed as an executive director on the 25 October 2022.
3. Frank Mattern was appointed as a non-executive director on the 1 January 2023.
4. David Russell resigned as an executive director, and David Cantillon was appointed as an executive director, on the 17 January 2023.

For further details on the MSI Board members including detailed biographies and other directorships refer to Appendix I.

Day to day management of the MSI Group's business is delegated to executive management. The Executive Committees are the most senior MSI Group executive management committees and have responsibility for overseeing business performance, operations and risks identified in relation to the MSI Group. The management level committees support the Executive Committees in their oversight of specific areas of the MSI Group's activities.

Figure 3: MSI Board Committee Structure and EMEA Executive Management Structure as at 31 December 2022



MSI Board Committees

The MSI Risk Committee is appointed by the MSI Board to assist and provide guidance to the MSI Board on its oversight of the management of financial and non-financial risks, including: (i) risk strategy and appetite; (ii) risk identification and management; (iii) risk governance framework and policies; (iv) measurement of risk and risk tolerance levels and limits; (v) risk culture (save for conduct risk, which is overseen by the MSI Audit Committee); (vi) financial resource management and capital; and (vii) recovery and resolution. The MSI Risk Committee met 13 times in 2022. The MSI Risk Committee reviews detailed risk reports on portfolio risk, market risk, credit risk, operational risk, e-trading risk, liquidity risk, franchise risk and product governance.

The Committee's focus during 2022 included:

- The impact of the war in Ukraine and geopolitical risk;
- The MSI Group's Risk Appetite Statement, risk limit framework and top operational risks;
- Areas of regulatory focus and corresponding risk projects;

The MSI Audit Committee is appointed by the MSI Board to assist and provide guidance to the MSI Board in monitoring, among other things: (i) internal controls; (ii) compliance; and (iii) external financial reporting obligations.

The MSI Remuneration Committee is appointed by the MSI Board to (i) assist the Board in overseeing the implementation of remuneration policies and practices applicable to the MSI Group and (ii) oversee compliance by the MSI Group with applicable EU and UK remuneration rules, statements and guidance.

The MSI Nomination and Governance Committee is appointed by the MSI Board to assist and provide guidance in relation to (i) the recruitment of board members; (ii) the assessment of the performance of the MSI Board and committees; and (iii) the corporate governance framework of the MSI Group.

The EPC is appointed by the MSI Board to assist and provide guidance to the Board on its oversight of the implementation of a programme of control enhancements.

EMEA Executive Committees

The EMEA Operating Committee ("EOC") is the principal forum for key decisions regarding matters affecting the operations and performance of the MSI Group in accordance with the strategy approved by the MSI Board. EOC provides oversight of: (i) strategy; (ii) financial and business performance; (iii) risk and control; (iv) operational, legal and regulatory matters; and (v) human resources.

The ERC assists in the oversight of Morgan Stanley Group's management of risk (including financial and non-financial risks) within the MSI Group. ERC provides oversight of: (i) risk strategy and appetite; (ii) risk identification and measurement; (iii) risk framework and policies; (iv) risk culture; and (v) financial resource management and capital.

The ECCC assists in the oversight of the culture and of conduct risk within the MSI Group. ECCC provides oversight of (i) material inherent or emerging conduct risks; (ii) material conduct incidents and issues; strategic employee matters or initiatives relevant to culture and conduct; and (iii) assists in the embedding of Morgan Stanley Group's core values and culture within the MSI Group.

Management Level Committees (associated with Risk Governance)

The EMEA Franchise Committee assists in the oversight of potentially significant reputational or franchise risks in connection with relevant transactions, activities, and clients in EMEA.

The EMEA Operational Risk Oversight Committee assists and provides guidance to the ERC in relation to the oversight of the management of operational risk within the MSI Group.

The EMEA Conduct Risk Committee assists the ERC in the oversight and management of conduct risk within the MSI Group.

The EMEA Electronic Trading Governance Committee is established by the ERC to review and challenge controls applicable to the electronic trading business undertaken by the MSI Group.

The EMEA Asset and Liability Committee ("EMEA ALCO") assists the ERC to oversee the capital adequacy, funding and liquidity risk management of the MSI Group.

The EMEA Client Assets Governance Committee provides support for MSI Group's compliance with Client Assets Sourcebook ("CASS") requirements, and acts as the principal body for providing governance of CASS related issues and coordination of the approach to managing client money and client assets.

The EMEA Product Committee assists the ERC in discharging its responsibilities for the oversight of approvals of New Products and the oversight of product governance.

The EMEA Financial Statement Review Committee ("FSRC") reviews and recommends the publicly disclosed financial information, the related representations and associated controls of MSI and its EMEA regulated subsidiaries and their branches.

Changes Subsequent to 31 December 2022

Following a targeted review of MSI Group governance during 2022, the following changes have become effective subsequent to 31 December 2022: (i) the EMEA Remuneration Oversight Committee ("EROC") is identified as an Executive Committee and provides executive oversight of EMEA remuneration matters and helps to ensure remuneration practices in EMEA are compliant with relevant UK and EU legislation and do not incentivise excessive risk-taking; (ii) the EMEA Conduct Risk Committee has been re-aligned from the ERC to the ECCC; (iii) the EMEA Culture Advisory Group is no longer identified as a Management Level Committee; and (iv) the EMEA Public Disclosure Review Committee has assumed responsibility from the FSRC for providing governance and oversight over a broad range of publicly disclosed information, including financial information, relating to Morgan Stanley Group's EMEA business.

3.3 Adequacy of Risk Management Arrangements

The MSI Group Risk Management Framework, as described above, is embedded in the day-to-day operations of the firm. The effectiveness of the framework is reviewed at least annually and, where appropriate, elements are updated to reflect best practice, evolving market conditions, lessons learned following market-wide or idiosyncratic risk events, and in response to changing regulatory expectations and requirements. The MSI Board has reviewed the adequacy of these risk management arrangements and systems, including Management's planned enhancements to strengthen these elements, and is satisfied these are appropriate given the strategy and risk profile of the MSI Group.

4. Basis of Preparation and Linkage to Financial Accounts

Basis of Consolidation

The MSI Group completes its prudential consolidation in compliance with PRA rulebook, with all entities fully consolidated. The basis of consolidation for prudential purposes is materially the same as consolidation for accounting purposes.

This disclosure is prepared for the MSI Group, rather than on an individual basis for each regulated entity, as permissible under the PRA rulebook. As noted in Section 2 above, the most significant subsidiaries of the MSI Group are MSIP and the MSEHSE Group, the results of which are material to the MSI Group. This disclosure comprehensively conveys the risk profile of the MSI Group.

Financial Statements

This document does not constitute a set of financial statements and does not represent any form of forward looking statement. Audited (statutory) financial statements are prepared for all subsidiaries where there is a legal requirement to do so. This includes financial statements prepared in accordance with applicable UK company law and UK accounting requirements under Financial Reporting Standard 101 ("FRS 101"). For the MSIP Group, financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by the UK and the EU; and for the MSEHSE Group IFRS as adopted by the EU with additional disclosure requirements from the German Commercial Code ("HGB").

The MSI Group applies the UK Companies Act 2006 exemption from producing statutory group accounts. The exemption applies to a UK parent company where certain conditions are met. Specifically, this includes where the UK parent and all of its subsidiaries are included in group accounts of a larger non-European Economic Area ("EEA") group, prepared in accordance with accounting standards which are equivalent to EU-adopted IFRS. The MSI Group is consolidated into the accounts of the Morgan Stanley Group, therefore does not need to publish statutory group accounts.

The MSI Group has prepared audited consolidated non-statutory financial information in accordance with the recognition and measurement principles of IFRS issued by the International Accounting Standards Board as adopted by the EU and the UK, which was approved by the MSI Board.

For further detail, refer to Appendix VI. All tables within the Pillar 3 disclosures for MSI Group which state their source to be financial statements are instead based on the audited, consolidated non-statutory financial information. MSIP financial statements can be found at https://www.morganstanley.com/about-us-ir/subsidiaries. MSEHSE Group financial statements can be found at https://www.bundesanzeiger.de.

Trading Book / Non-Trading Book

In determining its overall capital requirement, the MSI Group classifies its exposures as either "Trading Book" or "Non-Trading Book" (otherwise referred to as Banking Book). Non-Trading Book positions, which may be accounted for at amortised cost, fair value or under the equity method, are subject to credit risk capital requirements as discussed in the Credit Risk section. Trading Book positions represent positions that the MSI Group holds as part of its market-making and underwriting businesses. These Trading Book positions, which reflect assets or liabilities that are accounted for at fair value, along with certain Non-Trading Book positions which are subject to both credit risk and market risk, are subject to market risk capital requirements, as discussed in the Market Risk section. Some Trading Book positions, such as derivatives, are also subject to counterparty credit risk ("CCR") capital requirements.

Credit and market risks related to securitisation exposures are discussed in the Securitisation section. Trading Book and Non-Trading Book definitions used in this document refer to the regulatory view and may differ from the accounting definitions.

Policies and Procedures

The MSI Group has policies and procedures in place to assess the appropriateness of its Pillar 3 disclosure. One or more members of the management body are required to confirm that the disclosure has been prepared in accordance with internal control processes agreed upon at the management body level. The MSI Group's Pillar 3 disclosures are not required to be, and have not been, audited by the MSI Group's auditor. The MSI Group's Pillar 3 disclosure as at 31 December 2022 is based on its current understanding of the section 4 of the PRA rulebook on Disclosure (CRR) and related legislation.

Balance Sheet Under the Regulatory Scope of Consolidation

Table 2 shows MSI Group's balance sheet as at 31 December 2022 on both an accounting consolidation and regulatory consolidation basis. The carrying values under the scope of regulatory consolidation are broken down into the stated risk frameworks and where they are not subject to capital requirements or subject to deduction from capital.

Table 2: Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories (UK LI1) – MSI Group

$MM	a	b	c	d	e	f	g
			Carrying value of items				
MSI Group[1,2]	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework[3]	Subject to the market risk framework	Not subject to own funds requirements or subject to deduction from own funds
Breakdown by asset class according to the balance sheet in the published financial statements							
1 Cash and short-term deposits	36,557	36,557	26,479	-	-	-	10,078
2 Trading financial assets	371,712	371,712	1,164	291,470	129	371,711	-
3 Secured financing	127,750	127,750	-	127,750	-	102,604	-
4 Loans and advances	168	168	168	-	-	168	-
5 Investment securities	142	142	142	-	-	-	-
6 Trade and other receivables	102,056	102,056	5,779	94,097	-	1,285	896
7 Current tax assets	231	231	231	-	-	-	-
8 Deferred tax assets	280	280	280	-	-	-	-
9 Other assets	172	172	148	-	-	-	24
10 Property plant and equipment	1,003	1,003	1,003	-	-	-	-
11 Intangible assets	789	789	-	-	-	-	789
Total assets	**640,860**	**640,860**	**35,394**	**513,317**	**129**	**475,768**	**11,787**
Breakdown by liabilities class according to the balance sheet in the published financial statements							
1 Bank loans and overdrafts	(8,130)	(8,130)	-	-	-	-	(8,130)
2 Trading financial liabilities	(342,467)	(342,467)	-	(294,626)	-	(342,461)	-
3 Secured borrowing	(90,144)	(90,144)	-	(77,094)	-	(90,144)	-
4 Trade and other payables	(110,431)	(110,431)	-	(101,893)	-	(884)	(7,653)
5 Debt and other borrowings	(57,492)	(57,492)	-	-	-	(57,492)	-
6 Provisions	(213)	(213)	-	-	-	-	(213)
7 Current tax liabilities	(181)	(181)	-	-	-	-	(181)
8 Deferred tax liabilities	(2)	(2)	-	-	-	-	(2)
9 Accruals and deferred income	(938)	(938)	-	-	-	-	(938)
10 Post-employment benefit obligations	(26)	(26)	-	-	-	-	(26)
Total liabilities	**(610,024)**	**(610,024)**	**-**	**(473,613)**	-	**(490,981)**	**(17,143)**

1. MSI Group does not publish financial statements. See Appendix VI for MSI Group non-statutory financial information.
2. The total carrying values under the regulatory scope of consolidation do not equal the sum of the amounts shown in the remaining columns of this table as some of the assets included in these items are subject to regulatory capital charges in more than just one risk framework.
3. The column "Subject to securitisation framework" includes non-trading book drawn positions for traditional and synthetic. Trading book securitisation positions are included in "Subject to the market risk framework".

Table 3 shows the MSI Group consolidated regulatory balance sheet (Per UK LI1) reconciled to the Exposure at Default ("EAD") for items subject to the Credit Risk, CCR and Securitisation frameworks.

Table 3: Main sources of differences between regulatory exposure amounts and carrying values in financial statements (UK LI2) – MSI Group

		a	b	c	d	e
$MM			Items subject to:			
MSI Group[1]		**Total**	**Credit risk framework**	**Securitisation framework**	**CCR framework**	**Market risk framework[7]**
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template LI1)**	**640,860**	**35,394**	**129**	**513,317**	**475,768**
2	**Liabilities carrying value amount under the regulatory scope of consolidation (as per template LI1)**	**(610,024)**	**-**	**-**	**(473,613)**	**(490,981)**
3	**Total net amount under the regulatory scope of consolidation**	**30,836**	**35,394**	**129**	**39,704**	**(15,213)**
4	**Off-balance sheet amounts[2]**	**6,999**	**6,999**	**-**	**-**	
5	Differences in valuations	-	-	-	-	
6	Differences due to different netting rules, other than those already included in row 2[3]	(54,496)	-	-	(54,496)	
7	Differences due to consideration of provisions	-	-	-	-	
8	Differences due to the use of credit risk mitigation techniques (CRMs)[4]	(69,799)	-	-	(69,799)	
9	Differences due to credit conversion factors[5]	(1,645)	(1,645)	-	-	
10	Differences due to Securitisation with risk transfer	-	-	-	-	
11	Other differences[6]	219,791	(365)	324	219,832	
12	**Exposure amounts considered for regulatory purposes**	**131,686**	**40,383**	**453**	**135,241**	

1. The total carrying values under the regulatory scope of consolidation do not equal the sum of the amounts shown in the remaining columns of this table as some of the assets included in these items are subject to regulatory capital charges in more than just one risk framework.
2. Under the credit risk framework, off-balance sheet amounts principally consist of undrawn credit facilities before the use of a conversion factor.
3. Differences due to different netting rules: This reflects the additional benefits allowed per regulatory rules over and above the netting permitted under the relevant accounting standards.
4. Differences due to use of credit risk mitigation techniques ("CRM") : Impact of the credit risk mitigation such as guarantees, collaterals to the regulatory exposure values.
5. Differences due to credit conversion factors: Impact of the Credit Conversion Factor ("CCF") on the off-balance sheet exposure.
6. Other differences: This reflects the difference between assets carrying values as defined per IFRS and the values defined per regulatory reporting purposes. This includes add-ons and differences in modelled and non-modelled approaches.
7. Exposure amounts considered for regulatory purposes are disclosed only for credit risk and securitisation frameworks as a more meaningful measure exists for those risk types. No exposures are reported against the Market Risk framework.

5. Capital Management

The MSI Group views capital as an important source of financial strength. It manages and monitors its capital in line with established policies and procedures and in compliance with local regulatory requirements. In line with Morgan Stanley Group capital management policies, the MSI Group manages its capital position based upon, among other things, business opportunities, risks, capital availability and rate of return together with, internal capital policies, regulatory requirements and rating agency guidelines. Therefore, in the future it may adjust its capital base in reaction to the changing needs of its businesses. The appropriate level of capital is determined at a legal entity level to safeguard that entity's ability to continue as a going concern and ensure that it meets all regulatory capital requirements. The key components of the capital management framework used by the MSI Group are set out in the MSI Group Capital Planning and Management Policy and include a point in time risk and leverage based capital assessment, forward looking capital projections and stress testing. The MSI Group conducts an ICAAP at least annually in order to meet its obligations under the PRA rulebook.

The ICAAP is a key tool used to inform the MSI Board and the executive management on risk profile and capital adequacy. The MSI Group's ICAAP:

- is designed to ensure that the risks to which the MSI Group is exposed are appropriately capitalised and risk managed, including those risks that are either not captured, or not fully captured under Pillar 1;
- uses stress testing to size a capital buffer aimed at ensuring the MSI Group will continue to operate above regulatory requirements under a range of severe but plausible stress scenarios; and
- assesses capital adequacy under normal and stressed operating environments over the three-year capital planning horizon to ensure that MSI Group maintains a capital position in line with internal pre and post stress minimum levels.

The key elements of the ICAAP are embedded in the MSI Group's day-to-day management processes and decision making culture.

The PRA reviews the MSI Group ICAAP through its Supervisory Review and Evaluation Process ("SREP") and sets a Total Capital Requirement ("TCR"), comprising Pillar 1 and Pillar 2A, which establishes the minimum level of regulatory capital for the MSI Group and MSIP. As at 31 December 2022, the MSI Group TCR was $17.6Bn, equivalent to 11.0% of RWAs. Further detail on the make-up of the TCR and applicable Combined Buffer Requirement can be found in Key Metrics, Table 1a. If required, the PRA also sets a buffer in addition to the Basel Combined Buffers, which is available to support the MSI Group in a stressed market environment.

The principles of the MSI Group's ICAAP are applied, in a manner consistent with local regulatory requirements, at the subsidiary legal entities.

MSI Group capital is managed to ensure risk and leverage based requirements assessed through the ICAAP and SREP are met. Internal capital ratio minima are set by the MSI Board to ensure the MSI Group and its subsidiaries have sufficient capital to meet their regulatory requirements at all times.

The capital managed by the MSI Group broadly includes share capital, Additional Tier 1 ("AT1") capital instruments, subordinated debt and reserves. In order to maintain or adjust its capital structure, the MSI Group may pay dividends, return capital to its shareholders, issue new shares, or issue or repay AT1 capital instruments or subordinated debt.

There are no current or foreseen material, practical or legal impediments to the prompt transfer of capital resources or repayment of liabilities among MSI and its subsidiaries.

Russia and Ukraine War

The MSI Group continues to monitor the war in Ukraine and its impact on the world economies and the financial markets. During the year the MSI Group recognised expected credit losses ("ECL") of $149 million in relation to cash and margin cash deposited with banks and exchanges in Russia. Following the recognition of these ECL, the MSI Group's direct exposure to Russia and Ukraine is de minimis.

Morgan Stanley is not entering into any new business onshore in Russia and Morgan Stanley's activities in Russia are limited to helping global clients address and close out pre-existing obligations.

6. Capital Resources

The capital resources of the MSI Group and MSIP are set out in Table 4. All capital resources included in Tier 1 and Tier 2 ("T2") capital are of standard form.

Table 4: Own funds – MSI Group and MSIP

$MM	MSI Group	MSIP
Capital instruments eligible as CET1 capital	2,417	12,978
Prior Year Retained earnings	15,820	4,538
Independently reviewed interim profits net of any foreseeable charge or dividend	1,013	773
Accumulated other comprehensive income	(1,037)	(210)
Other reserves	7,461	1,403
Adjustments to CET1 due to prudential filters	(1,654)	(1,456)
Other intangible assets	(749)	(2)
Internal Ratings Based shortfall of credit risk adjustments to expected losses	(185)	(117)
Defined-benefit pension fund assets	(16)	-
Insufficient coverage for non-performing exposures	(7)	(5)
Deferred tax assets that rely on future profitability and do not arise from temporary differences net of associated tax liabilities	(25)	-
CET1 capital	**23,038**	**17,902**
Additional Tier 1 ("AT1") capital	4,300	4,300
T1 capital	**27,338**	**22,202**
Capital instruments and subordinated loans eligible as T2 capital	7,785	6,874
Instruments issued by subsidiaries that are given recognition in T2 capital	-	-
T2 capital	**7,785**	**6,874**
Total own funds	**35,123**	**29,076**

MSI Group's Own Funds increased over the second half of 2022 due to an increase in CET1 capital post interim profit verification.

The MSI Group relies on its policies, procedures and systems to determine the adequacy of valuation for financial assets and compliance with accounting standards. To comply with the requirements of the PRA rulebook, Additional Valuation Adjustments ("AVAs") are applied to capital over and above those that are taken in order to comply with the accounting requirements. The regulatory adjustments are referred to in the above table as prudential filters.

The capital resources of the MSI Group are based on audited consolidated non-statutory financial information and MSIP's capital resources are based on audited financial statements.

Table 5 provides a reconciliation of audited shareholders' equity to regulatory capital.

Table 5: Reconciliation of balance sheet total equity to regulatory capital – MSI Group and MSIP

$MM	MSI Group				MSIP			
		CET1 capital	AT1 capital	T2 capital		CET1 capital	AT1 capital	T2 capital
Equity instruments	6,678	2,378	4,300	-	16,765	12,465	4,300	-
Share premium	38	38	-	-	513	513	-	-
Other reserves	7,461	7,461	-	-	1,403	1,403	-	-
Other comprehensive income	(1,036)	(1,036)	-	-	(210)	(210)	-	-
Retained earnings	16,254	16,254	-	-	4,970	4,970	-	-
Independently reviewed interim profits net of any foreseeable charge or dividend	1,013	1,013	-	-	773	773		
Non-controlling interest	428	428	-	-	-	-		
Balance sheet total equity	**30,836**	**26,536**	**4,300**	**-**	**24,214**	**19,914**	**4,300**	**-**
Add:								
Tier 2 instruments classified as debt and other borrowings	9,952			9,952	8,898			8,898
Less:								
Qualifying own funds subordinated debt instruments not included in consolidated T2 capital								
Amortised portion of subordinated debt instruments not included in T2 capital	(2,167)	-	-	(2,167)	(2,024)	-	-	(2,024)
Part of interim or year-end profit not eligible	(434)	(434)	-	-	(432)	(432)	-	-
Minority interests (amount not allowed in consolidated CET1)	(428)	(428)	-	-	-	-	-	-
Additional value adjustments	(1,407)	(1,407)	-	-	(1,324)	(1,324)	-	-
Negative amounts resulting from the calculation of expected loss amounts	(185)	(185)	-	-	(117)	(117)	-	-
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(247)	(247)	-	-	(132)	(132)	-	-
Intangible assets (net of related tax liability)	(749)	(749)	-	-	(2)	(2)	-	-
Defined-benefit pension fund assets	(16)	(16)	-	-	-	-	-	-
Deferred tax assets that rely on future profitability and do not arise from temporary differences net of associated tax liabilities	(25)	(25)			-	-		
Insufficient coverage for non-performing exposures	(7)	(7)			(5)	(5)		
Unaudited Reserve not eligible	0	0	0	0	0	0	0	0
Total own funds (transitional rules and fully loaded position)	**35,123**	**23,038**	**4,300**	**7,785**	**29,076**	**17,902**	**4,300**	**6,874**

The above table provides a bridge of balance sheet equity to regulatory Own Funds i.e., items considered or excluded to arrive at regulatory Own Funds.

7. Total Loss-Absorbing Capacity

The MSI Group is subject to internal Total Loss Absorbing Capacity ("TLAC") requirements under the CRR. These requirements are designed to enhance the resilience of the financial system by ensuring firms have sufficient capital and eligible liabilities to absorb losses and recapitalise in resolution. As at 31 December 2022, the minimum capacity requirements were set at 18% of RWAs and 6.75% of leverage exposure, scaled at 90% for both groups as material subsidiaries, on a consolidated basis, of a non-UK/non-EU Global Systemically Important Institution ("G-SII").

Morgan Stanley Group's preferred resolution strategy is a Single Point of Entry ("SPOE") strategy. Further information on the resolution strategy can be found in Morgan Stanley Group Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q. The MSI Group TLAC key metrics are provided in Table 6.

Table 6: TLAC Key Metrics – MSI Group
$MM

MSI Group[1]	Q4'22	Q3'22	Q2'22	Q1'22	Q4'21
TLAC available	**44,090**	**41,793**	**42,608**	**41,193**	**40,127**
Total RWAs at the level of the resolution group	**160,504**	**165,740**	**166,499**	**177,213**	**164,374**
TLAC as a percentage of RWAs (row 1/row2) (%)	27.47%	25.22%	25.59%	23.2%	24.4%
Leverage ratio exposure measure at the level of the resolution group	454,835	473,219	464,889	501,433	534,827
TLAC at a percentage of leverage ratio exposures measure (row1/row4) (%)	9.69%	8.83%	9.17%	8.2%	7.5%

1. As at 31 December 2022, the MSI Group is in compliance with the TLAC requirements.

MSI Group's TLAC available increase in fourth quarter of 2022 is driven by increase in Own Funds and senior subordinated debt issuance.

Table 7 provides details of the composition of the MSI Group's TLAC.

Table 7: TLAC composition – MSI Group
$MM

MSI Group	Q4'22
CET1 capital	23,038
AT1 capital before TLAC adjustments	4,300
AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
Other adjustments	-
AT1 instruments eligible under the TLAC framework	4,300
T2 capital before TLAC adjustments	7,785
Amortised portion of T2 instruments where remaining maturity >1 year	2,167
T2 Capital ineligible as TLAC as issued out of subsidiaries to third parties	-
Other adjustments	-
T2 instruments eligible under the TLAC framework	9,952
TLAC arising from regulatory capital	**37,290**
TLAC instruments subordinated to excluded liabilities	6,800
TLAC arising from non-regulatory capital instruments before adjustments	**6,800**
TLAC before deductions	**44,090**
Deduction of investments in own other TLAC liabilities	-
Other adjustments to TLAC	-
TLAC after deductions	**44,090**
Total RWAs adjusted as permitted under the TLAC regime	160,504
Leverage exposure measure	454,835
TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	27.47%
TLAC (as a percentage of leverage exposure)	9.69%
CET1 capital (as a percentage of RWAs) available after meeting the resolution group's Minimum Capital Requirement ("MCR") and TLAC requirement	8.17%
Institution-specific buffer requirement	**2.82%**
Of which: capital conservation buffer requirement	2.50%
Of which: bank specific countercyclical buffer requirement	0.32%
Memorandum items	
Total amount of excluded liabilities referred to in Article 72a(2) CRR II	490,037

Over the second half of 2022, MSI Group's TLAC after deductions increased due to an increase in CET1 capital and senior subordinated debt issuance.

Table 8 provides a breakdown of eligible instruments in the creditor hierarchy of the MSI Group.

Table 8: TLAC creditor ranking – MSI Group

	Creditor ranking				
$MM	**1**	**2**	**3**	**4**	
MSI Group	**(most junior)**			**(most senior)**	**Total**
Description of creditor ranking	**Ordinary Shares[1]**	**AT1 instruments**	**Subordinated loans**	**Senior Subordinated loans**	
Total capital and liabilities	**2,378**	**4,300**	**9,952**	**6,800**	**23,430**
Excluded liabilities[2]	-	-	-	-	-
Total capital and liabilities less excluded liabilities	2,378	4,300	9,952	6,800	23,430
Eligible as TLAC	2,378	4,300	9,952	6,800	23,430
with 1 year ≤ residual maturity < 2 years	-	-		6,800	6,800
with 2 years ≤ residual maturity < 5 years	-	-	5,354	-	5,354
with 5 years ≤ residual maturity < 10 years	-	-	4,598	-	4,598
with residual maturity ≥ 10 years	-	-	-	-	-
perpetual securities	2,378	4,300	-	-	6,678

1. Ordinary Shares exclude the value of share premium and reserves.
2. As at 31 December 2022 MSI Group has no excluded liabilities as defined in CRR II Article 72a (2) that rank pari passu or junior to Minimum Requirements for Own Funds and Eligible Liabilities - eligible instruments.

Over the second half of 2022, MSI Group's TLAC total capital and liabilities increased due to a senior subordinated debt issuance.

8. Leverage

The Basel III framework introduced a simple, transparent, non risk-based leverage ratio to act as a supplementary measure to the risk-based capital requirements. The Basel Committee is of the view that a simple leverage ratio framework is critical and complementary to the risk-based capital framework and that a credible leverage ratio ensures broad and adequate capture of both the on- and off-balance sheet sources of banks' leverage.

The MSI Group and MSIP leverage ratios as at 31 December 2022 exceed the proposed Tier 1[1] and CET1[2] minimum requirements that were applicable from 1 January 2023.

MSI Group manages its risk of excessive leverage through the application and allocation of business unit leverage exposure limits and legal entity specific leverage ratio early warning indicator ("EWI") levels. Limits are calibrated in line with legal entity capacity and ensure that leverage exposure remains within the MSI Board's risk appetite. If internal limits are exceeded, cross-functional teams identify the key drivers of the elevated exposures and consider appropriate remediation actions. EWI levels are monitored daily to ensure that any increases above the internal thresholds are escalated to governance forms on a timely manner to allow for any appropriate management actions to be taken.

Moreover, robust capital planning ensures future leverage ratio requirements are considered. The capital planning focuses on, but is not limited to, forecasted business activity, planned mitigation, future regulatory changes, net income forecasts and required capital. In addition to capital planning, the firm's large transaction approval process requires the leverage exposure impact to be assessed prior to execution. Trades are approved based on, amongst others, risk appetite, capacity and return metrics.

Leverage exposures, for MSI Group, as well as MSIP and MSEHSE Group, including business unit limit utilisation, are regularly calculated and reported to EMEA & MSEHSE ALCO. These metrics include maturity mismatches, funding plan processes and asset encumbrance metrics, to ensure that any excessive risk is highlighted, assessed, and mitigated appropriately. Additionally, weekly capital resource meetings occur between senior cross-functional stakeholders to monitor, analyse and optimise resources including, but not limited to, leverage exposure.

Furthermore, a quarterly risk identification assessment is completed to monitor both qualitative and quantitative leverage exposure drivers and risks to ensure compliance with internal and regulatory minimums in the event contingent leverage exposure was to crystallise.

[1] A minimum leverage ratio of 3.25% is required to be always met.
[2] At least 75% of the firm's Tier 1 capital must consist of CET1 capital. Additionally, the firm must maintain an additional countercyclical leverage ratio buffer of CET1 equal to 35% of its current Countercyclical Capital Buffer ("CCyB") rate.

Table 9 provides a reconciliation between total assets in the financial statements and the leverage exposure measure for MSI Group and MSIP as at 31 December 2022.

Table 9: Summary reconciliation of accounting assets and leverage ratio exposures (UK LR1) – MSI Group and MSIP

		a	
		Applicable Amounts	
$MM		MSI Group	MSIP
1	**Total assets as per published financial statements[1]**	**640,860**	**559,770**
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of prudential consolidation	-	-
3	(Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference)	-	-
4	(Adjustment for exemption of exposures to central banks)	(18,582)	(2,121)
5	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the total exposure measure in accordance with point (i) of Article 429a(1) of the CRR)	-	-
6	Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting[2]	-	-
7	Adjustment for eligible cash pooling transactions	-	-
8	Adjustments for derivative financial instruments	(134,585)	(120,130)
9	Adjustments for Securities Financing Transactions (“SFTs”)	17,195	17,290
10	Adjustment for off-balance sheet items (i.e., conversion to credit equivalent amounts of off-balance sheet exposures)[3]	5,109	2,295
11	(Adjustment for prudent valuation adjustments and specific and general provisions which have reduced tier 1 capital (leverage))	-	-
UK-11a	(Adjustment for exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) of the CRR)	-	(431)
UK-11b	(Adjustment for exposures excluded from the total exposure measure in accordance with point (j) of Article 429a(1) of the CRR)	-	-
12	Other adjustments	(55,162)	(40,535)
13	**Total exposure measure**	**454,835**	**416,138**

1. MSI Group does not publish financial statements. See Appendix VI for MSI Group non-statutory financial information.
2. As MSI Group follows settlement date accounting, no exposure is reported under regular-way purchases and sales subject to trade date accounting.
3. Regular-way purchases and sales subject to settlement date accounting are treated as off-Balance sheet items.

Over the second half of 2022, MSI Group’s total assets declined due to lower derivatives, whereas MSIP’s total assets declined due to both derivatives and lower central bank deposits.

Table 10 provides a detailed breakdown of the components of the leverage ratio exposure for MSI Group and MSIP as at 31 December 2022.

Table 10: Leverage ratio common disclosure (UK LR2) – MSI Group and MSIP

MSI Group[1]

$MM		a Leverage ratio exposures Q4'22	b Q2'22
	On-balance sheet exposures (excluding derivatives and SFTs)		
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	222,318	239,173
2	Gross-up for derivatives collateral provided, where deducted from the balance sheet assets pursuant to the applicable accounting framework	7,787	4,391
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(55,345)	(52,372)
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)	-	-
5	(General credit risk adjustments to on-balance sheet items)	-	-
6	(Asset amounts deducted in determining tier 1 capital (leverage))	(2,389)	(2,561)
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	**172,371**	**188,631**
	Derivative exposures		
8	Replacement cost associated with SA-CCR derivatives transactions (i.e., net of eligible cash variation margin)	45,342	55,545
UK-8a	Derogation for derivatives: replacement costs contribution under the simplified standardised approach	-	-
9	Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	101,518	110,626
UK-9a	Derogation for derivatives: potential future exposure contribution under the simplified standardised approach	-	-
UK-9b	Exposure determined under the original exposure method	-	-
10	(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	(3,585)	(4,716)
UK-10a	(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	-	-
UK-10b	(Exempted CCP leg of client-cleared trade exposures) (original exposure method)	-	-
11	Adjusted effective notional amount of written credit derivatives	329,087	318,058
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(315,477)	(306,985)
13	**Total derivative exposures[2]**	**156,885**	**172,528**
	Securities financing transaction (SFT) exposures		
14	Gross SFT assets (with no recognition of netting), after adjustments for sales accounting transactions	198,500	178,799
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(69,213)	(59,968)
16	Counterparty credit risk exposure for SFT assets	9,765	10,353
UK-16a	Derogation for SFTs: counterparty credit risk exposure in accordance with Articles 429e(5) and 222 of the CRR	-	-
17	Agent transaction exposures	-	-
UK-17a	(Exempted CCP leg of client cleared SFT exposures)	-	-
18	**Total securities financing transaction exposures**	**139,052**	**129,184**
	Other off-balance sheet exposures		
19	Off-balance sheet exposures at gross notional amount	13,832	17,554
20	(Adjustments for conversion to credit equivalent amounts)	(8,723)	(11,525)
21	(General provisions deducted in determining tier 1 capital (leverage) and specific provisions associated with off-balance sheet exposures)	-	-
22	**Off-balance sheet exposures**	**5,109**	**6,029**
	Excluded exposures		
UK-22a	(Exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) of the CRR)	-	-
UK-22b	(Exposures exempted in accordance with point (j) of Article 429a(1) of the CRR (on- and off- balance sheet))	-	-
UK-22g	(Excluded excess collateral deposited at triparty agents)	-	-
UK-22k	**(Total exempted exposures)**	-	-
	Capital and total exposure measure		
23	Tier 1 capital (leverage)	27,338	26,355
24	Total exposure measure including claims on central banks	473,417	496,372
UK-24a	(-) Claims on central banks excluded	(18,582)	(31,483)
UK-24b	**Total exposure measure excluding claims on central banks**	**454,835**	**464,889**
	Leverage ratio		
25	Leverage ratio excluding claims on central banks (%)	6.01%	5.67%
UK-25a	Fully loaded ECL accounting model leverage ratio excluding claims on central banks (%)	6.01%	5.67%
UK-25b	Leverage ratio excluding central bank reserves as if the temporary treatment of unrealised gains and losses measured at fair value through other comprehensive income had not been applied (%)	6.01%	5.67%
UK-25c	Leverage ratio including claims on central banks (%)	5.77%	5.31%
26	Regulatory minimum leverage ratio requirement (%)	N/A	N/A
	Additional leverage ratio disclosure requirements - leverage ratio buffers		
27	Leverage ratio buffer (%)		
UK-27a	Of which: G-SII or O-SII additional leverage ratio buffer (%)		
UK-27b	Of which: countercyclical leverage ratio buffer (%)		

1. Based on the guidance provided by the PRA under PS21/21, the MSI Group, a LREQ entity, shall be subject to additional leverage ratio disclosure requirements beginning 1 January 2023.

MSIP[1]

$MM		a	b
		Leverage ratio exposures	
		Q4'22	Q2'22
	On-balance sheet exposures (excluding derivatives and SFTs)		
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	181,520	208,256
2	Gross-up for derivatives collateral provided, where deducted from the balance sheet assets pursuant to the applicable accounting framework	3,084	3,446
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(39,196)	(38,882)
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)	-	-
5	(General credit risk adjustments to on-balance sheet items)	-	-
6	(Asset amounts deducted in determining tier 1 capital (leverage))	(1,448)	(1,630)
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	**143,960**	**171,190**
	Derivative exposures		
8	Replacement cost associated with SA-CCR derivatives transactions (i.e., net of eligible cash variation margin)	33,106	38,760
UK-8a	Derogation for derivatives: replacement costs contribution under the simplified standardised approach	-	-
9	Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	86,860	95,402
UK-9a	Derogation for derivatives: potential future exposure contribution under the simplified standardised approach	-	-
Uk-9b	Exposure determined under the original exposure method	-	-
10	(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	(2,017)	(2,134)
UK-10a	(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	-	-
Uk-10b	(Exempted CCP leg of client-cleared trade exposures) (original exposure method)	-	-
11	Adjusted effective notional amount of written credit derivatives	301,590	297,867
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(288,587)	(288,085)
13	**Total derivative exposures[2]**	**130,952**	**141,810**
	Securities financing transaction (SFT) exposures		
14	Gross SFT assets (with no recognition of netting), after adjustments for sales accounting transactions	202,389	186,268
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(70,766)	(62,162)
16	Counterparty credit risk exposure for SFT assets	9,860	10,365
UK-16a	Derogation for SFTs: counterparty credit risk exposure in accordance with Articles 429e(5) and 222 of the CRR	-	-
17	Agent transaction exposures	-	-
UK-17a	(Exempted CCP leg of client cleared SFT exposures)	-	-
18	**Total securities financing transaction exposures**	**141,483**	**134,471**
	Other off-balance sheet exposures		
19	Off-balance sheet exposures at gross notional amount	8,124	11,591
20	(Adjustments for conversion to credit equivalent amounts)	(5,829)	(8,602)
21	(General provisions deducted in determining tier 1 capital (leverage) and specific provisions associated with off-balance sheet exposures)	-	-
22	**Off-balance sheet exposures**	**2,295**	**2,989**
	Excluded exposures		
UK-22a	(Exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) of the CRR)	(431)	(488)
UK-22b	(Exposures exempted in accordance with point (j) of Article 429a(1) of the CRR (on- and off- balance sheet))	-	-
UK-22g	(Excluded excess collateral deposited at triparty agents)	-	-
UK-22k	**(Total exempted exposures)**	**(431)**	**(488)**
	Capital and total exposure measure		
23	Tier 1 capital (leverage)	22,202	21,566
24	Total exposure measure including claims on central banks	418,259	449,972
UK-24a	(-) Claims on central banks excluded	(2,121)	(22,597)
UK-24b	**Total exposure measure excluding claims on central banks**	**416,138**	**427,375**
	Leverage ratio		
25	Leverage ratio excluding claims on central banks (%)	5.34%	5.05%
UK-25a	Fully loaded ECL accounting model leverage ratio excluding claims on central banks (%)	5.34%	5.05%
UK-2b	Leverage ratio excluding central bank reserves as if the temporary treatment of unrealised gains and losses measured at fair value through other comprehensive income had not been applied (%)	5.34%	5.05%
UK-25c	Leverage ratio including claims on central banks (%)	5.31%	4.79%
26	Regulatory minimum leverage ratio requirement (%)	N/A	N/A
	Additional leverage ratio disclosure requirements - leverage ratio buffers		
27	Leverage ratio buffer (%)		
UK-27a	Of which: G-SII or O-SII additional leverage ratio buffer (%)		
UK-27b	Of which: countercyclical leverage ratio buffer (%)		

1. Based on the guidance provided by the PRA under PS21/21, MSIP, a LREQ entity, shall be subject to additional leverage ratio disclosure requirements beginning 1 January 2023.

The leverage ratios from 30 June 2022 to 31 December 2022 increased for MSI Group by 0.3% to 6.0%, and for MSIP by 0.3% to 5.3%, due to increases in Tier 1 capital post interim profit verification, together with a decrease in leverage exposure.

Table 11 provides a breakdown of the on-balance sheet exposures into trading and non-trading (banking book) exposures for MSI Group and MSIP as at 31 December 2022.

Table 11: Split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) (UK LR3) – MSI Group and MSIP

		a	
		Leverage ratio exposures	
$MM		MSI Group	MSIP
UK-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	**227,536**	**184,498**
UK-2	Trading Book exposures	183,433	162,007
UK-3	Banking book exposures, of which:	44,103	22,491
UK-4	Covered bonds	-	-
UK-5	Exposures treated as sovereigns	19,451	2,703
UK-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	23	22
UK-7	Institutions	19,194	17,072
UK-8	Secured by mortgages of immovable properties	-	-
UK-9	Retail exposures	-	-
UK-10	Corporates	2,553	1,702
UK-11	Exposures in default	160	61
UK-12	Other exposures (e.g., equity, securitisations, and other non-credit obligation assets)	2,722	931

Over the second half of 2022, MSI Group and MSIP’s on-balance sheet exposures reduced primarily due to central bank deposits with sovereigns.

9. Capital Requirements and RWAs

RWAs reflect both on- and off-balance sheet risk, as well as capital charges attributable to the risk of loss arising from the following.

Credit and CCR refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations. Credit and counterparty credit capital requirements are derived from RWAs, determined using the approved internal modelling approach - the Internal Model Method ("IMM") for CCR exposure. Standardised methods are applied for exposures not covered by internal models. Foundation Internal Ratings Based approach ("IRB") for credit risk or Standardised Approach ("SA") Risk Weights are applied as applicable.

CVA is the capital requirement that covers the risk of mark-to-market losses on the counterparty risk of derivatives. It is calculated using a combination of advanced internal modelling and standardised approaches.

Settlement risk refers to the capital requirement that covers the risk due to the possibility that a counterparty will fail to deliver on the terms of a contract at the agreed-upon time.

Securitisation exposures are a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched. Payments in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures. The subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme.

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, implied volatilities (the price volatility of the underlying instrument imputed from option prices), correlations or other market factors, such as market liquidity, will result in losses for a position or portfolio. The market risk capital requirements comprise of capital associated with the Internal Modelling Approaches ("IMA") approved by the PRA and those associated with the Standardised Approach.

Large exposures refer to the capital requirement that covers the risk due to concentrated exposures to a single counterparty or group of connected counterparties.

Operational risk refers to the risk of loss, or of damage to reputation, resulting from inadequate or failed processes, people and systems or from external events (e.g., fraud, theft, legal and compliance risks, cyber-attacks or damage to physical assets). Capital requirements for operational risk are currently calculated under the Basic Indicator Approach ("BIA").

Amounts below the thresholds for deduction correspond to items not deducted from Own Funds, as they are below the applicable thresholds for deduction, in accordance with the PRA rulebook.

The MSI Group enhances its risk management strategy and incorporates improvements in modelling techniques while maintaining compliance with the regulatory requirements. For further discussion on credit risk, CCR, market risk and operational risk, please refer to the specific sections within this document.

RWAs Overview

Table 12 summarises RWAs and Total Own Funds Requirements ("TOFR") for MSI Group and MSIP by risk type. MSI Group and MSIP calculate Pillar 1 capital requirements as 8% of RWAs in accordance with CRD.

Table 12: Overview of risk weighted exposure amounts (UK OV1) – MSI Group and MSIP

		a	b	c	a	b	c
		MSI Group			MSIP		
$MM		RWAs Q4'22	RWAs Q3'22	TOFR Q4'22	RWAs Q4'22	RWAs Q3'22	TOFR Q4'22
1	**Credit risk (excluding CCR)**	**13,365**	**14,464**	**1,069**	**9,314**	**10,633**	**745**
2	Of which standardised approach	3,479	4,601	278	2,237	2,962	179
3	Of which the Foundation IRB ("FIRB") approach	6,297	6,353	504	3,374	4,026	270
4	Of which slotting approach	-	-	-	-	-	-
UK 4a	Of which equities under the simple risk weighted approach[1]	3,589	3,510	287	3,703	3,645	296
5	Of which the Advanced IRB ("AIRB") approach	-	-	-	-	-	-
6	**Counterparty credit risk – CCR**	**57,991**	**63,612**	**4,639**	**50,566**	**54,938**	**4,045**
7	Of which standardised approach	10,204	11,445	816	9,840	10,932	787
8	Of which internal model method (IMM)	25,782	28,134	2,063	21,418	22,958	1,713
UK 8a	Of which exposures to a CCP	893	862	71	702	724	56
UK 8b	Of which credit valuation adjustment - CVA	16,344	17,567	1,308	13,969	14,887	1,118
9	Of which other CCR	4,768	5,604	381	4,637	5,437	371
15	**Settlement risk**	**412**	**240**	**33**	**405**	**244**	**32**
16	**Securitisation exposures in the non-trading book (after the cap)**	**2,940**	**2,968**	**235**	**2,935**	**2,965**	**235**
17	Of which SEC-IRBA approach	-	-	-	-	-	-
18	Of which SEC-ERBA (including IAA)	773	721	62	768	718	61
19	Of which SEC-SA approach	-	-	-	-	-	-
UK 19a	Of which 1250%/ deduction	2,167	2,247	173	2,167	2,247	174
20	**Position, foreign exchange and commodities risks (Market risk)**	**65,833**	**64,510**	**5,267**	**49,162**	**47,250**	**3,933**
21	Of which standardised approach	14,409	12,661	1,153	6,785	6,009	543
22	Of which IMA	51,424	51,849	4,114	42,377	41,241	3,390
UK 22a	**Large exposures**	**4,606**	**5,594**	**368**	**1,550**	**2,431**	**124**
23	**Operational risk**	**15,357**	**14,352**	**1,229**	**10,807**	**10,067**	**865**
UK 23a	Of which basic indicator approach	15,357	14,352	1,229	10,807	10,067	865
UK 23b	Of which standardised approach	-	-	-	-	-	-
UK 23c	Of which advanced measurement approach	-	-	-	-	-	-
24	**Amounts below the thresholds for deduction (subject to 250% risk weight) (For information)[1]**	**637**	**503**	**51**	**704**	**521**	**56**
29	**Total**	**160,504**	**165,740**	**12,840**	**124,739**	**128,528**	**9,979**

1. Equity exposures subject to risk weight 1250% has been included under "*Of which equities under the simple risk weighted approach*" for MSI Group and MSIP.

Overall RWAs decreased primarily due to CCR reflecting market movements and business activity mainly across Over the counter ("OTC") derivative counterparties.

10. Credit Risk

10.1 Credit and Counterparty Credit Risk Management

Credit and counterparty risk refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations to the MSI Group. The MSI Group is exposed to credit risk from the extension of credit to clients through lending commitments, derivatives, securities financing and prime brokerage ("PB") activities. The MSI Group primarily incurs credit risk exposure to Corporates, Institutions, Central Governments and Central Banks through its Institutional Securities business segment.

The MSI Group Credit Risk Management Department ("CRMD") is an independent risk oversight group headed by the Head of Credit who reports directly to the EMEA Chief Risk Officer. The MSI Group CRMD is responsible for managing and overseeing the credit risk profile of the MSI Group, including the design and oversight of the credit risk and limits covering the independent identification, analysis, monitoring, reporting and escalation of credit risks. In order to help protect the MSI Group from losses resulting from its business activities, CRMD establishes practices to evaluate, monitor and control credit risk exposure at the transaction, obligor and portfolio levels. CRMD analyses material lending and derivative transactions and helps ensure that the creditworthiness of the MSI Group's counterparties and borrowers is periodically reviewed and that credit exposure is actively monitored and managed.

Credit Risk Policies and Procedures

CRMD policies and procedures applicable to the MSI Group aim to ensure the identification of credit risks, compliance with established limits, requisite approvals for extensions of credit, and escalation of risk concentrations to appropriate senior management.

Credit Risk Limits

The MSI Group Credit Limits Framework ("CLF") is one of the primary tools used to monitor, manage, and control credit risk exposures. The MSI Board approves limits that reflect the credit risk tolerance of the MSI Group and serve as a basis from which more detailed limits are established. The CLF includes single name limits (e.g., counterparty, lending, settlement and treasury) and portfolio concentration limits by country, industry and product type. The MSI Group credit limits restrict potential credit exposure to any one borrower or counterparty and to groups of connected borrowers or counterparties. The limits are assigned based on multiple factors including the size of counterparty, the counterparty's Probability of Default ("PD"), the perceived correlation between the credit exposure and the counterparty's credit quality, and the Loss-Given Default ("LGD") and tenor profile of the specific credit exposure taking into account the effect of enforceable netting and eligible collateral.

To ensure that credit limits are consistent with MSI Group's credit risk appetite and are linked to the MSI Group Macroeconomic Stress Loss Limit, a comprehensive process has been established whereby CRMD evaluates relevant quantitative and qualitative factors to make an informed decision when recommending or setting credit limits. CRMD develops and calibrates MSI Board and ERC Single Name and Portfolio credit risk limits by assuming full utilisation of the credit limit (i.e., "limit-long" assumption) to derive a limit-long stress loss. Limit-long stress losses are then compared to concentration thresholds which vary by the type of credit limit (i.e., Single Name or Portfolio). For example, any single industry limit-long stress loss may account for no more than a specified percentage (i.e., the concentration threshold) of MSI Group's Macroeconomic Stress Loss Limit. As a further calibration check, a Portfolio Stress Loss approach is adopted using a hypothetical "strategic portfolio". The MSI Group Strategic Portfolio is a forward looking, hypothetical portfolio constructed to allow sufficient room for simultaneous risk taking across asset classes and risk types to execute the Business Strategy. A limit-long assumption is then applied to the strategic portfolio and the resulting stress loss must be within the MSI Board Macroeconomic Stress Loss Limit.

Credit Evaluation

The MSI Group is exposed to single-name credit risk and country risk, requiring credit analysis of specific counterparties, both initially and on an ongoing basis. Credit risk management takes place at the transaction, counterparty and portfolio levels. For lending transactions, CRMD evaluates the relative position of its particular exposure in the borrower's capital structure and relative recovery prospects. CRMD also considers collateral arrangements and other structural elements of the particular transaction.

10.2 Counterparty and Credit Risk Capital Requirements

The regulatory framework distinguishes between credit risk and CCR capital requirements. The credit risk capital component reflects the capital requirements attributable to the risk of loss arising from a borrower failing to meet its obligations and relates to investments made in the Non-Trading Book such as loans and other securities that the MSI Group holds until maturity with no intention to trade. CCR exposure arises from the risk that counterparties are unable to meet their payment obligations under contracts for traded products including OTC derivatives and securities financing transactions ("SFTs"). The distinction between credit risk and CCR exposures, is due to the bilateral nature of the risk for CCR exposures, see Section 11 CCR.

RWAs are determined using the IRB approach which reflects the MSI Group's internal estimate of a borrower or counterparty's creditworthiness.

For exposures not covered by the IRB approach, the SA is applied, typically for certain business units which are non-significant and certain exposure classes or types of exposures, which are immaterial in terms of size and perceived risk profile.

The SA assigns fixed risk weights to the following exposures classes in accordance with the CRR: Central Governments and Central Banks, Corporates, Institutions, Multilateral Development Banks ("MDB"), International Organisations, Regional Governments and Local Authorities.

Exposures to third-country Central Banks or Central Governments not rated by ECAIs but denominated in local currency are risk-weighted at 0% where allowable.

Credit Risk RWAs flow statements

Table 13 summarises the movements of RWAs for MSI Group and MSIP's credit risk exposures under the IRB approach.

Table 13: RWAs flow statements of credit risk exposures under the IRB approach (UK CR8) – MSI Group and MSIP

		a	a
$MM		**MSI Group RWAs**	**MSIP RWAs**
1	**RWAs as at the end of the previous reporting period[1]**	**6,353**	**4,026**
2	Asset size	52	(554)
3	Asset quality	(108)	(98)
4	Model updates	-	-
5	Methodology and policy	-	-
6	Acquisitions and disposals	-	-
7	Foreign exchange movements	-	-
8	Other	-	-
9	**RWAs as at the end of the reporting period**	**6,297**	**3,374**

1. Previous reporting period was Q3'22.

Decrease in RWAs movement is mainly driven by business activities and rating upgrade.

External Credit Risk Assessments

External credit risk assessments are used within the MSI Group as part of the determination of risk weightings for exposure classes. MSI Group has nominated three External Credit Assessment Institutions ("ECAI") for this purpose – Moody's Investor Service ("Moody's"), Standard and Poor's rating agency ("S&P") and Fitch Ratings ("Fitch"). When calculating the risk-weighted value of an exposure using ECAI risk assessments, the ratings are pulled from a central database using client identifiers. The systems then map ECAI ratings to Credit Quality Steps ("CQS") to derive the relevant risk weight. All other exposure classes are assigned risk weightings as prescribed in CRR.

Table 14: External Credit Assessments Institutions – MSI Group

CQS	Moody's	Standard & Poor's/Fitch
1	Aaa to Aa3	AAA to AA-
2	A1 to A3	A+ to A-
3	Baa1 to Baa3	BBB+ to BBB-
4	Ba1 to Ba3	BB+ to BB-
5	B1 to B3	B+ to B-
6	Caa1 and below	CCC+ and below

10.3 Internal Ratings Based Approach

The MSI Group has permission to use the FIRB approach for the calculation of credit and CCR capital requirements. The permission covers all material portfolios and is applicable to exposures to Central Governments, Central Banks, Institutions and Corporates.

The MSI Group leverages the FIRB process for internal risk management processes. Internal ratings are used in the sizing of credit limits and also influence the terms under which credit exposures are undertaken, including collateral and documentation.

Rating Process

Credit Risk Management expresses the creditworthiness of each counterparty by assigning it a rating. The rating scale includes 17 segments on a scale from AAA to CCC, plus a single category for defaulted counterparties.

Each rating is linked to a single name credit limit and mapped to a specific PD. To monitor the credit risk of the portfolio, the MSI Group uses internally approved rating models to estimate various risk parameters related to each counterparty and/or facility.

Ratings are assigned using methodologies based on quantitative and/or qualitative obligor risk drivers. These include, but are not limited to, counterparty's financial statements, market position, strategy, management, legal and environmental, industry dynamics, security prices and other financial data reflecting a market view of the counterparty. Outputs from the models are supplemented by expert judgment to include exogenous factors not captured by the methodology in the final rating.

MSI Group's wholesale exposures fall into the following exposure classes: Central Governments or Central Banks, Institutions and Corporates. The Central Governments or Central Banks exposure class mainly includes traded products, lending and treasury exposures to Sovereign Governments, Central Banks, Government Guaranteed Entities, Government Guaranteed Banks and Supranational.

The Sovereign ratings process, used for Central Governments or Central Banks, applies a methodology based on quantitative and qualitative factors which incorporate consideration of the financial systems, legal and regulatory risks (e.g., macro-prudential supervision) as well as the reputational risk of extending credit in the country. MSI Group has two key models for this exposure category.

The Institutions exposure class mainly includes traded products, lending and treasury exposures to banks. The ratings process for Institutions applies a methodology that is based on a range of risk factors including capital adequacy, asset quality, earnings, funding and management. The regulatory environment and implicit government support is incorporated where applicable and permitted. MSI Group has one key model for this exposure category.

The Corporates exposure class mainly includes traded products and lending to wholesale counterparties not covered under the Central Governments or Central Banks and Institutions exposure classes. The ratings process for Corporates has different methodologies depending on the industry to which the counterparty belongs. The general characteristics employed include quantitative factors such as leverage, interest coverage, cash flow and company size, as well as qualitative factors such as industry and business risk, market position, liquidity/funding, event risk, management and corporate governance. Implicit government support may be incorporated where applicable and permitted. Tailored methodologies are applied for certain specialist sectors such as broker-dealers, insurance and funds. MSI Group has six key models for this exposure type.

Ratings for Special Purpose Vehicles ("SPV") reflect Credit Risk Management's assessment of the risk that the SPV will default. The rating therefore incorporates the MSI Group relative position in the counterparty's payment structure as well as the default risk associated with the underlying assets. Ratings are often "tranche specific" (e.g., the AAA rated senior tranche or the BBB subordinated tranche).

Rating Philosophy and PD Estimation

The MSI Group internal rating process and philosophy are similar to S&P's. For credit risk capital and risk management purposes, Credit Risk Management maps internal ratings to S&P ratings and then applies S&P's extensive default history to determine the PD. Minor adjustments are made for specific items, such as preserving the monotonic relationship among rating grade PDs and maintaining the regulatory floor of 0.03% for counterparties which are not defined as Sovereign.

The MSI Group follows the PRA regulatory guidance and takes different approaches to estimate PDs for its low default portfolio ("LDP") and its non-LDP.

The MSI Group calculates PD for the non-LDP based on the long-run average of S&P's annual corporate default rates from 1981-2014. The incorporation of this data period ensures that the PD is representative of a long-run average default rate and therefore appropriate. The methodology employs an update rule, to determine the appropriateness of an update in the PDs based on annual data becoming available.

Portfolios where MS has experienced less than 20 defaults historically, and where no external default data is available for the reliable estimation of PDs are classified as low default. The methodology for deriving PDs for the LDP, is based on a Bayesian approach, and derives a single scaling factor that is used to scale the non-LDP PD into an appropriate and conservative PD for the LDP. This scaling factor is floored such that LDP must be equal to or higher than non-LDP PDs.

The MSI Group confirms through an internal validation process that the PD values it uses are prudent when compared to actual Morgan Stanley Group default experience. The MSI Group uses supervisory-prescribed factors to calculate LGDs and conversion factors.

Control Mechanisms for the Rating System

The rating system and its components are validated on a periodic basis. The model validation process is independent of the internal models' development, implementation and operation. The validation process includes tests of the model's sensitivity to key inputs and assumptions, and evaluation of conceptual soundness. Model governance committees are in place to provide appropriate technical and business review and oversight. Internal Audit Department serves as the third line of defence with regards to the internal rating model development process and practices, through independent review it performs periodically.

The performance of the rating system is assessed on a quarterly basis. This includes a review of the key performance measures including a comparison of internal ratings versus agency ratings, the ratings of defaulted parties, the transitions across grades, and an analysis of expert overrides.

Non-Trading Book Equity Exposure and Specialised Lending

The MSI Group applies the IRB simple risk weight approach for equity exposures falling outside of the Trading Book. Majority of the equity positions are held as hedges for employee long-term compensation schemes. A Specialised Lending Slotting methodology is used in capital calculation for loans secured by Income Producing Real Estate.

Table 15 shows the MSI Group and MSIP's equity exposures using the simple risk-weighted approach and, where appropriate, specialised lending.

Table 15: IRB (Specialised Lending and Equities) (UK CR10.5) – MSI Group and MSIP

	a	b	c	d	e	f
	Equities exposures under the simple risk-weight approach					
	On-balance sheet exposures	Off-balance sheet exposures	Risk weight	Exposure value	RWAs	Expected loss amount
MSI Group[1]	$MM	$MM	%	$MM	$MM	$MM
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	236	712	290%	948	2,748	8
Other equity exposures	-	-	370%	-	-	-
	-	-	1250%[2]	67	841	-
Total	**236**	**712**	**-**	**1,015**	**3,589**	**8**
MSIP[1]						
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	236	639	290%	875	2,537	7
Other equity exposures	-	-	370%	-	-	-
	-	-	1250%[2]	93	1,166	-
Total	**236**	**639**	**-**	**968**	**3,703**	**7**

1. MSI Group and MSIP have no specialised lending.
2. Equity exposures subject to 1250% risk weight has been included under "Other equity exposures".

Over the second half of 2022, equity exposures decreased due to reduction in equity investments.

10.4 Credit Risk Adjustments

The main considerations for the impairment assessment include whether there are any known difficulties in the cash flows of counterparties, credit rating downgrades, or infringement of the original terms of the contract.

The MSI Group determines the allowance appropriate for each individually significant asset on an individual basis. Items considered when determining the allowance amount include the sustainability of the counterparty's business plan, the counterparty's ability to improve performance once a financial difficulty has arisen, the realisable value of collateral, and the timing of expected cash flows. The impairment losses are evaluated, at least, at each reporting date.

The calculation of credit risk adjustments is based on the ECL.

The MSI Group recognises ECL for the following financial instruments that are not measured at Fair Value through Profit or Loss:

- financial assets measured at amortised cost;
- loan commitments, except those that can be net settled in cash or with another financial instrument; and
- financial guarantees.

ECL is calculated using three main components:

PD: for accounting purposes, the 12 month and lifetime PD represent the expected point-in-time probability of a default over the next 12 months and over the remaining lifetime of the financial instrument respectively, based on conditions existing at the balance sheet date and future economic conditions.

LGD: the LGD represents expected loss conditional on default, taking into account the mitigating effect of collateral, including the expected value of the collateral when realised and the time value of money.

EAD: this represents the expected EAD, taking into account the expected repayment of principal and interest from the balance sheet date to the date of default event together with any expected drawdowns of the facility over that period.

These parameters are generally derived from internally developed statistical models, incorporating historical, current and forward-looking macro-economic data and country risk expert judgement. The macro-economic scenarios are reviewed quarterly.

A financial asset is considered "past due" where any amount of principal, interest or fee has not been paid at the date it was due. This definition is consistent for accounting and regulatory purposes. A financial instrument asset is considered 'impaired' when an ECL is recognised and presented as a ECL allowance (loss allowance).

- If, at the reporting date, there has not been a Significant Increase in Credit Risk ("SICR") of the financial asset since initial recognition then the loss allowance is calculated as the 12 month ECL, which represents the lifetime cash shortfalls that will result if a default occurs in the 12 months after the reporting date, weighted by the probability of that default occurring. Such financial instruments are referred to as being in Stage 1 of the impairment framework.
- If there has been a SICR since initial recognition, the loss allowance is calculated as the lifetime ECL, that is, the ECL that result from all possible default events over the remaining life of the financial instrument. Such financial instruments are referred to as being in Stage 2 of the impairment framework.
- If the credit risk has increased further, to the extent that the financial instrument is considered credit-impaired, these assets are referred to as being in Stage 3 of the framework.

In assessing the impairment of financial instruments under the ECL model, the MSI Group defines default in accordance with Credit Risk Management Department's policies and procedures. This considers whether the borrower is unlikely to pay its credit obligations to the company in full and takes into account qualitative indicators, such as breaches of covenants. The definition of default also includes a presumption that a financial asset which is more than 90 days past due has defaulted.

10.5 Credit Risk Mitigation

The MSI Group may seek to mitigate credit risk from its lending and trading activities in multiple ways, including netting, collateral, guarantees and hedges. At the transaction level, the MSI Group seeks to mitigate risk through management of key risk elements such as size, tenor, financial covenants, seniority and collateral. The MSI Group actively hedges its lending and derivatives exposure through various financial instruments that may include single-name and structured credit derivatives. Additionally, the MSI Group may sell, assign or syndicate funded loans and lending commitments to other financial institutions in the primary and secondary loan market. In connection with its derivatives trading activities, the MSI Group generally enters into master netting and collateral arrangements with counterparties. These agreements provide the MSI Group with the ability to demand collateral, as well as to liquidate collateral and offset receivables and payables covered under the same master agreement in the event of a counterparty default.

Netting

The MSI Group has policies and procedures in place for assessing the validity, enforceability and treatment of netting agreements with clients in connection with its derivative trading activities. In order to net a group of similar exposures with a counterparty, a qualifying master netting agreement must be in place between Morgan Stanley Group and the counterparty. The agreement must be valid and legally enforceable. Upon an event of default, including in the event of bankruptcy or insolvency of the counterparty, all transactions within the netting set are terminated in a timely manner and a single net close-out amount is determined under a qualifying master netting agreement. Repo-style transactions must also be executed under an agreement that provides for the close-out on a net basis. The MSI Group does not make use of on-balance sheet netting of loans and deposits in regulatory capital calculations.

Collateral

The amount and type of collateral required by the MSI Group depends on an assessment of the creditworthiness of the counterparty, and any relevant regulation. Collateral held is managed in accordance with the MSI Group’s guidelines and the relevant underlying agreements.

The MSI Group actively manages its credit exposure through the application of collateral arrangements. The use of collateral in managing OTC derivative risk is standard in the marketplace, and is governed by appropriate documentation; for example, the Credit Support Annex to the International Swaps and Derivatives Association documentation. In line with these standards, the MSI Group generally accepts only cash and G7 government bonds, corporate debt and main index equities as eligible collateral. Other securities may be accepted in securities lending, repo and prime brokerage, subject to haircuts based on assessments of collateral volatility and liquidity.

CRMD utilises an established infrastructure to manage, maintain and value collateral on a daily basis. Haircuts are taken on eligible collateral to act as a buffer against adverse price movements prior to liquidation of the collateral during the close out process following a counterparty’s default. Standard haircuts are reviewed periodically and during volatile markets.

Credit Risk Management review and analyse the value of the collateral posted by the obligor. Third party appraisals are updated periodically or as may be required in the context of asset specific conditions or market developments. These updated appraisals are reviewed and evaluated by Credit Risk Management. The MSI Group’s collateral management policies include arrangements for maintaining the integrity of the margining process, including the capture of collateral terms and haircuts and the underlying legal rights, interest and ownership of collateral transferred. The policies also include arrangements for safeguarding collateral, rehypothecation, collateral concentrations and dispute resolution. Collateral concentration in OTC derivatives is assessed through considering concentration relative to the liquidity of the underlying assets.

For issuer concentration, in the case of Private Wealth Management (“PWM”) Asia exposure where there is potentially no meaningful recourse in the event of a counterparty default, the reliance on any single issuer is reflected directly against the credit limits of the issuer. Monitoring of issuer concentration across PB collateral, SFT collateral and OTC collateral is reviewed each month at the EMEA & MSI Credit Risk Committee.

Guarantees

A guarantee may reduce the MSI Group's credit risk to a direct obligor through a documented arrangement in which a third party agrees to be responsible for some portion or all of the debt or obligation of a counterparty.

A guarantee is a financial guarantee, letter of credit, insurance or other similar financial instrument (other than a credit derivative) that allows one party (beneficiary) to transfer the credit risk of one or more specific exposures (guaranteed or reference exposure) to another party (guarantor or protection provider).

MSI Group maintains policies and procedures which set out the process for determining the eligibility of the guarantee. Only eligible guarantees can be used for risk mitigation purpose. The acceptable types of guarantors are sovereigns, certain supranational and multilateral development banks, banks and other financial institutions, and corporates that are rated at least investment grade.

Participations

The MSI Group also use participation as one of the CRMs. A participation is a documented agreement through which a lender transfers to a third party (which may include an affiliate), certain rights and obligations of the lender under the applicable credit agreement(s), or a portion thereof, without transferring record ownership (i.e. the participant does not become lender of record on the agent's books and records).

11. Counterparty Credit Risk

11.1 Counterparty Credit exposures

The MSI Group leverages models under IMM and Standardised Methods for calculation of CCR Exposures. The majority of OTC derivatives and SFTs within the MSI Group are in scope of the IMM permission. The central process in calculating CCR exposure under IMM is a Monte Carlo simulation, which generates independent realisations of market risk factors at future time horizons across a number of simulation paths. Each trade is revalued under the simulated market conditions with future collateral requirements, along each simulation path determined by the simulated trade valuations. Finally, simulated trade values and collateral balances are aggregated based on netting agreements and legally confirmed enforceability to yield a distribution of CCR exposure across the simulation paths at each future time horizon. Selected measures of this distribution are then calculated to report CCR exposure and the full distribution is used for the capital calculation. The most material risk factors are calibrated daily to market implied data, while other risk factors are calibrated based on three years or more of historical data.

Standardised Methods are applied for exposures not covered by IMM, Standardised Approach for Counterparty Credit Risk (“SA-CCR”) for OTC and Financial Collateral Comprehensive Method/ Master Netting Agreement for SFT.

Under SA-CCR, the EAD is given by the sum of two components, the replacement cost (“RC”) and the potential future exposure, multiplied by a supervisory multiplier, alpha (1.4).

Table 16 shows a comprehensive view of the methods used to calculate CCR regulatory requirements and the main parameters used within each method for the MSI Group as at 31 December 2022.

Table 16: Analysis of CCR exposure by approach (UK CCR1) – MSI Group

$MM		a	b	c	d	e	f	g	h
MSI Group		**Replacement cost (RC)**	**Potential future exposure (PFE)**	**EEPE**	**Alpha used for computing regulatory exposure value**	**Exposure value pre-CRM**	**Exposure value post-CRM**	**Exposure value**	**RWAs**
UK1	Original Exposure Method (for derivatives)	-	-	-	-	-	-	-	-
UK2	Simplified SA-CCR (for derivatives)	-	-	-	-	-	-	-	-
1	SA-CCR (for derivatives)	9,636	10,353		1.4	37,563	26,214	26,214	10,204
2	IMM (for derivatives and SFTs)	-	-	46,322	1.4	144,695	65,222	65,222	25,782
2a	*Of which securities financing transactions netting sets*	-	-	7,551	-	10,444	10,444	10,444	2,104
2b	*Of which derivatives & long settlement transactions netting sets*	-	-	38,771	-	134,251	54,778	54,778	23,678
2c	*Of which from contractual cross product netting sets*	-	-	-	-	-	-	-	-
3	Financial collateral simple method (for SFTs)	-	-	-	-	-	-	-	-
4	Financial collateral comprehensive method (for SFTs)					14,647	14,650	14,650	4,000
5	VaR for SFTs					-	-	-	-
6	**Total**					**196,905**	**106,086**	**106,086**	**39,986**

Over the second half of 2022, IMM OTC RWAs decreased due to market movements.

Table 17 summarises movements of RWAs for MSI Group and MSIP's CCR exposures under IMM.

Table 17: RWAs flow statements of CCR exposures under IMM (UK CCR7) – MSI Group and MSIP

	$MM	a MSI Group RWAs	a MSIP RWAs
1	**RWAs at the end of the previous reporting period[1]**	**28,134**	**22,958**
2	Asset size	(1,937)	(1,223)
3	Credit quality of counterparties	(415)	(317)
4	Model updates (IMM only)	-	-
5	Methodology and policy (IMM only)	-	-
6	Acquisitions and disposals	-	-
7	Foreign exchange movements	-	-
8	Other	-	-
9	**RWAs at the end of the current reporting period**	**25,782**	**21,418**

1. Previous reporting period was Q3'22.

The decrease in RWAs is mainly due to business activity and market movements within OTC derivatives.

11.2 Credit Valuation Adjustment

CVA is the capital requirement that covers the risk of mark-to-market losses on the counterparty risk of OTC derivatives. It is calculated using a combination of an advanced approach based on using Internal Modelling Approach ("IMA") and a standardised approach. Table 18 shows CVA by approach for the MSI Group as at 31 December 2022.

Table 18: Transactions subject to own funds requirements for CVA risk (UK CCR2) - MSI Group

	$MM MSI Group	a Exposure value	b RWAs
1	Total transactions subject to the Advanced method	35,011	10,390
2	(i) VaR component (including the 3× multiplier)		2,365
3	(ii) Stressed VaR component (including the 3× multiplier)		8,025
4	Transactions subject to the standardised method	21,578	5,954
UK4	Transactions subject to the Alternative approach (Based on the Original Exposure Method)	-	-
5	**Total transactions subject to own funds requirements for CVA risk**	**56,589**	**16,344**

Over the second half of 2022, the decrease in the Advanced RWAs is attributable to a reduction in exposures across multiple counterparties.

11.3 Derivatives and SFTs composition of collateral

Table 19 shows the breakdown of all types of collateral posted or received to support or reduce CCR exposures related to derivative transactions or to SFTs, including transactions cleared through a Central Counterparty ("CCP") as at 31 December 2022 for the MSI Group.

Table 19: Composition of collateral for CCR exposures (UK CCR5) - MSI Group

		a	b	c	d	e	f
	$MM	Collateral used in derivative transactions				Collateral used in securities financing transactions (SFTs)	
		Fair value of collateral received		Fair value of collateral posted		Fair value of collateral received	Fair value of collateral posted
	MSI Group	Segregated	Unsegregated	Segregated	Unsegregated		
1	Cash	7,110	96,203	0	102,508	467,934	502,113
2	Debt	13,638	21,563	9,755	7,638	262,123	185,938
3	Equity	3,394	4,092	795	27	195,261	87,744
4	Other	918	579	1,444	3,164	30,844	5,349
5	**Total**	**25,060**	**122,437**	**11,994**	**113,337**	**956,162**	**781,144**

Over the second half of 2022, there was a decrease in unsegregated cash collateral received for derivatives and a decrease in equity held for SFTs.

11.4 Exposures to CCPs

Table 20 shows the breakdown of the exposures by Qualifying Central Counterparty ("QCCP") and non-QCCPs as at 31 December 2022 for the MSI Group.

Table 20: Exposures to CCPs (UK CCR8) - MSI Group

$MM MSI Group		a Exposure Value	b RWAs
1	**Exposures to QCCPs (total)**		**893**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	25,443	509
3	(i) OTC derivatives	7,882	158
4	(ii) Exchange-traded derivatives	13,198	264
5	(iii) SFTs	4,363	87
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	-	
8	Non-segregated initial margin	18,285	-
9	Prefunded default fund contributions	2,161	384
10	Unfunded default fund contributions	3,030	-
11	**Exposures to non-QCCPs (total)**		**-**
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-
13	(i) OTC derivatives	-	-
14	(ii) Exchange-traded derivatives	-	-
15	(iii) SFTs	-	-
16	(iv) Netting sets where cross-product netting has been approved	-	-
17	Segregated initial margin	-	
18	Non-segregated initial margin	-	-
19	Pre-funded default fund contributions	-	-
20	Unfunded default fund contributions	-	-

Over the second half of 2022, there was a decrease in OTC derivatives exposure with QCCPs.

11.5 Credit Derivative Transactions

Table 21 shows the extent of an institution's exposures to credit derivative transactions broken down between derivatives bought or sold for the MSI Group.

Table 21: Credit derivatives exposures (UK CCR6) - MSI Group

$MM MSI Group[1]		a Protection bought	b Protection sold
	Notionals		
1	Single-name credit default swaps	130,864	125,643
2	Index credit default swaps	167,346	171,521
3	Total return swaps	18,307	18,145
4	Credit options	76,787	75,803
5	Other credit derivatives	11,126	12,388
6	**Total Notionals**	**404,430**	**403,500**
	Fair values		
7	Positive fair value (asset)	4,678	3,717
8	Negative fair value (liability)	(3,424)	(4,302)

1.Credit Derivatives are not used as a CRM technique for RWAs benefits.

Over the second half of 2022, the increase in gross notionals was primarily from index credit default swaps.

11.6 Collateral Impact of a Downgrade

In connection with certain OTC trading agreements and certain other agreements where the MSI Group is a liquidity provider to certain financing vehicles, the MSI Group may be required to provide additional collateral or immediately settle any outstanding liability balances with certain counterparties or pledge additional collateral to certain exchanges and clearing organisations in the event of a future credit rating downgrade irrespective of whether the MSI Group is in a net asset or net liability position.

The additional collateral or termination payments that may be called in the event of a future credit rating downgrade vary by contract and can be based on ratings by either or both of Moody's and S&P. As at 31 December 2022, the future potential collateral amounts and termination payments that could be called or required by counterparties or exchanges and clearing organisations, in the event of one-notch or two-notch downgrade scenarios, from the lowest of Moody's or S&P ratings, based on the relevant contractual downgrade triggers, were $27 million and an incremental $46 million, respectively.

11.7 Wrong Way Risk

Wrong way risk considerations are described in Credit Risk Management's "Wrong Way Risk Procedure". Specific wrong way risk arises when a transaction is structured in such a way that the exposure to the counterparty is positively correlated with the PD of the counterparty. For example, a counterparty writing put options on its own stock or a counterparty collateralised by its own or related party stocks. The MSI Group considers these matters when approving transactions. Ongoing monitoring of transactions with specific wrong way risk is facilitated by systematic identification from inception of the trade throughout the entire lifecycle of the trade. Further, credit and capital exposures are adjusted to reflect the identified specific wrong way risk.

General wrong way risk arises when the counterparty PD is correlated with market or macroeconomic factors that affect the value of the counterparty's trades. General wrong way risk includes exposures correlated to sovereign default risk, which is subject to heightened monitoring and limits where appropriate, and exposure correlated to other market risk factors which is identified via single-factor stress tests. Where positions raise concerns, a risk mitigation strategy is agreed between CRMD and the business units.

12. Securitisation

The MSI Group acts, or has historically acted, as an originator, sponsor, liquidity provider, servicer and derivative counterparty to its own originated and sponsored securitisations, as well as those of third-party securitisations. The MSI Group also acts as market maker for, and refinancer of securitised products in EMEA. The majority of the securitisation exposures in the MSI Group result from where MSI Group acts as market maker for, and refinancer of securitised products in EMEA.

The MSI Group's strategy has been to use securitisations for customer facilitation. The MSI Group has engaged in securitisation activities related to commercial and residential mortgage loans, corporate bonds and loans, and other types of financial instruments.

The MSI Group participated as a book runner or lead manager in a number of new securitisations during 2022. The MSI Group did not originate or sponsor any new securitisations in 2022.

The MSI Group employs the Securitisation Standardised Approach ("SEC-SA"), Securitisation External Ratings Based Approach ("SEC-ERBA") and Default 1250% Approach to calculate the capital on its securitisation positions. MSI Group does not apply the Securitisation IRB Approach ("SEC-IRBA"). The MSI Group uses ratings from three ECAI: Moody's Investors Service, Standard & Poor's and Fitch across all types of exposures.

Table 22 shows the securitisation exposures and MCR within the MSI Group as at 31 December 2022.

Table 22: Securitisation exposures summary - MSI Group

$MM MSI Group	Trading book	Non-trading book
Exposures	1,016	453
MCR	336	235

Over the second half of 2022, securitisation exposures increased by $145MM and capital requirements increased by $37MM. The increase in capital requirements was primarily driven by increased exposure in Trading Book activity.

Table 23 shows securitisation exposures in the non-trading book for MSI Group as at 31 December 2022.

Table 23: Securitisation exposures in the non-trading book (UK-SEC1) - MSI Group

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
$MM		Institution acts as originator							Institution acts as sponsor				Institution acts as investor			
		Traditional				Synthetic			Traditional		Synthetic		Traditional		Synthetic	
		STS		Non-STS					STS	Non-STS			STS	Non-STS		
MSI Group[1]			Of which SRT[2]		Of which SRT[2]		Of which SRT[2]	Sub-total				Sub-total				Sub-total
1	**Total exposures**	-	-	-	-	**29**	-	**29**	-	-	-	-	-	**424**	-	**424**
2	Retail (total)	-	-	-	-	10	-	10	-	-	-	-	-	415	-	415
3	Residential mortgage	-	-	-	-	10	-	10	-	-	-	-	-	94	-	94
4	Credit card	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Other retail exposures	-	-	-	-	-	-	-	-	-	-	-	-	321	-	321
6	Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Wholesale (total)	-	-	-	-	19	-	19	-	-	-	-	-	9	-	9
8	Loans to corporates	-	-	-	-	19	-	19	-	-	-	-	-	6	-	6
9	Commercial mortgage	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3
10	Lease and receivables	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Other wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1. No STS ("simple, transparent and standardised") as at 31 December 2022.
2. No SRT ("Significant Risk Transfer") as at 31 December 2022.

The above table represents the securitisation exposures broken down on the basis of retail and wholesale non-trading book exposure where institution is acting as an originator, sponsor or investor. Currently MSI Group only has exposures acting as an originator and investor. Over the second half of 2022, increase of $98MM is mainly driven by retail exposure of $79MM under institution acting as investor.

Table 24 shows securitisation exposures in the trading book for MSI Group as at 31 December 2022.

Table 24: Securitisation exposures in the trading book (UK-SEC2) - MSI Group

	a	b	c	d	e	f	g	h	i	j	k	l
$MM	Institution acts as originator				Institution acts as sponsor				Institution acts as investor			
	Traditional		Synthetic		Traditional		Synthetic		Traditional		Synthetic	
MSI Group	STS	Non-STS		Sub-total	STS	Non-STS		Sub-total	STS	Non-STS		Sub-total
1 **Total exposures**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**971**	**45**	**1,016**
2 Retail (total)	-	-	-	-	-	-	-	-	-	573	45	618
3 Residential mortgage	-	-	-	-	-	-	-	-	-	454	45	499
4 Credit card	-	-	-	-	-	-	-	-	-	-	-	-
5 Other retail exposures	-	-	-	-	-	-	-	-	-	108	-	108
6 Re-securitisation	-	-	-	-	-	-	-	-	-	11	-	11
7 Wholesale (total)	-	-	-	-	-	-	-	-	-	398	-	398
8 Loans to corporates	-	-	-	-	-	-	-	-	-	313	-	313
9 Commercial mortgage	-	-	-	-	-	-	-	-	-	85	-	85
10 Lease and receivables	-	-	-	-	-	-	-	-	-	-	-	-
11 Other wholesale	-	-	-	-	-	-	-	-	-	-	-	-
12 Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-

The above table represents the securitisation exposures broken down on the basis of retail and wholesale trading book exposure where institution is acting as an originator, sponsor or investor. Currently MSI Group only has exposures acting as an Investor. Over the second half of 2022, increase in exposure of $237MM is driven by Retail exposure $114MM and Wholesale exposure $123MM.

Table 25 shows the securitisation positions broken down by SEC-SA capital approach and risk weight band within the MSI Group as at 31 December 2022.

Table 25: Securitisation exposures and capital requirements by standardised approach (SEC-SA) - MSI Group

$MM MSI Group	Trading book exposure	Non-trading book exposure	Trading book MCR	Non-trading book MCR
Investor securitisations by risk weight				
>10% <=20%	130	-	2	-
>20%<=50%	18	-	0	-
Total	**148**	**-**	**2**	**-**

The above table represents the securitisation exposures and capital requirements broken down by SEC-SA capital approach and risk weight for trading and non-trading book.

Table 26 shows the securitisation positions broken down by SEC-ERBA capital approach and risk weight band within the MSI Group as at 31 December 2022.

Table 26: Securitisation exposures and capital requirements by external ratings approach (SEC-ERBA) - MSI Group

$MM MSI Group[1]	Trading book exposure	Non-trading book exposure	Trading book MCR	Non-trading book MCR
Investor securitisations by risk weight				
<=10%	-	-	-	-
>10% <=20%	68	-	1	-
>20% <=50%	23	66	1	2
>50% <= 100%	77	6	5	0
>100% <=650%	222	93	49	42
>650% <1250%	130	-	82	-
1250%	13	16	13	16
Originator securitisations by risk weight				
<=10%	-	-	-	-
>10% <=20%	-	-	-	-
>20% <=50%	-	-	-	-
>50% <= 100%	-	26	-	2
>100% <=650%	-	3	-	0
>650% <1250%	-	-	-	-
1250%	-	-	-	-
Total	**533**	**210**	**151**	**62**

1. No STS as at 31 December 2022.

The above table represents the securitisation exposures and capital requirements broken down by SEC-ERBA capital approach and risk weight for trading and non-trading book.

Table 27 shows the securitisation positions broken down by Default 1250% (Risk Weight) capital approach within the MSI Group as at 31 December 2022.

Table 27: Securitisation exposures and capital requirements by default approach (1250% Risk Weight) - MSI Group

$MM MSI Group	Trading book exposure	Non-trading book exposure	Trading book MCR	Non-trading book MCR
Investor securitisations	324	243	172	173
Originator securitisations	-	-	-	-
Investor re-securitisations	11	-	11	-
Originator re-securitisations	-	-	-	-
Total	**335**	**243**	**183**	**173**

The above table represent the securitisation positions by default 1250% capital approach as at 31 December 2022.

Table 28 shows Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as an originator or sponsor for MSI Group as at 31 December 2022.

Table 28: Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor (UK-SEC3) - MSI Group

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
$MM		Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWAs (by regulatory approach)				Capital charge after cap			
	MSI Group	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
1	**Total exposures**	**-**	**-**	**26**	**3**	**-**	**-**	**29**	**-**	**-**	**-**	**25**	**-**	**-**	-	2	-	-
2	Traditional transactions	-	-	26	3	-	-	29	-	-	-	25	-	-	-	2	-	-
3	Securitisation	-	-	26	3	-	-	29	-	-	-	25	-	-	-	2	-	-
4	Retail underlying	-	-	7	3	-	-	10	-	-	-	10	-	-	-	1	-	-
5	Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Wholesale	-	-	19	-	-	-	19	-	-	-	15	-	-	-	1	-	-
7	Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Synthetic transactions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

The above table represents the securitisation exposures broken down by Traditional and Synthetic non-trading book exposure on basis of regulatory approaches & Risk Weight (“RW”) banding where institution is acting as an originator or sponsor. Currently only SEC-ERBA regulatory approach is being applied on the exposures, Over the second half of 2022, RWAs decreased by $19MM is driven by Traditional transactions.

Table 29 shows Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor for MSI Group as at 31 December 2022.

Table 29: Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor (UK-SEC4) - MSI Group

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
$MM		Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWAs (by regulatory approach)				Capital charge after cap			
MSI Group		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
1	**Total exposures**	**-**	**66**	**6**	**169**	**183**	**-**	**181**	**-**	**243**	**-**	**748**	**-**	**2,167**	**-**	**60**	**-**	**173**
2	Traditional securitisation	-	66	6	169	183	-	181	-	243	-	748	-	2,167	-	60	-	173
3	Securitisation	-	66	6	169	183	-	181	-	243	-	748	-	2,167	-	60	-	173
4	Retail underlying	-	66	-	169	180	-	175	-	240	-	743	-	2,129	-	59	-	170
5	Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Wholesale	-	-	6	-	3	-	6	-	3	-	5	-	38	-	1	-	3
7	Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Synthetic securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

The above table represents the securitisation exposures broken down by Traditional and Synthetic non-trading book exposure on basis of regulatory approaches & RW banding where institution is acting as Investor. Over the second half of 2022, RWAs decreased by $394MM driven by traditional transactions.

Table 30 shows Exposures securitised by the institution - Exposures in default and specific credit risk adjustments for MSI Group as at 31 December 2022.

Table 30: Exposures securitised by the institution - Exposures in default and specific credit risk adjustments (UK-SEC5) - MSI Group

		a	b	c
$MM		Exposures securitised by the institution - Institution acts as originator or as sponsor		
		Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
MSI Group			Of which exposures in default	
1	**Total exposures**	**29**	**-**	**-**
2	Retail (total)	10	-	-
3	Residential mortgage	10	-	-
4	Credit card	-	-	-
5	Other retail exposures	-	-	-
6	Re-securitisation	-	-	-
7	Wholesale (total)	19	-	-
8	Loans to corporates	19	-	-
9	Commercial mortgage	-	-	-
10	Lease and receivables	-	-	-
11	Other wholesale	-	-	-
12	Re-securitisation	-	-	-

The above table represents the securitisation exposures broken down on the basis of retail and wholesale exposure where institution is acting as an originator or sponsor. Currently MSI Group only has exposures acting as an originator. Over the second half of 2022, exposures decreased by $6MM driven by wholesale exposure. There were no exposures in default as at 31 December 2022.

In the event that the MSI Group acts as the originator of a securitisation, transfers of financial assets in the transaction are generally accounted for as sales when the MSI Group has relinquished control over the transferred assets and met CRR requirements for SRT. The gain or loss on sale of such financial assets depends, in part, on the previous carrying amount of the assets involved in the transfer (generally at fair value), the sum of the proceeds and fair value of the retained interests on the date of sale.

The MSI Group may retain interests in the securitised financial assets of one or more tranches of the securitisation. These retained interests are included at fair value. Any changes in the fair value of such retained interests are recognised through the profit and loss in the audited financial statements of the entity holding such interests.

The credit risk of the MSI Group's securitisations is controlled by actively monitoring and managing the associated credit exposures. The MSI Group evaluates collateral quality, credit subordination levels and structural characteristics of securitisation transactions at inception and on an ongoing basis, and manages exposures against internal limits.

The MSI Group follows a set of rigorous procedures for risk managing market risk on securitised products, evolving them with changes in market conditions:

- The MSI Group conducts an assessment of risk limits at least once a year, and more often if required. Market conditions, collateral quality, liquidity and downside risk are important factors for setting market risk limits;
- The MSI Group measures downside risk using various metrics, such as Value at Risk ("VaR") and scenarios analysis, differentiating products based on collateral, seniority and liquidity.

13. Market Risk

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, implied volatilities, correlations or other market factors, such as market liquidity, will result in losses for a position or portfolio.

The MSI Group manages the market risk associated with its trading activities at a division, business area and individual product level, and includes consideration of market risk at the legal entity level.

Sound market risk management is an integral part of the Morgan Stanley Group culture. The MSI Group is responsible for ensuring that market risk exposures are well-managed and monitored. The MSI Group Market Risk Department ("MRD") is responsible for ensuring transparency of material market risks, monitors compliance with established limits, and escalates risk concentrations to appropriate senior management. MRD is an independent risk oversight group headed by the EMEA Head of Market Risk, who reports directly to both the EMEA Chief Risk Officer and the Global Head of Market Risk.

To execute these responsibilities, MRD monitors the market risk against limits on aggregate risk exposures and performs a variety of risk analysis. Aggregate market risk limits have been approved for MSI Group in line with the risk appetite set by the MSI Board. Additional market risk limits are assigned, as appropriate, to trading desks, products and/or regions and are commensurate with the aggregate limits. MRD monitors market risk measures against limits in accordance with policies set by the MSI Board and senior management. Risk analysis includes monitoring VaR, stress testing and scenario analyses, routine reporting of risk exposures, and maintenance of the VaR and scenario analysis methodologies. The material risks identified by these processes are summarised and reported to senior management.

An IMA permission has been granted by the PRA for MSIP and MSESE Consol, for use within the MSI Group on an aggregation plus basis. IMA Models are applied consistently across all sub-portfolios; with the population in scope defined according to permission criteria. Models are independently reviewed on an annual basis by MRM, and changes to methodologies are approved by the Model Oversight Committee. The model validation process is independent of the Internal Models' development, implementation, and operation. The validation process includes tests of the model's sensitivity to key inputs and assumptions and evaluation of conceptual soundness.

The market risk management policies and procedures for the MSI Group are consistent with those of the Morgan Stanley Group and include escalation to the MSI Board and appropriate management personnel.

Risk Mitigation Policies

The MSI Group manages its trading positions by employing a variety of risk mitigation strategies. These strategies include diversification of risk exposures and hedging. Hedging activities consist of the purchase or sale of positions in related securities and financial instruments, including a variety of derivative products (e.g., futures, forwards, swaps, and options). Hedging activities may not always provide effective mitigation against trading losses due to differences in the terms, specific characteristics or other basis risks that may exist between the hedge instrument and the risk exposure that is being hedged.

The MSI Group manages and monitors its market risk exposures, including outright and basis risks, in such a way as to maintain a portfolio that the MSI Group believes is well-diversified in the aggregate with respect to market risk factors, and that reflects the MSI Group's aggregate risk tolerance as established by the MSI Group senior management. The effectiveness of hedges and mitigants is monitored using processes such as risk and limit reporting.

Data Quality

MRD has a data quality control process to monitor, validate, remediate, escalate, and report data quality issues that impact market risk and capital reporting. The Market Risk Middle Office team is responsible for coordinating data quality control with the aim of providing MRD with high quality data that is accurate, complete, and delivered in a timely manner. Threshold based checks are performed on input data for IMA models. Large moves are validated, and data adjustments are made where necessary, along with the appropriate escalation to ensure ongoing remediation. Completeness, accuracy, and timeliness key performance indicators for market risk metrics are reported to the senior management risk committees.

13.1 Value at Risk

The MSI Group uses the statistical technique known as VaR as one of the tools used to measure, monitor, and review the market risk exposures of its trading portfolios. MRD calculates and distributes daily VaR-based risk measures to various levels of management.

VaR Methodology, Assumptions and Limitations

The MSI Group calculates VaR using a model based on historical simulation for general market risk factors and for name-specific equity risk and on Monte Carlo simulation for name-specific risk in bonds, loans, and related derivatives. Market risk factors' daily moves are modelled either as absolute changes or relative changes, dependent on the most suitable stochastic process (normal or lognormal diffusion process) to describe the daily risk factor changes. The model constructs a distribution of hypothetical daily changes in the value of trading portfolios based on historical observation of daily changes in key market indices or other market risk factors, and information on the sensitivity of the portfolio values to these market risk factor changes.

The methodology for VaR at Morgan Stanley Group is 1-year historical simulation. The risk exposures used for the daily VaR calculation are based on greeks and full-revaluation grids, and simulations cover both systematic and specific risk components. The total simulated profit and loss of a given position for each simulation date in the historical window is calculated taking into account both systematic and specific risk components of the market factor moves. The final profit and loss distribution is a result of profit and losses of all risk factors and all positions being aggregated. The time series data is updated on a weekly basis, with the exception of idiosyncratic risk factors which are updated quarterly. The same valuation and aggregation approach is used for Stressed Value at Risk ("SVaR").

A set of internal processes and controls ensure that all relevant trading positions booked by the MSI Group are included in VaR. The MSI Group's 99%/one-day VaR corresponds to the unrealised loss in portfolio value that, based on historically observed market risk factor movements, would have been exceeded with a frequency of 1%, or once every 100 trading days, if the portfolio were held constant for one day. The 99th percentile is computed and is scaled by the square root of 10 to arrive at a 10-day VaR for regulatory purposes. The 95th percentile 1-day VaR is used by MRD internally to manage risk and to base the legal entity VaR limits on.

The MSI Group uses VaR as one of a range of risk management tools. Among their benefits, VaR models permit estimation of a portfolio's aggregate market risk exposure, incorporating a range of market risks and portfolio assets. One key element of the VaR model is that it reflects portfolio diversification or hedging activities. However VaR has various limitations which include but are not limited to: use of historical changes in market risk factors, which may not be accurate predictors of future market conditions, and may not fully incorporate the risk of extreme market events that are outsized relative to observed historical market behaviour or reflect the historical distribution of results beyond the 99% confidence interval; and reporting of losses in a single day, which does not reflect the risk of positions that cannot be liquidated or hedged in one day. The modelling of the risk characteristics of some positions relies on approximations that, under certain circumstances, could produce significantly different results from those produced using more precise measures. VaR is most appropriate as a risk measure for trading positions in liquid financial markets and will understate the risk associated with severe events such as periods of extreme illiquidity.

The MSI Group is aware of these and other limitations and therefore uses VaR as only one component in its risk management oversight process. This process also incorporates stress testing and scenario analysis and extensive risk monitoring, analysis, quantification of risk not captured in VaR, and control at the trading desk, division and the MSI Group levels.

The MSI Group is committed to continuous review and enhancement of VaR methodologies and assumptions in order to capture evolving risks associated with changes in market structure and dynamics. As part of regular process improvement, additional systematic and name-specific risk factors may be added to improve the VaR model's ability to estimate risks more accurately for specific asset classes or industry sectors.

Since the reported VaR statistics are estimates based on historical data, VaR should not be viewed as predictive of the MSI Group's future revenues or financial performance or of its ability to manage risk. There can be no assurance that the MSI Group's actual losses on a particular day will not exceed the VaR amounts indicated below or that such losses will not occur more than once in 100 trading days. VaR does not predict the magnitude of losses which, should they occur, may be significantly greater than the VaR amount.

VaR statistics are not readily comparable across firms because of differences in the firms' portfolios, modelling assumptions and methodologies. These differences can result in materially different VaR estimates across firms for similar portfolios. The impact of such differences varies depending on the factor history assumptions, the frequency with which the factor history is updated and the confidence level. As a result, VaR statistics are more useful when interpreted as indicators of trends in a firm's risk profile rather than as an absolute measure of risk to be compared across firms.

13.2 Market Risk Capital Requirements

The market risk capital requirements of the MSI Group comprises of capital which is calculated using IMA in accordance with regulatory approved models and of capital which is calculated under the SA.

Standardised Approach

Table 31 shows the market risk RWAs for the MSI Group as at 31 December 2022, calculated in accordance with the SA and categorised by component type.

Table 31: Market risk under the standardised approach (UK MR1) - MSI Group

$MM		a
MSI Group		RWAs
	Outright products	
1	Interest rate risk (general and specific)	2,278
2	Equity risk (general and specific)	17
3	Foreign exchange risk	6,726
4	Commodity risk	744
	Options	
5	Simplified approach	-
6	Delta-plus method	-
7	Scenario approach	447
8	Securitisation (specific risk)	4,197
9	**Total**	**14,409**

Over the second half of 2022, capital requirements under the SA increased, driven by foreign exchange risk and specific risk on securitisation positions.

IMA Approach

The VaR-based capital and the SVaR-based capital are determined by the higher of the 60-day average of the 10-day VaR/10-day SVaR numbers, multiplied by the regulatory internal model multiplication factor as prescribed by the PRA, and the 10-day VaR/10-day SVaR for the relevant day. The Incremental Risk Charge ("IRC") and Comprehensive Risk Measure ("CRMe") charges are determined by the higher of the average of the latest 12 weeks IRC/CRMe and the IRC/CRMe charge for the relevant day.

Table 32 shows the VaR and SVaR, as well as the IRC and CRMe measures for the MSI Group, as at 31 December 2022. The VaR and SVaR capital measures presented in Table 32 is based on the 60-day averages, as they were higher than the daily measures as at 31 December 2022.

Table 32: Market risk under Internal Model Approach (UK MR2-A) - MSI Group

$MM MSI Group		a RWAs	b Own funds requirements
1	**VaR (higher of values a and b)**	**8,141**	**651**
(a)	Previous day's VaR (VaR $_{t-1}$)	2,900	232
(b)	Multiplication factor (mc) x average of previous 60 working days (VaR$_{avg}$)	8,141	651
2	**SVaR (higher of values a and b)**	**14,657**	**1,173**
(a)	Latest available SVaR (SVaR$_{t-1}$)	4,327	346
(b)	Multiplication factor (ms) x average of previous 60 working days (sVaR$_{avg}$)	14,657	1,173
3	**IRC (higher of values a and b)**	**5,361**	**429**
(a)	Most recent IRC measure	4,159	333
(b)	12 weeks average IRC measure	5,361	429
4	**CRMe (higher of values a, b and c)**	**4**	**0**
(a)	Most recent risk measure of comprehensive risk measure	0	0
(b)	12 weeks average of comprehensive risk measure	4	0
(c)	Comprehensive risk measure Floor	0	0
5	**Other**	**23,261**	**1,861**
6	**Total**	**51,424**	**4,114**

Over the second half of 2022, Market Risk RWAs under IMA approach increased primarily due to an increase in VaR-based RWAs.

Table 33 summarises the key drivers of RWAs/TOFR for MSI Group and MSIP's market risk exposures under the IMA.

Table 33: RWAs flow statements of market risk exposures under the IMA (UK MR2-B) – MSI Group and MSIP

$MM		a	b	c	d	e	f	g
MSI Group		VaR	SVaR	IRC	Comprehensive risk measure	Other[4]	Total RWAs	TOFR
1	**RWAs at previous period end[1]**	**6,901**	**14,322**	**5,484**	**4**	**25,138**	**51,849**	**4,148**
1a	Regulatory adjustment[2]	(5,061)	(9,962)	-	(4)	(12,319)	(27,346)	(2,188)
1b	RWAs at the previous quarter-end (end of the day)	1,840	4,360	5,484	-	12,819	24,503	1,960
2	Movement in risk levels	530	(496)	(1,350)	-	(2,728)	(4,044)	(323)
3	Model updates/changes	-	-	-	-	-	-	-
4	Methodology and policy	-	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-	-
6	Foreign exchange movements	23	87	57	-	164	331	26
7	Other[3]	507	376	(32)	-	140	991	79
8a	RWAs at the end of the disclosure period (end of the day)	2,900	4,327	4,159	-	10,395	21,781	1,742
8b	Regulatory adjustment[2]	5,241	10,330	1,202	4	12,866	29,643	2,372
8	**RWAs at the end of the disclosure period**	**8,141**	**14,657**	**5,361**	**4**	**23,261**	**51,424**	**4,114**
	MSIP							
1	**RWAs at previous period end[1]**	**5,653**	**10,166**	**4,649**	**4**	**20,769**	**41,241**	**3,299**
1a	Regulatory adjustment[2]	(4,069)	(6,781)	-	(4)	(9,726)	(20,580)	(1,646)
1b	RWAs at the previous quarter-end (end of the day)	1,584	3,385	4,649	-	11,043	20,661	1,653
2	Movement in risk levels	561	(496)	(1,252)	-	(2,553)	(3,740)	(300)
3	Model updates/changes	-	-	-	-	-	-	-
4	Methodology and policy	-	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-	-
6	Foreign exchange movements	-	-	-	-	-	-	-
7	Other[3]	482	375	(27)	-	140	970	78
8a	RWAs at the end of the disclosure period (end of the day)	2,627	3,264	3,370	-	8,630	17,891	1,431
8b	Regulatory adjustment[2]	4,398	8,325	1,187	4	10,572	24,486	1,959
8	**RWAs at the end of the disclosure period**	**7,025**	**11,589**	**4,557**	**4**	**19,202**	**42,377**	**3,390**

1. Previous reporting period was Q3'22.
2. Regulatory adjustments accounts for the difference between the RWAs calculated based on the end-of-day position, compared with the RWAs calculated based on the 60-day average position in the case of VaR / SVaR and 12-week average position in the case of IRC and CRMe. The regulatory adjustments also account for the multiplication factors (m_c) and (m_s), per Article 366 of the CRR, for the VaR, SVaR and Other respectively.
3. Other (flow driver) represents low impact data and implementation changes including time series updates and periodic parameter updates to the respective models.
4. Other (risk measure) represents Risks Not in VaR ("RNIV").

Over the fourth quarter of 2022, Market Risk RWAs under IMA for MSI Group remained stable, while for MSIP the increase was due to changes in the fixed income risk and heightened market volatility entering the VaR timeseries.

Table 34 provides a summary of the maximum, minimum, average, and period-end values over the six months to 31 December 2022, for the MSI Group, resulting from the different models approved to be used for computing the regulatory capital charge.

Table 34: IMA values for trading portfolios (UK MR3) - MSI Group

$MM MSI Group[1]		a
VaR (10 day 99%)		
1	Maximum value	302
2	Average value	194
3	Minimum value	144
4	Period end	232
SVaR (10 day 99%)		
5	Maximum value	542
6	Average value	367
7	Minimum value	293
8	Period end	346
IRC (99.9%)		
9	Maximum value	548
10	Average value	373
11	Minimum value	231
12	Period end	333
Comprehensive Risk Measure (99.9%)		
13	Maximum value	2
14	Average value	0
15	Minimum value	0
16	Period end	0

1. UK MR3 table excludes RNIVs from the VaR and sVaR calculations. RNIVs (including VaR-based and scenario-based charges) are aggregated into the 'Other' category, shown in table UK MR2-B.

Over the second half of 2022, VaR, SVaR and IRC movements were small and mainly attributable to changes in the fixed income risk profile. Additionally, VaR trended higher in the fourth quarter as a result of elevated market volatility impacting the timeseries.

13.3 Positions Included in the Trading Book

The MSI Group has a comprehensive framework of policies, controls and reporting to meet the requirements of the CRR for inclusion of positions in the Trading Book. The underlying policies, controls and reporting mechanisms cover a range of different aspects including Trading Intent, Valuation, Liquidity, Restrictions, Hedgeability, Active Management and transfers between the Trading and Non-Trading Books. Governance is provided by the firm's Banking/Trading Committee whose role with respect to the banking/trading boundary is to oversee the determination of the banking/trading/covered position designation in accordance with regulatory requirements. The committee acts as the adjudication forum for any positions where the appropriate banking/trading/covered position designation is unclear. The Banking/Trading Committee reports to the firm's Basel Capital Steering Committee.

The Trading Book comprises financial instruments that are: held for trading intent or intent to hedge a trading position; free from restrictive covenants on tradability or for which the material risk elements can be hedged in a two-way market; frequently/accurately valued and actively managed on a trading desk. If a position fails to meet the Trading Book criteria, it will be classified as Non-Trading Book.

Trading Book positions are subject to market risk-based rules, with market risk capital requirements calculated using regulatory approved internal models or a non-modelled SA.

The firm methodology for determining Non-Trading Book versus Trading Book classification is documented within the firm's Trading Book, Banking Book and Covered Positions Boundary Policy. The policy outlines criteria for identifying and classifying trading book positions for the purpose of regulatory capital and market risk measurement and sets out associated roles and responsibilities across the business unit, finance, and other stakeholder groups. This policy is subject to annual review and sign-off.

A firm-wide framework establishes controls around initial Banking/Trading classification as well as ongoing monitoring to ensure the initial classification remains appropriate over time.

13.4 Backtesting

MSI Group performs regulatory backtesting for MSIP and MSESE Consol on a daily basis at various levels of the business hierarchy to validate the accuracy of the VaR model. Backtesting is performed against the VaR model in accordance with requirements under the regulation, and per the firm's Backtesting Policy and Procedures. As at 31 December 2022, 78% of total MSI Group market risk capital requirements are covered by the internal models. VaR represents a subset of total model-based market risk capital requirements.

Backtesting compares the profit and loss for trade date T against the 99%/one-day Regulatory Trading VaR for T-1. As per the requirements of the CRR rules, backtesting uses "actual" and "hypothetical" definitions of the profit and loss. Backtesting on hypothetical changes in the portfolio's value refers to a comparison between the portfolio's end-of-day value and, assuming unchanged positions, its value at the end of the subsequent day. Backtesting on actual changes in the portfolio's value refers to a comparison between the portfolio's end-of-day value and its actual value at the end of the subsequent day (i.e., inclusive of intra-day trading/new activity). Both measures of the backtesting profit and loss exclude non risk-based fees (i.e., service fees), commissions, and NII. For the purposes of the regulatory backtest, actual profit and loss incorporates liquidity and model-driven fair value adjustments whilst hypothetical profit and loss retains only the latter.

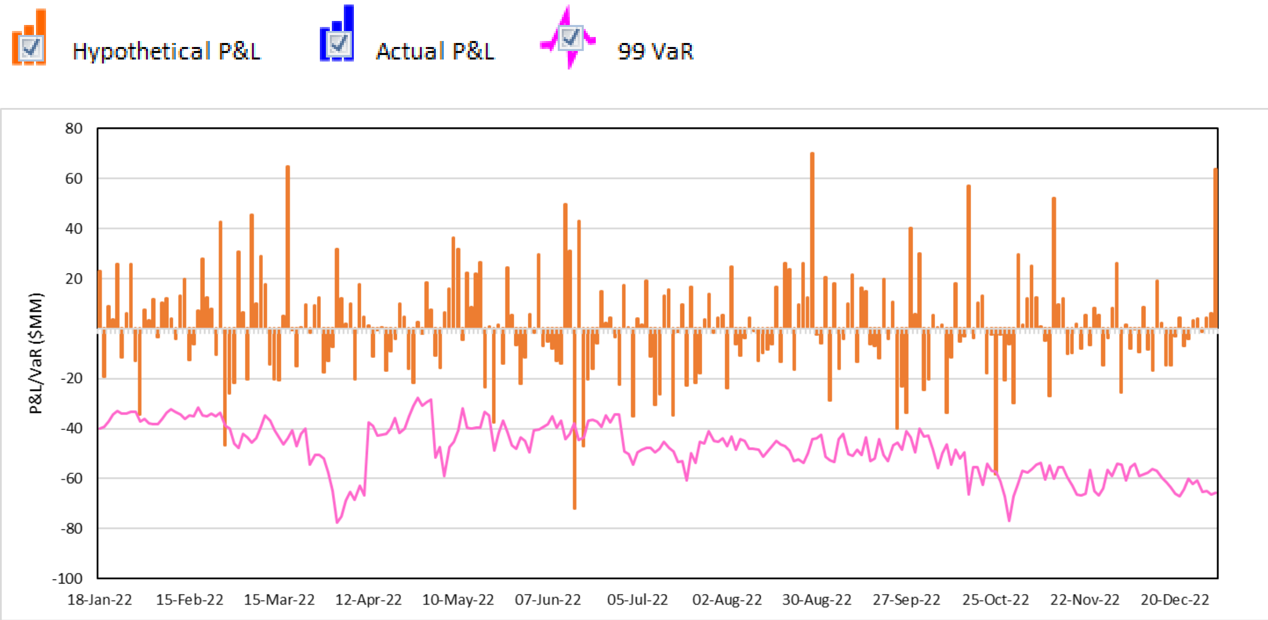
Performance is measured across a rolling 250 business day period and is expressed by the number of exceptions observed (instances where MSIP or MSESE Consol, actual or hypothetical, losses exceed 99% VaR). These exceptions are reported to the regulator. Firms observing five or more exceptions within the measurement period are required to set aside additional market risk capital based on a sliding scale.

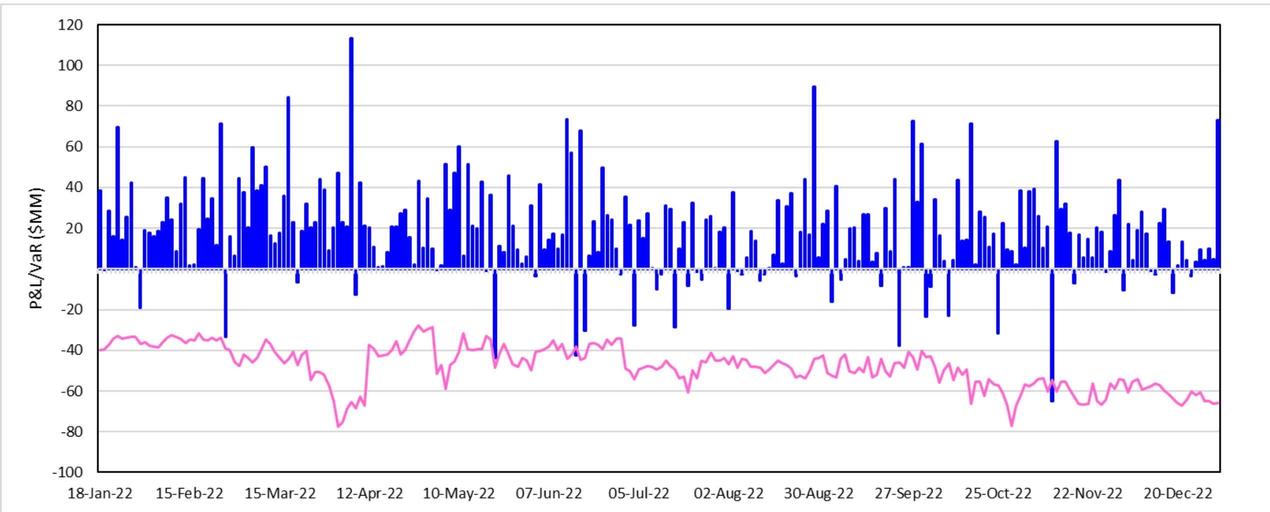
Backtesting results are reported, analysed, and discussed by the MSI Group Market Risk Backtesting Review Forum. Findings or recommendations from this forum are escalated to Model Oversight and Risk Committees, who are responsible for authorising any further model analysis or model remediation efforts. The results of backtesting and model performance monitoring are also reported to the regulator on a periodic basis.

The plots of actual and hypothetical profit and loss, covering 250 business days of MSIP backtesting monitoring to 31 December 2022 are displayed below:

Figure 4: Comparison of VaR Estimates with Gains/Losses – MSIP (UK MR4)

The graphs below show the 1 day Regulatory Trading VaR against actual and hypothetical profit and loss for MSIP, values in millions of dollars:



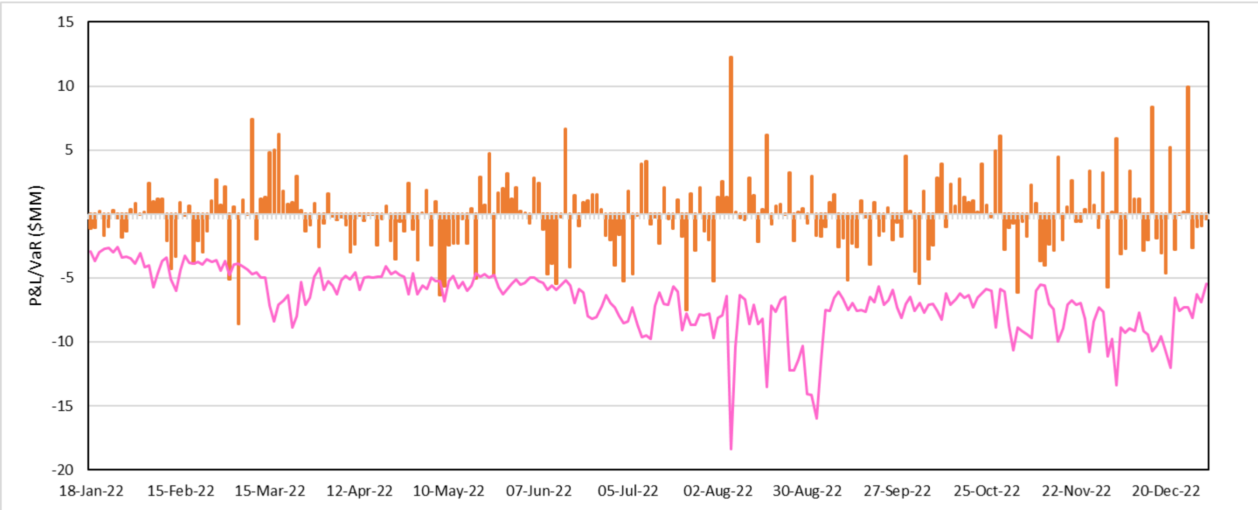


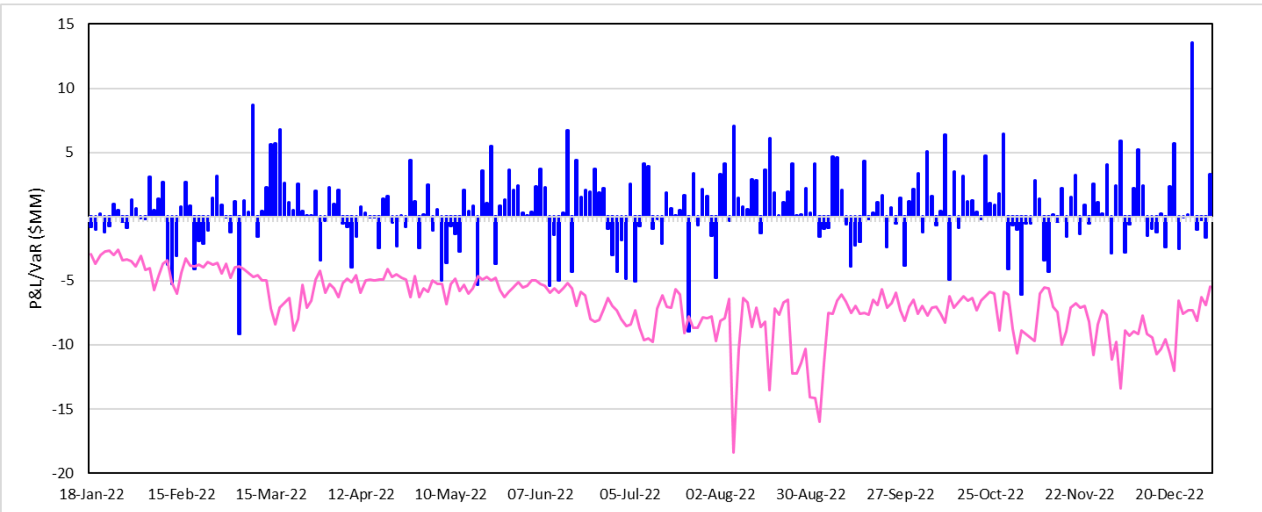
For the measurement period ended 31 December 2022, four hypothetical and two actual profit and loss exceptions were observed for MSIP which equates to the Green zone for capital multiplier purposes (less than five exceptions). One of the observed exceptions (November 2022) was on an actual P&L only basis, driven by intraday P&L outside the scope of the internal model. The remaining exceptions (one in February, two in June, and one in October 2022) were either on a hypothetical P&L only, or on both a hypothetical and actual P&L basis. The analysis of these hypothetical exceptions concluded that they were primarily driven by elevated market moves in risk factors that were captured in the VaR model with sufficient granularity.

The plots of actual and hypothetical profit and loss, covering 250 business days of MSESE Consol backtesting monitoring to 31 December 2022, are displayed below:

Figure 5: Comparison of VaR Estimates with Gains/Losses – MSESE Consol (EU MR4)

The graphs below show the 1 day Regulatory Trading VaR against actual and hypothetical profit and loss for MSESE Consol, values in millions of dollars:





For the measurement period ended 31 December 2022, five hypothetical and six actual profit and loss exceptions were observed for MSESE Consolidated which results in a 0.5 addend to the capital multiplier. Four of the observed exceptions (three in February 2022, one in July 2022) were on an actual P&L only basis and driven by intraday P&L outside the scope of the internal model. The remaining exceptions (two in March 2022, three in May 2022) were either on a hypothetical P&L basis only, or on both a hypothetical and actual P&L basis. The Firm’s analysis of the hypothetical P&L exceptions concluded that they were primarily driven by significant directional market moves in risk factors that were captured in the VaR model with sufficient granularity, and did not indicate any model deficiencies.

13.5 Stressed VaR

SVaR uses the same underlying models as VaR to produce a 1-day 99% VaR constructed over a 1-year period of stress. SVaR uses historical simulations for the general market risk factors and for name-specific risk in corporate shares, and Monte Carlo simulation for name specific risk in bonds, loans, and related derivatives. The SVaR model is agreed and approved by the PRA for use in regulatory calculations. Stressed 10-day VaR is constructed by scaling the Stressed 1-day VaR.

The SVaR window for regulatory calculations is periodically set as the 1-year Unadjusted VaR window since the start of 2 January 2006 that generates the largest financial stress to the Bank's portfolio as measured by the resulting VaR.

13.6 Incremental Risk Charge

The IRC covers possible losses arising from correlated credit rating migration events and potentially joint default events for credit products in MSI Group's Trading Book portfolio. The model is applied to instruments with credit-like characteristics referencing corporate, sovereign, regional, supranational and agency obligors that are approved for specific risk treatment; this excludes securitisations and correlation trading products as these are capitalised separately. The model captures basis risks between credit derivatives and underlying reference instruments, maturity mismatches, regional and industry concentration risks, and simulates stochastic recovery rates.

The underlying model is based on a Merton style default modelling with a correlation structure between regions and industries that is calibrated to market implied default probabilities, and that uses through the cycle, historical transition matrices for rating migrations. The IRC model applies a constant level of risk with varying liquidity horizons of 3, 6 or 12 months reflective of underlying market liquidity and position concentrations in individual issuers.

MSI Group monitors various IRC model sensitivities and assumptions, including concentration sensitivities across industry, region, rating and security type, sensitivity to the "constant level of risk" assumption, and conservatism of stochastic loss given default.

Table 35: IRC liquidity horizon (months) for material sub portfolios – MSIP / MSESE Consol

	MSIP	MSESE Consol
Fixed income division	4.77	4.13
Institutional equity division	4.55	4.08
Bank resource management	3.64	-
Overall Portfolio	**4.63**	4.09

The above table outlines the average liquidity horizons for each division, which are assigned based on the constituent issuers' rating and concentration.

13.7 Comprehensive Risk Measure

The CRMe covers possible losses in the correlation trading portfolio ("CTP") arising from moves in credit spreads, base correlations, expected recovery, and basis risks including index versus single name, as well as defaults with stochastic recovery rates. The model is applied to correlation trading positions and their hedges, and assumes a constant level of risk and a fixed liquidity horizon of 6 months given underlying market liquidity and the MSI Group CTP inventory.

CRMe applies Monte Carlo simulations to a Merton style default modelling and separate but correlated multifactor processes for the modelled market risk factors. Profits and losses are calculated using the simulated market movement in the model calculated based on their time to expiry at the calculation date.

Market variables, including correlations, are calibrated to historical data, and parameters of the default process are the same as those used in the IRC model. Base correlation curves are calibrated using hazard rates with an assumption of constant LGD.

MSI Group monitors the accuracy and consistency of the CRMe model via a review of the explanatory power and completeness of the core market risk factors set, and both supervisory and internally defined market stress scenarios.

13.8 Stress Testing

The MSI Group has a comprehensive and dynamic Stress testing framework incorporating deterministic group-wide Macroeconomic and Climate Risk Stress tests, business area single and multi-factor scenarios, and reverse stress testing scenarios. Stress testing is one of the MSI Group's principal risk management tools used to identify and assess the impact of severe stresses on its portfolios. It complements other risk metrics by providing an assessment of MSI Group's resilience under stress scenarios over a range of severities. Stress testing methodologies are applied consistently across all sub-portfolios according to the MSI Group Stress Testing Procedure, which applies to the MSI Group.

In addition to helping the MSI Group understand the risks it is exposed and/or vulnerable to under a range of scenarios, Stress testing is also used by the MSI Board to set the boundary for risk taking within the loss capacity of the MSI Group.

14. Interest Rate Risk in the Banking Book

Interest Rate Risk in the Banking Book ("IRRBB") is defined as the risk of losses arising from adverse changes in the interest rate curves within the defined Banking Book population.

The MSI Group is exposed to interest rate risk primarily through the Trading Book which is captured in VaR. The MSI Group has IRRBB primarily arising from MSI Group's funding and liquidity management. The interest rate risk is measured on a daily basis through firmwide risk systems, except for the risks on internal funding positions which are measured on a quarterly basis. The IRRBB risk is mitigated by Treasury executing financial products to manage liquidity, funding and capital, including: cash, repo and reverse repo and interest rate derivatives.

The Economic Value of Equity ("EVE") sensitivity measures the present value of cash flows assuming a static current balance sheet over the life of underlying assets and liabilities while factoring in any embedded optionality. The sensitivity is measured using proprietary Position Valuation and Risk Models ("PVRM") in the Front Office Technology systems where the positions are captured and monitored using the Sensitivity of the Present Value to a 1 basis point move of the underlying interest rate ("PV01") interest rate delta sensitivity.

The NII sensitivity measures the potential loss on NII due to a predefined market rate stress event on a certain time horizon. Quantitative Risk Management ("QRM"), an external application, is used to measure and monitor the NII sensitivity of the MSI Group's Banking Book.

The EVE and NII calculations use modelling and parametric assumptions that align to those used for the purposes of Chapter 9 of the ICAAP section of the PRA rulebook or from those specified in Annex XXXVIII of Chapter 6 of this Disclosure (CRR) section of the PRA rulebook.

Changes in the EVE are evaluated using the regulatory defined scenarios that impact the level and shape of the yield curve, as listed in Table 36. Impacts on NII are measured using parallel interest rate rally and selloff scenarios across currencies.

Table 36: Quantitative information on IRRBB (UK IRRBB1) - MSI Group

$MM		ΔEVE		ΔNII		Tier 1 capital	
Period							
MSI Group		T[2]	T-1[2]	T	T-1	T	T-1
010	Parallel shock up	27	(9)	673	636		
020	Parallel shock down	(57)	(18)	(658)	(619)		
030	Steepener shock	8	0				
040	Flattener shock	(31)	(22)				
050	Short rates shock up	(11)	(18)				
060	Short rates shock down	(13)	2				
070	**Maximum[1]**	(57)	(22)	(658)	(619)		
080	**Tier 1 capital**					**27,338**	**26,355**

1. The maximum value for EVE is determined as the largest loss observed across the scenarios.
2."T" date refers to 31 December 2022. "T-1" refers to 30 June 2022.

As at 31 December 2022, IRRBB risk was a $340K gain per 1 basis point increase in interest rate levels, increased from $248K of gains on 30 June 2022. This is driven by rates market moves that impact floating rate notes in Treasury. For the period, the down 100 basis point NII sensitivity has slightly increased from $(314)MM to $(335)MM, mainly due to a higher equity balance.

There is a limit on the impact to NII under a 100 basis point down shock and on the total IRRBB PV01 exposure, as well as a Key Risk Indicator for NII under a 200 basis point shock, which includes incremental funding costs. These risk exposures have stayed within their pre-defined limits over 2022.

15. Operational Risk

Risk Management and Control

Operational risk refers to the risk of loss, or of damage to the MSI Group's reputation, resulting from inadequate or failed processes, people and systems or from external events (e.g., fraud, theft, legal and compliance risks, cyber-attacks or damage to physical assets). Operational risk relates to the following risk event categories as defined by Basel Capital Standards: internal fraud; external fraud; employment practices and workplace safety; clients, products and business practices; business disruption and system failure; damage to physical assets; and execution, delivery and process management. The MSI Group may incur operational risk across the full scope of its business activities. Legal and compliance risk is included in the scope of operational risk.

The MSI Group has established an operational risk framework to identify, measure, monitor and control risk across the MSI Group. This framework is consistent with the framework established by the Morgan Stanley Group and includes escalation to the MSI Group's Board of directors and appropriate senior management personnel. Effective operational risk management is essential to reducing the impact of operational risk incidents and mitigating legal and reputational risks. The framework is continually evolving to reflect changes in MSI Group and to respond to the changing regulatory and business environment.

The MSI Group has implemented operational risk data and assessment systems to monitor and analyse internal and external operational risk events, to assess business environment and internal control factors and to perform scenario analysis. The collected data elements are incorporated in the operational risk capital model. The model encompasses both quantitative and qualitative elements. Internal loss data and scenario analysis results are direct inputs to the capital model, while external operational incidents, business environment and internal control factors are evaluated as part of the scenario analysis process. In addition, the MSI Group employs a variety of risk processes and mitigants to manage its operational risk exposures. These include a governance framework, a comprehensive risk management programme and insurance.

The breadth and variety of operational risks are such that the types of mitigating activities are wide ranging. Examples of such activities include continuous enhancement of defences against cyber-attacks; use of legal agreements and contracts to transfer and/or limit operational risk exposures; due diligence; implementation of enhanced policies and procedures; exception management processing controls; and segregation of duties.

Identification of Top Operational Risks and Pathways ("TOR/Ps")

The MSI Group has a structured process in place to determine its TOR/Ps. The MSI Group's Operational Risk Department ("ORD") reviews Operational Risk data elements and forms an understanding of the risk issues within the business units and infrastructure areas. ORD proposes additions, edits and deletions of the MSI Group's TOR/Ps, supported by information and analytics performed. These proposals are presented to the governance committees to review, challenge and ultimately to recommend for adoption by the MSI Board. Currently there are two Top Operational Risk Pathways - Cyber Attack and Third Party.

The MSI Board approved TOR/Ps as at 31 December 2022 are as follows:

- Product Design, Due Diligence and Disclosure
- Market Conduct, Integrity and Client Suitability
- Financial Crime
- Reporting and Financial Reporting Errors
- Transaction Errors
- Errors in Valuation and Models
- Unauthorised Trading, Theft and Fraud
- Business Disruption and Continuity
- Cyber Attack (Pathway)
- Electronic Trading Errors
- Third Party Risk (Pathway)
- Information Security

Management of Operational Risk

A variety of risk processes and mitigants are used to manage operational risk exposures. These include a strong governance framework, a comprehensive risk management programme and insurance. Operational risks and associated risk exposures are assessed relative to the risk tolerance established by the MSI Board and are prioritised accordingly. The breadth and variety of operational risk are such that the types of mitigating activities are wide-ranging. Examples of such activities include enhancement of defences against cyber-attacks; use of legal agreements and contracts to transfer and/or limit operational risk exposures; due diligence; implementation of enhanced policies and procedures; exception management processing controls; and segregation of duties.

The ORD provides oversight of operational risk management and independently assesses, measures and monitors operational risk. The ORD works with the business units and control groups to help ensure a transparent, consistent and comprehensive framework for managing operational risk within each area and across the MSI Group. The ORD scope includes oversight of the technology and data risk management programmes (e.g., cybersecurity), fraud risk management and prevention programme and a third-party risk management programme.

Business Continuity Management is responsible for identifying key risks and threats to the MSI Group's operational resiliency to ensure that a recovery strategy and required resources are in place for the resumption of critical business functions following a disaster or other business interruption. Disaster recovery plans are in place for critical facilities and resources on a Group-wide basis, and redundancies are built into the systems as deemed appropriate.

The MSI Group maintains a programme that oversees cyber and information security risks and is designed to address regulatory requirements. Cybersecurity and information security policies, procedures and technologies are designed to protect the MSI Group's information assets against unauthorised disclosure, modification or misuse. These policies cover a broad range of areas, including: identification of internal and external threats, access control, data security, protective controls, detection of malicious or unauthorised activity, incident response and recovery planning.

Exposures to services provided by third parties including external vendors are managed through a variety of means, such as, the performance of due diligence, consideration of operational risk, implementation of service level and other contractual agreements, and ongoing monitoring of third parties' performance. The MSI Group maintains a third-party risk management programme with policies, organisation, governance and supporting technology that aligns with our risk tolerance and is designed to meet regulatory requirements.

The management of conduct risk is set out in the Conduct Risk Management Policy. The policy sets out key roles and responsibilities and a framework identifying key functions and processes for the good management of conduct risk. The framework also sets out various key support and governance mechanisms, such as the production of key metrics and management information, and the establishment of a Conduct Risk Committee to oversee the management of conduct risk and the implementation of the framework.

The MSI Group, principally through the Morgan Stanley Group's Legal and Compliance Division, has established procedures based on legal and regulatory requirements on a worldwide basis that are designed to facilitate compliance with applicable statutory and regulatory requirements and to require that the MSI Group's policies relating to business conduct, ethics and practices are followed globally.

In addition, the MSI Group has established procedures to mitigate the risk that a counterparty's performance obligations will be unenforceable, including consideration of counterparty legal authority and capacity, adequacy of legal documentation, the permissibility of a transaction under applicable law and whether applicable bankruptcy or insolvency laws limit or alter contractual remedies.

Operational Risk Governance

The responsibilities of key individuals and committees for the governance of Operational Risk, up to and including the MSI Board, are clearly understood and followed throughout the MSI Group. The implementation and operation of the Operational Risk Framework is overseen by forums at different levels in the MSI Group's governance structure. Key forums are:

- Committees and governance forums that provide oversight of particular TOR/Ps, Risk Themes and the effectiveness of their respective management frameworks including the:
  - EMEA Outsourcing Governance Committee
  - EMEA Financial Crimes Governance Forum
  - EMEA Electronic Trading Governance Committee
- The EMEA Operational Risk Oversight Committee
- The ERC
- The MSI Board Risk Committee

Operational Risk Framework

The MSI Groups Operational Risk Policy and Procedures are renewed at least annually to articulate clearly the current design and implementation of the Operational Risk Management Framework. In particular:

- The MSI Group-specific Operational Risk Management Policy;
- Key elements of the Framework covered by Policy include: Risk Appetite and Tolerance; Risk Assessment and Remediation; Scenario Analysis; Operational Risk Incident Management; Industry Incident Data; Operational Risk Metrics; Risk Measurement and Operational Risk Modelling; and Reporting and Escalation;
- Underlying Procedures set out in detail the key processes which underpin the framework. In particular: the EMEA Escalation & Notification procedures; the Risk Control Self-Assessment ("RCSAs"); identification of Horizon Risks and the Scenario Analysis workshops for TOR/Ps.

Operational Risk Reporting, Management Information and Escalation

Reporting and management information provide awareness of the state of Operational Risk throughout the governance chain, ensures targeted spend to address control environment concerns, and enables MSI Group's senior management and the MSI Board to take action if Operational Risk becomes elevated within risk tolerance levels. Key management information reports include:

- Escalated incidents on a weekly basis;
- Lessons learned for selected incidents including the actions planned or taken to mitigate the Operational Risk going forward;
- Overall incident trends, emerging risks and outsourcing;
- Operational Risk capital update;
- Operational Risk levels versus tolerance and key remedial actions and timelines.

Capital Assessment

Pillar 1: Capital requirements for Operational Risk are currently calculated under the Basic Indicator Approach ("BIA"). As at 31 December 2022, the MSI Group's Operational RWAs were $15,357MM.

Pillar 2: The MSI Group recognises that the BIA is not a risk-based measure and therefore uses an Operational Risk modelling approach to calculate internal Operational Risk capital requirements. The MSI Group holds sufficient capital to cover the incremental capital requirement over and above the Pillar 1 requirement.

Table 37 shows operational risk Own Funds requirements and risk-weighted exposure amounts for MSI Group.

Table 37: Operational risk own funds requirements and risk-weighted exposure amounts (UK OR1) - MSI Group

$MM		a	b	c	d	e
MSI Group		Relevant indicator			Own funds	
	Banking activities	Year-3	Year-2	Last Year	requirements	RWAs
1	Banking activities subject to basic indicator approach ("BIA")	7,399	9,068	8,105	1,229	15,357
2	Banking activities subject to standardised ("TSA") / alternative standardised ("ASA") approaches	-	-	-	-	-
3	Subject to TSA:	-	-	-		
4	Subject to ASA:	-	-	-		
5	Banking activities subject to advanced measurement approaches AMA	-	-	-	-	-

MSI Group calculates RWAs for Operational Risk using the BIA. Capital charge of 15% is applied on adjusted average net profit of 3 prior years. RWAs is 12.5 times the capital charge.

16. Climate Risk

16.1 Climate and Environmental Risk Management

Environmental risk may include impacts to biodiversity, pollution of land, water or air, climate change, deforestation and forest degradation, and other significant negative impacts on the environment as a result of human activities. Within environmental risk, the risks arising from climate change are a particular area of focus.

The Morgan Stanley Group divides climate and environmental risks into two main categories: transition risk and physical risks.

- **Transition risks**: Transitioning to a low-carbon and more environmentally sustainable economy will entail extensive regulatory, policy, legal, technology and market initiatives as society adapts to climate change, mitigates its causes and promotes a more sustainable environment. Depending on the nature, speed and focus of these changes, transition risks may pose varying types and levels of financial and reputational risk to businesses and other organisations;
- **Physical risks**: These risks include both acute physical events such as flooding, and chronic physical risks related to longer-term shifts in climate patterns such as more frequent and prolonged drought and progressive shifts like biodiversity loss, land use change, habitat destruction and resource scarcity. Financial implications for organisations can range from direct damage to assets to indirect impacts from supply chain disruption, driven by factors such as changes in water availability, food security and agricultural productivity. Extreme temperature changes may affect an organisation's physical locations, operations, supply chain, transport needs and employee safety.

Climate and environmental risk is managed by integrating climate change and other environmental considerations within the MSI Group Risk Framework, the requirements of which are incorporated in policies and procedures across credit, market, operational, and liquidity and funding risk. The Framework continues to be developed to meet the requirements set out in new and evolving regulations.

Risk Identification and Materiality Assessment

As part of its established Risk Identification and Materiality Assessment process, the MSI Group has a granular risk assessment of climate and environmental risks. A quantitative assessment is performed across risk types to determine the materiality of the impact of climate and environmental risks.

In 2022, climate transition risk driven by carbon repricing or an accelerated green energy technology transition as well as climate physical risk were assessed as material for credit risk exposures in the MSI Group. Climate transition and physical risks were assessed as nonmaterial for MSI Group collateral positions. Operational risk (business disruption, litigation risk and reputational risk) and strategic risk were assessed as non-material. As the assessment is performed quarterly, the materiality assessment may change in the future.

Risk Appetite and Limit Framework

Climate risk as a material risk is incorporated in the MSI Group and Company's Risk Appetite as a driver of existing risks. An MSI Board-level Climate Stress Loss Limit is set across credit and market risk, which is reviewed on an annual basis. In addition to the Climate Stress Loss Limit, climate risk is incorporated into the Credit Risk Management Framework through industry sector limits to monitor physical and transition risks as well as country and borrower ratings. Limits and ratings are monitored as per standards in credit risk management policies and procedures.

Scenario Analysis and Stress Testing

Scenario Analysis is central to the MSI Group's Climate Risk Management Framework. A short-term transition risk scenario on carbon repricing is run monthly for credit and market risk. Physical risk for credit and market risk is assessed in stress scenarios to calculate the losses from acute physical events. Operational Risk Scenario Analysis workshops are held to assess the impact of a number of scenarios, including physical risk scenarios focused on business disruption and scenarios to assess litigation and reputational risk. MSI Group conducted an exploratory long term scenario analysis, running two 30-year quantitative scenarios modelling late action (transition risk) and no additional action (physical risk) to inform MSI Group's business strategy.

16.2 Metrics and targets

Climate Stress Loss Limit: The MSI Group remained within its portfolio Climate Stress Loss Limit throughout 2022.

Credit Exposures: Exposures to industries with high climate transition or physical risk are subject to credit industry sector limits. Please refer to 2022 Morgan Stanley & Co. International plc Report and Financial Statements. Strategic Report for more details about these exposures.

17. Valuation Risk

Valuation risk represents the possibility that a valuation estimate of a position would differ from the price in an actual close out transaction due to uncertainty around the actual price that could be obtained.

17.1 Fair Valuation

Valuation Control ("VC") within Finance is responsible for the MSI Group's fair value valuation policies, processes and procedures. VC implements VC processes designed to validate the fair value of the MSI Group's financial instruments measured at fair value including those derived from pricing models. There are three primary control processes that mitigate the risk of valuation errors:

- Model Certification Process: All models are certified before use and at least annually thereafter. New models (and enhancements to existing models) are developed by Strategists within the business units, who affirm they are appropriate for intended use. Senior Traders in the BUs sign off that they have been involved in the development of the model and understand the model's assumptions and limitations. The MRM group, within the Market Risk Department, must approve the model by performing an independent review of the model to assess its appropriateness. VC must also approve the model by performing an independent review to ensure the valuation methodology and valuation outputs produced by the model are consistent with accounting standards;
- Mark Review Process: VC performs a formal monthly mark review process which covers the entire financial instruments inventory held by the MSI Group. VC ensures the valuation generated by the BUs is in compliance with accounting standards. This is performed by reviewing the appropriateness of the prices or pricing inputs applied to valuation models compared to approved valuation methodologies and external pricing data. Variances are reviewed by VC in consideration of VC's tolerance framework. Tolerance breaches are communicated to controllers for consideration as part of the general ledger close. A subjectivity escalation threshold also exists at the legal entity level and is set by the EMEA Head of VC together with the EMEA Chief Financial Officer;
- Significant Transaction Analytical Review Process ("STAR"): This process reconfirms that valuation methodologies are adequate and modelling uncertainty is appropriately addressed in all trades with significant gross day 1 profit and loss as defined by the STAR policy. There are three components to the STAR process: pre-execution review; post-execution review; and trade unwind review. Reviews are documented and must be presented to, and approved by, relevant STAR Committees. Day 1 profit and loss on Fair Value Measurement Level 3 trades is not recognised until all significant inputs to the trade become observable, which is also subject to STAR Committee approval.

17.2 Prudent Valuation

VC applies the Prudent Valuation regulatory standards as prescribed in CRR Article 105 Requirements for Prudent Valuation. VC has documented policies and procedures, and specific methodologies for each valuation exposure covered by the regulation. Prudent Valuation consists of a series of AVAs required to mark the firm's fair valued inventory to a prudent valuation. These AVAs are deducted from CET1 capital.

The AVAs represent adjustments to the point within a range of plausible values at which the firm could exit a valuation exposure with 90% confidence or better. The AVAs reflect the valuation uncertainty associated with Market Price Uncertainty, Close-out Costs, Model Risk, Concentrated Positions, Unearned Credit Spreads, Investing and Funding Costs, Future Administrative Costs, Early Termination, and Operational Risk.

VC documents and affirms the Prudent Valuation AVAs as capital models and ensures that the methodologies align with the independent mark review process. The AVA models are independently certified on an annual basis by MRM. In accordance with the firm's Global MRM Policy.

Table 38 shows prudent valuation adjustments for MSI Group.

Table 38: Prudent Valuation Adjustments (PVA) (UK PV1) – MSI Group

	$MM	a	b	c	d	e	UK e1	UK e2	f	g	h
	MSI Group	Risk category					Category level AVA - Valuation uncertainty				
	Category level AVA	Equity	Interest Rates	Foreign exchange	Credit	Commodities	Unearned credit spreads AVA	Investment and funding costs AVA	Total category level post-diversification	Of which: Total core approach in the trading book	Of which: Total core approach in the banking book
1	Market price uncertainty	409	305	11	143	-	62	101	516	408	108
3	Close-out cost	154	155	22	32	-	18	-	191	173	17
4	Concentrated positions	14	183	17	55	-	-	-	269	237	32
5	Early termination	-	-	-	-	-	-	-	-	-	-
6	Model risk	135	229	3	14	-	90	144	307	168	139
7	Operational risk	28	32	2	9	-	-	-	71	58	13
10	Future administrative costs	7	38	-	9	-	-	-	53	49	4
12	**Total Additional Valuation Adjustments (AVAs)**								**1,407**	**1,093**	**313**

18. Liquidity Risk

18.1 Liquidity Risk Management

Liquidity Risk Management

Liquidity and funding risk refers to the risk that the MSI Group will be unable to finance its operations due to loss of access to the capital markets or difficulty in liquidating MSI Group's assets. Liquidity risk encompasses the ability (or perceived ability) of MSI Group to meet its financial obligations without experiencing significant business disruption or reputational damage that may threaten MSI Group's viability as a going concern. Liquidity risk also encompasses the associated funding risks triggered by the market or idiosyncratic stress events that may cause unexpected changes in funding needs or an inability to raise new funding. Generally, MSI Group incurs liquidity and funding risk as a result of its trading, investing and client facilitation activities.

The core components of the Liquidity Risk Management Framework are the Required Liquidity Framework, Liquidity Stress Tests and Liquidity Resources, which support the target liquidity profile.

The Required Liquidity Framework establishes the amount of liquidity the MSI Group must hold in both normal and stressed environments to ensure that MSI Group's financial condition and overall soundness are not adversely affected by an inability (or perceived inability) to meet financial obligations in a timely manner. The Required Liquidity Framework considers the most constraining liquidity requirement to satisfy all regulatory and internal limits at a consolidated and legal entity level.

The MSI Group maintains sufficient Liquidity Resources to cover daily funding needs and to meet strategic liquidity targets sized by the Required Liquidity Framework and Liquidity Stress Tests. The total amount of Liquidity Resources is actively managed considering the following components: unsecured debt maturity profile, balance sheet size and composition; funding needs in a stressed environment, inclusive of contingent cash outflows; collateral requirements and regulatory requirements.

The MSI Group's liquidity and funding risk management policies and procedures are consistent with those of the Morgan Stanley Group. The MSI Board is ultimately responsible for establishing the liquidity risk tolerance and ensuring the MSI Group's liquidity risk is appropriately managed.

In addition to the internal liquidity risk management framework, the MSI Group is subject to requirements prescribed by regulatory authorities, including PRA. MSI Group and MSIP are subject to the UK CRR rules for both:

- LCR: requiring to meet 100% of net cash outflows and Pillar 2 requirements;
- Net Stable Funding Ratio ("NSFR"): requiring to maintain Available Stable Funding ("ASF") as 100% of over Required Stable Funding ("RSF") over the one-year horizon.

MSI Group has daily monitoring and reporting processes in place to ensure compliance with its regulatory requirements.

The primary goal of the Liquidity Risk Management Framework is to ensure that MSI Group has access to sufficient liquid assets across a wide range of market conditions and time horizons. The framework is designed to allow the MSI Group to fulfil financial obligations and support the execution of MSI Group's business strategies. The following principles guide the Liquidity Risk Management Framework:

- Sufficient liquid assets should be maintained to cover maturing liabilities and other planned and contingent outflows;
- Maturity profile of assets and liabilities should be aligned, with limited reliance on short-term funding;
- Source, counterparty, currency, region and term of funding should be diversified; and
- Liquidity Stress Tests should anticipate, and account for, periods of limited access to funding.

Structure and Organisation of the Liquidity Risk Management Function

Senior management establishes and maintains liquidity policies. Through various risk and control committees, senior management reviews business performance relative to these policies, monitors the availability of alternative sources of financing, and oversees the liquidity, interest rate and currency sensitivity of asset and liability positions. Corporate Treasury, Liquidity Risk Department, ERC, EMEA ALCO/MSEHSE ALCO and other committees and control groups assist in evaluating, monitoring and controlling the impact that business activities have on the balance sheets, liquidity and capital structure. Liquidity matters are reported regularly to the MSI Board/MSEHSE Management Board and the MSI Risk Committee/MSEHSE Risk Committee.

The Centralised Liquidity Management Function and its Interaction with other Functional Areas

The Morgan Stanley Group's Liquidity Risk Management Framework is critical to helping ensure that MSI Group maintains sufficient liquidity reserves and durable funding sources to meet its daily obligations and to withstand unanticipated stress events.

The Liquidity Risk Department ("LRD") is a distinct area in Risk Management, which oversees and monitors liquidity risk. The LRD ensures transparency of material liquidity risks, compliance with established risk limits and escalation of risk concentrations to appropriate senior management. To execute these responsibilities, the LRD:

- Establishes limits in line with the Morgan Stanley Group risk appetite;
- Identifies and analyses emerging liquidity risks to ensure such risks are appropriately mitigated;
- Monitors and reports risk exposures against metrics and limits, and;
- Reviews the methodologies and assumptions underpinning the Morgan Stanley Group's Liquidity Stress Tests to ensure sufficient liquidity and funding under a range of adverse scenarios.

The liquidity risks identified by these processes are summarised in reports produced by the LRD that are circulated to and discussed with the EMEA ALCO/MSEHSE ALCO, ERC /MSEHSE Risk Committee and the MSI Risk Committee as appropriate.

The Treasury Department and applicable business units (collectively the Centralised Liquidity Management Function) have primary responsibility for evaluating, monitoring and controlling the liquidity and funding risks arising from MSI Group's business activities, and for maintaining processes and controls to manage the key risks inherent in their respective areas. The LRD coordinates with the Treasury Department and these business units to help ensure a consistent and comprehensive framework for managing liquidity risk across the Morgan Stanley Group.

Liquidity Risk Reporting and Measurement Systems

Morgan Stanley Group has a Global Liquidity Data Warehouse that is used for internal and regulatory liquidity reporting, metrics and stress testing of MSI Group. Reporting and analytical tools enable interrogation, presentation and generation of reports for internal purposes as well as for regulatory reporting returns. A control framework has been established around each step of the liquidity reporting process and is designed to ensure that source data feeds from firm-wide risk systems, adjustment processing and report production are all subject to a coherent set of proof and control processes to ensure accuracy and completeness of data. Reporting results are validated locally by MSI Group Treasury.

Policies for hedging and mitigating the liquidity risk and strategies and processes for monitoring the continuing effectiveness of hedges and mitigants

The MSI Group maintains a durable funding profile, commensurate with complexity and size of business, with diversified sources and terms of funding. MSI Group manages its funding in a manner that reduces the risk of disruption to its operations. MSI Group pursues a strategy of diversification of secured and unsecured funding sources (by product, investor and region) and attempts to ensure that the tenor of its liabilities equals or exceeds the expected holding period of the assets being financed.

MSI Group funds itself through diverse sources. These sources may include equity capital, long-term debt, securities sold under agreements to repurchase, securities lending and lines of credit. The MSI Group and MSEHSE Group have active financing programmes for both standard and structured products targeting global investors and currencies.

In managing both the Morgan Stanley Group's and the MSI Group's funding risk, the composition and size of the entire balance sheet, not just financial liabilities, is monitored and evaluated. The liquid nature of the marketable securities and short-term receivables arising principally from sales and trading activities in the Institutional Securities business provides the Morgan Stanley Group, the MSI Group and the MSEHSE Group with flexibility in managing balance sheet composition and size.

Contingency Funding Plan

The MSI Group's Contingency Funding Plan is integrated in the Recovery Plan and defines the roles and responsibilities of the primary functions that manage the MSI Group's operating and strategic response to liquidity stress events. The MSI Group's financial condition and overall soundness can be adversely affected by an inability, or perceived inability, to meet its financial obligations in a timely manner during a period of liquidity stress, therefore it is vital that the MSI Group maintains a sound plan of action for managing a liquidity stress. The MSI Recovery Plan is the MSI Group's detailed action plan and outlines the process by which the MSI Group:

- Determines whether there is a potential or actual liquidity stress event;
- Enacts a heightened decision-making and governance structure;
- Identifies available contingent funding sources;
- Takes action in a deliberate and coordinated way to respond to liquidity shortfalls;
- Strategically communicates with internal and external stakeholders;
- Decides to return to standard operating liquidity management status.

Liquidity Stress Testing

The MSI Group uses Liquidity Stress Tests to model external and intercompany liquidity flows across multiple scenarios over a range of time horizons. These scenarios contain various combinations of idiosyncratic and systemic stress events of different severity and duration. The methodology, implementation, production and analysis of the Liquidity Stress Tests are important components of the Liquidity Risk Management Framework.

Adequacy of Liquidity Risk Management Arrangements

As a result of the annual ILAAP, the Board are satisfied that there are appropriate processes and systems in place to monitor liquidity and funding adequacy and take action to increase liquidity or adjust funding resources if adverse developments reduce available liquidity or funding.

Liquidity Risk profile and Business Strategy

The MSI Group Risk Appetite is the articulation of the aggregate level and type of risk that the MSI Group is willing to accept to execute its Business Strategy and protect its capital and liquidity resources. The MSI Group's Risk Appetite comprises both qualitative and quantitative components and is set taking into account MSI Group's risk profile. The MSI Group's Risk Appetite Statement is well integrated with MSI Group's Business Strategy, ICAAP and ILAAP - all are based on a consistent financial forecast. The Risk Appetite Statement also establishes clear links into capital and liquidity planning under both the Normative and Economic Perspectives. The Liquidity Risk Limit Framework ensures that MSI Group business activities are carried out consistent with the Risk Appetite Statement.

The MSI Group Management Board has concluded that the MSI Group has adequate liquidity for the size, nature and complexity of its business model and strategy. Throughout 2022, MSI Group and the respective subsidiaries and sub-groups exceeded all internal and regulatory liquidity requirements, which include the Internal Liquidity Stress Test ("ILST"), the LCR and the NSFR.

As at 31 December 2022, $58.5Bn HQLA is primarily held in central bank reserves (25%) and Level 1 high quality securities (75%).

18.2 Liquidity Coverage Ratio

18.2.a. Qualitative Disclosures

The MSI Group's LCR Disclosure is effective 31 December 2022 and is based on the UK CRR rules. As of 1 January 2022 new sections of the PRA rulebook were introduced, including the LCR.

As at 31 December 2022, the MSI Group held excess HQLA over LCR required minimum of 100% (Pillar 1) as specified by the total net cash outflows amount included in Table 39.

The firm is subject to Pillar 2 requirements, assessed by the PRA, for risks not covered in the LCR (Pillar 1). These risks are identified by the firm and documented in the ILAAP that is then reviewed and assessed by the PRA as part of the Liquidity Supervisory Review Process ("L-SREP"). As a result, the firm is required to hold sufficient liquidity in the form of HQLA to meet both Pillar 1 and Pillar 2 requirements. Pillar 2 amounts are not disclosed in Table 39.

Main drivers of the LCR

The 12-month LCR average values have been used to analyse the main requirement's drivers. HQLA is primarily held in central bank reserves and Level 1 high quality securities.

The most significant drivers of MSI Group and MSIP's cash outflow amounts this quarter were secured wholesale funding, unsecured wholesale funding and outflows related to derivative exposures. MSI Group and MSIP's cash inflow amounts this quarter were primarily driven by secured lending which includes reverse repurchase transactions, securities borrowed and margin loan transactions.

Explanations of the Changes in the LCR over Time

The MSI Group LCR decreased from 201% to 194%, driven by an increase in the net average cash outflows, driven by increase in non-operational deposits and unsecured wholesale funding related outflows.

The MSIP LCR decreased from 193% to 184%, driven by an increase in the net average cash outflows driven by a decrease in inflows.

Concentration of Funding Sources

The MSI Group funds itself through diverse sources. These sources may include equity capital, long-term debt, securities sold under agreements to repurchase, securities lending and lines of credit.

The MSI Group and MSIP fund themselves through transactions with affiliates in the Morgan Stanley Group for capital, unsecured and secured funding, and through a diverse range of counterparties in unsecured and secured funding markets.

High-level description of the composition of the institution`s liquidity buffer

HQLA primarily comprises of Level 1 assets that includes government bonds, and cash with central banks.

Derivatives Exposures and Potential Collateral Calls

MSI Group and MSIP are participants in global derivatives markets. In some cases, the derivative counterparties have contractual rights that require the entities to post collateral to them in the event that credit rating agencies downgrade MSI Group's credit rating. In measuring collateral call risks, all amounts of collateral that could be required to be posted in accordance with the terms and conditions of the downgrade trigger clauses found in applicable legal agreements are considered.

The impact of potential collateral calls related to the derivative exposures is inherently uncertain and depends on various interrelated factors, such as the magnitude of the downgrade, the rating relative to peers, the rating assigned by the relevant agency pre-downgrade, individual client behaviour and future mitigating actions that could be taken. MSI Group manages the risk of potential collateral calls on the derivative positions by employing a variety of risk mitigation strategies, including modelling the impact of credit rating agency downgrades in the liquidity stress test programme, monitoring historical changes in variation margin, diversifying risk exposures, hedging, managing counterparty and product risk limits and maintaining Liquidity Resources to enable the MSI Group to meet unexpected collateral calls or other potentially adverse developments.

Currency mismatch in the LCR

A portion of MSI Group's business is conducted in currencies other than the USD, and changes in foreign exchange rates relative to the USD, therefore, can affect the value of non-USD net assets, revenues and expenses. Potential exposures as a result of these fluctuations in currencies are closely monitored, and strategies are adopted to reduce the impact of these fluctuations on financial performance. These strategies may include the financing of non-USD assets with direct or swap-based borrowings in the same currency and the use of currency forward contracts or the spot market in various hedging transactions related to net assets, revenues, expenses or cash flows.

18.2.b. Quantitative Disclosures

The LCR quantitative disclosures, shown in Table 39 reflects the monthly average value for each quarter-end period. The figures reported in the "Total Weighted Value" column reflect the prescribed industry-wide rules and haircuts applicable to the LCR to determine the firm's eligible HQLA and cash in/outflow amounts. The figures reported in the "Total Unweighted Value" columns reflect gross values prior to the application of the LCR weights.

Table 39: Quantitative Information of LCR (UK LIQ1) – MSI Group and MSIP

$MM		a	b	c	d	e	f	g	h
MSI Group[1]		**Total unweighted value (average)**				**Total weighted value (average)**			
UK 1a	Quarter ending on (DD Month YYY)	**31-Dec-2022**	**30-Sep-2022**	**30-Jun-2022**	**31-Mar-2022**	**31-Dec-2022**	**30-Sep-2022**	**30-Jun-2022**	**31-Mar-2022**
UK 1b	Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
High-Quality Liquid Assets									
1	Total high-quality liquid assets (HQLA)					51,890	50,606	49,145	49,196
Cash Outflows									
2	Retail deposits and deposits from small business customers, of which:	-	-	-	-	-	-	-	-
3	*Stable deposits*	-	-	-	-	-	-	-	-
4	*Less stable deposits*	-	-	-	-	-	-	-	-
5	Unsecured wholesale funding	19,586	18,464	17,078	16,939	19,494	18,464	17,078	16,939
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	-	-	-	-	-	-	-	-
7	*Non-operational deposits (all counterparties)*	19,201	18,073	16,656	16,457	19,109	18,073	16,656	16,457
8	*Unsecured debt*	385	391	422	482	385	391	422	482
9	Secured wholesale funding					40,754	42,623	44,279	45,281
10	Additional requirements	30,566	30,453	30,307	30,177	20,588	20,417	20,193	20,408
11	*Outflows related to derivative exposures and other collateral requirements*	24,817	24,022	23,087	22,745	19,233	19,007	18,727	18,939
12	*Outflows related to loss of funding on debt products*	-	-	-	-	-	-	-	-
13	*Credit and liquidity facilities*	5,749	6,431	7,220	7,432	1,355	1,410	1,466	1,469
14	Other contractual funding obligations	47,150	46,929	47,291	47,101	1,227	1,160	1,006	987
15	Other contingent funding obligations	3,857	4,278	4,840	5,259	1,883	2,067	2,330	2,545
16	**Total Cash Outflows**					**83,946**	**84,731**	**84,886**	**86,160**
Cash Inflows									
17	Secured lending (e.g., reverse repos)	224,859	220,031	220,173	216,519	39,790	41,829	43,892	44,352
18	Inflows from fully performing exposures	10,877	11,423	12,063	12,509	10,123	10,517	10,968	11,135
19	Other cash inflows	8,291	8,367	7,708	7,160	8,291	8,367	7,708	7,160
UK-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					1,299	1,295	1,329	1,272
UK-19b	(Excess inflows from a related specialised credit institution)					-	-	-	-
20	**Total Cash Inflows**	**244,027**	**239,821**	**239,944**	**236,188**	**56,905**	**59,418**	**61,239**	**61,375**
UK-20a	*Fully exempt inflows*	-	-	-	-	-	-	-	-
UK-20b	*Inflows Subject to 90% Cap*	-	-	-	-	-	-	-	-
UK-20c	*Inflows Subject to 75% Cap*	193,917	190,766	190,917	188,636	56,905	59,418	61,239	61,375
						Total Adjusted Value			
UK-21	**Liquidity Buffer**					**51,890**	**50,606**	**49,145**	**49,196**
22	**Total Net Cash Outflows**					**27,161**	**25,430**	**23,765**	**24,785**
23	**Liquidity Coverage Ratio (%)**					**193.54%**	**201.08%**	**206.79%**	**198.49%**

1. All cash inflows and outflows shown are at the full unweighted/weighted value and do not reflect the phase in of LCR requirements.

$MM MSIP[1]		a	b	c	d	e	f	g	h
		Total unweighted value (average)				Total weighted value (average)			
UK 1a	Quarter ending on (DD Month YYY)	31-Dec-2022	30-Sep-2022	30-Jun-2022	31-Mar-2022	31-Dec-2022	30-Sep-2022	30-Jun-2022	31-Mar-2022
UK 1b	Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
High-Quality Liquid Assets									
1	Total high-quality liquid assets (HQLA)					41,800	41,940	41,980	41,519
Cash Outflows									
2	Retail deposits and deposits from small business customers, of which:	-	-	-	-	-	-	-	-
3	*Stable deposits*	-	-	-	-	-	-	-	-
4	*Less stable deposits*	-	-	-	-	-	-	-	-
5	Unsecured wholesale funding	16,565	16,716	16,502	15,814	16,473	16,716	16,502	15,814
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	-	-	-	-	-	-	-	-
7	*Non-operational deposits (all counterparties)*	16,179	16,325	16,080	15,332	16,087	16,325	16,080	15,332
8	*Unsecured debt*	386	391	422	482	386	391	422	482
9	Secured wholesale funding					41,368	43,213	44,881	45,901
10	Additional requirements	22,557	21,500	20,260	19,505	16,982	16,494	15,920	15,693
11	*Outflows related to derivative exposures and other collateral requirements*	22,556	21,498	20,259	19,504	16,981	16,493	15,919	15,692
12	*Outflows related to loss of funding on debt products*	-	-	-	-	-	-	-	-
13	*Credit and liquidity facilities*	1	2	1	1	1	1	1	1
14	Other contractual funding obligations	49,513	48,851	49,213	48,942	1,180	1,120	975	952
15	Other contingent funding obligations	3,947	4,366	4,920	5,313	1,928	2,111	2,370	2,572
16	**Total Cash Outflows**					**77,931**	**79,654**	**80,648**	**80,932**
Cash Inflows									
17	Secured lending (e.g., reverse repos)	229,889	225,020	224,490	220,041	39929	41,951	43,967	44,372
18	Inflows from fully performing exposures	9,658	10,320	10,864	11,375	8,909	9,423	9,779	10,011
19	Other cash inflows	7,614	7,778	7,206	6,730	7613	7,778	7,206	6,730
UK-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					1,155	1,165	1,213	1,180
UK-19b	(Excess inflows from a related specialised credit institution)					-	-	-	-
20	**Total Cash Inflows**	**247,160**	**243,118**	**242,560**	**238,146**	**55,296**	**57,987**	**59,739**	**59,933**
UK-20a	*Fully exempt inflows*	-	-	-	-	-	-	-	-
UK-20b	*Inflows Subject to 90% Cap*	-	-	-	-	-	-	-	-
UK-20c	*Inflows Subject to 75% Cap*	197,466	194,251	193,631	190,521	55,296	57,987	59,739	59,933
						Total Adjusted Value			
UK-21	**Liquidity Buffer**					**41,800**	**41,940**	**41,980**	**41,519**
22	**Total Net Cash Outflows**					**22,818**	**21,866**	**21,159**	**21,346**
23	**Liquidity Coverage Ratio (%)**					**184.05%**	**192.72%**	**198.41%**	**194.51%**

1. All cash inflows and outflows shown are at the full unweighted/weighted value and do not reflect the phase in of LCR requirements.

18.3 Net Stable Funding Ratio

The NSFR as defined by UK CRR rules, is a funding liquidity ratio that took effect as of 1 January 2022 to ensure that the institution has a stable funding structure to cover existing assets and off-balance sheet commitments. Compliance with the ratio requires that sufficient weighted liabilities and Own Funds – ASF– are available to cover the funding requirement from weighted assets and off-balance sheet exposures – RSF.

MSI Group is required to comply on a daily basis with the NSFR and held a significant excess of $14.2Bn stable funding as of year-end. MSI Group maintained excess ASF, in comparison to RSF assets and off-balance sheet commitments, throughout 2022.

The management of the NSFR has been embedded into MSI Group internal processes to ensure that sufficient durable liabilities to cover the RSF requirements on an ongoing basis.

The Treasury Department and applicable business units (collectively the Centralised Liquidity Management Function) have primary responsibility for evaluating, monitoring and controlling the liquidity and funding resources. The primary sources of funding arise from capital, unsecured funding and SFTs.

The primary drivers of MSI Group's NSFR RSF are inventory, margin posted, derivatives exposures and secured financing transactions (weighted based on the liquidity value of the associated collateral).

Morgan Stanley Group provides client clearing services globally for Listed Derivative & OTC clearing products which meet the requirements of Article 428da of the PRA rulebook and therefore reported interdependent assets and liabilities in the tables below.

The NSFR quantitative disclosures, shown in Table 40 reflects the average value of end of quarter observation over the last 4 quarters. The figures reported in the "Total Unweighted Value" columns reflect gross values prior to the application of the NSFR weights. The figures reported in the "Total Weighted Value" column reflect the prescribed, industry-wide NSFR rules to determine the ASF and RSF weighted values.

Table 40: Quantitative Information of NSFR (UK LIQ2) – MSI Group and MSIP

	$MM	a	b	c	d	e
		Unweighted value by residual maturity				
		No maturity	< 6 months	6 months to < 1 year	>= 1 year	Weighted value
	MSI Group			Q4'22		
	Available stable funding (ASF) Items					
1	**Capital items and instruments**	28,789	-	-	9,329	38,118
2	*Own funds*	28,789	-	-	9,329	38,118
3	*Other capital instruments*		-	-	-	-
4	Retail deposits		-	-	-	-
5	*Stable deposits*		-	-	-	-
6	*Less stable deposits*		-	-	-	-
7	Wholesale funding:		111,129	17,535	56,381	71,967
8	*Operational deposits*		-	-	-	-
9	*Other wholesale funding*		111,129	17,535	56,381	71,967
10	Interdependent liabilities		10,492	-	-	-
11	Other liabilities:	-	57,428	-	-	-
12	*NSFR derivative liabilities*	-				
13	*All other liabilities and capital instruments not included in the above categories*		57,428	-	-	-
14	**Total available stable funding (ASF)**					**110,085**
	Required stable funding (RSF) Items					
15	Total high-quality liquid assets (HQLA)					14,640
UK-15a	Assets encumbered for a residual maturity of one year or more in a cover pool		-	-	-	-
16	Deposits held at other financial institutions for operational purposes		-	-	-	-
17	Performing loans and securities:		173,487	1,896	34,634	45,426
18	*Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0% haircut*		75,632	271	124	2,006
19	*Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions*		93,588	1,040	1,436	11,922
20	*Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:*		3,278	186	646	2,303
21	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*		1,691	11		865
22	*Performing residential mortgages, of which:*		-	-	-	-
23	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*		-	-	-	-
24	*Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products*		989	399	32,428	29,195
25	Interdependent assets		10,492	-	-	-
26	Other assets:	-	86,422	213	19,184	35,268
27	*Physical traded commodities*				2	2
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*		9,695	-	13,567	19,773
29	*NSFR derivative assets*		5,787			5,787
30	*NSFR derivative liabilities before deduction of variation margin posted*		62,685			3,134
31	*All other assets not included in the above categories*		8,255	213	5,615	6,572
32	Off-balance sheet items		2,742	198	2,423	268
33	**Total RSF**					**95,602**
34	**Net Stable Funding Ratio (%)**					**115.16%**

$MM		a	b	c	d	e
		Unweighted value by residual maturity				
		No maturity	< 6 months	6 months to <1 year	>= 1 year	Weighted value
MSIP				Q4'22		
Available stable funding (ASF) Items						
1	**Capital items and instruments**	23,045	-	-	8,274	31,320
2	*Own funds*	23,045	-	-	8,274	31,320
3	*Other capital instruments*		-	-	-	-
4	Retail deposits		-	-	-	-
5	*Stable deposits*		-	-	-	-
6	*Less stable deposits*		-	-	-	-
7	Wholesale funding:		109,444	17,545	48,002	63,586
8	*Operational deposits*		-	-	-	-
9	*Other wholesale funding*		109,444	17,545	48,002	63,586
10	Interdependent liabilities		7,754	-	-	-
11	Other liabilities:	74	55,521	-	-	-
12	*NSFR derivative liabilities*	74				
13	*All other liabilities and capital instruments not included in the above categories*		55,521	-	-	-
14	**Total available stable funding (ASF)**					**94,906**
Required stable funding (RSF) Items						
15	Total high-quality liquid assets (HQLA)					14,579
UK-15a	Assets encumbered for a residual maturity of one year or more in a cover pool		-	-	-	-
16	Deposits held at other financial institutions for operational purposes		-	-	-	-
17	Performing loans and securities:		179,840	1,767	34,406	45,064
18	*Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0% haircut*		81,905	268	126	1,934
19	*Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions*		93,780	940	1,791	12,210
20	*Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:*		3,241	181	295	1,982
21	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*		1,654	6		842
22	*Performing residential mortgages, of which:*		-	-	-	-
23	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*		-	-	-	-
24	*Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products*		914	378	32,194	28,938
25	Interdependent assets		7,754	-	-	-
26	Other assets:	-	69,279	205	13,292	26,569
27	*Physical traded commodities*				2	2
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*		9,385	-	10,978	17,309
29	*NSFR derivative assets*		4,168			4,168
30	*NSFR derivative liabilities before deduction of variation margin posted*		49,139			2,457
31	*All other assets not included in the above categories*		6,587	205	2,312	2,633
32	Off-balance sheet items		12	-	-	1
33	**Total RSF**					**86,213**
34	**Net Stable Funding Ratio (%)**					**110.07%**

18.4 Asset Encumbrance

The borrowing and lending of securities and hence the encumbrance of assets, is a fundamental part of Morgan Stanley's business within the MSI Group. The following details the MSI Group's encumbered and unencumbered assets, along with the matching liabilities. An asset is considered encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn. The key sources of encumbrance include secured funding repo, securities lending, as well as derivatives trading. A portion of the encumbered assets are intercompany transactions with other Morgan Stanley Group entities. MSI Group primarily uses Industry standard collateral agreements (mostly Credit Support Annexes and Global Master Repurchase Agreements).

The majority of the on-balance sheet assets are not subject to any form of encumbrance, given they are mostly cash or receivable assets. The MSI Group also receives securities from the market, which are off-balance sheet, reported as collateral received in Table 42 (UK AE2). These may be pledged to the market and encumbered, or held as part of the MSI Group's unencumbered pool of assets. For on-balance sheet assets, the level of encumbrance over 2022 has increased by 0.1% from 2021. Collateral received has increased year on year with the encumbrance decreasing (1.1)% from 2021. In compliance with PRA guidelines, amounts are presented as a median of the twelve month ends over 2022. Note the rows in the tables below are not additive, with the median calculated individually across all cells.

Table 41 below reflects the MSI Group unencumbered and encumbered on-balance sheet assets. The values represent the median for the year.

Table 41: Encumbered and unencumbered assets (UK AE1) – MSI Group

$MM		Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
MSI Group[1,2]		010	030	040	050	060	080	090	10
010	**Assets of the reporting institution**	126,726	25,433			544,002	293		
030	Equity instruments	33,812	9,044	33,812	9,044	16,361	5	16,361	5
040	Debt securities	23,233	16,681	23,233	16,681	4,961	233	4,961	233
050	of which: covered bonds	346	14	346	14	22	0	22	0
060	of which: asset-backed securities	318	0	318	0	397	0	397	0
070	of which: issued by general governments	17,305	16,128	17,305	16,128	1,730	233	1,730	233
080	of which: issued by financial corporations	3,105	86	3,105	86	1,289	0	1,289	0
090	of which: issued by non-financial corporations	3,075	465	3,075	465	1,459	0	1,459	0
120	Other assets[3,4]	68,603	0			524,320	0		

1.A significant portion of MSI Group's business is conducted in currencies other than USD.
2.Cells are marked N/A to indicate those components which are not reportable under EBA Guidelines.
3.Encumbered Other Assets includes on-balance sheet cash that has been segregated under CASS and cash collateral pledged against derivatives.
4.The majority of unencumbered Other Assets relate to derivative instruments.

In the year 2022, median on-balance sheet assets increased by $63.5Bn to $670.7Bn primarily driven by derivative exposures on MSIP and equity instruments.

Table 42 below breaks down the off-balance sheet assets between those that have been encumbered and the amount available for encumbrance. As per Table 42 the values represent the median for the year.

Table 42: Collateral received and own debt securities issued (UK AE2) – MSI Group

$MM				Unencumbered	
		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA
MSI Group		**010**	**030**	**040**	**060**
130	**Collateral received by the reporting institution**	268,398	173,351	40,039	30,377
140	Loans on demand	0	0	0	0
150	Equity instruments	102,684	27,516	5,834	0
160	Debt securities	159,958	145,717	33,710	30,377
170	of which: covered bonds	339	36	7	0
180	of which: asset-backed securities	1,802	224	4,325	3,520
190	of which: issued by general governments	147,607	144,353	32,092	30,377
200	of which: issued by financial corporations	4,510	273	1,070	0
210	of which: issued by non-financial corporations	6,202	1,015	372	0
220	Loans and advances other than loans on demand	0	0	0	0
230	Other collateral received	5,516	0	0	0
240	**Own debt securities issued other than own covered bonds or securitisations**	0	0	0	0
241	**Own covered bonds and asset-backed securities issued and not yet pledged**				
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	**392,081**	**201,319**		

In the year 2022, median collateral received increased by $3.4Bn to $308.4Bn primarily driven by collateral received from reverse repos pledged against repo transactions.

Table 43 below shows the extent to which liabilities have been matched to encumbered assets.

Table 43: Sources of encumbrance (UK AE3) – MSI Group

$MM		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities other than covered bonds and ABS's encumbered
MSI Group		**010**	**030**
010	Carrying Amount of selected financial liabilities	131,918	133,936

In the year 2022, median on-balance sheet assets increased by $63.5Bn to $670.7Bn primarily driven by derivative exposures on MSIP and equity instruments.

In the year 2022, median collateral received increased by $3.4Bn to $308.4Bn primarily driven by collateral received from reverse repos pledged against repo transactions.

19. Appendix I: Board of Directors Knowledge, Skills and Expertise

Appointments to MSI Board

When identifying and recommending candidates to join the MSI Board, the MSI Nomination and Governance Committee will consider a broad range of qualities and characteristics, giving due regard to ensuring a diverse range of approaches, backgrounds, skills, experience, opinions and views are present on the MSI Board and its Committees. It will also take into account regulatory requirements and relevant policies of the MSI Group. When identifying and selecting non-executive directors, the MSI Nomination and Governance Committee may also consult with executive search firms. New directors go through tailored induction programmes and all directors are provided with ongoing training.

Diversity and the Composition of the MSI Board

The MSI Board recognises the importance and benefits of diversity both within business operations and at a board level. All appointments to the MSI Board and its Committees are made on merit, in the context of the skills and experience that the MSI Board as a whole requires to be effective, with due regard given to the benefits of diversity. When assessing the composition of the MSI Board and recommending new directors; the MSI Nomination and Governance Committee considers the benefits of diversity, including gender and ethnic diversity.

The MSI Board aspires to continue to meet or exceed diversity targets, including a minimum (i) 33% female representation* and (ii) one Board director from an ethnic minority background. As at 31 December 2022, the MSI Board had exceeded its gender target with 47% female representation and met its ethnicity target. Selection of diverse candidates to join the MSI Board will be, in part, dependent on the pool of candidates with the necessary background, skills and experience. In order to promote the specific objective of diversity at Board level, the Nomination and Governance Committee expects short-lists of potential candidates prepared by external executive search firms to be diverse and balanced.

** In February 2023 the target for female representation on the MSI Board was increased to 40% by 2025.*

Non-Executive Directors

Jonathan Bloomer

Jonathan was appointed a non-executive director of the MSI Board in November 2016 and became Chair of the MSI Board and MSI Nomination & Governance Committee with effect from 31 March 2018 and Chair of the MSI Remuneration Committee in February 2021. He is also joint Chair of the MSI EPC and a member of the Audit and Risk Committees.

Jonathan has over 40 years' experience working in accounting and financial services firms. He was a Partner at Arthur Andersen from 1987 to 1994 before leaving to join the Prudential Group plc where he spent over 10 years including as Group Finance Director and Group CEO. Jonathan also spent six years at Cerberus Capital, a global private equity firm, as a European Partner and Senior Member of the Global Operations team.

Jonathan holds a number of non-executive directorships with other financial institutions.

He is a Chartered Accountant and holds a B.Sc. in Physics from Imperial College.

Megan Butler

Megan was appointed a non-executive director of the MSI Board in October 2022. She is also a member of the MSI Risk, Audit and Nomination & Governance Committees.

Megan has over thirty years' experience working in financial services including over twenty years' working for UK financial services regulators. She was previously Executive Director for Transformation for the FCA and prior to that she was Executive Director of Supervision of the Investment Wholesale and Specialists Division of the FCA. Before joining the FCA she held roles at the PRA, including as Executive Director of the International Banks Directorate and she held various roles at the Financial Services Authority between 2000 and 2013, latterly as the Director of the International Banks Division. Megan started her career at the London Stock Exchange where she held a number of different roles.

Megan has a LLB (Hons) from Sheffield University and was called to the Bar in 1987.

David Cannon

David was appointed a non-executive director of the MSI Board in June 2013. He is a member of the MSI Risk, Nomination & Governance and EPC. David was Chair of the MSI Audit Committee until January 2020, and remained a member of the MSI Audit Committee until he was re-appointed as interim Audit Committee Chair in April 2021.

David has over thirty years' experience in the financial sector, with a particular focus on accounting and investment banking. He was a Partner at Ernst & Young from 1986 to 1995, leading the audit of a number of large financial services groups and being responsible for one of Ernst & Young's audit divisions before leaving in 1995 to become Chief Financial Officer of BZW/Barclays Capital. He returned to Ernst & Young in 1998 as Managing Partner of the London Financial Services Office. Between 2003 and 2012, David held a number of positions at Deutsche Bank including Deputy Group CFO and Chief Finance Officer for the Investment Bank.

From 2015 to 2019, David was a member of the Conduct Committee of the Financial Reporting Council and Chair of its Audit Quality Review Committee. He has an M.A. in PPE from the University of Oxford and is a qualified Chartered Accountant.

Terri Duhon

Terri was appointed a non-executive director of the MSI Board in April 2016. She is Chair of the MSI Risk Committee and member of the Audit, Nomination & Governance, Remuneration and EPC.

Terri has over twenty five years' risk and financial markets experience. She worked for JPMorgan as a derivatives trader for eight years and was Global Head of Structured Credit at ABN AMRO. In 2004 she founded an expert advisory company and has been retained as a financial risk expert for major regulators.

Terri has held a number of non-executive director appointments and is currently a director of Rathbone plc and Wise plc. She is an Associate Fellow at Oxford University Said Business School. She graduated from MIT in Mathematics in 1994.

Jane Pearce

Jane was appointed a non-executive director of the MSI Board in October 2023. She is also a member of the MSI Risk, Audit and Remuneration Committees.

Jane has held a number of different roles in financial service firms over the last 30 years', her most recent executive role was in the Equity Strategy team at Nomura International plc. Prior to that she held senior roles in the Equity Strategy and Research Departments at Lehman Brothers from 2000-2008. She has also held roles as an Equity Analyst in the Technology Sector at HSBC and a finance project manager at JP Morgan. She started her career at Arthur Anderson where she qualified as a Chartered Accountant.

Jane holds a number of non-executive directorships with other financial institutions. She is a Chartered Accountant and has an Honours Degree in Business Studies & Accounting from the University of Edinburgh.

Melanie Richards

Melanie was appointed a non-executive director of the MSI Board in July 2021. She is also a member of the MSI Risk, Audit and Remuneration Committees.

Melanie has nearly 40 years' experience working in banking and financial services with a particular focus on corporate finance and capital markets. Prior to retiring from her executive career in September 2020, Melanie had been a partner in the Debt Advisory practice of KPMG LLP for nearly twenty years where she co built the practice. Melanie served as a member of the KPMG LLP board from 2012 to 2020 including as Deputy Chair from 2017, and culminating in her role as acting chair during 2020. Before joining KPMG in 2001, Melanie held various roles in banks, latterly as the Head of Private Placements at the Royal Bank of Canada between 1997 and 2000.

Melanie received an honorary doctorate, Business Administration, from Oxford Brookes University in 2016.

Lucrezia Reichlin

Lucrezia was appointed a non-executive director of the MSI Board in January 2021.

Lucrezia is Professor of Economics at London Business School and her prior roles have included Director General of Research at the European Central Bank. She is trustee of the IFRS Foundation and has held a number of executive and non-executive directorships in a range of institutions including as non-executive director at UniCredit Banking Group. She is an elected Fellow of the British Academy, the Econometric Society and honorary Fellow of the American Economic Association.

Lucrezia has a PH.D. in Economics from New York University and a Laurea Economics with distinction from the University of Modena.

Paul Taylor

Paul was appointed a non-executive director of the MSI Board in August 2020. He is also a member of the MSI Risk, Audit, Remuneration and the Nomination & Governance Committees.

Paul has over 35 years' experience working in a range of roles in the science and technology sector, predominantly within or connected with the Ministry of Defence or other central government departments. From 2014 to 2020 Paul led KPMG's Information Protection and Business Resilience practice in the UK. He is a member of the Technology Advisory Board for NatWest Group plc, a member of a number of Government Technical Committees and member of Council at Loughborough University.

Paul is a Fellow of the Royal Academy of Engineering and of the Weatherhead Centre for International Affairs at Harvard University. Paul was awarded a CBE in the King's New Year Honours in January 2023.

Executive Directors

Oliver Behrens

Oliver is Chair of Morgan Stanley Europe SE, Morgan Stanley Bank AB and Morgan Stanley Europe Holding SE Management Boards. He was appointed as an executive director on the MSI Board in January 2021.

Oliver has over 39 years banking experience. Prior to joining the firm Oliver spent 9 years at DekaBank where he was responsible for the Asset Management business and later the Institutional Sales and Trading business. He also served as Deputy Chair and Chair. He began his career at Deutsche Bank AG where he spent 24 years mainly in the Asset Management business.

Oliver holds a degree in economics from Hagen and Tuebingen.

Arun Kohli

Arun is the Chief Operating Officer for Morgan Stanley EMEA and an executive director on the MSI Board (appointed August 2016).

Prior to this, he was the Chief Operating Officer for Morgan Stanley Asia Pacific and a Managing Director in Morgan Stanley's Firm Strategy & Execution group in New York. Arun joined Morgan Stanley in 2007 from McKinsey's Financial Institutions group in New York. Prior to that Arun spent five years with CRISIL (the Indian subsidiary of S&P).

Arun attended the University of Delhi where he graduated with Honours in Engineering and received a Master of Business Administration with Honours from the Wharton School, graduating as a Palmer Scholar.

Kim Lazaroo

Kim is the EMEA Head of Corporate Structure and Recovery and Resolution planning and is an executive director of the MSI Board (appointed February 2019). Prior to this she was the EMEA Chief Financial Officer and EMEA Head of Global Corporate Controllers and Global Head of Legal Entity Controllers.

Kim joined Morgan Stanley in October 2015 from Goldman Sachs Group where she was Global Legal Entity Controller (2011 to 2015) and prior to this Kim held Financial and Legal Entity Controller roles. Kim joined Goldman Sachs in 1994 from Coopers & Lybrand where she worked for three years.

Kim has a Bachelor of Commerce in Accounting from the University of New South Wales.

Anthony Mullineaux

Anthony is the EMEA Chief Financial Officer and an executive director on the MSI Board (appointed October 2022).

Anthony joined the firm in 1993 and has held a number of senior positions in London and Hong Kong including Head of Financial Shared Services and Head of International Global In-House Centres from 2018 to 2021. Prior to that Anthony was EMEA Head of ISG Finance from 2015 to 2021 and Asia Pacific CFO from 2012 to 2014. Anthony joined Morgan Stanley from Coopers & Lybrand where he worked for three years.

Anthony is a Chartered Accountant and holds a Bachelor's degree in Economics and Statistics from Exeter University

Salvatore Orlacchio

Salvatore is the Head of EMEA Fixed Income and an executive director of the MSI Board (appointed June 2020). Salvatore has held a number of roles at the firm since joining in 1997 including EMEA Head of Fixed Income Sales and prior to that Head of interest Rates Distribution in EMEA and Sales Country Head for Italy Fixed Income and Institutional Equities division.

Salvatore has a BSC (Hons) in Economics from Naples University, and a M.Sc. in Economics and Finance from Warwick Business School.

David Russell

David is Global Co-Head of Morgan Stanley's Institutional Equities Division and an executive director of the MSI Board (appointed May 2011)*.

David was Global Co-Head of Morgan Stanley's Institutional Equities Division and an executive director of the MSI Board until January 2023 (appointed May 2011). He joined Morgan Stanley in 1990 as a European Equity trader and has held a number of other roles including Head of Institutional Equities Division in Europe, Head of Trading for Europe and Head of Institutional Equities Division in Asia before taking up his current role.

David graduated from the University of London in 1987 with a degree in History.

** David resigned as a MSI Board member and Global Co-Head of Morgan Stanley's Institutional Equities Division in January 2023.*

Arya Sekhar

Arya is the EMEA Chief Risk Officer for Morgan Stanley EMEA and an executive director on the MSI Board (appointed May 2020).

Arya joined the firm in April 2008 in the MRD and has served in key roles across the firm's Risk Management division including Global Head of Market Risk Analytics, and in 2015 assumed the position of the Global Head of Liquidity Risk Department. He began his career in Mortgage Research in 2003 and has previously worked at Countrywide Securities Corporation and RBS Greenwich Capital.

Arya holds a Bachelor's degree in Mechanical Engineering from Delhi University, MBA in Finance from S.P Jain Institute, Ph.D. in Finance from Oklahoma State University. He is also a CFA® Charter holder.

Noreen Whyte

Noreen is an executive director on the MSI Board (appointed May 2018) and is Chief Executive Officer of Morgan Stanley Bank International Ltd (appointed March 2016) Global Co-Head of the Loan Solutions & Securitisation Group within the Global Capital Markets Group.

Noreen joined Morgan Stanley in 2005 from General Electric where she was Director of Originations at GE Home Lending. Noreen held operational and risk management roles in GE prior to joining the Structured Product Group in Fixed Income at Morgan Stanley.

Noreen graduated from the University of Westminster in 1995 with a BA (Hons) in International Business Studies. Noreen is sponsor of Morgan Stanley's Black Youth and Women in Markets Forums.

Clare Woodman

Clare is Head of EMEA and CEO of MSIP and an executive director on the MSI Board (appointed September 2019). Previously Clare served as Global Chief Operating Officer for Morgan Stanley's Institutional Securities Group. She is a member of the firm's Global Operating and Management Committees. She joined Morgan Stanley in 2002 from Clifford Chance.

Clare holds a number of senior positions across industry organisations: she is a member of the UK Investment Council, Chair of the US-UK Business Council and Deputy Chair of the FCA Markets Practitioners Panel.

Clare is a Trustee of the Morgan Stanley International Foundation and is an active sponsor of the firm's Women's Business Alliance and a Trustee of the FT Financial Literacy and Inclusion Campaign.

Clare studied at the London Business School where she obtained her MBA and in 2020 was awarded a CBE for Services to Finance.

Figure 6: MSI Directors: Number of Directorships

	Number of directorships held as at 31 December 2022	Directorships adjusted for SYSC4.3A.7(2)
Oliver Behrens	6	1
Megan Butler	3	1
Jonathan Bloomer	6	4
David Cannon	7	1
Terri Duhon	9	4
Paul Taylor	5	2
Arun Kohli	4	1
Kim Lazaroo	8	1
Anthony Mullineaux	5	1
Salvatore Orlacchio	2	1
Jane Pearce	5	3
Lucrezia Reichlin	11	4
Melanie Richards	8	2
David Russell	4	1
Arya Sekhar	3	1
Noreen Whyte	6	1
Clare Woodman	5	1

20. Appendix II: Capital Instruments & Eligible Liabilities

Table 44: Capital instruments and eligible liabilities – MSI Group and MSIP (UK CCA)

	MSI Group	a		b			c					d
	Description	Common Equity Tier 1		Additional Tier 1			Subordinated Debt					Senior Sub ordinated Debt
1	Issuer	Morgan Stanley International Limited										
2	Unique Identifier	N/A										
2a	Public or private placement	Private										
3	Governing law(s) of the instrument	Companies Act 2006		English Law								
3a	Contractual recognition of write down and conversion powers of resolution authorities	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
	Regulatory treatment											
4	Current treatment taking into account, where applicable, transitional CRR rules	Common Equity Tier 1		Additional Tier 1			Tier 2					Eligible Liability
5	Post-transitional CRR rules	Common Equity Tier 1		Additional Tier 1			Tier 2					Eligible Liability
6	Eligible at solo/(sub-)consolidated/ solo&(sub-)consolidated	(Sub-) Consolidated										
7	Instrument type (types to be specified by each jurisdiction)	Ordinary Shares		Perpetual Unsecured Fixed Rate Securities			Long-term subordinated multicurrency loan		Long-term subordinated multicurrency loan facility			Sub ordinated non-T2 Loan
8	Amount recognised in regulatory capital or eligible liabilities (Currency in million, as of most recent reporting date)	USD 2,417MM		USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,498MM	USD 2,100MM	USD 2,976MM	USD 180MM	USD 30MM	USD 6,800MM
9	Nominal amount of instrument	N/A	N/A	USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,500MM	USD 2,100MM	USD 5,000MM	USD 305MM	USD 51MM	USD 6,800MM
UK-9a	Issue Price	N/A	N/A	USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,500MM	USD 2,100MM	USD 5,000MM	GBP 250MM	USD 51MM	USD 6,800MM
UK-9b	Redemption Price	N/A	N/A	USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,500MM	USD 2,100MM	USD 5,000MM	GBP 250MM	USD 51MM	USD 6,800MM
10	Accounting Classification	Shareholders' Equity					Liability - amortised cost					
11	Original date of issuance	13/11/98	18/06/98	13/06/22	25/11/20	23/08/18	13/06/22	11/08/21	08/02/17	21/12/15	21/12/15	27/11/18
12	Perpetual or dated	Perpetual					Dated					
13	Original maturity date	No maturity					13/06/33	11/08/32	21/12/25	21/12/25	21/12/25	395 days from issuance
14	Issuer call subject to prior supervisory approval	N/A	N/A	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A
15	Optional call date, contingent call dates and redemption amount	N/A	N/A	30/11/27 at 100% plus tax and regulatory calls at 100%	30/11/25 at 100% plus tax and regulatory calls at 100%	30/11/23 at 100% plus tax and regulatory calls at 100%	13/06/27 at 100% plus tax and regulatory calls at 100%	11/08/26 at 100% plus tax and regulatory calls at 100%	N/A	N/A	N/A	N/A
16	Subsequent call dates, if applicable	N/A	N/A	Daily thereafter					N/A	N/A	N/A	N/A
	Coupons / dividends											
17	Fixed or floating dividend / coupon	Floating		Fixed			Floating					
18	Coupon rate and any related index	N/A	N/A	7.4%	5.5%	7.5%	SOFR+2.340%	SOFR + 1.440%	OBFR + 2.300%	SONIA + 2.121%	OBFR + 2.086%	Proxy*
19	Existence of a dividend stopper	No										
UK-20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary					Mandatory					
UK-20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary					Mandatory					
21	Existence of step up or other incentive to redeem	No										
22	Noncumulative or cumulative	Noncumulative					Cumulative					

	MSI Group Description	a Common Equity Tier 1		b Additional Tier 1			c Subordinated Debt					d Senior Sub ordinated Debt
23	Convertible or non-convertible	Nonconvertible										
24	If convertible, conversion trigger(s)	N/A										
25	If convertible, fully or partially	N/A										
26	If convertible, conversion rate	N/A										
27	If convertible, mandatory or optional conversion	N/A										
28	If convertible, specify instrument type convertible into	N/A										
29	If convertible, specify issuer of instrument it converts into	N/A										
30	Write-down features	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
31	If write-down, write-down trigger(s)	N/A	N/A	See below (A)			See below (B)		See below (C)			See below (D)
32	If write-down, full or partial	N/A	N/A	Full	Full	Full	Partial	Partial	N/A	N/A	N/A	Partial
33	If write-down, permanent or temporary	N/A	N/A	Permanent					N/A	N/A	N/A	Permanent
34	If temporary write-down, description of write-up mechanism	N/A										
34a	Type of subordination (only for eligible liabilities)	N/A										Contractual
UK-34b	Ranking of the instrument in normal insolvency proceedings	Rank 1	Rank 1	Rank 2	Rank 2	Rank 2	Rank 3	Rank 3	Rank 3	Rank 3	Rank 3	Rank 4
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Perpetual Unsecured Fixed Rate Securities		Long-term subordinated loan facility			Senior Subordinated Facility					Other Liabilities
36	Non-compliant transitioned features	No										
37	If yes, specify non-compliant features	N/A										
37a	Link to the full term and conditions of the instrument (signposting)	https://www.morganstanley.com/about-us-ir/pillar-uk/2022terms.html										
	TLAC Eligibility	Yes										

*Interest rate at which Morgan Stanley is offering loans, in the relevant currency, to members of the Morgan Stanley Group on such day, which counterparties have acknowledged and agreed to apply to any loan, acting on an arm's length basis.

Details of write-down trigger(s) (Row 31)

A. Additional Tier 1: Contractual write down if CET1 Capital Ratio of MSI Group falls below 7%. BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers in a resolution scenario.

B. Subordinated Debt: BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers or under the contractual terms if they deem the entity is failing or likely to fail, or if the MS resolution entity enters a resolution.

C. Subordinated Debt: BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers in a resolution scenario.

D. Senior Subordinated Debt: BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument under the contractual terms if they deem the entity is failing or likely to fail, or if the MS resolution entity enters a resolution.

	MSIP **Description**	**a** **Common Equity Tier 1**			**b** **Additional Tier 1**			**c** **Subordinated Debt**			**d** **Senior Subordinated Debt**
1	Issuer	Morgan Stanley & Co. International plc									
2	Unique Identifier	N/A									
2a	Public or private placement	Private									
3	Governing law(s) of the instrument	Companies Act 2006			English Law						
3a	Contractual recognition of write down and conversion powers of resolution authorities	No			Yes					No	Yes
	Regulatory treatment										
4	Current treatment taking into account, where applicable, transitional CRR rules	Common Equity Tier 1			Additional Tier 1			Tier 2			Eligible Liability
5	Post-transitional CRR rules	Common Equity Tier 1			Additional Tier 1			Tier 2			Eligible Liability
6	Eligible at solo/(sub-)consolidated/ solo&(sub-)consolidated	Solo and (Sub-) Consolidated									
7	Instrument type (types to be specified by each jurisdiction)	Ordinary Shares			Perpetual Unsecured Fixed Rate Securities			Long-term subordinated multicurrency loan	Long-term subordinated multicurrency loan	Long-term subordinated multicurrency loan facility	Subordinated non-T2 Loan
8	Amount recognised in regulatory capital or eligible liabilities (Currency in million, as of most recent reporting date)	USD 12,978MM			USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,498MM	USD 1,400MM	USD 2,976MM	USD 3,900MM
9	Nominal amount of instrument	N/A			USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,500MM	USD 1,400MM	USD 5,000MM	USD 3,900MM
UK-9a	Issue Price	N/A			USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,500MM	USD 1,400MM	USD 5,000MM	USD 3,900MM
UK-9b	Redemption Price	N/A			USD 800MM	USD 1,300MM	USD 2,200MM	USD 2,500MM	USD 1,400MM	USD 5,000MM	USD 3,900MM
10	Accounting Classification	Shareholders' Equity						Liability - amortised cost			
11	Original date of issuance	01/02/94	28/10/86	22/12/11	13/06/22	25/11/20	23/08/18	13/06/22	11/08/21	08/02/17	27/11/18
12	Perpetual or dated	Perpetual						Dated			
13	Original maturity date	No maturity						13/06/33	11/08/32	21/12/25	395 days from date of issuance
14	Issuer call subject to prior supervisory approval	N/A			Yes	Yes	Yes	Yes	Yes	N/A	N/A
15	Optional call date, contingent call dates and redemption amount	N/A			30/11/27 at 100% plus tax and regulatory calls at 100%	30/11/25 at 100% plus tax and regulatory calls at 100%	30/11/23 at 100% plus tax and regulatory calls at 100%	13/06/2027 at 100% plus tax and regulatory calls at 100%	11/08/2026 at 100% plus tax and regulatory calls at 100%	N/A	N/A
16	Subsequent call dates, if applicable	N/A			Daily thereafter	Daily thereafter	Daily thereafter	Daily thereafter	Daily thereafter	N/A	N/A
	Coupons / dividends										
17	Fixed or floating dividend / coupon	Floating			Fixed			Floating			
18	Coupon rate and any related index	N/A			7.4%	5.5%	7.5%	SOFR+2.340%	SOFR + 1.4400%	OBFR + 2.300%	Proxy*
19	Existence of a dividend stopper	No									
UK-20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary						Mandatory			
UK-20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary						Mandatory			
21	Existence of step up or other incentive to redeem	No									
22	Noncumulative or cumulative	Noncumulative						Cumulative			
23	Convertible or non-convertible	Nonconvertible									

	MSIP **Description**	**a** **Common Equity Tier 1**			**b** **Additional Tier 1**			**c** **Subordinated Debt**			**d** **Senior Subordinated Debt**
24	If convertible, conversion trigger(s)	N/A									
25	If convertible, fully or partially	N/A									
26	If convertible, conversion rate	N/A									
27	If convertible, mandatory or optional conversion	N/A									
28	If convertible, specify instrument type convertible into	N/A									
29	If convertible, specify issuer of instrument it converts into	N/A									
30	Write-down features	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
31	If write-down, write-down trigger(s)	N/A			See below (A)			See below (B)		See below (C)	See below (D)
32	If write-down, full or partial	N/A			Full	Full	Full	Partial	Partial	N/A	Partial
33	If write-down, permanent or temporary	N/A			Permanent	Permanent	Permanent	Permanent	Permanent	N/A	Permanent
34	If temporary write-down, description of write-up mechanism	N/A									
34a	Type of subordination (only for eligible liabilities)	N/A									Contractual
UK-34b	Ranking of the instrument in normal insolvency proceedings	Rank 1	Rank 1	Rank 2	Rank 2	Rank 2	Rank 3	Rank 3	Rank 3	Rank 3	Rank 3
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Perpetual Unsecured Fixed Rate Securities			Long-term subordinated loan facility			Senior Subordinated Facility			Other Liabilities
36	Non-compliant transitioned features	No									
37	If yes, specify non-compliant features	N/A									
37a	Link to the full term and conditions of the instrument (signposting)	https://www.morganstanley.com/about-us-ir/pillar-uk/2022terms.html									
	TLAC Eligibility	Yes									

*Interest rate at which Morgan Stanley is offering loans, in the relevant currency, to members of the Morgan Stanley Group on such day, which counterparties have acknowledged and agreed to apply to any loan, acting on an arm's length basis.

Details of write-down trigger(s) (Row 31)

A. Additional Tier: Contractual write down if CET1 Capital Ratio of MSI Group or MSIP falls below 7%. BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers in a resolution scenario.

B. Subordinated Debt: BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers or under the contractual terms if they deem the entity is failing or likely to fail, or if the MS resolution entity enters a resolution.

C. Subordinated Debt: BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers in a resolution scenario.

D. Senior Subordinated Debt: BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument under the contractual terms if they deem the entity is failing or likely to fail, or if the MS resolution entity enters a resolution.

21. Appendix III: Own Funds Disclosure Template

Table 45 shows the composition of regulatory Own Funds for the MSI Group and MSIP as at 31 December 2022.

Table 45: Composition of regulatory own funds (UK CC1) – MSI Group and MSIP

$MM MSI Group		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
	Common Equity Tier 1 (CET1) capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	2,417	A
	of which: Instrument type 1		
	of which: Instrument type 2		
	of which: Instrument type 3		
2	Retained earnings	15,820	B
3	Accumulated other comprehensive income (and other reserves)	6,424	C
UK-3a	Funds for general banking risk	-	
4	Amount of qualifying items referred to in Article 484 (3) CRR and the related share premium accounts subject to phase out from CET1	-	
5	Minority interests (amount allowed in consolidated CET1)	-	
UK-5a	Independently reviewed interim profits net of any foreseeable charge or dividend	1,013	D
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**25,674**	
	Common Equity Tier 1 (CET1) capital: regulatory adjustments		
7	Additional value adjustments (negative amount)	(1,407)	
8	Intangible assets (net of related tax liability) (negative amount)	(749)	E
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) CRR are met) (negative amount)	(25)	F
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	-	
12	Negative amounts resulting from the calculation of expected loss amounts	(185)	
13	Any increase in equity that results from securitised assets (negative amount)	-	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	122	G
15	Defined-benefit pension fund assets (negative amount)	(16)	H
16	Direct, indirect and synthetic holdings by an institution of own CET1 instruments (negative amount)	-	
17	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
18	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
UK-20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	-	
UK-20b	of which: qualifying holdings outside the financial sector (negative amount)	-	
UK-20c	of which: securitisation positions (negative amount)	-	
UK-20d	of which: free deliveries (negative amount)	-	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) CRR are met) (negative amount)	-	
22	Amount exceeding the 17,65% threshold (negative amount)	-	
23	of which: direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	-	
25	of which: deferred tax assets arising from temporary differences	-	
UK-25a	Losses for the current financial year (negative amount)	-	
UK-25b	Foreseeable tax charges relating to CET1 items except where the institution suitably adjusts the amount of CET1 items insofar as such tax charges reduce the amount up to which those items may be used to cover risks or losses (negative amount)	-	
27	Qualifying AT1 deductions that exceed the AT1 items of the institution (negative amount)	-	
27a	Other regulatory adjustments to CET1 capital (including IFRS 9 transitional adjustments when relevant)	(376)	
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1)**	**(2,636)**	
29	**Common Equity Tier 1 (CET1) capital**	**23,038**	
	Additional Tier 1 (AT1) capital: instruments		

30	Capital instruments and the related share premium accounts	4,300	
31	of which: classified as equity under applicable accounting standards	4,300	
32	of which: classified as liabilities under applicable accounting standards	-	
33	Amount of qualifying items referred to in Article 484 (4) CRR and the related share premium accounts subject to phase out from AT1 as described in Article 486(3) CRR	-	
UK-33a	Amount of qualifying items referred to in Article 494a(1) CRR subject to phase out from AT1	-	
UK-33b	Amount of qualifying items referred to in Article 494b(1) CRR subject to phase out from AT1	-	
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	-	
35	of which: instruments issued by subsidiaries subject to phase out	-	
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**4,300**	I
	Additional Tier 1 (AT1) capital: regulatory adjustments		
37	Direct, indirect and synthetic holdings by an institution of own AT1 instruments (negative amount)	-	
38	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
40	Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
42	Qualifying T2 deductions that exceed the T2 items of the institution (negative amount)	-	
42a	Other regulatory adjustments to AT1 capital	-	
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	-	
44	**Additional Tier 1 (AT1) capital**	**4,300**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**27,338**	
	Tier 2 (T2) capital: instruments		
46	Capital instruments and the related share premium accounts	7,785	
47	Amount of qualifying items referred to in Article 484 (5) CRR and the related share premium accounts subject to phase out from T2 as described in Article 486(4) CRR	-	
UK-47a	Amount of qualifying items referred to in Article 494a (2) CRR subject to phase out from T2	-	
UK-47b	Amount of qualifying items referred to in Article 494b (2) CRR subject to phase out from T2	-	
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-	
49	of which: instruments issued by subsidiaries subject to phase out	-	
50	Credit risk adjustments	-	
51	**Tier 2 (T2) capital before regulatory adjustments**	**7,785**	J
	Tier 2 (T2) capital: regulatory adjustments		
52	Direct, indirect and synthetic holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-	
53	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
54	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
55	Direct, indirect and synthetic holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
UK-56a	Qualifying eligible liabilities deductions that exceed the eligible liabilities items of the institution (negative amount)	-	
UK-56b	Other regulatory adjustments to T2 capital	-	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	-	
58	**Tier 2 (T2) capital**	**7,785**	
59	**Total capital (TC = T1 + T2)**	**35,123**	
60	**Total Risk exposure amount**	**160,504**	
	Capital ratios and buffers		
61	Common Equity Tier 1 (as a percentage of total risk exposure amount)	14.35%	
62	Tier 1 (as a percentage of total risk exposure amount)	17.03%	
63	Total capital (as a percentage of total risk exposure amount)	21.88%	
64	Institution CET1 overall capital requirement (CET1 requirement in accordance with Article 92 (1) CRR, plus additional CET1 requirement which the institution is required to hold in accordance with point (a) of Article 104(1) CRD, plus combined buffer requirement in accordance with Article 128(6) CRD) expressed as a percentage of risk exposure amount)	9.00%	
65	of which: capital conservation buffer requirement	2.50%	
66	of which: countercyclical buffer requirement	0.32%	
67	of which: systemic risk buffer requirement	-	

UK-67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	-	
68	**Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)**	8.17%	
	Amounts below the thresholds for deduction (before risk weighting)		
72	Direct and indirect holdings of own funds and eligible liabilities of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	868	
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 17.65% thresholds and net of eligible short positions)	0	
75	Deferred tax assets arising from temporary differences (amount below 17,65% threshold, net of related tax liability where the conditions in Article 38 (3) CRR are met)	255	K
	Applicable caps on the inclusion of provisions in Tier 2		
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-	
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	-	
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	-	
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	-	
	Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2014 and 1 Jan 2022)		
80	Current cap on CET1 instruments subject to phase out arrangements	-	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	
82	Current cap on AT1 instruments subject to phase out arrangements	-	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-	
84	Current cap on T2 instruments subject to phase out arrangements	-	
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	

$MM MSIP		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
	Common Equity Tier 1 (CET1) capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	12,978	A
	of which: Instrument type 1		
	of which: Instrument type 2		
	of which: Instrument type 3		
2	Retained earnings	4,538	B
3	Accumulated other comprehensive income (and other reserves)	1,193	C
UK-3a	Funds for general banking risk	-	
4	Amount of qualifying items referred to in Article 484 (3) CRR and the related share premium accounts subject to phase out from CET1	-	
5	Minority interests (amount allowed in consolidated CET1)	-	
UK-5a	Independently reviewed interim profits net of any foreseeable charge or dividend	773	D
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**19,482**	
	Common Equity Tier 1 (CET1) capital: regulatory adjustments		
7	Additional value adjustments (negative amount)	(1,324)	
8	Intangible assets (net of related tax liability) (negative amount)	(2)	E
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) CRR are met) (negative amount)	-	
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	-	
12	Negative amounts resulting from the calculation of expected loss amounts	(117)	
13	Any increase in equity that results from securitised assets (negative amount)	-	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	122	F
15	Defined-benefit pension fund assets (negative amount)	-	
16	Direct, indirect and synthetic holdings by an institution of own CET1 instruments (negative amount)	-	
17	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
18	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	

UK-20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	-	
UK-20b	of which: qualifying holdings outside the financial sector (negative amount)	-	
UK-20c	of which: securitisation positions (negative amount)	-	
UK-20d	of which: free deliveries (negative amount)	-	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) CRR are met) (negative amount)	-	
22	Amount exceeding the 17,65% threshold (negative amount)	-	
23	of which: direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	-	
25	of which: deferred tax assets arising from temporary differences	-	
UK-25a	Losses for the current financial year (negative amount)	0	
UK-25b	Foreseeable tax charges relating to CET1 items except where the institution suitably adjusts the amount of CET1 items insofar as such tax charges reduce the amount up to which those items may be used to cover risks or losses (negative amount)	-	
27	Qualifying AT1 deductions that exceed the AT1 items of the institution (negative amount)	-	
27a	Other regulatory adjustments to CET1 capital (including IFRS 9 transitional adjustments when relevant)	(259)	
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1)**	**(1,580)**	
29	**Common Equity Tier 1 (CET1) capital**	**17,902**	
	Additional Tier 1 (AT1) capital: instruments		
30	Capital instruments and the related share premium accounts	4,300	
31	of which: classified as equity under applicable accounting standards	4,300	
32	of which: classified as liabilities under applicable accounting standards	-	
33	Amount of qualifying items referred to in Article 484 (4) CRR and the related share premium accounts subject to phase out from AT1 as described in Article 486(3) CRR	-	
UK-33a	Amount of qualifying items referred to in Article 494a(1) CRR subject to phase out from AT1	-	
UK-33b	Amount of qualifying items referred to in Article 494b(1) CRR subject to phase out from AT1	-	
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	-	
35	of which: instruments issued by subsidiaries subject to phase out	-	
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**4,300**	
	Additional Tier 1 (AT1) capital: regulatory adjustments		
37	Direct, indirect and synthetic holdings by an institution of own AT1 instruments (negative amount)	-	
38	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
40	Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
42	Qualifying T2 deductions that exceed the T2 items of the institution (negative amount)	-	
42a	Other regulatory adjustments to AT1 capital	-	
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	-	
44	**Additional Tier 1 (AT1) capital**	**4,300**	G
45	**Tier 1 capital (T1 = CET1 + AT1)**	**22,202**	
	Tier 2 (T2) capital: instruments		
46	Capital instruments and the related share premium accounts	6,874	
47	Amount of qualifying items referred to in Article 484 (5) CRR and the related share premium accounts subject to phase out from T2 as described in Article 486(4) CRR	-	
UK-47a	Amount of qualifying items referred to in Article 494a (2) CRR subject to phase out from T2	-	
UK-47b	Amount of qualifying items referred to in Article 494b (2) CRR subject to phase out from T2	-	
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-	
49	of which: instruments issued by subsidiaries subject to phase out	-	
50	Credit risk adjustments	-	
51	**Tier 2 (T2) capital before regulatory adjustments**	**6,874**	
	Tier 2 (T2) capital: regulatory adjustments		
52	Direct, indirect and synthetic holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-	
53	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	

54	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
55	Direct, indirect and synthetic holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
UK-56a	Qualifying eligible liabilities deductions that exceed the eligible liabilities items of the institution (negative amount)	-	
UK-56b	Other regulatory adjustments to T2 capital	-	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	-	
58	**Tier 2 (T2) capital**	**6,874**	**H**
59	**Total capital (TC = T1 + T2)**	**29,076**	
60	**Total Risk exposure amount**	**124,739**	
	Capital ratios and buffers		
61	Common Equity Tier 1 (as a percentage of total risk exposure amount)	14.35%	
62	Tier 1 (as a percentage of total risk exposure amount)	17.80%	
63	Total capital (as a percentage of total risk exposure amount)	23.31%	
64	Institution CET1 overall capital requirement (CET1 requirement in accordance with Article 92 (1) CRR, plus additional CET1 requirement which the institution is required to hold in accordance with point (a) of Article 104(1) CRD, plus combined buffer requirement in accordance with Article 128(6) CRD) expressed as a percentage of risk exposure amount)	8.98%	
65	of which: capital conservation buffer requirement	2.50%	
66	of which: countercyclical buffer requirement	0.33%	
67	of which: systemic risk buffer requirement	-	
UK-67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	-	
68	**Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)**	**8.20%**	
	Amounts below the thresholds for deduction (before risk weighting)		
72	Direct and indirect holdings of own funds and eligible liabilities of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	867	
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 17.65% thresholds and net of eligible short positions)	132	J
75	Deferred tax assets arising from temporary differences (amount below 17,65% threshold, net of related tax liability where the conditions in Article 38 (3) CRR are met)	150	I
	Applicable caps on the inclusion of provisions in Tier 2		
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-	
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	-	
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	-	
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	-	
	Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2014 and 1 Jan 2022)		
80	Current cap on CET1 instruments subject to phase out arrangements	-	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	
82	Current cap on AT1 instruments subject to phase out arrangements	-	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-	
84	Current cap on T2 instruments subject to phase out arrangements	-	
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	

Under PRA supervision, MSI Group and MSIP are required to maintain a minimum ratio of Own Funds to RWAs. As at 31 December 2022, MSI Group and MSIP are in compliance with the PRA capital requirements as defined in the PRA rulebook.

Table 46 shows the reconciliation of regulatory Own Funds in Table 38 to balance sheet in the audited financial statements.

Table 46: Reconciliation of regulatory own funds to balance sheet in the audited financial statements (UK CC2) – MSI Group and MSIP

$MM MSI Group	a Balance sheet as per financial statements As at 31 Dec 2022	b Under regulatory scope of consolidation As at 31 Dec 2022	c Reference
Assets - Breakdown by asset classes according to the balance sheet in the financial statements			
Cash and short-term deposits	36,557	36,557	
Trading financial assets	371,712	371,712	
Secured financing	127,750	127,750	
Loans and advances	168	168	
Investment Securities	142	142	
Trade and other receivables	102,056	102,056	
of which: Defined Pension Fund Assets (net of related tax liability)	16	16	H
Physical Commodities	0	0	
Current tax assets	231	231	
Deferred tax assets	280	280	
of which: Deferred tax assets that rely on future profitability and do not arise from temporary differences	25	25	F
of which: Deferred tax assets that rely on future profitability and arise from temporary differences	255	255	K
Other assets	172	172	
Investment in Subsidiaries Associates and Joint Ventures	0	0	
Property plant and equipment	1,003	1,003	
Intangible Assets	789	789	
of which: Intangibles net of related tax liabilities	749	749	E
TOTAL ASSETS	**640,860**	**640,860**	
Liabilities - Breakdown by liability classes according to the balance sheet in the financial statements			
Bank loans and overdrafts	8,130	8,130	
Trading financial liabilities	342,467	342,467	
Secured borrowing	90,144	90,144	
Trade and other payables	110,431	110,431	
Debt and other borrowings	57,492	57,492	
of which: Subordinated debt	7,785	7,785	J
of which: Senior subordinated debt	6,800	6,800	
Provisions	213	213	
Current tax liabilities	181	181	
Deferred tax liabilities	2	2	
Other liabilities	938	938	
Post-employment benefit obligations	26	26	
TOTAL LIABILITIES	**610,024**	**610,024**	
Shareholders' equity			
Share Capital	6,678	6,678	
of which: amount eligible for CET1	2,378	2,378	A
of which: amount eligible for AT1	4,300	4,300	I
Share Premium Account	38	38	A
Currency Translation Reserve	(839)	(839)	C
Pension Reserve	(75)	(75)	C
Debt Valuation Adjustment Reserve	(122)	(122)	G & C
Capital Contribution Reserve	6,061	6,061	C
Capital Redemption Reserve	1,400	1,400	C
Available-For-Sale Reserve	0	0	
Retained Earnings	17,267	17,267	
of which: Previous years retained earnings	15,820	15,820	B
of which: Interim verified profit	1,013	1,013	D
of which: Profit or loss attributable to owners of the parent	434	434	
Equity Attributable to The Owners Of The Company	30,408	30,408	
Non-Controlling Interests	428	428	
TOTAL EQUITY	**30,836**	**30,836**	
TOTAL LIABILITIES AND EQUITY	**640,860**	**640,860**	

$MM	a	b	c
	Balance sheet as in published financial statements	Under regulatory scope of consolidation	
MSIP	As at 31 Dec 2022	As at 31 Dec 2022	Reference
Assets - Breakdown by asset classes according to the balance sheet in the published financial statements			
Cash and short-term deposits	18,449	18,449	
Trading financial assets	329,068	329,068	
Secured financing	129,579	129,579	
Loans and advances	29	29	
Investment Securities	141	141	
Trade and other receivables	81,868	81,868	
Physical Commodities	0	0	
Current tax assets	305	305	
Deferred tax assets	150	150	
of which: Deferred tax assets that rely on future profitability and do not arise from temporary differences	0	0	
of which: Deferred tax assets that rely on future profitability and arise from temporary differences	150	150	J
Other assets	33	33	
Investment in Subsidiaries Associates and Joint Ventures	132	132	I
Property plant and equipment	14	14	
Intangible Assets	2	2	
of which: Intangibles net of related tax liabilities	2	2	E
TOTAL ASSETS	**559,770**	**559,770**	
Liabilities - Breakdown by liability classes according to the balance sheet in the published financial statements			
Bank loans and overdrafts	59	59	
Trading financial liabilities	298,690	298,690	
Secured borrowing	93,442	93,442	
Trade and other payables	97,163	97,163	
Debt and other borrowings	45,647	45,647	
of which: Subordinated debt	6,874	6,874	H
of which: Senior subordinated debt	3,900	3,900	
Provisions	131	131	
Current tax liabilities	76	76	
Deferred tax liabilities	0	0	
Other liabilities	347	347	
Post-employment benefit obligations	1	1	
TOTAL LIABILITIES	**535,556**	**535,556**	
Shareholders' equity			
Share Capital	16,765	16,765	
of which: amount eligible for CET1	12,465	12,465	A
of which: amount eligible for AT1	4,300	4,300	G
Share Premium Account	513	513	A
Currency Translation Reserve	(88)	(88)	C
Pension Reserve	0	0	C
Debt Valuation Adjustment Reserve	(122)	(122)	C & F
Capital Contribution Reserve	3	3	C
Capital Redemption Reserve	1,400	1,400	C
Available-For-Sale Reserve	0	0	
Retained Earnings	5,743	5,743	
of which: Previous years retained earnings	4,538	4,538	B
of which: Interim verified profit	773	773	D
of which: Profit or loss attributable to owners of the parent	432	432	
Equity Attributable to The Owners Of The Company	24,214	24,214	
Non-Controlling Interests	0	0	
TOTAL EQUITY	**24,214**	**24,214**	
TOTAL LIABILITIES AND EQUITY	**559,770**	**559,770**	

The above table highlights the difference in the basis of consolidation for accounting and prudential reporting purposes as it compares the carrying values as reported under IFRS with the carrying values under the scope of regulatory consolidation.

22. Appendix IV: Countercyclical Capital Buffer

Table 47 shows the geographical distribution of credit exposures relevant for the calculation of CCyB as at 31 December 2022 for the MSI Group and MSIP.

Table 47: Geographical distribution of credit exposures relevant for the calculation of the countercyclical buffer (UK CCyB1) – MSI Group and MSIP

		a	b	c	d	e	f	g	h	i	j	k	l	m
		General credit exposures		Trading book exposures				Own funds requirements						
		Exposure value under the standardised approach	Exposure value under the IRB approach	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for internal models	Securitisation exposures Exposure value for non-trading book	Total exposure value	Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation positions in the non-trading book	Total	Risk-weighted exposure amounts	Own funds requirement weights	CCyB rate
MSI Group		$MM	$MM	$MM	$MM	$MM	$MM	$MM	$MM	$MM	$MM	$MM	%	%
010	Bulgaria	-	-	-	2	-	2	-	-	-	-	1	0.00%	1.00%
	Czech Republic	-	-	-	6	-	6	-	7	-	7	89	0.17%	1.50%
	Hong Kong	28	210	146	164	-	548	14	43	-	57	709	1.34%	1.00%
	Luxembourg	226	3,957	28	34	-	4,245	223	20	-	243	3,041	5.75%	0.50%
	Norway	-	288	9	65	-	362	5	6	-	11	136	0.26%	2.00%
	Slovakia	-	2	-	1	-	3	-	-	-	-	5	0.01%	1.00%
	Denmark	2	920	-	70	-	992	33	29	-	62	772	1.46%	2.00%
	Estonia	-	-	-	2	-	2	-	-	-	-	5	0.01%	1.00%
	Romania	-	-	-	14	-	14	-	1	-	1	16	0.03%	0.50%
	Sweden	19	592	5	18	-	633	17	10	-	27	340	0.64%	1.00%
	Iceland	-	-	-	2	-	2	-	-	-	-	3	0.01%	2.00%
	United Kingdom	4,475	6,416	1,047	710	225	12,873	539	385	77	1,001	12,508	23.65%	1.00%
	Other	5,943	48,631	584	10,379	117	65,654	1,881	845	94	2,820	35,262	66.67%	0.00%
020	**TOTAL**	**10,693**	**61,016**	**1,819**	**11,467**	**342**	**85,336**	**2,712**	**1,346**	**171**	**4,229**	**52,887**	**100.00%**	
MSIP														
010	Bulgaria	-	-	-	2	-	2	-	-	-	-	1	0.00%	1.00%
	Czech Republic	-	-	-	6	-	6	-	7	-	7	89	0.21%	1.50%
	Hong Kong	28	178	146	164	-	516	13	43	-	56	700	1.62%	1.00%
	Luxembourg	194	3,135	-	34	-	3,363	190	18	-	208	2,595	6.01%	0.50%
	Norway	-	45	-	65	-	110	1	6	-	7	87	0.20%	2.00%
	Slovakia	-	-	-	1	-	1	-	-	-	-	2	0.01%	1.00%
	Denmark	-	107	-	70	-	177	6	29	-	35	439	1.02%	2.00%
	Estonia	-	-	-	2	-	2	-	-	-	-	5	0.01%	1.00%
	Romania	-	-	-	14	-	14	-	1	-	1	16	0.04%	0.50%
	Sweden	1	293	-	18	-	312	6	10	-	16	194	0.45%	1.00%
	Iceland	-	-	-	2	-	2	-	-	-	-	3	0.01%	2.00%
	United Kingdom	3,051	6,329	1,016	710	225	11,331	405	382	77	864	10,787	24.96%	1.00%
	Other	4,519	37,532	346	8,002	111	50,510	1,443	726	94	2,263	28,299	65.46%	0.00%
020	**TOTAL**	**7,793**	**47,619**	**1,508**	**9,090**	**336**	**66,346**	**2,064**	**1,222**	**171**	**3,457**	**43,217**	**100.00%**	

Over the second half of 2022, CCyB rate has increased primarily due to the addition of 1% CCyB rate for UK.

Table 48 shows the amount of institution specific CCyB as at 31 December 2022 for the MSI Group and MSIP.

Table 48: Amount of institution-specific countercyclical capital buffer (UK CCyB2) – MSI Group and MSIP

		a	a
$MM		**MSI Group**	**MSIP**
1	**Total risk exposure amount**	**160,504**	**124,739**
2	Institution specific countercyclical capital buffer rate	0.32%	0.33%
3	Institution specific countercyclical capital buffer requirement	517	409

Over the second half of 2022, the institution specific CCyB rate increased due to the additional CCyB rate of 1% for the UK.

23. Appendix V: Additional Credit and Counterparty Credit Risk Tables

Table 49 shows a breakdown of net loans and advances and debt securities by residual maturity as at 31 December 2022 for the MSI Group and MSIP.

Table 49: Maturity of exposures (UK CR1-A) - MSI Group and MSIP

$MM		a	b	c	d	e	f
				Net exposure value			
MSI Group		On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
1	Loans and advances	-	984	2,344	-	1,080	4,408
2	Debt securities	-	256	205	-	-	461
3	**Total**	**-**	**1,240**	**2,549**	**-**	**1,080**	**4,869**
MSIP							
1	Loans and advances	-	1,313	1,015	-	818	3,146
2	Debt securities	-	256	205	-	-	461
3	**Total**	**-**	**1,569**	**1,220**	**-**	**818**	**3,607**

Over the second half of 2022, decrease in loans & advances is across multiple counterparties.

Table 50 shows changes in the stock of non-performing loans and advances as at 31 December 2022 for the MSI Group and MSIP.

Table 50: Changes in the stock of non-performing loans and advances (UK CR2) – MSI Group and MSIP

$MM		a
MSI Group		Gross carrying amount
010	**Initial stock of non-performing loans and advances**	**106**
020	Inflows to non-performing portfolios	144
030	Outflows from non-performing portfolios	(116)
040	Outflows due to write-offs	-
050	Outflow due to other situations	(116)
060	**Final stock of non-performing loans and advances**	**134**
MSIP		
010	**Initial stock of non-performing loans and advances**	**100**
020	Inflows to non-performing portfolios	126
030	Outflows from non-performing portfolios	(116)
040	Outflows due to write-offs	-
050	Outflow due to other situations	(116)
060	**Final stock of non-performing loans and advances**	**110**

Over the second half of 2022, an increase in non-performing loans and advances is mainly driven by trade and other receivables.

Table 51 shows an overview of performing and non-performing exposures and the related provisions as at 31 December 2022 for the MSI Group and MSIP.

Table 51: Performing and Non-performing exposures and related provisions (UK CR1) – MSI Group and MSIP

$MM		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral and financial guarantees received	
		Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions					
MSI Group			Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3	Accumulated partial write-off	On performing exposures	On non-performing exposures
005	**Cash balances at central banks and other demand deposits**	**36,412**	**36,412**	**-**	**100**	**-**	**100**	**-**	**-**	**-**	**(100)**	**-**	**(100)**	**-**	**-**	**-**
010	**Loans and advances**	**230,040**	**40,069**	**60,934**	**134**	**23**	**111**	**(1)**	**-**	**(1)**	**(54)**	**-**	**(54)**	**-**	**124,573**	**-**
020	Central banks	2,959	-	760	-	-	-	-	-	-	-	-	-	-	1,967	-
030	General governments	1,939	28	1,457	-	-	-	-	-	-	-	-	-	-	455	-
040	Credit institutions	56,126	490	16,303	59	1	58	-	-	-	(37)	-	(37)	-	37,412	-
050	Other financial corporations	167,440	39,482	40,972	52	8	44	-	-	-	(14)	-	(14)	-	84,675	-
060	Non-financial corporations	1,576	69	1,442	23	14	9	(1)	-	(1)	(3)	-	(3)	-	64	-
070	Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
080	Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
090	**Debt securities**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
100	Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
130	Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	**Off-balance sheet exposures**	**3,043**	**2,644**	**387**	**-**	**-**	**-**	**(3)**	**-**	**(3)**	**-**	**-**	**-**		**15**	**-**
160	Central banks	-	-	-	-	-	-	-	-	-	-	-	-		-	-
170	General governments	-	-	-	-	-	-	-	-	-	-	-	-		-	-
180	Credit institutions	87	87	-	-	-	-	-	-	-	-	-	-		-	-
190	Other financial corporations	579	484	83	-	-	-	-	-	-	-	-	-		15	-
200	Non-financial corporations	2,377	2,073	304	-	-	-	(3)	-	(3)	-	-	-		-	-
210	Households	-	-	-	-	-	-	-	-	-	-	-	-		-	-
220	**Total**	**269,495**	**79,125**	**61,321**	**234**	**23**	**211**	**(4)**	**-**	**(4)**	**(154)**	**-**	**(154)**	**-**	**124,588**	**-**
MSIP																
005	**Cash balances at central banks and other demand deposits**	**18,612**	**18,612**	**-**	**97**	**-**	**97**	**-**	**-**	**-**	**(97)**	**-**	**(97)**	**-**	**-**	**-**
010	**Loans and advances**	**211,703**	**35,754**	**44,872**	**110**	**23**	**87**	**-**	**-**	**-**	**(49)**	**-**	**(49)**	**-**	**126,334**	**-**
020	Central banks	984	-	702	-	-	-	-	-	-	-	-	-	-	126	-
030	General governments	1,148	24	669	-	-	-	-	-	-	-	-	-	-	455	-
040	Credit institutions	63,453	1,152	10,147	48	2	46	-	-	-	(35)	-	(35)	-	49,806	-
050	Other financial corporations	145,134	34,577	32,435	44	7	37	-	-	-	(11)	-	(11)	-	75,883	-
060	Non-financial corporations	984	1	919	18	14	4	-	-	-	(3)	-	(3)	-	64	-
070	Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
080	Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
090	**Debt securities**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
100	Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
130	Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	**Off-balance sheet exposures**	**13**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**		**-**	**-**
160	Central banks	-	-	-	-	-	-	-	-	-	-	-	-		-	-
170	General governments	-	-	-	-	-	-	-	-	-	-	-	-		-	-
180	Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-		-	-
190	Other financial corporations	13	-	-	-	-	-	-	-	-	-	-	-		-	-
200	Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-		-	-
210	Households	-	-	-	-	-	-	-	-	-	-	-	-		-	-
220	**Total**	**230,328**	**54,366**	**44,872**	**207**	**23**	**184**	**-**	**-**	**-**	**(146)**	**-**	**(146)**	**-**	**126,334**	**-**

Over the second half of 2022, a decrease in Stage 3 non-performing cash balances is mainly driven by cash balances with Russian banks. Increase in Stage 3 and decrease in Stage 2 non-performing loans and advances was mainly driven by trade and other receivables.

Table 52 shows the quality of non-performing exposures by geography as at 31 December 2022 for the MSI Group and MSIP.

Table 52: Quality of non-performing exposures by geography (UK CQ4) – MSI Group and MSIP

$MM	a	b	c	d	e	f	g
	Gross carrying/nominal amount						Accumulated negative changes in fair value due to credit risk on non-performing exposures
		Of which non-performing				Provisions on off-balance-sheet commitments and financial guarantees given	
MSI Group			Of which defaulted	Of which subject to impairment	Accumulated impairment		
010 On-balance sheet exposures[1]	**230,174**	**134**	**134**	**101,137**	(54)		
020 United States of America	91,390	31	31	40,707	-		
030 France	36,062	9	9	3,350	(2)		
040 United Kingdom	26,765	28	28	18,234	(5)		
050 Japan	13,151	-	-	961	-		
060 Germany	12,606	10	10	5,390	(1)		
Other countries	50,200	56	56	32,495	(46)		
070 Off-balance sheet exposures[2]	**3,043**	**-**	**-**			**(3)**	
080 France	1,694	-	-			(1)	
090 Italy	366	-	-			-	
100 Netherlands	236	-	-			(1)	
110 Norway	161	-	-			-	
120 Other countries	586	-	-			(1)	
130 Total	233,217	134	134	101,137	**(54)**	(3)	
MSIP							
010 On-balance sheet exposures[1]	**211,813**	**110**	**110**	**80,736**	(49)		
020 United States of America	83,933	28	28	36,213	(1)		
030 France	27,906	6	6	2,101	-		
040 United Kingdom	24,702	23	23	16,100	(4)		
050 Germany	23,807	5	5	3,140	-		
060 Japan	12,941	-	-	872	-		
070 Other countries	38,524	48	48	22,310	(44)		
080 Off-balance sheet exposures[2]	**13**	**-**	**-**			-	
090 United States of America	13	-	-			-	
100 Total	**211,826**	**110**	**110**	**80,736**	**(49)**	**-**	

1.Countries exceeding 5% of total gross carrying amount (On-balance sheet) for MSI Group and MSIP are reported individually.

2.Countries exceeding 5% of total gross carrying amount (Off-balance sheet) for MSI Group and MSIP are reported individually.

Over the second half of 2022, no major movement observed in balance sheet exposures. However, at a country level increase in exposures against France was partially offset by decrease in exposures against UK primarily within secured financing.

Countries included within "Other countries" category in Table 52:

	On-balance sheet	Off-balance sheet
MSI Group	Cayman Islands, Ireland, Netherlands, Hong Kong, Luxembourg, Italy, Australia, Korea, Singapore, Switzerland, Taiwan, China, Spain, Denmark, Belgium, Supra Nationals, Norway, Canada, Finland, Turkey, South Africa, Sweden, Chile, Jersey, New Zealand, Greece, Virgin Islands, Bermuda, Russian Federation, Colombia, Austria, Malaysia, Saudi Arabia, Thailand, Hungary, Qatar, Bahamas, Poland, Mexico, Israel, Bahrain, Brunei Darussalam, Anguilla, India, Liechtenstein, United Arab Emirates, Portugal, Philippines, Latvia, Malta, Brazil, Macao, Albania, Indonesia, Czechia, Andorra, Estonia, Monaco, Romania, Cyprus, Morocco, Guernsey, Uganda, Bulgaria, Mongolia, Egypt	Luxembourg, Denmark, Austria, Germany, Jersey, United Kingdom, Sweden, United States of America, Spain
MSIP	Cayman Islands, Ireland, Luxembourg, Australia, Korea, Singapore, Switzerland, Taiwan, Hong Kong, China, Italy, Supra Nationals, Denmark, Belgium, Norway, Canada, Finland, Turkey, Spain, South Africa, Sweden, Chile, Jersey, New Zealand, Greece, Virgin Islands, Bermuda, Russian Federation, Colombia, Austria, Malaysia, Saudi Arabia, Thailand, Hungary, Qatar, Bahamas, Poland, Mexico, Israel, Bahrain, Brunei Darussalam, Anguilla, India, Liechtenstein, United Arab Emirates, Portugal, Philippines, Latvia, Malta, Brazil, Macao, Albania, Indonesia, Andorra, Monaco, Romania, Cyprus, Morocco, Guernsey, Uganda, Bulgaria, Mongolia, Egypt, Netherlands	None

Table 53 shows the credit quality of loans and advances to non-financial corporations by industry as at 31 December 2022 for the MSI Group and MSIP.

Table 53: Credit quality of loans and advances to non-financial corporations by industry (UK CQ5) - MSI Group and MSIP

$MM	a	b	c	d	e	f
	Gross carrying amount					
		Of which non-performing				
MSI Group			Of which defaulted	Of which loans and advances subject to impairment	Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
010 Agriculture, forestry and fishing	1	-	-	1	-	-
020 Mining and quarrying	91	-	-	27	-	-
030 Manufacturing	389	5	5	389	(3)	-
040 Electricity, gas, steam and air conditioning supply	328	3	3	328	-	-
050 Water supply	40	-	-	40	-	-
060 Construction	20	-	-	20	-	-
070 Wholesale and retail trade	13	-	-	13	-	-
080 Transport and storage	54	-	-	54	-	-
090 Accommodation and food service activities	2	-	-	2	-	-
100 Information and communication	443	11	11	443	(1)	-
110 Financial and insurance activities	-	-	-	-	-	-
120 Real estate activities	105	-	-	105	-	-
130 Professional, scientific and technical activities	1	-	-	1	-	-
140 Administrative and support service activities	5	-	-	5	-	-
150 Public administration and defence, compulsory social security	-	-	-	-	-	-
160 Education	1	-	-	1	-	-
170 Human health services and social work activities	80	3	3	80	-	-
180 Arts, entertainment and recreation	3	-	-	3	-	-
190 Other services	23	1	1	23	-	-
200 Total	**1,599**	**23**	**23**	**1,535**	**(4)**	**-**
MSIP						
010 Agriculture, forestry and fishing	1	-	-	1	-	-
020 Mining and quarrying	74	-	-	9	-	-
030 Manufacturing	213	4	4	213	(3)	-
040 Electricity, gas, steam and air conditioning supply	94	2	2	94	-	-
050 Water supply	9	-	-	9	-	-
060 Construction	20	-	-	20	-	-
070 Wholesale and retail trade	11	-	-	11	-	-
080 Transport and storage	12	-	-	12	-	-
090 Accommodation and food service activities	1	-	-	1	-	-
100 Information and communication	357	9	9	357	-	-
110 Financial and insurance activities	-	-	-	-	-	-
120 Real estate activities	103	-	-	103	-	-
130 Professional, scientific and technical activities	1	-	-	1	-	-
140 Administrative and support service activities	4	-	-	4	-	-
150 Public administration and defence, compulsory social security	-	-	-	-	-	-
160 Education	1	-	-	1	-	-
170 Human health services and social work activities	79	2	2	79	-	-
180 Arts, entertainment and recreation	3	-	-	3	-	-
190 Other services	20	1	1	20	-	-
200 Total	**1,003**	**18**	**18**	**938**	**(3)**	**-**

Over the second half of 2022, decreases in loans and advances to non-financial corporations, was mainly driven by a decrease in trade and other receivables with the manufacturing industry.

Table 54 shows the extent of the use of CRM techniques as at 31 December 2022 for the MSI Group and MSIP.

Table 54: CRM techniques overview: Disclosure of the use of credit risk mitigation techniques (UK CR3) – MSI Group and MSIP

$MM		a	b	c	d	e
MSI Group		Unsecured carrying amount	Secured carrying amount	Of which secured by collateral	Of which secured by financial guarantees	Of which secured by credit derivatives
1	Loans and advances	141,957	124,573	124,573	-	-
2	Debt securities	-	-	-	-	
3	**Total**	**141,957**	**124,573**	**124,573**	**-**	**-**
4	Of which non-performing exposures	80	-	-	-	-
5	Of which defaulted	80	-			
MSIP						
1	Loans and advances	104,042	126,334	126,334	-	-
2	Debt securities	-	-	-	-	
3	**Total**	**104,042**	**126,334**	**126,334**	**-**	**-**
4	Of which non-performing exposures	61	-	-	-	-
5	Of which defaulted	61	-			

Over the second half of 2022, a decrease in loans and advances was mainly driven by a decrease in cash balances with central banks.

Table 55 shows SA credit risk exposures at 31 December 2022 for the MSI Group and MSIP.

Table 55: Standardised approach: Credit risk exposure and CRM effects (UK CR4) – MSI Group and MSIP

		a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post CCF and post CRM		RWAs and RWAs density	
MSI Group		On-balance sheet exposures $MM	Off-balance sheet exposures $MM	On-balance sheet exposures $MM	Off-balance sheet amount $MM	RWAs $MM	RWAs density %
1	Central governments or central banks	630	-	630	-	819	130%
2	Regional government or local authorities	6	-	6	-	1	11%
3	Public sector entities	1	-	1	-	-	54%
4	Multilateral development banks	10	-	10	-	-	4%
5	International organisations	6	-	6	-	-	1%
6	Institutions	153	222	153	44	323	164%
7	Corporates	906	-	906	-	1,156	128%
8	Retail	-	-	-	-	-	-
9	Secured by mortgages on immovable property	-	-	-	-	-	-
10	Exposures in default	-	-	-	-	-	-
11	Exposures associated with particularly high risk	-	-	-	-	-	-
12	Covered bonds	-	-	-	-	-	-
13	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-
14	Collective investment undertakings	-	-	-	-	-	-
15	Equity	-	-	-	-	-	-
16	Other items	1,180	-	1,180	-	1,180	100%
17	**Total**	**2,892**	**222**	**2,892**	**44**	**3,479**	**119%**
MSIP							
1	Central governments or central banks	559	-	559	-	552	99%
2	Regional government or local authorities	6	-	6	-	1	11%
3	Public sector entities	1	-	1	-	-	54%
4	Multilateral development banks	10	-	10	-	-	4%
5	International organisations	6	-	6	-	-	1%
6	Institutions	341	212	341	42	789	206%
7	Corporates	657	-	657	-	847	129%
8	Retail	-	-	-	-	-	-
9	Secured by mortgages on immovable property	-	-	-	-	-	-
10	Exposures in default	-	-	-	-	-	-
11	Exposures associated with particularly high risk	-	-	-	-	-	-
12	Covered bonds	-	-	-	-	-	-
13	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-
14	Collective investment undertakings	-	-	-	-	-	-
15	Equity	-	-	-	-	-	-
16	Other items	47	-	47	-	47	100%
17	**Total**	**1,627**	**212**	**1,627**	**42**	**2,236**	**134%**

Over the second half of 2022, decrease in RWAs is mainly due to a decrease in unsettled trades with Corporates.

Table 56 shows the breakdown of exposures under SA by exposure class and risk weight as at 31 December 2022 for the MSI Group.

Table 56: Standardised approach (UK CR5) - MSI Group

$MM		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Risk Weight																
MSI Group		0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Total	Of which: unrated
1	Central governments or central banks	119	-	-	-	4	-	219			7	1	280	-	-	-	**630**	-
2	Regional government or local authorities	6	-			-	-	-			-	-	-	-	-	-	**6**	4
3	Public sector entities	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**	-
4	Multilateral development banks	9	-	-	-	1	-	-	-	-	-	-	-	-	-	-	**10**	-
5	International organisations	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
6	Institutions	-	44	-	-	45	-	41	-	-	43	4	-	-	20	-	197	60
7	Corporates	1	-	-	-	4	-	102	-	-	569	213	-	-	17	-	906	550
8	Retail Exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Exposures secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Exposures to institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Units or shares in collective investment undertakings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Other items	-	-	-	-	-	-	-	-	-	1,180	-	-	-	-	-	1,180	-
17	**Total**	**141**	**44**	**-**	**-**	**54**		**362**			**1,800**	**218**	**280**	**-**	**37**	**-**	**2,936**	**614**

Over the second half of 2022, the decrease in EAD is driven by Institutions due to reduction in unsettled trades and other items, primarily prepayments.

Table 57 shows the total SA exposures, including CCR, for each exposure class and broken down by Credit Quality Step ("CQS").

Table 57: Standardised approach EAD by credit quality step - MSI Group

$MM MSI Group[1]		CQS1	CQS2	CQS3	CQS4	CQS5	CQS6	Other[2]	Unrated	Total
Central Governments or Central Banks	GROSS EAD	149	4	36	3	2	1	443	-	**638**
	EAD	149	4	36	3	2	1	443	-	**638**
Corporates	GROSS EAD	26	348	136	103	10	13	1,846	-	**2,482**
	EAD	26	348	136	103	10	13	1,846	-	**2,482**
High risk	GROSS EAD	-	-	-	-	-	-	-	-	**-**
	EAD	-	-	-	-	-	-	-	-	**-**
Institutions	GROSS EAD	12,362	6,323	41	107	14	6	13,647	-	**32,500**
	EAD	12,224	6,323	41	107	14	6	13,603	-	**32,318**
Multilateral developments banks	GROSS EAD	10	-	-	-	-	-	-	-	**10**
	EAD	10	-	-	-	-	-	-	-	**10**
Public sector entities	GROSS EAD	-	-	-	-	-	-	-	-	**-**
	EAD	-	-	-	-	-	-	-	-	**-**
Regional governments or Local Authorities	GROSS EAD	2	1	-	-	-	-	4	-	**7**
	EAD	2	1	-	-	-	-	4	-	**7**
International Organisations	GROSS EAD	6	-	-	-	-	-	-	-	**6**
	EAD	6	-	-	-	-	-	-	-	**6**
Securitisation	GROSS EAD	-	-	66	-	26	-	102	259	**453**
	EAD	-	-	66	-	26	-	102	259	**453**
Other Items	GROSS EAD	30	-	-	-	-	-	1,150	-	**1,180**
	EAD	30	-	-	-	-	-	1,150	-	**1,180**
Total	**GROSS EAD**	**12,585**	**6,676**	**279**	**213**	**52**	**20**	**17,192**	**259**	**37,276**
	EAD	**12,447**	**6,676**	**279**	**213**	**52**	**20**	**17,148**	**259**	**37,094**

1. Under the Standardised Approach, risk weights are generally applied according to the relevant exposure class and the associated credit quality (CRR Article 113). Credit quality may be determined by reference to the credit assessments of an ECAI, which are then mapped to a CQS. The unrated segment represents exposure for which no ECAI credit assessment is available.
2. The Other segment represents exposures where alternative rules to the CQS treatment described in the note above apply. The majority of exposures in this segment are exposures to central counterparties to which a fixed risk weight is applied.

Over the second half of 2022, the EAD with CQS1 counterparties has decreased due to lower activity with QCCPs.

Table 58 shows the breakdown of exposures under the FIRB approach by exposure class and the effect on the RWA of credit derivatives used as CRM techniques as at 31 December 2022 for the MSI Group and MSIP.

Table 58: IRB approach: Effect on the RWAs of credit derivatives used as CRM techniques (UK CR7) – MSI Group and MSIP

		a	b	a	b
		MSI Group		MSIP	
$MM		Pre-credit derivatives RWAs	Actual RWAs	Pre-credit derivatives RWAs	Actual RWAs
1	**Exposures under FIRB[1]**	**6,297**	**6,297**	**3,374**	**3,374**
2	Central governments and central banks	513	513	88	88
3	Institutions	2,512	2,512	2,276	2,276
4	Corporates	3,272	3,272	1,010	1,010
4.1	*of which SMEs*	-	-	-	-
4.2	*of which Specialised lending*	-	-	-	-
10	**Total (including FIRB exposures and AIRB exposures)**	**6,297**	**6,297**	**3,374**	**3,374**

1. MSI Group and MSIP have no A-IRB exposures.

MSI Group and MSIP do not use credit derivatives to mitigate RWAs.

Table 59 shows the parameters used for the calculation of capital requirements under IRB approach as at 31 December 2022 for the MSI Group.

Table 59: IRB approach: Credit risk exposures by exposure class and PD range (UK CR6) - MSI Group

MSI Group	PD Range	On-balance sheet exposure	Off-balance sheet exposures pre-CCF	Exposure weighted average CCF	Exposure post CCF and post CRM	Exposure weighted average PD	Number of obligors	Exposure weighted average LGD	Exposure weighted average maturity	RWA after supporting factors	Density of RWA	Expected loss amount	Value adjustments and provisions
	a	b	c	d	e	f	g	h	i	j	K	l	m
		$MM	$MM	%	$MM	%	#	%	Years	$MM	%	$MM	$MM
	0.00 to <0.15	18,796	24	75%	18,814	0.01%	7	45%	-	513	3%	1	-
	0.00 to <0.10	18,796	24	75%	18,814	0.01%	7	45%	-	513	3%	1	-
	0.10 to <0.15	-	-	-	-	-	-	-	-	-	-	-	-
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	-	-
	0.25 to <0.50	-	-	-	-	-	-	-	-	-	-	-	-
	0.50 to <0.75	-	-	-	-	-	-	-	-	-	-	-	-
	0.75 to <2.50	-	-	-	-	-	-	-	-	-	-	-	-
	0.75 to <1.75	-	-	-	-	-	-	-	-	-	-	-	-
	1.75 to <2.5	-	-	-	-	-	-	-	-	-	-	-	-
	2.50 to <10.00	-	-	-	-	-	-	-	-	-	-	-	-
	2.5 to <5	-	-	-	-	-	-	-	-	-	-	-	-
	5 to <10	-	-	-	-	-	-	-	-	-	-	-	-
	10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	-
	10 to <20	-	-	-	-	-	-	-	-	-	-	-	-
	20 to <30	-	-	-	-	-	-	-	-	-	-	-	-
	30.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Exposure class 1	**Central governments or central banks**	**18,796**	**24**		**18,814**		**7**		**-**	**513**		**1**	**-**
	0.00 to <0.15	10,234	651	82%	10,769	0.05%	81	45%	1	1,808	17%	3	-
	0.00 to <0.10	9,557	630	82%	10,076	0.05%	62	45%	1	1,578	16%	2	-
	0.10 to <0.15	677	21	75%	693	0.14%	19	45%	-	229	33%	1	-
	0.15 to <0.25	96	-	75%	96	0.22%	12	45%	1	43	45%	-	-
	0.25 to <0.50	171	17	75%	184	0.35%	6	45%	1	117	64%	-	-
	0.50 to <0.75	-	-	-	-	-	-	-	-	-	-	-	-
	0.75 to <2.50	380	-	-	380	0.88%	9	45%	-	403	106%	1	-
	0.75 to <1.75	380	-	-	380	0.88%	9	45%	-	403	106%	1	-
	1.75 to <2.5	-	-	-	-	-	-	-	-	-	-.	-	-
	2.50 to <10.00	-	-	-	-	-	-	-	-	-	-	-	-
	2.5 to <5	-	-	-	-	-	-	-	-	-	-	-	-
	5 to <10	-	-	-	-	-	-	-	-	-	-	-	-
	10.00 to <100.00	64	2	90%	66	11.13%	78	45%	-	141	213%	3	-
	10 to <20	64	2	90%	66	11.13%	78	45%	-	141	213%	3	-
	20 to <30	-	-	-	-	-	-	-	-	-	-	-	-
	30.00 to <100.00	-		-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	100.00%	-	45%	5	-	-	-	-
Exposure class 2	**Institutions**	**10,945**	**670**		**11,495**		**186**		**2**	**2,512**		**7**	**-**
	0.00 to <0.15	990	4,144	75%	4,100	0.08%	74	45%	2	1,353	33%	2	-
	0.00 to <0.10	615	3,491	75%	3,235	0.06%	42	45%	2	1,032	32%	1	-
	0.10 to <0.15	374	653	75%	864	0.14%	32	45%	1	321	37%	1	-
	0.15 to <0.25	1	586	75%	441	0.22%	14	45%	2	233	53%	-	-
	0.25 to <0.50	62	213	75%	221	0.35%	14	45%	3	173	78%	-	-
	0.50 to <0.75	79	159	75%	197	0.55%	11	43%	3	171	86%	-	-
	0.75 to <2.50	14	201	75%	165	1.47%	27	45%	2	193	117%	1	-
	0.75 to <1.75	3	177	75%	136	1.31%	18	45%	2	151	111%	1	-
	1.75 to <2.5	11	24	75%	29	2.20%	9	43%	3	42	143%	-	-
	2.50 to <10.00	8	-	-	8	4.95%	35	45%	-	12	155%	-	-
	2.5 to <5	8	-	-	8	4.95%	35	45%	-	12	155%	-	-
	5 to <10	-	-	-	-	-	-	-	-	-	-	-	-
	10.00 to <100.00	429	41	75%	460	16.19%	115	45%	2	1,137	247%	33	(93)
	10 to <20	262	41	75%	292	11.13%	92	45%	2	678	232%	15	-
	20 to <30	168	-	-	168	25.02%	23	45%	1	459	274%	19	(93)
	30.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	160	28	75%	181	100.00%	-	45%	4	-	-	81	-
Exposure class 3	**Corporates**	**1,743**	**5,372**		**5,773**		**290**		**2**	**3,272**		**117**	**(93)**
	Total (all exposure classes)	**31,484**	**6,066**		**36,082**		**483**		**2**	**6,297**		**125**	**(93)**

Over the second half of 2022, decrease in RWAs is primarily driven by cash exposure with central governments and central banks using lower PD band and corporates using higher PD band**.**

Table 60 provides disclosure of the extent of the use of CRM techniques for the MSI Group and MSIP as at 31 December 2022.

Table 60: IRB approach: Disclosure of the extent of the use of CRM techniques (UK CR7-A) - MSI Group and MSIP

		Credit risk Mitigation techniques											Credit risk Mitigation methods in the calculation of RWAs	
		Funded credit Protection (FCP) Part of exposures covered by -									Unfunded credit Protection (UFCP) Part of exposures covered by -			
	FIRB Total exposures	Financial Collaterals	Other eligible collaterals	Immovable property Collaterals	Receivables	Other physical collateral	Other funded credit protection	Cash on deposit	Life insurance policies	Instruments held by a third party	Guarantees	Credit Derivatives	RWA post all CRM assigned to the obligor exposure class	RWA with substitution effects
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
MSI Group	$MM	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	$MM	$MM
1 Central governments and central banks	18,814	-	-	-	-	-	-	-	-	-	-	-	513	513
2 Institutions	11,495	0.16%	-	-	-	-	-	-	-	-	0.14%	-	2,487	2,512
3 Corporates	5,773	70.22%	-	-	-	-	-	-	-	-	6.36%	-	4,099	3,272
Of which: -														
3.1 SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2 Specialised lending	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.3 Other	5,773	70.22%	-	-	-	-	-	-	-	-	6.36%	-	4,099	3,272
4 Total	**36,082**	**31.18%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.85%**	**-**	**7,099**	**6,297**
MSIP														
1 Central governments and central banks	2,129	-	-	-	-	-	-	-	-	-	-	-	88	88
2 Institutions	10,781	62.71%	-	-	-	-	-	-	-	-	-	-	2,276	2,276
3 Corporates	1,005	1.27%	-	-	-	-	-	-	-	-	0.04%	-	1,010	1,010
Of which: -			-	-	-	-	-	-	-	-				
3.1 SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2 Specialised lending	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.3 Other	1,005	1.27%	-	-	-	-	-	-	-	-	0.04%	-	1,010	1,010
4 Total	**13,915**	**56.59%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.00%**	**-**	**3,374**	**3,374**

CRM techniques are not used to mitigate risks, with the exception of exposures to corporates, some of which are mitigated by guarantees.

Table 61 shows CCR exposures under the SA approach by exposure class and RW for the MSI Group as at 31 December 2022.

Table 61: Standardised approach: CCR exposures by regulatory exposure class and risk weight (UK CCR3)- MSI Group

$MM		Risk Weight											
		a	b	c	d	e	f	g	h	i	j	k	l
MSI Group		0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	Total exposure value
1	Central governments or central banks	4	-	-	-	-	-	-	-	4	-	-	8
2	Regional governments or local authorities	-	-	-	-	-	-	-	-	-	-	-	-
3	Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-
4	Multilateral development banks	1	-	-	-	-	-	-	-	-	-	-	1
5	International organisations	-	-	-	-	-	-	-	-	-	-	-	-
6	Institutions	-	25,443	6,067	-	439	47	-	-	119	5	-	32,120
7	Corporates	-	-	-	-	589	260	-	-	727	-	-	1,576
8	Retail	-	-	-	-	-	-	-	-	-	-	-	-
9	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-
10	Other Items	-	-	-	-	-	-	-	-	-	-	-	-
11	**Total exposure value**	**5**	**25,443**	**6,067**	**-**	**1,028**	**307**	**-**	**-**	**850**	**5**	**-**	**33,705**

Over the second half of 2022, institutional exposures, primarily using a 2% risk weight, have decreased. This table excludes RWA derived from own funds requirements for CVA. Exposures to qualifying CCPs are included except where MSI Group is acting as a financial intermediary between a client and a QCCP.

Table 62 shows all the relevant parameters used for the calculation of CCR capital requirements for the IRB approach is as at 31 December 2022 for the MSI Group.

Table 62: IRB approach: CCR exposures by portfolio and PD scale (UK CCR4) - MSI Group

		a	b	c	d	e	f	g
		Exposure Value	Exposure weighted average PD	Number of obligors	Exposure weighted average LGD	Exposure weighted average maturity	RWAs	RWAs density
MSI Group		$MM	%	#	%	Years	$MM	%
1	**Central governments and central banks**							
1	0.00 to <0.15	11,314	0.02%	203	45.00%	1	1,001	8.84%
2	0.15 to <0.25	269	0.22%	16	45.00%	3	168	62.31%
3	0.25 to <0.50	42	0.35%	7	45.00%	1	24	56.39%
4	0.50 to <0.75	1	0.55%	1	45.00%	1	1	58.30%
5	0.75 to <2.50	18	0.95%	6	45.00%	3	19	106.87%
6	2.50 to <10.00	21	4.95%	1	45.00%	1	29	139.23%
7	10.00 to <100.00	242	11.66%	6	45.00%	1	454	187.21%
8	100.00 (Default)	-	-	-	-	-	-	-
		11,907	0.27%	240	45.00%	2	1,696	14.23%
2	**Corporates**							
1	0.00 to <0.15	29,469	0.07%	6,113	45.33%	1	8,473	29%
2	0.15 to <0.25	5,043	0.22%	927	45.02%	2	2,636	52%
3	0.25 to <0.50	3,840	0.35%	1,638	45.00%	1	2,460	64%
4	0.50 to <0.75	4,151	0.55%	555	45.00%	1	3,249	78%
5	0.75 to <2.50	6,237	1.24%	1,448	45.00%	1	6,365	102%
6	2.50 to <10.00	584	4.95%	395	45.00%	1	902	155%
7	10.00 to <100.00	830	14.91%	1,212	45.00%	1	1,888	227%
8	100.00 (Default)	11	100.00%	4	45.00%	1	-	-
		50,165	0.62%	12,292	45.20%	1	25,973	52%
3	**Institutions**							
1	0.00 to <0.15	33,425	0.07%	258	45.38%	1	7,416	22%
2	0.15 to <0.25	923	0.22%	62	45.00%	2	578	63%
3	0.25 to <0.50	1409	0.35%	87	45.41%	1	901	64%
4	0.50 to <0.75	350	0.55%	31	45.00%	1	291	83%
5	0.75 to <2.50	704	1.14%	98	45.28%	2	855	121%
6	2.50 to <10.00	8	4.95%	4	45.00%	2	13	157%
7	10.00 to <100.00	484	11.56%	72	58.57%	1	1570	324%
8	100.00 (Default	-	100.00%	1	45.00%	-	-	-
		37,303	0.26%	613	45.54%	1	11,624	31%
	Total (all CCR relevant exposure classes)	**99,375**	**0.44%**	**13,145**	**45.30%**	**1**	**39,293**	**40%**

Over the second half of 2022, exposures to Corporates in all PD bands reduced due to movement in OTC derivatives.

Table 63 shows the credit quality of performing & non-performing exposures.

Table 63: Credit Quality of Performing and Non-Performing exposures (UK CQ3) – MSI Group and MSIP

	a	b	c	d	e	f	g	h	i	j	k	l
$MM	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
MSI Group		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
005 Cash balances at central banks and other demand deposits	**36,412**	**36,412**	**-**	**100**	**3**	**-**	**97**	**-**	**-**	**-**	**-**	**100**
010 Loans and advances	**230,040**	**229,924**	**116**	**134**	**3**	**53**	**54**	**16**	**7**	**1**	**-**	**134**
020 Central banks	2,959	2,959	-	-	-	-	-	-	-	-	-	-
030 General governments	1,939	1,939	-	-	-	-	-	-	-	-	-	-
040 Credit institutions	56,126	56,102	24	59	1	15	37	4	2	-	-	59
050 Other financial corporations	167,440	167,381	59	52	-	21	16	11	4	-	-	52
060 Non-financial corporations	1,576	1,543	33	23	2	17	1	1	1	1	-	23
070 Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-
080 Households	-	-	-	-	-	-	-	-	-	-	-	-
090 Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
100 Central banks	-	-	-	-	-	-	-	-	-	-	-	-
110 General governments	-	-	-	-	-	-	-	-	-	-	-	-
120 Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-
130 Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
140 Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
150 Off-balance sheet exposures	**3,043**			**-**								**-**
160 Central banks	-			-								-
170 General governments	-			-								-
180 Credit institutions	87			-								-
190 Other financial corporations	579			-								-
200 Non-financial corporations	2,377			-								-
210 Households	-			-								-
220 Total	**269,495**	**266,336**	**116**	**234**	**6**	**53**	**151**	**16**	**7**	**1**	**-**	**234**
MSIP												
005 Cash balances at central banks and other demand deposits	**18,612**	**18,612**	**-**	**97**	**3**	**-**	**94**	**-**	**-**	**-**	**-**	**97**
010 Loans and advances	**211,703**	**211,635**	**68**	**110**	**3**	**39**	**49**	**13**	**5**	**1**	**-**	**110**
020 Central banks	984	983	-	-	-	-	-	-	-	-	-	-
030 General governments	1,148	1,148	-	-	-	-	-	-	-	-	-	-
040 Credit institutions	63,453	63,444	9	48	1	8	35	3	1	-	-	48
050 Other financial corporations	145,134	145,104	31	44	-	16	14	10	4	-	-	44
060 Non-financial corporations	984	956	28	18	2	15	-	-	-	1	-	18
070 Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-
080 Households	-	-	-	-	-	-	-	-	-	-	-	-
090 Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
100 Central banks	-	-	-	-	-	-	-	-	-	-	-	-
110 General governments	-	-	-	-	-	-	-	-	-	-	-	-
120 Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-
130 Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
140 Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
150 Off-balance sheet exposures	**13**			**-**								**-**
160 Central banks	-			-								-
170 General governments	-			-								-
180 Credit institutions	-			-								-
190 Other financial corporations	13			-								-
200 Non-financial corporations	-			-								-
210 Households	-			-								-
220 Total	**230,328**	**230,247**	**68**	**207**	**6**	**39**	**143**	**13**	**5**	**1**	**-**	**207**

The above table shows the aging of performing & non-performing exposures, specifically loans & advances, cash balances with central banks and other demand deposits and off-balance sheet exposure.

Table 64 shows (i) exposure values as defined in Article 166 CRR and (ii) the total exposure value for exposures subject to the SA and to the IRB approach, defined by Article 429(4) CRR under the leverage approach. This is further categorised into those exposures subject to permanent partial use, the IRB Approach and those subject to an IRB roll-out plan.

Table 64: Scope of the use of IRB and SA approaches (UK CR6-A) – MSI Group

		a	b	C	d	e
MSI Group		**Exposure value as defined in Article 166 CRR for exposures subject to IRB approach**	**Total exposure value for exposures subject to the Standardised approach and to the IRB approach**	**Percentage of total exposure value subject to the permanent partial use of the SA**	**Percentage of total exposure value subject to IRB Approach**	**Percentage of total exposure value subject to a roll-out plan**
		$MM	**$MM**	**%**	**%**	**%**
1	Central governments or central banks	18,814	19,522	3.47%	96.53%	-
1.1	*Of which Regional governments or local authorities*		-	-	-	-
1.2	*Of which Public sector entities*		-	-	-	-
2	Institutions	11,495	11,954	1.28%	98.72%	-
3	Corporates	5,773	5,336	16.98%	83.02%	-
3.1	*Of which Corporates - Specialised lending, excluding slotting approach*		-	-	-	-
3.2	*Of which Corporates - Specialised lending under slotting approach*		-	-	-	-
4	Retail	-	-	-	-	-
4.1	*of which Retail – Secured by real estate SMEs*		-	-	-	-
4.2	*of which Retail – Secured by real estate non-SMEs*		-	-	-	-
4.3	*of which Retail – Qualifying revolving*		-	-	-	-
4.4	*of which Retail – Other SMEs*		-	-	-	-
4.5	*of which Retail – Other non-SMEs*		-	-	-	-
5	Equity	1,015	1,015	-	100.00%	-
6	Other non-credit obligation assets	-	1,176	100.00%	-	-
7	**Total**	**37,097**	**39,003**	**7.47%**	**92.53%**	**-**

Table 65 and 66 shows the breakdown of number of obligors by exposure class at the beginning of the year which then defaulted during the year. It also adds back-testing information based on the five most recent years average for PDs by each exposure class.

Table 65: IRB approach – Back-testing of PD per exposure class (fixed PD scale) (UK CR9) – MSI Group

F-IRB

A Exposure class	B PD Range	c Number of obligors in the end of previous year	d Of which number of obligors which defaulted in the year	e Observed average default rate	F Exposure weighted average PD	g Average PD	h Average historical annual default rate
Central governments and central banks		$MM	$MM	%	%	%	%
	0.00 to <0.15	7	-	-	0.01%	0.01%	-
	0.00 to <0.10	7	-	-	0.01%	0.01%	-
	0.10 to <0.15	-	-	-	-	-	-
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	-	-	-	-	-	-
	0.50 to <0.75	-	-	-	-	-	-
	0.75 to <2.50	-	-	-	-	-	-
	0.75 to <1.75	-	-	-	-	-	-
	1.75 to <2.5	-	-	-	-	-	-
	2.50 to <10.00	-	-	-	-	-	-
	2.5 to <5	-	-	-	-	-	-
	5 to <10	-	-	-	-	-	-
	10.00 to <100.00	-	-	-	-	-	-
	10 to <20	-	-	-	-	-	-
	20 to <30	-	-	-	-	-	-
	30.00 to <100.00	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-
Institutions							
	0.00 to <0.15	76	-	-	0.05%	0.08%	-
	0.00 to <0.10	-	-	-	0.05%	-	-
	0.10 to <0.15	76	-	-	0.14%	0.08%	-
	0.15 to <0.25	9	-	-	0.22%	0.22%	-
	0.25 to <0.50	4	-	-	0.35%	0.35%	-
	0.50 to <0.75	1	-	-	-	0.55%	-
	0.75 to <2.50	8	-	-	0.88%	0.94%	-
	0.75 to <1.75	8	-	-	0.88%	0.94%	-
	1.75 to <2.5	-	-	-	-	-	-
	2.50 to <10.00	1	-	-	-	4.95%	-
	2.5 to <5	1	-	-	-	4.95%	-
	5 to <10	-	-	-	-	-	-
	10.00 to <100.00	48	-	-	11.13%	11.13%	-
	10 to <20	48	-	-	11.13%	11.13%	-
	20 to <30	-	-	-	-	-	-
	30.00 to <100.00	-	-	-	-	-	-
	100.00 (Default)	3	-	-	100.00%	100.00%	-
Corporates							
	0.00 to <0.15	55	-	-	0.08%	0.09%	-
	0.00 to <0.10	36	-	-	0.06%	0.06%	-
	0.10 to <0.15	19	-	-	0.14%	0.14%	-
	0.15 to <0.25	20	-	-	0.22%	0.22%	-
	0.25 to <0.50	7	-	-	0.35%	0.35%	-
	0.50 to <0.75	10	-	-	0.55%	0.55%	-
	0.75 to <2.50	24	1	3.13%	1.47%	1.52%	1.15%
	0.75 to <1.75	15	1	4.35%	1.31%	1.11%	1.15%
	1.75 to <2.5	9	-	-	2.20%	2.20%	-
	2.50 to <10.00	41	3	7.14%	4.95%	4.95%	1.05%
	2.5 to <5	41	3	7.14%	4.95%	4.95%	1.05%
	5 to <10	-	-	-	-	-	-
	10.00 to <100.00	125	-	-	16.19%	13.35%	2.19%
	10 to <20	105	-	-	11.13%	11.13%	1.05%
	20 to <30	20	-	-	25.02%	25.02%	3.33%
	30.00 to <100.00	-	-	-	-	-	-
	100.00 (Default)	31	-	-	100.00%	100.00%	2.02%

1. MSI Group has no A-IRB exposures.

Table 66 shows PD ranges in accordance with their internal grades that they map to the scale used by the external ECAI, instead of a fixed external PD range in Table 65.

Table 66: IRB approach – Back-testing of PD per exposure class (only for PD estimates according to point (f) of Article 180(1) CRR) (UK CR9.1) – MSI Group

F-IRB[1]

A	b	c	d	e	f	g	h
Exposure class	PD Range	External rating equivalent	Number of obligors in the end of previous year	Of which number of obligors which defaulted in the year	Observed average default rate	Average PD	Average historical annual default rate
Central governments and central banks			$MM	$MM	%	%	%
	0.0072 to <0.0114	AAA	4	-	-	0.01%	-
	0.0114 to <0.0138	AA+	-	-	-	0.01%	-
	0.0138 to <0.0219	AA	1	-	-	0.01%	-
	0.0219 to <0.0347	AA-	1	-	-	0.02%	-
	0.0347 to <0.055	A+	1	-	-	0.03%	-
	0.055 to <0.0873	A	-	-	-	0.06%	-
	0.0873 to <0.1384	A-	-	-	-	0.09%	-
	0.1384 to <0.2194	BBB+	-	-	-	0.14%	-
	0.2194 to <0.348	BBB	-	-	-	0.22%	-
	0.348 to <0.5518	BBB-	-	-	-	0.35%	-
	0.5518 to <0.875	BB+	-	-	-	0.55%	-
	0.875 to <1.3875	BB	-	-	-	0.88%	-
	1.3875 to <2.2002	BB-	-	-	-	1.39%	-
	2.2002 to <4.9479	B+	-	-	-	2.20%	-
	4.9479 to <11.1269	B	-	-	-	4.95%	-
	11.1269 to <25.0223	B-	-	-	-	11.13%	-
	25.0223 to <100 (Default)	CCC	-	-	-	25.02%	-
	100 (Default)	D	-	-	-	100.00%	-
Institutions							
	0.03 to <0.0347[2]	AAA to AA-	8	-	-	0.03%	-
	0.0347 to <0.055	A+	9	-	-	0.03%	-
	0.055 to <0.0873	A	23	-	-	0.06%	-
	0.0873 to <0.1384	A-	21	-	-	0.09%	-
	0.1384 to <0.2194	BBB+	15	-	-	0.14%	-
	0.2194 to <0.348	BBB	9	-	-	0.22%	-
	0.348 to <0.5518	BBB-	4	-	-	0.35%	-
	0.5518 to <0.875	BB+	1	-	-	0.55%	-
	0.875 to <1.3875	BB	7	-	-	0.88%	-
	1.3875 to <2.2002	BB-	1	-	-	1.39%	-
	2.2002 to <4.9479	B+	-	-	-	2.20%	-
	4.9479 to <11.1269	B	1	-	-	4.95%	-
	11.1269 to <25.0223	B-	48	-	-	11.13%	-
	25.0223 to <100 (Default)	CCC	-	-	-	25.02%	-
	100 (Default)	D	3	-	-	100.00%	-
Corporates							
	0.03 to <0.0347[2]	AAA to AA-	5	-	-	0.03%	-
	0.0347 to <0.055	A+	3	-	-	0.03%	-
	0.055 to <0.0873	A	12	-	-	0.06%	-
	0.0873 to <0.1384	A-	16	-	-	0.09%	-
	0.1384 to <0.2194	BBB+	19	-	-	0.14%	-
	0.2194 to <0.348	BBB	20	-	-	0.22%	-
	0.348 to <0.5518	BBB-	7	-	-	0.35%	-
	0.5518 to <0.875	BB+	10	-	-	0.55%	-
	0.875 to <1.3875	BB	8	-	-	0.88%	-
	1.3875 to <2.2002	BB-	7	1	14.29%	1.39%	0.87%
	2.2002 to <4.9479	B+	9	-	-	2.20%	-
	4.9479 to <11.1269	B	41	-	-	4.95%	-
	11.1269 to <25.0223	B-	105	3	2.86%	11.13%	1.18%
	25.0223 to <100 (Default)	CCC	20	-	-	25.02%	3.16%
	100 (Default)	D	31	-	-	100.00%	2.04%

1. MSI Group has no A-IRB exposures.
2. PD Range 0.03 to < 0.0347 represent those exposures to a corporate or an institution where the PD shall be at least 0.03% in line with CRR Article 160.

24. Appendix VI: MSI Group Non-Statutory Financial Information

MORGAN STANLEY INTERNATIONAL LIMITED

Consolidated non-statutory financial information

31 December 2022

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Directors' Responsibilities Statement

The Directors, the names of whom are set out below, confirm that to the best of their knowledge:

i) the accounting policies are appropriate to the circumstances of the Morgan Stanley International Group which comprises Morgan Stanley International Limited ("the Company") and its subsidiaries (together "the Group") and the policies have been consistently applied and adequately disclosed;

ii) significant accounting estimates applied are reasonable; and

iii) the consolidated non-statutory financial information is free from material misstatement.

Board of Directors:

J Bloomer	Chair
O Behrens	
M Butler	appointed 1 October 2022
D Cannon	
D Cantillon	appointed 17 January 2023
T Duhon	
A Kohli	
K Lazaroo	
F Mattern	appointed 1 January 2023
A Mullineaux	appointed 25 October 2022
S Orlacchio	
J Pearce	appointed 1 October 2022
L Reichlin	
M Richards	
D Russell	resigned 17 January 2023
A Sekhar	
P Taylor	
N Whyte	
C Woodman	

Approved by the Board and signed on its behalf by:

DocuSigned by:
Anthony Mullineaux
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A Mullineaux

Director

24 April 2023

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF MORGAN STANLEY INTERNATIONAL LIMITED

Report on the Audit of the Consolidated Non-Statutory Financial Information

Opinion

In our opinion the consolidated non-statutory financial information of Morgan Stanley International Limited (the “Company”) for the year ended 31 December 2022 have been properly prepared in accordance with the accounting policies stated in note 1 and 2.

We have audited the consolidated non-statutory financial information which comprise:

- the consolidated income statement;
- the consolidated statement of comprehensive income;
- the consolidated statement of changes in equity;
- the consolidated statement of financial position;
- the related notes 1 to 2.

The financial reporting framework that has been applied in their preparation is the accounting policies stated in note 1 and 2.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) "(ISAs (UK))", including ISA (UK) 800. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the consolidated non-statutory financial information section of our report.

We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the consolidated non-statutory financial information in the UK, including the Financial Reporting Council’s (the "FRC") Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter–basis of accounting

We draw attention to Note 1 and 2 to the consolidated non-statutory financial information, which describes the basis of accounting and is a special purpose framework. The consolidated non-statutory financial information are prepared to provide financial reporting at the same level as the annual public Pillar 3 qualitative and quantitative disclosures required by CRD in relation to the Morgan Stanley International Group. As a result, the consolidated non-statutory financial information may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

Conclusions relating to going concern

In auditing the consolidated non-statutory financial information, we have concluded that the Directors’ use of the going concern basis of accounting in the preparation of the consolidated non-statutory financial information is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Company’s ability to continue as a going concern for a period of at least twelve months from when the consolidated non-statutory financial information is authorised for issue.

Our responsibilities and the responsibilities of the Directors with respect to going concern are described in the relevant sections of this report.

Other information

The Directors are responsible for the other information. The other information comprises the information included in the Director’s Responsibilities Statement, other than the consolidated non-statutory financial information and our auditor’s report thereon. Our opinion on the consolidated non-statutory financial information does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated non-statutory financial information, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated non-statutory financial information or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the consolidated non-statutory financial information themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Responsibilities of Directors

As explained more fully in the Directors' Responsibilities Statement, the Directors are responsible for the preparation of the consolidated non-statutory financial information in accordance with the financial reporting provisions of laid out in notes 1 and 2 to consolidated non-statutory financial information, and for such internal control as the Directors determine is necessary to enable the preparation of consolidated non-statutory financial information that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated non-statutory financial information, the Directors are responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the consolidated non-statutory financial information

Our objectives are to obtain reasonable assurance about whether the consolidated non-statutory financial information as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated non-statutory financial information.

A further description of our responsibilities for the audit of the consolidated non-statutory financial information is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Extent to which the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

We considered the nature of the company's industry and its control environment and reviewed the company's documentation of their policies and procedures relating to fraud and compliance with laws and regulations. We also enquired of management, internal audit, in-house legal counsel and those charged with governance about their own identification and assessment of the risks of irregularities.

We obtained an understanding of the legal and regulatory frameworks that the group operates in, and identified the key laws and regulations that:

- had a direct effect on the determination of material amounts and disclosures in the consolidated non-statutory financial information. The key laws and regulations we considered in this context included the UK Companies Act, Luxembourg Transparency Law, UK Listing Rules, pensions legislation and tax legislation; and
- do not have a direct effect on the consolidated non-statutory financial information but compliance with which may be fundamental to the company's ability to operate or to avoid a material penalty. These included the regulation and supervisory requirements of the Prudential Regulation Authority, Financial Reporting Council and Financial Conduct Authority.

We discussed among the audit engagement team, including relevant internal specialists such as tax, IT and industry specialists regarding the opportunities and incentives that may exist within the organisation for fraud and how and where fraud might occur in the consolidated non-statutory financial information.

In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override. In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments; assessed whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluated the business rationale of any significant transactions that are unusual or outside the normal course of business.

In addition to the above, our procedures to respond to the risks identified included the following:

- reviewing consolidated non-statutory financial information disclosures by testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the consolidated non-statutory financial information;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- enquiring of management, internal audit and in-house legal counsel concerning actual and potential litigation and claims, and instances of non-compliance with laws and regulations;
- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with HMRC and other regulatory authorities including the PRA and the FCA; and
- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

Matters on which we are required to report by exception

Under the ISA (UK) we are required to report in respect of the following matters if, in our opinion:

- adequate accounting records have not been kept; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in respect of these matters.

Use of our report

This report is made solely to the company's directors, as a body, in accordance with our engagement letter dated 14 February 2023 and solely for the purpose of providing an opinion over the consolidated non-statutory financial information contained within this document titled 'consolidated non-statutory financial information'. Our report is not to be used for any other purpose, recited or referred to in any document, copied or made available (in whole or in part) to any other person without prior written express consent. We accept no duty, responsibility or liability to any other party in connection with the report or this engagement.

The engagement partner on the audit resulting in this independent auditor's report is Fiona Walker.

DocuSigned by:
Deloitte LLP
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Deloitte LLP
London, United Kingdom
24 April 2023

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MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED INCOME STATEMENT
Year ended 31 December 2022

in $ millions	2022	2021
Net gains from financial instruments at fair value through profit or loss	6,274	4,951
Fee and commission income	4,445	6,362
Other revenue	107	95
Interest income	3,143	(346)
Interest expense	(4,122)	(198)
Net interest expense	(979)	(544)
Net revenue	**9,847**	**10,864**
Net loss on investments in subsidiaries, associates and joint ventures	(111)	—
Non-interest expenses:		
Operating expense	(7,628)	(8,178)
Net impairment (loss)/reversal on financial instruments	(157)	2
PROFIT BEFORE TAX	**1,951**	**2,688**
Income tax expense	(510)	(728)
PROFIT FOR THE YEAR	**1,441**	**1,960**
Attributable to:		
Owners of the Company	1,428	1,960
Non-controlling interest	13	—
PROFIT FOR THE YEAR	**1,441**	**1,960**

The notes on pages 11 to 25 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
Year ended 31 December 2022

in $ millions	2022	2021
PROFIT FOR THE YEAR	**1,441**	**1,960**
OTHER COMPREHENSIVE INCOME AFTER INCOME TAX		
Items that will not be reclassified subsequently to profit or loss:		
Remeasurement of net defined benefit liability	40	(1)
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	137	74
Items that may be reclassified subsequently to profit or loss:		
Foreign currency translation differences arising on foreign operations	(445)	(453)
Net amount reclassified to consolidated income statement upon disposal of subsidiary	105	—
OTHER COMPREHENSIVE INCOME AFTER INCOME TAX	**(163)**	**(380)**
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	**1,278**	**1,580**
Attributable to:		
Owners of the Company	1,270	1,580
Non-controlling interest	8	—
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	**1,278**	**1,580**

The notes on pages 11 to 25 form an integral part of the consolidated non-statutory financial information.

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MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Year ended 31 December 2022

in $ millions	2022	2021
Share capital and other equity instruments – at 1 January	**5,878**	**5,866**
Issuance of AT1 instrument	800	12
Share capital and other equity instruments – at 31 December	**6,678**	**5,878**
Share premium – at 1 January	**38**	**37**
Issue of ordinary share capital	—	1
Share premium – at 31 December	**38**	**38**
Pension reserve– at 1 January	**(115)**	**(114)**
Remeasurement of net defined benefit liability	40	(1)
Pension reserve – at 31 December	**(75)**	**(115)**
Currency translation reserve - at 1 January	**(504)**	**(51)**
Foreign currency translation differences arising on foreign operations	(440)	(453)
Net amount reclassified to consolidated income statement upon disposal of subsidiary	105	—
Currency translation reserve - at 31 December	**(839)**	**(504)**
Capital contribution reserve – at 1 January and 31 December	**6,061**	**6,061**
Capital redemption reserve – at 1 January and and 31 December	**1,400**	**1,400**
Debt valuation reserve - at 1 January	**(259)**	**(339)**
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	137	74
Realised debt valuation losses	—	6
Debt valuation reserve - at 31 December	**(122)**	**(259)**
Retained earnings - at 1 January	**16,069**	**14,355**
Profit for the year	1,428	1,960
Realised debt valuation losses	—	(6)
Dividends	(236)	(237)
Share based payments	6	2
Transfer of business to MSIM Fund Management (Ireland) Limited Paris Branch	—	(5)
Retained earnings - at 31 December	**17,267**	**16,069**
Equity attributable to the owners of the parent - at 31 December	**30,408**	**28,568**
Non-controlling interest - at 1 January	**—**	**21**
Profit for the year	13	—
Foreign currency translation differences arising on foreign operations	(5)	—
Issuance of AT1 Instrument	433	—
Disposal of Non-controlling interest	—	(21)
Dividends	(13)	—
Non-controlling interest - at 31 December	**428**	**—**
Total equity at 31 December	**30,836**	**28,568**

The notes on pages 11 to 25 form an integral part of the consolidated non-statutory financial information.

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MORGAN STANLEY INTERNATIONAL LIMITED
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at 31 December 2022

in $ millions	2022	2021
ASSETS		
Cash and short term deposits	36,557	38,363
Trading financial assets (of which $38,512 million (2021: $41,687 million) were pledged to various parties)	371,712	360,182
Secured financing	127,750	124,226
Loans and advances	168	151
Investment securities	142	166
Trade and other receivables	102,056	94,244
Current tax assets	231	198
Deferred tax assets	280	395
Other assets	172	216
Property, plant and equipment	1,003	1,076
Intangible assets	789	734
TOTAL ASSETS	**640,860**	**619,951**
LIABILITIES		
Bank loans and overdrafts	8,130	165
Trading financial liabilities	342,467	325,213
Secured borrowing	90,144	90,749
Trade and other payables	110,431	111,531
Debt and other borrowings	57,492	62,119
Provisions	213	134
Current tax liabilities	181	208
Deferred tax liabilities	2	—
Accruals and deferred income	938	1,177
Post-employment benefit obligations	26	87
TOTAL LIABILITIES	**610,024**	**591,383**
EQUITY		
Share capital	2,378	2,378
Other equity instruments	4,300	3,500
Share premium account	38	38
Currency translation reserve	(839)	(504)
Capital contribution reserve	6,061	6,061
Capital redemption reserve	1,400	1,400
Pension reserve	(75)	(115)
Debt valuation reserve	(122)	(259)
Retained earnings	17,267	16,069
Equity attributable to the owners of the Company	**30,408**	**28,568**
Non-controlling interests	**428**	**—**
TOTAL EQUITY	**30,836**	**28,568**
TOTAL LIABILITIES AND EQUITY	**640,860**	**619,951**

The consolidated non-statutory financial information was approved by the Board and authorised for issue on 20 April 2023.

Signed on behalf of the Board

DocuSigned by:
Anthony Mullineaux
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A Mullineaux
Director

The notes on pages 11 to 25 form an integral part of the consolidated non-statutory financial information.

1. BASIS OF PREPARATION

a. Statement of Compliance

The Company has prepared consolidated non-statutory financial information comprising information about the Group as at 31 December 2022. The Company confirms, in accordance with section 435 of the Companies Act 2006, that:

i) the consolidated non-statutory financial information does not constitute its statutory accounts;

ii) a copy of the Company's statutory accounts for the year ended 31 December 2022 will be filed with the Registrar of Companies for England and Wales, Companies House, Cardiff CF14 3UZ; and

iii) the Company's independent auditor has issued an unqualified report on the Company's statutory accounts for the year ended 31 December 2022.

The Group has prepared the consolidated non-statutory financial information in accordance with the recognition and measurement principles of IFRS issued by the International Accounting Standards Board as adopted by the European Union ("EU") and the United Kingdom ("UK") as well as the basis of consolidation set out below. A summary of significant accounting policies applied to the Group is detailed in note 2.

b. New Standards and Interpretations Adopted During the Year

The following amendments to standards relevant to the Group's operations were adopted during the year. These did not have a material impact on the Group's consolidated non-statutory information.

Amendments to IAS 37 *'Provisions, Contingent Liabilities and Contingent Assets*' ('IAS 37'): Onerous contracts - Costs of Fulfilling a Contract were issued by the IASB in May 2020, for modified retrospective application in accounting periods beginning on or after 1 January 2022. The amendments were adopted by the UK in April 2022 and endorsed by the EU in July 2021.

As part of the 2018-2020 Annual Improvements Cycle published in May 2020, the IASB made an amendment to IFRS 9 *'Financial Instruments*', relating to the treatment of fees in the assessment of whether financial liabilities are modified or exchanged, where such transactions occur on or after 1 January 2022. Early application is permitted. The amendments were adopted by the UK in April 2022 and endorsed by the EU in July 2021.

There were no other standards, amendments to standards or interpretations relevant to the Group and Company's operations which were adopted during the year.

c. New Standards and Interpretations Not Yet Adopted

At the date of authorisation of this consolidated non-statutory financial information, the following amendments to standards relevant to the Group's operations were issued by the IASB but not mandatory for accounting periods beginning 1 January 2022. The Group does not expect that the adoption of the following amendments to standards will have a material impact on the Group's consolidated non-statutory financial information.

Amendments to IAS 1 *'Presentation of Financial Statements' ("IAS 1"):* Classification of Liabilities as Current or Non-current were issued by the IASB in January 2020 and revised in July 2020, for retrospective application in accounting periods beginning on or after 1 January 2023.

Amendments to IAS 8 *'Accounting Policies, Changes in Accounting Estimates and Errors':* Definition of Accounting Estimates were issued by the IASB in February 2021, for prospective application in accounting periods beginning on or after 1 January 2023. Early application is permitted. The amendments were adopted by the UK in November 2022 and endorsed by the EU in March 2022.

Amendments to IAS 1 '*Disclosure of Accounting Policies'* were issued by the IASB in February 2021, for prospective application in accounting periods beginning on or after 1 January 2023. Early application is permitted. The amendments were adopted by the UK in November 2022 and endorsed by the EU in March 2022.

Amendments to IAS 12 *'Income Taxes'*: Deferred Tax related to Assets and Liabilities arising from a Single Transaction were issued by the IASB in May 2021, for retrospective application in accounting periods beginning on or after 1 January 2023. Early application is permitted. The amendments were adopted by the UK in

November 2022 and endorsed by the EU in August 2022.

d. Basis of Measurement

The consolidated non-statutory financial information of the Group is prepared under the historical cost basis, except for certain financial instruments that have been measured at fair value as explained in the accounting policies below.

e. Basis of Consolidation

The consolidated non-statutory financial information of the Group comprises information about the Company and its subsidiaries as at 31 December 2022. Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The information for the subsidiaries is prepared for the same reporting year as the Group, using consistent accounting policies. The financial information of subsidiaries which have a non-US dollar reporting currency is translated into US dollars as described in note 2(b). Subsidiaries are consolidated from the date that the Group gains control until the date that control ceases.

In certain cases, the Group may exercise control over another entity on behalf of investors or other parties. In such cases it is necessary, as part of the assessment of whether it should consolidate the entity, for the Group to determine whether it exercises such control primarily as an agent for the other investors or whether it does so primarily as principal on its own behalf. In making such a determination, management of the Group will consider all relevant factors, including in particular:

- the scope of the Group's decision-making authority over the investee;
- the rights, including removal rights, held by other parties;
- the remuneration to which the Group is entitled; and
- the significance of the Group's exposure to variability of returns from its interests in the entity.

Intra-group balances, transactions, income and expenses and profits and losses resulting from intra-group transactions are eliminated in preparing the consolidated non-statutory financial information.

Non-controlling interests represent the portion of profit or loss and total equity not owned, directly or indirectly, by the Group and are presented separately in the consolidated income statement, consolidated statement of comprehensive income and within equity in the consolidated statement of financial position, separately from equity attributable to owners of the parent. The amount of non-controlling interest is measured at the non-controlling interest's proportionate share of the identifiable net assets.

f. The Going Concern Assumption

The Group has considered its business activities, together with the factors likely to affect its future development, performance and position, such as the Group's objectives, policies and processes for managing its capital; its financial risk management objectives; and its exposures to credit risk and liquidity risk. Retaining sufficient liquidity and capital to withstand market pressures remains central to the Morgan Stanley Group's and the Group's strategy.

Taking the above factors into consideration, the Directors believe it is reasonable to assume that the Group will have access to adequate resources to continue in operational existence for the foreseeable future. Accordingly, they continue to adopt the going concern basis in preparing the non-statutory financial information.

g. Change in Presentation

The Group has updated the consolidated income statement presentation for gains and losses arising on financial instruments measured at FVPL, such that these are now presented in the 'Net gains from financial instruments at fair value through profit or loss' income statement line. In prior reporting periods, this information was presented across two income statement lines: 'Net gains/losses from financial instruments measured at fair value' and 'Net trading income'. The comparative period has also been re-presented.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Functional Currency

Items included in the consolidated non-statutory financial information are measured and presented in US dollars, the currency of the primary economic environment in which the Group operates.

All currency amounts in the consolidated non-statutory financial information are rounded to the nearest million US dollars.

b. Foreign Currencies

All monetary assets and liabilities denominated in currencies other than US dollars are translated into US dollars at the rates ruling at the reporting date. Transactions and non-monetary assets and liabilities denominated in currencies other than US dollars are recorded at the rates prevailing at the dates of the transactions. Assets and liabilities of foreign operations are translated into US dollars using the closing rate method. Translation differences arising from the net investments in the foreign operations are taken to the 'Currency translation reserve'.

The amount of change in the fair value of financial liabilities designated at fair value through profit and loss ("FVPL") that is attributable to changes in the credit risk of these liabilities ("DVA") includes foreign exchange differences thereon. All other translation differences are taken through the consolidated income statement. Exchange differences recognised in the consolidated income statement are presented in 'Other income' or 'Operating expense', except where noted in 2(c) below.

On disposal of a foreign operation, the related cumulative gain or loss in the 'Currency translation reserve' attributable to the owners of the Company is reclassified to the consolidated income statement and recorded within 'Net loss on investments in subsidiaries, associates and joint ventures'.

c. Financial Instruments

i) Financial Instruments Mandatorily at Fair Value through Profit and Loss

Trading Financial Instruments

Trading financial instruments include government debt securities, corporate and other debt, traded loans, and corporate equities where the Group acquires the financial asset or financial liability for the purpose of selling or repurchasing in the near term or is part of a portfolio for which there is evidence of short term profit taking, and all derivative contracts.

Purchases and sales of non-derivative financial instruments classified as trading are initially recognised on settlement date at fair value, including regular way securities transactions. For purchases of non-derivative financial instruments classified as trading, from the date that the terms are agreed (trade date) until the settlement date, the Group recognises any unrealised fair value in the consolidated statement of financial position as 'Trading financial instruments' with corresponding profit or loss recognised within the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss'. For sales of non-derivative financial instruments unrealised fair value changes are no longer recognised in the consolidated income statement from trade date. Upon settlement date the resulting financial instrument is recognised or de-recognised from the consolidated statement of financial position.

Derivatives, are initially recorded on trade date at fair value (see note 2(d) below). All subsequent changes in fair value are reflected in the consolidated income statement in 'Net gains/ (losses) from financial instruments at fair value through profit or loss'.

All changes in fair value, foreign exchange differences, interest and dividends are reflected in the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss'. When interest is included as a component of an instrument's fair value, interest is also reflected in the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss', otherwise, it is included within 'Interest income' or 'Interest expense'.

Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial instrument. For all trading financial instruments, transaction costs are excluded from the initial fair value measurement of the financial instrument. These costs are recognised in the consolidated income statement in 'Operating expense'.

Non-Trading Financial Assets at Fair Value through Profit or Loss

Non-trading financial assets at FVPL include secured financing transactions such as cash collateral on securities borrowed and securities purchased under agreements to resell, prepaid OTC contracts and financial assets arising upon consolidation of certain special purpose entities, and certain investment securities (unlisted equities).

Non-trading financial assets at FVPL are principally financial assets where the Group makes decisions based upon the assets' fair values. These assets are generally recognised on settlement date at fair value (see note 2(d) below), since they are neither regular way nor are they derivatives. From the date the terms are agreed (trade date), until the financial asset is funded (settlement date), the Group recognises any unrealised fair value changes in the financial asset as non-trading financial assets at FVPL. On settlement date, the fair value of consideration given is recognised as a non-trading financial asset at FVPL.

All subsequent changes in fair value, foreign exchange differences and unrealised interest are reflected in the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss'. Realised interest is included within 'Interest income' or 'Interest expense'. All subsequent changes in fair value and foreign exchange differences are reflected in the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss'. When interest in included as a component of an instrument's fair value, interest is also reflected in the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss', otherwise it is included within 'Interest income' or 'Interest expense'.

Transaction costs are excluded from the initial fair value measurement of the financial assets and are recognised in the consolidated income statement in 'Operating expense'.

ii) Financial Instruments Designated at Fair Value through Profit or Loss

Financial instruments designated at FVPL include corporate loans, unfunded loan commitments, prepaid OTC contracts, cash collateral on securities loaned and securities sold under agreements to repurchase, issued structured notes and other financial assets and liabilities.

The Group has designated certain financial instruments at FVPL when the designation at fair value eliminates or significantly reduces an accounting mismatch which would otherwise arise. The Group has also designated certain financial liabilities at FVPL where:

- the financial liability forms part of a group of financial assets or financial liabilities or both which are managed, evaluated and reported internally on a fair value basis; or
- the financial liability contains an embedded derivative that significantly modifies the cash flows that would otherwise be required under the contract.

From the date the transaction in a financial instrument designated at FVPL is entered into (trade date) until settlement date, the Group recognises any unrealised fair value changes in the contract as financial instruments designated at FVPL in the consolidated statement of financial position. On settlement date, the fair value of consideration given or received is recognised as a financial instrument designated at FVPL (see note 2(d) below).

All subsequent changes in fair value, foreign exchange differences, and dividends are reflected in the consolidated income statement in 'Net gains from financial instruments at fair value through profit or loss', other than DVA on financial liabilities designated at FVPL which is recognised in the 'Debt valuation adjustment' reserve where those changes do not create or enlarge an accounting mismatch. When interest is included as a component of an instrument's fair value, interest is also reflected in the consolidated income statement in ''Net gains from financial instruments at fair value through profit or loss', otherwise it is included within 'Interest income' or 'Interest expense'. DVA presented within other comprehensive income is not subject to reclassification to the consolidated income statement, but is transferred to 'Retained earnings' when realised.

All other subsequent changes in fair value, foreign exchange differences not relating to changes in the credit risk of those liabilities, interest and dividends are reflected in the consolidated income statement.

Transaction costs are excluded from the initial fair value measurement of the financial instrument. These costs are recognised as incurred in the consolidated income statement in ‘Operating expense’.

iii) Financial Assets and Financial Liabilities at Amortised Cost

Financial assets at amortised cost include cash and short-term deposits, certain trade and other receivables and certain loans and advances.

Financial assets are recognised at amortised cost when the Group’s business model objective is to collect the contractual cash flows of the assets and where these cash flows are Solely Payments of Principal and Interest (“SPPI”) on the principal amount outstanding until maturity. Such assets are recognised when the Group becomes a party to the contractual provisions of the instrument. The instruments are initially measured at fair value (see note 2(d) below) and subsequently measured at amortised cost less expected credit loss (“ECL”) allowance. Interest is recognised in the consolidated income statement in ‘Interest income’, using the effective interest rate (“EIR”) method as described below. Transaction costs that are directly attributable to the acquisition of the financial asset are added to the fair value on initial recognition. ECL and reversals thereof are recognised in the consolidated income statement in ‘Net impairment (loss)/reversal on financial instruments’.

Financial liabilities classified at amortised cost include bank loans and overdrafts, certain secured borrowings, certain trade and other payables, and certain debt and other borrowings.

Financial liabilities are classified as being subsequently measured at amortised cost, except where they are held for trading or are designated as measured at FVPL. They are recognised when the Group becomes a party to the contractual provisions of the instrument and are initially measured at fair value (see note 2(d) below) and subsequently measured at amortised cost. Interest is recognised in the consolidated income statement in ‘Interest expense’ using the EIR method as described below. Transaction costs that are directly attributable to the issue of a financial liability are deducted from the fair value on initial recognition.

The EIR method is a method of calculating the amortised cost of a financial instrument (or a group of financial instruments) and of allocating the interest income or interest expense over the expected life of the financial instrument. The EIR is the rate that exactly discounts the estimated future cash payments and receipts through the expected life of the financial instrument (or, where appropriate a shorter period) to the carrying amount of the financial instrument. The EIR is established on initial recognition of the financial instrument. The calculation of the EIR includes all fees and commissions paid or received, transaction costs, and discounts or premiums that are an integral part of the EIR.

iv) Secured Financing and Secured Borrowings

In the course of financing its business and part of its trading activities, the Group enters into arrangements which involve the sale of securities with agreements to repurchase, the purchase of securities with resale agreements, the lending of securities with collateral received and the borrowing of securities with collateral given.

Securities received by the Group under resale arrangements and securities borrowing arrangements are generally not recognised on the consolidated statement of financial position, and securities pledged or sold by the Group under sale and repurchase agreements and securities lending arrangements are generally not derecognised from the consolidated statement of financial position.

Securities pledged or sold by the Group under sale and repurchase agreements and securities lending arrangements are generally not derecognised from the consolidated statement of financial position. Where cash collateralised, the resulting cash collateral balances repayable and accrued interest are designated at FVPL where the financial liability forms part of a group of financial assets or financial liabilities or both, which is managed, evaluated and reported internally of a fair value basis; or at amortised cost if not so designated.

d. Fair Value

Fair Value Measurement

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e. the “exit price”) in an orderly transaction between market participants at the measurement date.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, assumptions are set to reflect those that the Group believes market participants would use in pricing the asset or liability at the measurement date.

Where the Group manages a group of financial assets and financial liabilities on the basis of its net exposure to either market risks or credit risk, the Group measures the fair value of that group of financial instruments consistently with how market participants would price the net risk exposure at the measurement date.

In determining fair value, the Group uses various valuation approaches and establishes a hierarchy for inputs used in measuring fair value that requires the most observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability that were developed based on market data obtained from sources independent of the Group. Unobservable inputs are inputs that reflect assumptions the Group believes other market participants would use in pricing the asset or liability, that are developed based on the best information available in the circumstances.

The fair value hierarchy is broken down into three levels based on the observability of inputs as follows, with Level 1 being the highest and Level 3 being the lowest level:

- Level 1 – Quoted prices (unadjusted) in an active market for identical assets or liabilities

Valuations based on quoted prices in active markets that the Morgan Stanley Group has the ability to access for identical assets or liabilities. Valuation adjustments and block discounts are not applied to Level 1 instruments. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these products does not entail a significant degree of judgement.

- Level 2 – Valuation techniques using observable inputs

Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

- Level 3 – Valuation techniques with significant unobservable inputs

Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

The availability of observable inputs can vary from product to product and is affected by a wide variety of factors, for example, the type of product, whether the product is new and not yet established in the marketplace, the liquidity of markets and other characteristics particular to the product. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgement. Accordingly, the degree of judgement exercised by the Company in determining fair value is greatest for instruments categorised in Level 3 of the fair value hierarchy.

The Group considers prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may be reduced for many instruments. This condition could cause an instrument to be reclassified to a lower Level of the fair value hierarchy.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the total fair value amount is disclosed in the level appropriate for the lowest level input that is significant to the total fair value of the asset or liability.

The Group incorporates Funding Valuation Adjustment ("FVA") into the fair value measurements of over-the-counter ("OTC") uncollateralised or partially collateralised derivatives and in collateralised derivatives where the terms of the agreement do not permit the re-use of the collateral received. In general, the FVA reflects a market funding risk premium inherent in the noted derivative instruments. The methodology for measuring FVA leverages the Group's existing credit-related valuation adjustment calculation methodologies, which apply to both assets and liabilities.

For assets and liabilities that are transferred between levels in the fair value hierarchy during the period, fair values are ascribed as if the assets or liabilities had been transferred as of the beginning of the period.

Valuation Techniques

Many cash instruments and OTC derivative contracts have bid and ask prices that can be observed in the marketplace. Bid prices reflect the highest price that a party is willing to pay for an asset. Ask prices represent the lowest price that a party is willing to accept for an asset. The Group carries positions at the point within the bid-ask range that meets its best estimate of fair value. For offsetting positions in the same financial instrument, the same price within the bid-ask spread is used to measure both the long and short positions.

Fair value for many cash instruments and OTC derivative contracts is derived using pricing models. Pricing models take into account the contract terms, as well as multiple inputs including, where applicable, commodity prices, equity prices, interest rate yield curves, credit curves, correlation, creditworthiness of the counterparty, creditworthiness of the Group, option volatility and currency rates.

Where appropriate, valuation adjustments are made to account for various factors such as liquidity risk (bid-ask adjustments), credit quality, model uncertainty and concentration risk in order to arrive at fair value.

Adjustments for liquidity risk adjust model-derived mid-market levels of Level 2 and Level 3 financial instruments for the bid-mid or mid-ask spread required to properly reflect the exit price of a risk position. Bid-mid and mid-ask spreads are marked to levels observed in trade activity, broker quotes or other external third-party data. Where these spreads are unobservable for the particular position in question, spreads are derived from observable levels of similar positions.

The Group applies credit-related valuation adjustments ("CVA") to its Borrowings (primarily structured notes) which are designated at FVPL and to OTC derivatives. The Group considers the impact of changes in own credit spreads based upon observations of the secondary bond market spreads when measuring the fair value for Borrowings. For OTC derivatives, the impact of changes in both the Group's and the counterparty's credit rating is considered when measuring fair value. In determining the expected exposure the Group simulates the distribution of the future exposure to a counterparty, then applies market-based default probabilities to the future exposure, leveraging external third-party credit default swap ("CDS") spread data. Where CDS spread data are unavailable for a specific counterparty, bond market spreads, CDS spread data based on the counterparty's credit rating or CDS spread data that reference a comparable counterparty may be utilised. The Group also considers collateral held and legally enforceable master netting agreements that mitigate exposure to each counterparty.

Adjustments for model uncertainty are taken for positions whose underlying models are reliant on significant inputs that are neither directly nor indirectly observable, hence requiring reliance on established theoretical concepts in their derivation. These adjustments are derived by making assessments of the possible degree of variability using statistical approaches and market-based information where possible.

The Group may apply a concentration adjustment to certain of its OTC derivatives portfolios to reflect the additional cost of closing out a particularly large risk exposure. Where possible, these adjustments are based on observable market information but in many instances significant judgement is required to estimate the costs of closing out concentrated risk exposures due to the lack of liquidity in the marketplace.

Valuation Process

Valuation Control ("VC") within Finance is responsible for ensuring that the inventory carried at fair value in the Group's consolidated non-statutory financial information is presented in accordance with applicable accounting standards. VC is independent of the business units and reports to the Chief Financial Officer of the Morgan Stanley Group ("CFO"), who has final authority over the valuation of the Group's inventory. VC implements valuation control processes designed to validate the fair value of the Group's financial instruments measured at fair value including those derived from pricing models.

Model Control: VC, in conjunction with the Model Risk Management Department ("MRM"), which reports to the Chief Risk Officer of the Morgan Stanley Group ("CRO"), independently reviews valuation models. VC is responsible for reviewing that the model valuation methodology is appropriate, model inputs and valuations are consistent with accounting standards and an independent price verification can be performed. The Group generally subject valuations and models to a review process initially and on a periodic basis thereafter.

Independent Price Verification: The business units are responsible for determining the fair value of financial instruments using approved valuation models and valuation methodologies. Generally on a monthly basis, VC performs an independent review of the valuation in the books and records by determining the appropriateness of the inputs used by the business units and by testing compliance with the documented valuation methodologies approved in the model review process described above. External pricing data used to validate the valuation must meet minimum quality standards set by VC.

The results of this independent price verification and any adjustments made by VC to the fair value generated by the business units are presented to management of the the Group's business segments (i.e. Institutional Securities and Investment Management), the CFO and the CRO on a regular basis.

VC reviews the models and valuation methodology used to price new material Level 2 and Level 3 transactions and both Finance and MRM must approve the fair value of the trade that is initially recognised.

Gains and Losses on Inception

In the normal course of business, the fair value of a financial instrument on initial recognition is the transaction price (i.e. the fair value of the consideration given or received). In certain circumstances, however, the fair value will be based on other observable current market transactions in the same instrument, without modification or repackaging, or on a valuation technique whose variables include only data from observable markets. When such evidence exists, the Group recognises a gain or loss on inception of the transaction.

When the use of unobservable market data has a significant impact on determining fair value at the inception of the transaction, the entire initial gain or loss indicated by the valuation technique as at the transaction date is not recognised immediately in the consolidated income statement, but is deferred and recognised over the life of the instrument or is recognised instead when the market data becomes observable or on maturity or disposal of the instrument.

Assets and Liabilities Measured at Fair Value on a Non-Recurring Basis

Certain of the Group's assets and liabilities are measured at fair value on a non-recurring basis. The Group incurs losses or gains for any adjustments of these assets or liabilities to fair value.

For assets and liabilities measured at fair value on a non-recurring basis, fair value is determined by using various valuation approaches. The same hierarchy for inputs as described above, which requires that the observable inputs be used when available, is used in measuring fair value for these items.

e. Modification and Derecognition of Financial Assets and Liabilities

The Group derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risk and rewards of ownership of the asset.

If the asset has been transferred, and the Group neither transfers nor retains substantially all of the risks and rewards of the asset, then the Group determines whether it has retained control of the asset.

If the Group has retained control of the asset, it continues to recognise the financial asset to the extent of its continuing involvement in the financial asset. If the Group has not retained control of the asset, it derecognises the asset and separately recognises any rights or obligation created or retained in the transfer.

The renegotiation or modification of the contractual cash flows of a financial instrument can lead to derecognition where the modification is "substantial", determined by qualitative assessment of whether the revised contractual terms of a financial instrument, such as a loan, are significantly different from those of the original financial instrument. In the event that the qualitative assessment is unclear, a quantitative 10% cash flow test is performed.

Where modifications do not result in derecognition of the financial instrument, the gross carrying amount of the financial instrument is recalculated and a modification gain/(loss) is recognised in the consolidated income statement.

Upon derecognition of a financial asset, the difference between the previous carrying amount and the sum of any consideration received, together with the transfer of any cumulative gain/ loss previously recognised in equity, are recognised in the consolidated income statement within 'Net gains/ (losses) on derecognition of financial assets measured at amortised cost and FVOCI'.

The Group derecognises financial liabilities when the Group's obligations are discharged or cancelled or when they expire.

f. Impairment of Financial Instruments

The Group recognises ECL for the following financial instruments that are not measured at FVPL:

- financial assets measured at amortised cost;
- loan commitments, except those that can be net settled in cash or with another financial instrument; and
- financial guarantees.

Measurement of ECL

The Group and Company recognise a loss allowance for expected credit losses on financial assets measured at amortised cost, for in-scope loan commitments and for financial guarantees and applies a three stage approach to measuring ECLs based on the change in credit risk since initial recognition:

- *Stage 1:* if the credit risk of the financial instrument at the reporting date has not increased significantly since initial recognition, then the loss allowance is calculated as the lifetime cash shortfalls that will result if a default occurs in the next 12 months, weighted by the probability of that default occurring.
- *Stage 2:* if there has been a significant increase in credit risk ("SICR") since initial recognition, the loss allowance is calculated as the ECL over the remaining life of the financial instrument. If it is subsequently determined that there has no longer been a SICR since initial recognition, then the loss allowance reverts to reflecting 12 month expected losses.
- *Stage 3:* if there has been a SICR since initial recognition and the financial instrument is deemed credit-impaired (see below for definition of credit-impaired), the loss allowance is calculated as the ECL over the remaining life of the financial instrument. If it is subsequently determined that there has no longer been a SICR since initial recognition, then the loss allowance reverts to reflecting 12 month expected losses.

Notwithstanding the above, for trade receivables a lifetime ECL is always calculated, without considering whether a SICR has occurred.

Assessment of SICR

When assessing SICR, the Group considers both quantitative and qualitative information and analysis based on the Group's historical experience and expert credit risk assessment, including forward-looking information.

The determination of a SICR is generally based on changes in the probability of default ("PD"), in conjunction with a rebuttable presumption that a SICR has occurred if a financial asset is more than 30 days past due.

Calculation of ECL

ECL is calculated using three main components:

- *PD:* for accounting purposes, the 12 month and lifetime PD represent the expected point-in-time probability of a default over the next 12 months and over the remaining lifetime of the financial instrument respectively, based on conditions existing at the balance sheet date and future economic conditions.
- *Loss given default ("LGD"):* the LGD represents expected loss conditional on default, taking into account the mitigating effect of collateral, including the expected value of the collateral when realised and the time value of money.
- *Exposure at default ("EAD"):* this represents the expected EAD, taking into account the expected repayment of principal and interest from the balance sheet date to the date of default event together with any expected drawdowns of the facility over that period.

These parameters are generally derived from internally developed statistical models, incorporating historical, current and forward-looking macro-economic data and country risk expert judgement. The macro-economic scenarios are reviewed quarterly.

The 12 month ECL is equal to the sum over the next 12 months of quarterly PD multiplied by LGD and EAD, with such expected losses being discounted at the effective interest rate. Lifetime ECL is calculated using the discounted present value of total quarterly PDs multiplied by LGD and EAD, over the full remaining life of the facility.

When measuring ECLs, the Group considers multiple scenarios, except where practical expedients are used to determine ECL. Practical expedients are used where they are consistent with the principles described above.

ECL on certain trade receivables are calculated using a 'matrix' approach which reflects the previous history of credit losses on these financial assets, applying different provision levels based on the age of the receivable. Alternatively where there is a history of no credit losses, and where this is expected to persist into the future for structural or other reasons, such as collateral or other credit enhancement, it may be determined that the ECL for a financial instrument is de minimis (highly immaterial) and it may not be necessary to recognise the ECL.

The Group measures ECL on an individual asset basis and has no purchased or originated credit-impaired financial assets.

Presentation of ECL

ECL is recognised in the consolidated income statement within 'Net impairment (loss)/reversal on financial instruments'.

Credit-impaired Financial Instruments

In assessing the impairment of financial instruments under the ECL model, the Group defines credit-impaired financial instruments in accordance with Credit Risk Management Department's policies and procedures. A financial instrument is credit-impaired when, based on current information and events, it is probable that the Group will be unable to collect all scheduled payments of principal or interest when due according to the contractual terms of the agreement.

Definition of Default

In assessing the impairment of financial instruments under the ECL model, the Group defines default in accordance with Credit Risk Management Department's policies and procedures. This considers whether the borrower is unlikely to pay its credit obligations to the Group in full and takes into account qualitative indicators, such as breaches of covenants. The definition of default also includes a presumption that a financial asset which is more than 90 days past due has defaulted.

Write-offs

Loans and debt securities are written off (either partially or in full) when they are deemed uncollectible. Financial assets that are written off could still be subject to enforcement activities for recoveries of amounts due.

g. Revenue Recognition

Revenues are recognised when the promised goods or services are delivered to the Group's customers, in an amount that is based on the consideration the Group expects to receive in exchange for those goods or services when such amounts are not probable of significant reversal.

Investment Banking

Revenue from investment banking activities consists of revenues earned from underwriting primarily equity and fixed income securities and advisory fees for mergers, acquisitions, restructuring and advisory assignments.

Underwriting revenues are generally recognised on trade date, if there is no uncertainty or contingency related to the amount to be paid. Underwriting costs are deferred and recognised when the related underwriting revenues are recorded.

Advisory fees are recognised over time based on the estimated progress of work as advice is provided to the client and is not probable of a significant reversal. Advisory expenses are recognised as incurred, including when reimbursed.

Asset Management Fees

Asset management, distribution and administration fees are generally based on related asset levels being managed, such as the assets under management of a customer's account, or the net asset value of a fund. These fees are generally recognised when services are performed and the fees become known. Management fees are reduced by estimated fee waivers and expense caps, if any, provided to the customer. Distribution fees contingent upon an investor exiting a fund are recognised when the investor exits the fund.

Sales commissions paid by the Group in connection with the sale of certain classes of shares of its open-end mutual fund products are accounted for as deferred commission assets and amortised to expense over the expected life of the contract. The Group periodically tests deferred commission assets for recoverability based on cash flows expected to be received in future periods. Other asset management and distribution costs are recognised as incurred.

Fee and Commission Income

Fee and commission income results from transaction-based arrangements in which the client is charged a fee for the execution of transactions. Such revenues primarily arise from transactions in equity securities; services related to sales and trading activities; futures, insurance products and options. Fee and commission income is recognised on trade date when the performance obligation is satisfied.

Fee and commission income in the consolidated income statement includes investment management fees, sales commissions, placement fees, advisory fees and syndication fees.

Other Items

Receivables from contracts with customers are recognised within 'Trade and other receivables' in the consolidated statement of financial position when the underlying performance obligations have been satisfied and the Group has the right per the contract to bill the customer. Contract assets are recognised when the Group has satisfied its performance obligations, however, customer payment is conditional, and are presented within 'Other assets'. Contract liabilities are recognised when the Group has collected payment from a customer based on the terms of the contract, but the underlying performance obligations are not yet satisfied, and are presented within 'Other liabilities'.

Incremental costs to obtain the contract are expensed as incurred if the contract duration is one year or less. Revenues are not discounted when payment is expected within one year.

h. Fees and Commission Expense

Fees and commission expense in the consolidated income statement includes transaction and service fees. Amounts are recognised as the related services are received.

i. Property, Plant and Equipment

Property, plant and equipment are stated at cost net of depreciation and any provision for impairment in value (see note 2(k) below), which are included within 'Operating expense' in the consolidated income statement.

For premises held under leases (see note 2(n) below), a reinstatement provision is recognised for the estimated cost to reinstate the premises at the end of the lease period. When the reinstatement provision is established and included within 'Provisions' in the consolidated statement of financial position, an equivalent asset is recognised and included in the cost of leasehold improvements at the initial present value of the reinstatement obligations. The discount effect included in the reinstatement provision is reversed over time using a constant effective yield method and included within 'Interest expense' in the consolidated income statement. The reinstatement asset is depreciated over the useful economic life of the relevant leasehold improvement asset and the depreciation charge is included within 'Other expense' in the consolidated income statement.

Depreciation is provided on property, plant and equipment at rates calculated to write off the cost of the assets on a straight line basis over their expected useful lives as follows:

Leasehold improvements, including reinstatement assets	- shorter of remaining lease term and 15 years
Fixtures, fittings and equipment	- 3 to 9 years
Right-of-use assets – Property	- remaining lease term

j. Combination of Businesses Under Common Control

Business combinations under common control, where all combining entities or businesses are ultimately controlled by the same party both before and after the business combination, are accounted for using the predecessor values method of accounting. This involves recognising assets and liabilities of the acquired business at the predecessors' book value, without any change to reflect fair value of those assets and liabilities. Any difference between the cost of acquisition and the predecessors' book value of the assets and liabilities as of the date of the transfer is recorded as an adjustment to equity within 'Retained earnings'. No additional goodwill is created by the business combination.

Post-acquisition, income received and expenses incurred by the business or businesses acquired are included in the consolidated income statement.

A non-controlling interest is recognised by the Group in respect of any portion of the total assets less total liabilities of an acquired entity or entities that is not owned by the Group.

When subsidiaries or businesses are sold or transferred to another entity under common control, any difference between the consideration received and the aggregate book value of the assets and liabilities of the disposed subsidiary or business is recorded in the consolidated income statement within 'Other revenue'. Where the consideration for the transfer is received in the form of shares, these are recorded at the aggregate book value of the assets and liabilities disposed of.

Where the disposal or loss of control over an entity includes a foreign operation, all foreign exchange differences accumulated in the 'Currency translation reserve' attributable to the equity holders of the Company are reclassified to the consolidated income statement within 'Net gains/(losses) on subsidiaries, associates and joint ventures'.

k. Impairment of Non-financial Assets

Non-financial assets that are subject to depreciation or amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and its value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units ("CGU")). Such impairment losses are recognised in the consolidated income statement within 'Other expense' and are recognised against the carrying amount of the impaired asset on the consolidated statement of financial position. Non-financial assets, other than goodwill, that have suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

l. Intangible Assets

Internally-generated intangible assets – research and development expenditure

Expenditure on research activities is recognised as an expense in the period in which it is incurred.

Expenditure on internally developed software is recognised as an asset when the Company is able to demonstrate its intention and ability to complete the development, to use the software in a manner that will generate future economic benefits, and to reliably measure the costs to complete the development. Internally developed software is stated at capitalised cost less accumulated amortisation and any impairment (see note 2(k)). Amortisation is recognised in 'Other expense' in the consolidated income statement on a straight line basis over the useful economic life of the software, from the date that it is available for use. The estimated useful life of internally developed software is one to three years.

m. Income Tax

The tax expense represents the sum of the tax currently payable and deferred tax.

The tax currently payable is calculated based on taxable profit for the year. Taxable profit may differ from profit/(loss) before taxation as reported in the consolidated income statement because it excludes items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. Taxable profit is also adjusted if it is considered that it is not probable that a taxation authority will accept an uncertain tax treatment. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the reporting date. Current tax is charged or credited in the consolidated income statement, except when it relates to items charged or credited directly to other comprehensive income or equity, in which case the current tax is also recorded within other comprehensive income or equity respectively.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the consolidated non-statutory financial information and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the balance sheet liability method. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised.

Deferred tax liabilities are recognised for taxable temporary differences arising on investments in subsidiaries and associates, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each reporting date and limited to the extent that it is probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised. Deferred tax is charged or credited in the consolidated income statement, except when it relates to items charged or credited directly to other comprehensive income or equity, in which case the deferred tax is reflected within other comprehensive income or equity, respectively.

Current tax assets are offset against current tax liabilities when there is a legally enforceable right to set off current tax assets against current tax liabilities and the Group intends to settle its current tax assets and current tax liabilities on a net basis or to realise the asset and settle the liability simultaneously. Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and current tax liabilities on a net basis.

The income tax effect of distributions are recognised in profit or loss, other comprehensive income or equity dependant on where those past transactions that generated the distributable profits were recognised. The income tax effect of coupons of Additional Tier 1 instruments accounted for as distributions must be recognised in profit or loss.

n. Leases

For leases whose original lease term exceeds one year, right-of-use ("ROU") assets and lease liabilities are initially recognised based on the present value of the future minimum lease payments over the lease term. The discount rate used in determining the present value is the Group's borrowing rate. The ROU asset also includes any prepaid lease payments and initial direct costs incurred and is reduced to reflect lease incentives received. The lease liabilities are subsequently accounted for at amortised cost, using the effective interest rate method.

The liability is remeasured when there is a change in future lease payments arising from a change in an index or rate or from a market rent review. Additionally, the lease liability is remeasured if the Group changes its assessment of whether it will exercise an extension or termination option or undertakes certain modifications of the lease. The ROU asset is depreciated on a straight line basis from the lease commencement date to the earlier of the end of its useful life or the end of the lease term. Depreciation of ROU assets is presented within 'Operating expense'. In addition, the ROU asset is tested for impairment losses where there is an impairment event.

The Group evaluates contracts greater than one year to determine whether they contain lease components at inception. Where contracts contain both lease and non-lease components, they are accounted for as a single lease.

The Group presents ROU assets within the 'Property, plant and equipment' line and lease liabilities within the 'Trade and other payables' line of the consolidated statement of financial position.

o. Provisions, Contingent Liabilities and Commitments

Provisions are recognised when the Group has an identified present obligation as a result of a past event, when it is probable that an outflow of resources embodying economic benefits will be required to settle that obligation and when a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the year-end date, taking into account the risks and uncertainties surrounding the obligation. A provision is measured using the cash flows estimated to settle the present obligation, with its carrying amount reflecting the present value of those cash flows, where the effect of discounting is material.

The expected credit loss allowance on loan commitments and financial guarantees is presented in the consolidated statement of financial position within 'Provisions'.

A contingent liability is a possible obligation, that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the company or a present obligation that arises from past events but is not recognised because either an outflow of economic benefits is not probable or the amount of the obligation cannot be reliably measured.

A commitment is any legal obligation to potentially make or receive cash payments or transfer cash.

p. Employee Compensation Plans

i) Equity-settled Share-based Compensation Plans

Morgan Stanley issues awards in the form of restricted stock units ("RSUs") to employees of the Morgan Stanley Group for services rendered to the Group. Awards are equity-settled and the cost of the equity-based transactions with employees is measured based on the fair value of the equity instruments at grant date. The fair value of RSUs is based on the market price of Morgan Stanley common stock, measured as the volume-weighted average price on the grant date ("VWAP"). The fair value of RSUs not entitled to dividends until conversion is measured at VWAP reduced by the present value of dividends expected to be paid on the underlying shares prior to the scheduled conversion date.

Awards generally contain clawback and cancellation provisions. Certain awards provide Morgan Stanley the discretion to clawback or cancel all or a portion of the award under specified circumstances. Compensation expense for these awards is adjusted for changes in the fair value of the Morgan Stanley's common stock until conversion.

The Group recognise compensation costs over the relevant vesting period for each separately vesting portion of the award. An estimation of awards that will be forfeited prior to vesting due to the failure to satisfy service conditions is considered in calculating the total compensation cost to be amortised over the relevant vesting period.

Under Morgan Stanley Group chargeback arrangements, the Group pay Morgan Stanley for the procurement of shares. The Group pay Morgan Stanley the grant date fair value and any subsequent movement in fair value up to the time of conversion of the award and delivery of shares to the employees.

Share based compensation expense is recorded in 'Direct staff costs' within 'Operating expense' in the consolidated income statement.

ii) Deferred Cash-based Compensation Plans

Morgan Stanley may award deferred cash-based compensation on behalf of the Group for the benefit of employees, providing a return to the participating employees based upon the performance of various referenced investments. Compensation expense for deferred cash-based compensation awards is calculated based on the notional value of the award granted, adjusted for changes in the fair value of the referenced investments that employees select.

The Group recognise compensation cost over the relevant vesting period for each separately vesting portion of the award. Forfeitures due to failure to satisfy service conditions are accounted for as they occur.

Deferred cash-based compensation expense is recorded in 'Direct staff costs' within 'Operating expense' in the consolidated income statement. The liability for the awards is measured at fair value and is included within 'Accruals and deferred income' in the consolidated statement of financial position.

The Group enter into a variety of derivative contracts with other Morgan Stanley Group undertakings to economically hedge the exposure created by these deferred compensation plans. The derivatives are recognised at fair value within 'Trading financial instruments' in the consolidated statement of financial position and the related gains and losses are recorded within 'Net gains from financial instruments at fair value through profit or loss' in the consolidated income statement.

Although changes in compensation expense resulting from changes in the fair value of the referenced investments will generally be offset by changes in the fair value of derivative transactions entered into by the Group, there is typically a timing difference between the immediate recognition of gains and losses on the derivatives and the deferred recognition of the related compensation expense over the vesting period.

q. Post-Employment Benefits

The Group operates defined contribution and defined benefit post-employment plans.

Contributions due in relation to the Group's defined contribution post-employment plan are recognised in 'Direct staff costs' within 'Operating expense' in the consolidated income statement when payable.

For the Group's defined benefit post-employment plans, the plan obligations are measured on an actuarial basis in accordance with the advice of an independent qualified actuary using the projected unit credit method and discounted at a rate that reflects the current rate of return on a high quality corporate bond of equivalent term and currency to the plan liabilities. Plan assets are measured at their fair value at the reporting date. For each defined benefit plan, a surplus or deficit of plan assets over liabilities is recognised in the consolidated statement of financial position as an asset or a liability respectively. If the fair value of the plan assets is higher than the present value of the defined benefit obligation, the measurement of the resulting defined benefit asset is limited to the present value of economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. The current service costs and any past service costs together with the net interest on the net defined benefit obligation/asset are charged to 'Direct staff costs' within 'Operating expense' in the consolidated income statement. Remeasurements that arise in calculating the Group's obligation in respect of a plan are recognised in other comprehensive income, in the period in which they occur.

The Group participate in a defined benefit plan operated by another Morgan Stanley affiliate. The Group and Company recognise recharges for the net defined benefit cost of the plan as a whole under inter-affiliate contractual agreements.

r. Offsetting of Financial Assets and Financial Liabilities

Where there is a currently legally enforceable right to set off the recognised amounts and an intention to either settle on a net basis or to realise the asset and the liability simultaneously, financial assets and financial liabilities are offset and the net amount is presented on the consolidated statement of financial position. In the absence of such conditions, financial assets and financial liabilities are presented on a gross basis.

25. Appendix VII: CRR Reference Mapping

CRR Ref	High Level Summary	Compliance Reference
MSI Group & MSIP		
Article 431 Scope of disclosure requirements		
431 (1)	Requirement to publish Pillar 3 disclosures.	MSI Group publishes Pillar 3 disclosures on a quarterly basis.
431 (2)	Firms with permission to use specific operational risk methodologies must disclose operational risk information.	Section 15 provides a description of the Operational Risk framework.
431 (3)	Institution must have a policy covering verification, comprehensiveness and appropriateness of disclosures. Written attestation by management is required. Information subject to internal verification.	The MSI Group has a dedicated Pillar 3 policy, reviewed on an annual basis. Section 1 includes Directors Responsibility Statement attested by the CFO.
431 (4)	All quantitative tables shall be accompanied by qualitative comments noting significant change, if any.	All tables meet this requirement
431 (5)	Explanation of ratings decision upon request.	Not Applicable
Article 432 Non-Material, proprietary or confidential information		
432 (1)	Institutions may omit information that is not material if certain conditions are met.	Compliance with this provision is covered by MSI Group's policy.
432 (2)	Institutions may omit information that is proprietary or confidential if certain conditions are met.	Compliance with this provision is covered by MSI Group's policy.
432 (3)	Where 432 (2) apply this must be stated in the disclosures, and more general information must be disclosed.	Not Applicable
Article 433: Frequency of disclosure		
433	Institution shall publish the disclosure in the manner set out in Articles 433a, 433b and 433c. Annual disclosure shall be published on the same date as the financial statements.	MSI Group publishes Pillar 3 disclosures on the same day as MSIP financial statements.
433a	Specifies information to be disclosed by large institution along with frequency.	MSI Group publishes the Pillar 3 disclosure on a quarterly basis.
433b	Specifies information to be disclosed by small & non-complex institution along with the frequency.	Not Applicable
433c	Specifies information to be disclosed by other institutions along with the frequency.	Not Applicable
Article 434: Means of disclosure		
434 (1)	All disclosures shall be provided in one medium and it should be readily accessible and easily identifiable to the users.	The disclosures are published on the Morgan Stanley Investor Relations website. Signposting within the disclosure directs the reader to other publications as relevant.
434 (2)	All disclosures shall be available on the website and shall be kept accessible for a period set by national law.	The disclosures published on the Morgan Stanley Investor Relations website shall be available.
Article 435: Risk Management Objectives and Policies		
435 (1)	Disclose information on:	
435 (1) (a)	The strategies and processes to manage risks.	Section 3: Risk Management "Risk Policies and Processes" "Stress Testing" "Risk Strategy and Appetite"
435 (1) (b)	The structure and organisation of the risk management function.	Section 3: Risk Management "Control Framework" "Risk Governance"
435 (1) (c)	The scope and nature of risk reporting and measurement systems.	Section 3: Risk Management "Risk Strategy and Appetite" "Risk Reporting and Measurement"
435 (1) (d)	The policies for hedging and mitigating risk	Section 3: Risk Management "Risk Policies and Processes" "Risk Governance"
435 (1) (e)	Declaration approved by the management body on the adequacy of risk management arrangements.	Section 3: Risk Management - "Adequacy of Risk Management Arrangements"
435 (1) (f)	Concise risk statement approved by the management body.	Section 3: Risk Management - "Risk Strategy and Appetite"
435 (2) (a)	Number of directorships held by members of the management body.	Appendix I: Board of Directors Knowledge, Skill and Expertise - "Figure 7: MSI Directors: Number of Directorships"
435 (2) (b)	Recruitment policy for members of the management body, along with their knowledge, skills and expertise.	Appendix I: Board of Directors Knowledge, Skill and Expertise - "Appointments to MSI Board"
435 (2) (c)	Policy on diversity of the management body and results against targets.	Appendix I: Board of Directors Knowledge, Skill and Expertise - "Diversity and Composition of MSI Board"
435 (2) (d)	Disclosure of whether there is a separate Risk Committee and the number of times the committee has met during the year.	Section 3: Risk Management - "MSI Board Committees"
435 (2) (e)	Description of the information flow to the management body.	Section 3: Risk Management - "Risk Governance"

Article 436: Scope of Application		
436 (a)	Name of institution.	Section 1: Overview and Key Metrics
436 (b)	A reconciliation between the consolidated financial statements under the accounting and regulatory scope of consolidation.	Section 4: Basis of Preparation and Linkage to Financial Accounts
436 (c)	A breakdown of assets and liabilities of the consolidated financial statements broken down by type of risks.	Section 4: Basis of Preparation and Linkage to Financial Accounts - Table 2: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories (UK LI1)
436 (d)	A reconciliation identifying the main differences between the carrying value in the financial statements and the regulatory exposure amount.	Section 4: Basis of Preparation and Linkage to Financial Accounts - Table 3: Main sources of differences between regulatory exposure amounts and carrying values in financial statements (UK LI2)
436 (e)	Prudent valuation adjustment, by type of risks, and the total of constituent elements separately for the trading book and non-trading book positions;	Section 17: Valuation Risk - Table 38: Prudent valuation adjustments (PVA) (UK PV1)
436 (f)	Legal impediments to transfer of own funds or repayment of liabilities between parent and subsidiaries.	Section 5: Capital Management
436 (g)	Capital shortfalls in any subsidiaries not included in the consolidation.	Not Applicable
436 (h)	If applicable, making use of the provisions laid out in Article 7 (derogation) & Article 9 (solo consolidation).	Not Applicable
Article 437: Own Funds		
437 (a)	Full reconciliation of CET1, AT1, T2.	Section 21: Appendix III: Own Funds Disclosure Template - Table 45: Composition of regulatory own funds (UK CC1) Table 46: Reconciliation of regulatory own funds to balance sheet in the audited financial statements (UK CC2)
437 (b)	Description of the main features of CET1, AT1, T2 instruments.	Section 20: Appendix II: Capital Instruments & Eligible Liabilities - Table 44: Main features of regulatory own funds instruments and eligible liabilities instruments (UK CCA)
437 (c)	Full terms & conditions of all CET1, AT1, T2 instruments.	
437 (d)(i)	Each prudential filter applied pursuant to Articles 32 to 35.	Section 21: Appendix III: Own Funds Disclosure Template – Table 45: Composition of regulatory own funds (UK CC1)
437 (d)(ii)	Each deduction applied pursuant to Articles 36, 56 and 66.	
437 (d)(iii)	Items not deducted in accordance with Articles 47, 48, 56, 66, 79.	
437 (e)	A description of all restrictions applied to the calculation of own funds.	Not Applicable
437 (f)	Where institutions disclose capital ratios calculated using elements of own funds determined on a different basis.	
Article 437a: Disclosure of Own Funds and Eligible Liabilities (CRR II)		
437a	Composition of own funds and eligible liabilities and ranking in the creditor hierarchy	Section 7: Total Loss-Absorbing Capacity
Article 438: Capital Requirements		
438 (a)	Summary of institution's approach to assessing capital adequacy.	Section 5: Capital Management
438 (b)	Amount of the additional own funds requirements based on the supervisory review and evaluation process and its composition.	Section 1: Overview and Key Metrics - Table 1: Key metrics template (UK KM1)
438 (c)	Result of ICAAP	Upon request
438 (d)	Total risk-weighted exposure amount and the corresponding total own funds requirement to be broken down by the different risk categories.	Section 9: Capital Requirements and RWAs - Table 12: Overview of risk weighted exposure amounts (UK OV1)
438 (e)	On and off-balance-sheet exposures, risk-weighted exposure amounts for each category of specialised lending and for the categories of equity exposures. And, associated expected losses for each category of specialised lending.	Section 10: Credit Risk - Table 15: Specialised lending and equity exposures under the simple risk weighted approach (UK CR10)
438 (f)	Exposure value and risk-weighted exposure amount of own funds instruments held in any insurance undertaking, reinsurance undertaking or insurance holding company that the institutions do not deduct from their own funds.	Not Applicable
438 (g)	Supplementary own funds requirement and the capital adequacy ratio of the financial conglomerate.	
438 (h)	Variations in the risk-weighted exposure amounts of the current disclosure period compared to the immediately preceding disclosure period that result from the use of internal models,	Section 10: Credit Risk - Table 13: RWEA flow statements of credit risk exposures under the IRB approach (UK CR8) Section 11: Counterparty Credit Risk - Table 17: RWEA flow statements of CCR exposures under the IMM (UK CCR7)

	including an outline of the key drivers explaining those variations.	Section 13: Market Risk - Table 34: RWA flow statements of market risk exposures under the IMA (UK MR2-B)
Article 439: Exposure to Counterparty Credit Risk (CCR)		
439 (a)	Description of the methodology used to assign internal capital and credit limits for CCR.	Section 10: Credit Risk - "10.1 Credit and Counterparty Credit Risk Management " - "Credit Risk Limits" and "Credit Evaluation"
439 (b)	Description of policies for related to guarantees and other credit risk mitigants.	Section 10: Credit Risk - "10.5 Credit Risk Mitigation" Section 11: Counterparty Credit Risk "11.3 Derivatives and SFTs Credit Exposure"
439 (c)	Description of policies with respect to general and specific wrong-way risk exposures.	Section 11: Counterparty Credit Risk - "11.6 Wrong Way Risk"
439 (d)	Amount of collateral to be provided in the event of a ratings downgrade.	Section 11: Counterparty Credit Risk - "11.5 Collateral Impact of a Downgrade"
439 (e)	For derivative transactions and for securities financing transactions, the amount of segregated and unsegregated collateral received and posted per type of collateral; provided in each case that:	Section 11: Counterparty Credit Risk - Table 19: Composition of collateral for CCR exposures (UK CCR5)
439 (e)(i)	It shall not disclose such amounts unless both the fair value of collateral posted and collateral received in the form of debt securities exceed GBP 125 billion; and	
439 (e)(ii)	For subparagraph (i), use the twelve month rolling arithmetic mean of the fair value of collateral received or posted (as the case may be) in the form of debt securities, determined using quarterly data calculated in a manner consistent with data reported under Article 430(g) and covering the twelve months immediately preceding the disclosure reference date;	
439 (f)	Exposure values of derivative transactions before and after the effect of the credit risk mitigation and the associated risk exposure amounts broken down by applicable method.	Section 11: Counterparty Credit Risk - Table 16: Analysis of CCR exposure by approach (UK CCR1)
439 (g)	Exposure values of securities financing transactions before and after the effect of the credit risk mitigation and the associated risk exposure amounts broken down by applicable method.	
439 (h)	Exposure values after credit risk mitigation effects and the associated risk exposures for credit valuation adjustment capital charge, separately for each method.	Section 11: Counterparty Credit Risk - Table 18: Transactions subject to own funds requirements for CVA risk (UK CCR2)
439 (i)	Exposure value to central counterparties and the associated risk exposures, separately for qualifying and non-qualifying central counterparties, and broken down by types of exposures;	Section 11: Counterparty Credit Risk - Table 20: Exposures to CCPs (UK CCR8)
439 (j)	Notional amounts and fair value of credit derivative transactions broken down by product type and further broken down by credit protection bought and credit protection sold;	Section 11: Counterparty Credit Risk - Table 21: Credit derivatives exposures (UK CCR6)
439 (k)	Estimate of alpha where the institution has received the permission of the competent authorities to use its own estimate of alpha.	Not Applicable
439 (l)	Disclosure of CCR exposure by portfolio and PD range under standardised and IRB approach	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 61: CCR exposures by regulatory exposure class and risk weight (UK CCR3) Table 62: IRB approach: CCR exposures by portfolio and PD scale (UK CCR4)
439 (m)	For institutions using the methods set out in Sections 4 to 5 of Chapter 6 of Title II Part Three, the size of their on and off-balance-sheet derivative business as calculated in accordance with Article 273a(1) or (2), as applicable.	Not Applicable
Article 440: Capital Buffers		
440 (a)	Geographical distribution of the exposure amounts and risk weighted exposure amounts of credit exposures relevant for the calculation of its countercyclical capital buffer.	Section 22: Appendix IV: Countercyclical Capital Buffer - Table 47: Geographical distribution of credit exposures relevant for the calculation of the countercyclical buffer (UK CCyB1)
440 (b)	Amount of institution specific countercyclical capital buffer.	Section 22: Appendix IV: Countercyclical Capital Buffer - Table 48: Amount of institution-specific countercyclical capital buffer (UK CCyB2)
Article 441: Indicators of Global Systemic Importance		
441	Disclosure of the indicators of global systemic importance.	Not Applicable
Article 442: Credit Risk Adjustments		

442 (a)	Scope & definitions of "past due" and "impaired" for accounting purposes and differences, if any, between the definitions of "past due" and "default" for accounting and regulatory purposes;	Section 10: Credit Risk - 10.4 Credit Risk Adjustments
442 (b)	Description of the approaches and methods adopted for determining specific and general credit risk adjustments.	Section 10: Credit Risk - 10.4 Credit Risk Adjustments
442 (c)	Amount and quality of performing, non-performing and forborne exposures, including accumulated impairment, provisions and negative fair value changes due to credit risk and amounts of collateral and financial guarantees received;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables – Table 51: Performing and non-performing exposures and related provisions (UK CR1) Table 52: Quality of non-performing exposures by geography (UK CQ4) Table 53: Credit quality of loans and advances to non-financial corporations by industry (UK CQ5)
442 (d)	An ageing analysis of accounting past due exposures;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 63: Credit quality of performing and non-performing exposures by past due days (UK CQ3)
442 (e)	Gross carrying amounts of defaulted and non-defaulted exposures, accumulated specific and general credit risk adjustments, accumulated write-offs and the net carrying amounts distributed by geographical area and industry type;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables – Table 51: Performing and non-performing exposures and related provisions (UK CR1) Table 52: Quality of non-performing exposures by geography (UK CQ4) Table 53: Credit quality of loans and advances to non-financial corporations by industry (UK CQ5)
442 (f)	Changes in the gross amount of defaulted on and off-balance-sheet exposures.	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables – Table 50: Changes in the stock of non-performing loans and advances (UK CR2)
442 (g)	Breakdown of loans and debt securities by residual maturity.	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables – Table 49: Maturity of exposures (UK CR1-A)
Article 443: Unencumbered Assets		
443	Disclosures on Unencumbered Assets.	Section 18: Liquidity Risk Management - 18.4 Asset Encumbrance
Article 444: Use of ECAIs		
444 (a)	Names of the nominated ECAIs used in the calculation of Standardised Approach RWAs and the reasons for any change.	Section 10: Credit Risk - "10.2 Counterparty and Credit Risk Capital Requirements"
444 (b)	Exposure class for which each ECAI is used.	
444 (c)	Description of the process used to transfer the issuer and issue credit ratings onto items not included in the Trading Book	Not Applicable
444 (d)	Mapping of the external rating of each ECAI with the risk weights to credit quality steps.	
444 (e)	Exposure value post-credit risk mitigation associated with each credit quality step.	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 55: Standardised Approach: Credit risk exposure and CRM effects (UK CR4) Table 56: Standardised approach (UK CR5) Table 57: Standardised approach EAD by credit quality step Table 61: Standardised approach: CCR exposures by regulatory exposure class and risk weight (UK CCR3)
Article 445: Exposure to Market Risk		
445	Disclosure of position risk, large exposures exceeding limits, FX, settlement and commodities risk.	Section 13: Market Risk - Table 31: Market risk under the standardised approach (UK MR1)
Article 446: Operational Risk		
446(a)	Approaches used to calculate operational risk	Section 15: Operational Risk
446(b)	Description of the advanced methodology approach and the relevant internal and external factors considered.	
446(c)	In the case of partial use, scope and coverage of the different methodologies used.	
Article 447: Disclosure of Key Metrics		
447(a)	Composition of own funds and own funds requirements	Section 1: Overview and Key Metrics - Table 1: Key metrics template (UK KM1)
447(b)	Total risk exposure amount	
447(c)	Amount and composition of additional own funds, where applicable	
447(d)	Combined buffer requirement	

447(e)(i)	Leverage ratio and total exposure measure;	
447(e)(ii)	For LREQ firms, the information in Article 451(1)(b) and (g) and 451(2)(b) to (d);	Not Applicable
447(f)(i)	Average or averages, as applicable, of liquidity coverage ratio	Section 1: Overview and Key Metrics - Table 1: Key metrics template (UK KM1)
447(f)(ii)	Average or averages, as applicable, of the total liquid assets, after applying relevant haircuts, included in the liquidity buffer	
447(f)(iii)	Averages of the liquidity outflows, inflows and net liquidity outflows	
447(g)(i)	Average or averages, as applicable, of net stable funding ratio	
447(g)(ii)	Average or averages, as applicable, of the available stable funding	
447(g)(iii)	Average or averages, as applicable, of the required stable funding	
447(h)	Own funds and eligible liabilities ratios and their components, numerator and denominator	Section 7: Total Loss-Absorbing Capacity - Table 6: TLAC Key Metrics
Article 448: Exposure to Interest Rate Risk on positions not included in the Trading Book		
448(1)	Institutions shall disclose the following quantitative and qualitative information on the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of their non-trading book activities	Section 14: Interest Rate Risk in the Banking Book (IRRBB) - Table 36: Quantitative information on IRRBB (UK IRRBB1)
448(1)(a)	Changes in the economic value of equity calculated under the following six supervisory shock scenarios for the current and previous disclosure periods:	
448(1)(a)(i)	Parallel shock up;	
448(1)(a)(ii)	Parallel shock down;	
448(1)(a)(iii)	Steepener shock (short rates down and long rates up);	
448(1)(a)(iv)	Flattener shock (short rates up and long rates down);	
448(1)(a)(v)	Short rates shock up;	
448(1)(a)(vi)	Short rates shock down;	
448(1)(b)	Changes in the net interest income calculated under the following two supervisory shock scenarios for the current and previous disclosure periods:	
448(1)(b)(i)	Parallel shock up;	
448(1)(b)(ii)	Parallel shock down;	
448(1)(c)	Description of key modelling and parametric assumptions used to calculate changes in the economic value of equity and in the net interest income required under points (a) and (b) of this paragraph;	Section 14: Interest Rate Risk in the Banking Book (IRRBB)
448(1)(d)	Explanation of the significance of the risk measures disclosed under points (a) and (b) of this paragraph and of any significant variations of those risk measures since the previous disclosure reference date;	
448(1)(e)	Description of how institutions define, measure, mitigate and control the interest rate risk of non-trading book activities for the purposes of the competent authorities' review including:	
448(1)(e)(i)	Description of the specific risk measures used to evaluate changes in the economic value of equity and net interest income;	
448(1)(e)(ii)	Description of the key modelling and parametric assumptions used in internal measurement systems for the purpose of calculating changes in the economic value of equity and in net interest income, as required under points (a) and (b) of this paragraph	
448(1)(e)(iii)	Description of the interest rate shock scenarios that institutions use to estimate the interest rate risk;	
448(1)(e)(iv)	Recognition of the effect of hedges against interest rate risks, including internal hedges	
448(1)(e)(v)	An outline of how often the evaluation of the interest rate risk occurs;	
448(1)(f)	Description of the overall risk management and mitigation strategies;	
448(1)(g)	Average and longest repricing maturity assigned to non-maturing deposits.	
448(2)	Descriptions relating to economic value of equity shall not apply to institutions that use the standardised framework	

Article 449: Exposure to Securitisation Positions		
449(a)	Description of securitisation and re-securitisation activities, including their risk management and investment objectives, their role and the extent to which they use securitisation transactions to transfer the credit risk of the securitised exposures to third parties with, where applicable, a separate description of their synthetic securitisation risk transfer policy;	Section 12: Securitisation
449(b)	Type of risks providing a distinction between STS and non-STS positions and:	
449(b)(i)	Risk retained in own-originated transactions;	
449(b)(ii)	Risk incurred in relation to transactions originated by third parties;	
449(c)	Approaches for calculating the risk-weighted exposure amounts, including the types of securitisation positions to which each approach applies and with a distinction between STS and non-STS positions;	
449(d)	A list of SSPEs falling into any of the following categories, including derivative contracts:	Not Applicable
449(d)(i)	SSPEs which acquire exposures originated by the institutions;	
449(d)(ii)	SSPEs sponsored by the institutions;	
449(d)(iii)	SSPEs and other legal entities for which the institutions provide securitisation-related services, such as advisory, asset servicing or management services;	
449(d)(iv)	SSPEs included in the institutions' regulatory scope of consolidation;	
449(e)	A list of any legal entities in relation to which the institutions have disclosed that they have provided support	
449(f)	A list of legal entities affiliated with the institutions and that invest in securitisations originated by the institutions or in securitisation positions issued by SSPEs sponsored by the institutions;	
449(g)	Summary of accounting policies for securitisation activity;	Section 12: Securitisation
449(h)	Names of the ECAIs used for securitisations and the types of exposure for which each agency is used;	Not Applicable
449(i)	Where applicable, a description of the Internal Assessment Approach including the structure of the internal assessment process and relation between internal assessment and external ratings of the relevant ECAI disclosed in accordance with point (h), the control mechanisms for the internal assessment process including discussion of independence, accountability, and internal assessment process review, the exposure types to which the internal assessment process is applied and the stress factors used for determining credit enhancement levels;	
449(j)	Carrying amount of securitisation exposures, separately for the trading book and the non-trading book, including information on whether institutions have transferred significant credit risk for which institutions act as originator, sponsor or investor, separately for traditional and synthetic securitisations, and for STS and non-STS transactions and broken down by type of securitisation exposures;	Section 12: Securitisation - Table 23: Securitisation exposures in the non-trading book (UK SEC1) Table 24: Securitisation exposures in the trading book (UK SEC2)
449(k)	Following information for the non-trading book activities:	
449(k)(i)	Amount of securitisation positions where institutions act as originator or sponsor and the associated risk-weighted assets and capital requirements by regulatory approaches, including exposures deducted from own funds or risk weighted at 1250%, broken down between traditional and synthetic securitisations and between securitisation and re-securitisation exposures, separately for STS and non-STS positions, and further broken down into a meaningful number of risk-weight or capital requirement bands and by approach used to calculate the capital requirements;	Section 12: Securitisation - Table 28: Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor (UK SEC3)

449(k)(ii)	the aggregate amount of securitisation positions where institutions act as investor and the associated risk-weighted assets and capital requirements by regulatory approaches, including exposures deducted from own funds or risk weighted at 1250%, broken down between traditional and synthetic securitisations, securitisation and re-securitisation positions, and STS and non-STS positions, and further broken down into a meaningful number of risk weight or capital requirement bands and by approach used to calculate the capital requirements;	Section 12: Securitisation - Table 29: Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor (UK SEC4)
449(l)	for exposures securitised by the institution, the amount of exposures in default and the amount of the specific credit risk adjustments	Section 12: Securitisation - Table 28: Exposures securitised by the institution - Exposures in default and specific credit risk adjustments (UK SEC5)
Article 450: Remuneration Disclosures		
450	Remuneration Disclosure.	Remuneration disclosure published separately.
Article 451: Leverage		
451(1)(a)	Leverage ratio	Section 8: Leverage - Table 10: Leverage ratio common disclosure (UK LR2)
451(1)(b)	Leverage ratio calculated as if central bank claims were required to be included in the total exposure measure;	
451(1)(c)	Breakdown of the total exposure measure as well as a reconciliation of the total exposure measure with the relevant information disclosed in published financial statements.	Section 8: Leverage - Table 9: Summary reconciliation of accounting assets and leverage ratio exposures (UK LR1) Table 10: Leverage ratio common disclosure (UK LR2) Table 11: Split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) (UK LR3)
451(1)(d)	Description of the processes used to manage the risk of excessive leverage.	Section 8: Leverage
451(1)(e)	Description of the factors that had an impact on the leverage ratio	
451(1)(f)	In relation to the quarterly periods up to 31 December 2022, the leverage ratio calculated as if Article 468 of the CRR did not apply for purposes of the capital measure under Article 429(3) of Chapter 3 of the Leverage Ratio (CRR) Part	Not Applicable
451(1)(g)	In relation to the quarterly periods up to 31 December 2024, the leverage ratio calculated as if Article 473a of the CRR did not apply for purposes of the capital measure under Article 429(3) of Chapter 3 of the Leverage Ratio (CRR) Part.	Section 8: Leverage - Table 10: Leverage ratio common disclosure (UK LR2)
451(2)	An LREQ firm must disclose each of the following:	Not Applicable
451(2)(a)	the average exposure measure;	
451(2)(b)	the average leverage ratio;	
451(2)(c)	the average leverage ratio calculated as if central bank claims were required to be included in the total exposure measure; and	
451(2)(d)	the countercyclical leverage ratio buffer.	
451(3)	An LREQ firm must disclose such information as is necessary to enable users to understand changes in the firm's total exposure measure and tier 1 capital (leverage) over the quarter that have affected the firm's average leverage ratio.	
Article 451a: Liquidity coverage ratio, Net stable funding ratio and Liquidity risk management		
451a(1)	Information on liquidity coverage ratio, net stable funding ratio and liquidity risk management	Section 18: Liquidity Risk
451a(2)	Following information in relation to liquidity coverage ratio based on end-of-the-month observations over the preceding 12 months for each quarter of the relevant disclosure period:	Section 18: Liquidity Risk - Table 39: Quantitative information of LCR (UK LIQ1)
451a(2)(a)	Average or averages, as applicable, of liquidity coverage ratio	
451a(2)(b)	Average or averages, as applicable, of total liquid assets, after applying the relevant haircuts, included in the liquidity buffer and a description of the composition of that liquidity buffer;	
451a(2)(c)	Averages of liquidity outflows, inflows and net liquidity outflows and the description of their composition.	
451a(3)	Following information in relation to net stable funding ratio for each quarter of the relevant disclosure period, based on end-of-the-quarter observations over the preceding four quarters:	Section 18: Liquidity Risk - Table 40: Net Stable Funding Ratio (UK LIQ2)
451a(3)(a)	Averages of their net stable funding ratio	
451a(3)(b)	Overview of the amount of available stable funding	
451a(3)(c)	Overview of the amount of required stable funding	

451a(4)	Arrangements, systems, processes and strategies put in place to identify, measure, manage and monitor their liquidity risk in accordance with the Internal Liquidity Adequacy Assessment Part of the PRA Rulebook	Section 18: Liquidity Risk
Article 452: Use of the IRB Approach to Credit Risk		
452(a)	Permission for the use of IRB approach from the competent authority.	Section 9: Capital Requirements and RWAs Section 10.2: Counterparty and Credit Risk Capital Requirements
452(b)	Percentage of the total exposure value of each exposure class subject to the Standardised Approach as well as the part of each exposure class subject to a roll-out plan;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 64: Scope of the use of IRB and SA approaches (UK CR6-A)
452(c)	Control mechanisms for rating systems at the different stages of model development, controls and changes, which shall include information on:	Section 10: Credit Risk - "10.3 Internal Ratings Based Approach"
452(c)(i)	Relationship between the risk management function and the internal audit function;	
452(c)(ii)	Rating system review;	
452(c)(iii)	Procedure to ensure the independence of the function in charge of reviewing the models from the functions responsible for the development of the models;	
452(c)(iv)	Procedure to ensure the accountability of the functions in charge of developing and reviewing the models;	
452(d)	Role of the functions involved in the development, approval and subsequent changes of the credit risk models;	Section 10: Credit Risk - "10.3 Internal Ratings Based Approach"
452(e)	Scope and main content of the reporting related to credit risk models;	
452(f)	Description of the internal ratings process by exposure class, including the number of key models used with respect to each portfolio and a brief discussion of the main differences between the models within the same portfolio, covering:	
452(f)(i)	Definitions, methods and data for estimation and validation of PD, which shall include information on how PDs are estimated for low default portfolios, whether there are regulatory floors and the drivers for differences observed between PD and actual default rates at least for the last three periods;	
452(f)(ii)	Where applicable, definitions, methods and data for estimation and validation of LGD, such as methods to calculate downturn LGD, how LGDs are estimated for low default portfolio and the time lapse between the default event and the closure of the exposure;	
452(f)(iii)	Where applicable, definitions, methods and data for estimation and validation of conversion factors, including assumptions employed in the derivation of those variables;	
452(g)	Following information in relation to each exposure class, as applicable:	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 59: IRB approach – Credit risk exposures by exposure class and PD range (UK CR6)
452(g)(i)	Gross on-balance-sheet exposure;	
452(g)(ii)	Off-balance-sheet exposure values prior to the relevant conversion factor;	
452(g)(iii)	Exposure after applying the relevant conversion factor and credit risk mitigation;	
452(g)(iv)	Any model, parameter or input relevant for understanding of the risk weighting and the resulting risk exposure amounts disclosed across a sufficient number of obligor grades (including default) to allow for a meaningful differentiation of credit risk;	
452(g)(v)	Separately for those exposure classes in relation to which institutions have received permission to use own LGDs and conversion factors for the calculation of risk-weighted exposure amounts, and for exposures for which the institutions do not use such estimates, the values referred to in points (i) to (iv) subject to that permission;	
452(h)	Back testing of PD per exposure class	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 65: IRB approach – Back-testing of PD per exposure class (fixed PD scale) (UK CR9)

		Table 66: IRB approach – Back-testing of PD per exposure class (only for PD estimates according to point (f) of Article 180(1) CRR) (UK CR9.1)
Article 453: Use of Credit Risk Mitigation Techniques		
453(a)	Policies and processes for on and off-balance sheet netting;	Section 10: Credit Risk - "10.5 Credit Risk Mitigation"
453(b)	Policies and processes for eligible collateral evaluation and management;	Section 10: Credit Risk - "10.5 Credit Risk Mitigation" "Collateral"
453(c)	Description of the main types of collateral used to mitigate credit risk;	
453(d)	Types of guarantor and credit derivative counterparty and their creditworthiness	Section 10: Credit Risk - "10.5 Credit Risk Mitigation"
453(e)	Information about market or credit risk concentrations within the credit risk mitigation;	
453(f)	Total exposure value not covered and covered by eligible credit protection after applying volatility adjustments, separately for loans and debt securities and including a breakdown of defaulted exposures;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 54: CRM techniques overview: Disclosure of the use of credit risk mitigation techniques (UK CR3)
453(g)	Corresponding conversion factor and the credit risk mitigation associated with the exposure and the incidence of credit risk mitigation techniques with and without substitution effect;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 55: Standardised approach – Credit risk exposure and CRM effects (UK CR4) Table 60: IRB approach – Disclosure of the extent of the use of CRM techniques (UK CR7-A)
453(h)	On and off-balance sheet exposure value by exposure class before and after the application of conversion factors and any associated credit risk mitigation;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 55: Standardised approach – Credit risk exposure and CRM effects (UK CR4)
453(i)	Risk- weighted exposure amount and the ratio between that risk-weighted exposure amount and the exposure value after applying the corresponding conversion factor and the credit risk mitigation associated with the exposure, separately for each exposure class;	
453(j)	Risk-weighted exposure amounts before and after recognition of the credit risk mitigation impact of credit derivatives;	Section 23: Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 58: IRB approach – Effect on the RWEAs of credit derivatives used as CRM techniques (UK CR7)
Article 454: Use of the Advanced Measurement Approach to Operational Risk		
454	For institutions using the Advanced Measurement Approaches set out in Articles 321 to 324 for calculating operational risk capital requirements, a description of the use of insurances and other risk transfer mechanisms to mitigate operational risk.	Not Applicable
Article 455: Use of Internal Market Risk Models		
455(a)(i)	Characteristics of the market risk models.	Section 13: Market Risk - "13.1 VaR Methodology, Assumptions and Limitations"
455(a)(ii)	Methodologies used to measure incremental default and migration risk.	Section 13: Market Risk - "13.6 Incremental Risk Charge" "13.7 Comprehensive Risk Measure"
455(a)(iii)	Descriptions of stress tests applied to the portfolios.	Section 13: Market Risk - "13.8 Stress Testing"
455(a)(iv)	Methodology for backtesting and validating the models.	Section 13: Market Risk - "13.1 – Value at Risk" "13.4 Backtesting"
455(b)	Scope of permission for use of the models.	Section 13: Market Risk
455(c)	Policies and processes to determine which exposures are to be included in the Trading Book, and to comply with prudential valuation requirements.	Section 13: Market Risk - "13.3 Positions included in the Trading Book" Section 17: Valuation Risk
455(d)(i)	The highest, the lowest and the mean of: the daily VaR measures over the reporting period and as per the period end.	Section 13: Market Risk - "13.2 Market Risk Capital Requirements" Table 34: IMA values for trading portfolios (UK MR3)
455(d)(ii)	The highest, the lowest and the mean of: the stressed VaR measures over the reporting period and as per the period end.	
455(d)(iii)	The highest, the lowest and the mean of: the risk numbers for incremental default and migration risk and for the specific risk of the correlation trading portfolio over the reporting period and as per the period-end.	
455(e)	Elements of the own funds requirement.	Section 13: Market Risk - Table 32: Market risk under the internal Model Approach (IMA) (UK MR2-A)

455(f)	Weighted average liquidity horizon of portfolios covered by models.	"Section 13: Market Risk - ""13.6 Incremental Risk Charge""
455(g)	Comparison of end-of-day VaR measures compared with one-day changes in portfolio's value.	Section 13: Market Risk - Figure 4 / 5: Comparison of VaR Estimates with Gains/Losses (UK MR4)

26. Appendix VIII: Abbreviations

Term	Definition
AIRB	Advanced IRB
ASA	alternative standardised approaches
ASF	Available Stable Funding
AT1	Additional Tier 1
AVAs	Additional Valuation Adjustments
Basel Accords	standard for international banking prudential regulation in a series of accords
BCBS	Basel Committee on Banking Supervision
BIA	Basic Indicator Approach
BN	Billions
BOE	Bank of England
CASS	Client Assets Sourcebook
CCF	Credit Conversion Factor
CCP	Central Counterparty
CCR	Counterparty Credit Risk
CCyB	Countercyclical Capital Buffer
CET1	Common Equity Tier 1
CFTC	Commodity Future Trading Commission
CLF	Credit Limits Framework
CQS	Credit Quality Steps
CRD	Capital Requirements Directive
CRM	Credit Risk Mitigation
CRMD	Credit Risk Management Department
CRMe	Comprehensive Risk Measure
CRR	Capital Requirements Regulation
CTP	correlation trading portfolio
CVA	Credit Valuation Adjustments
EAD	Exposure at Default
EBA	European Banking Authority
ECAI	External Credit Assessment Institutions
ECB	European Central Bank
ECCC	EMEA Culture and Conduct Committee
ECL	expected credit losses
EEA	European Economic Area
EEPE	Effective Expected Positive Exposure
EMEA	Europe, Middle East and Africa
EMEA ALCO	EMEA Asset and Liability Committee
EMEA Chief Risk Officer	EMEA Head of Risk Management
EOC	EMEA Operating Committee
EPC	Enhancement Programme Committee
ERC	EMEA Risk Committee
EROC	EMEA Remuneration Oversight Committee
EU	European Union
EVE	Economic Value of Equity
EWI	early warning indicator
FCA	Financial Conduct Authority
FCP	Funded credit Protection
FIRB	Foundation IRB
Fitch	Fitch Ratings
FRS 101	Financial Reporting Standard 101
FSRC	Financial Statement Review Committee
G-SII	Global Systemically Important Institution
HQLA	High-Quality Liquid Assets
IAA	Internal Assessment Approach
ICAAP	Internal Capital Adequacy Assessment
IFD	Investment Firm Directive
IFPR	Investment Firms Prudential Regime
IFR	Investment Firm Regulation
IFRS	International Financial Reporting Standards

Term	Definition
ILAAP	Internal Liquidity Adequacy Assessment
ILST	Internal Liquidity Stress Test
IMA	Internal Modelling Approaches
IMM	Internal Model Method
IRB	Internal Ratings Based approach
IRC	Incremental Risk Charge
IRRBB	Interest Rate Risk in the Banking Book
K	Thousands
KWG	Kreditwesengesetz
LCR	Liquidity Coverage Ratio
LDP	low default portfolio
LGD	Loss-Given Default
LRD	Liquidity Risk Department
LREQ	Leverage Ratio Requirements
L-SREP	Liquidity Supervisory Review Process
MCR	Minimum Capital Requirement
MDB	Multilateral Development Banks
MIFIDPRU	Prudential Sourcebook for MiFID Investment Firms
MM	Millions
Moody’s	Moody’s Investor Service
MRD	Market Risk Department
MRM	Model Risk Management
MSBIL	Morgan Stanley Bank International Limited
MSEHSE Group	Morgan Stanley Europe Holding SE Group
MSESE	Morgan Stanley Europe SE
MSESE Consol	Morgan Stanley Europe SE ("MSESE" together with its subsidiaries)
MSI	Morgan Stanley International Limited
MSI Group	Morgan Stanley International Limited (“MSI”) together with its subsidiaries
MSIM	Morgan Stanley Investment Management Limited
MSIP	Morgan Stanley & Co. International plc
NII	Net Interest Income
NSFR	Net Stable Funding Ratio
OBFR	Overnight Bank Funding Rate
ORD	Operational Risk Department
O-SII	Other Systemically Important Institutions
OTC	Over the counter
PB	Prime Brokerage
PD	Probability of Default
PFE	Potential Future Exposure
PRA	Prudential Regulation Authority
PRA rulebook	PRA Rulebook including the onshored EU CRR
PSE	Public Sector Entities
PV01	the Sensitivity of the Present Value to a 1 basis point move of the underlying interest rate
PVRM	Position Valuation and Risk Models
PWM	Private Wealth Management
QCCP	Qualifying Central Counterparty
QRM	Quantitative Risk Management
RC	Replacement Cost
RCSAs	Risk Control Self-Assessment
RNIV	Risks Not in VaR
RSF	Required Stable Funding
RST	Reverse Stress Tests
RW	Risk Weights
RWAs	Risk Weighted Exposure Amounts
S&P	Standard and Poor’s rating agency
SA	Standardised Approach
SA-CCR	Standardised Approach for Counterparty Credit Risk
SBSD	Securities Based Swap Dealer
SEC	Securities and Exchange Commission
SEC-ERBA	Securitisation External Ratings Based Approach

Term	Definition
SEC-IRBA	Securitisation IRB Approach
SEC-SA	Securitisation Standardised Approach
SFTs	Securities Financing Transactions
SICR	Significant Increase in Credit Risk
SOFR	Secured Overnight Financing Rate
SONIA	Sterling Overnight Index Average
SPOE	Single Point of Entry
SPV	Special Purpose Vehicles
SREP	Supervisory Review and Evaluation Process
SRT	Significant Risk Transfer
STAR	Significant Transaction Analytical Review Process
STS	simple, transparent and standardised
SVaR	Stressed Value at Risk
T1	Tier 1
T2	Tier 2
TCR	Total Capital Requirement
TLAC	Total Loss Absorbing Capacity
TOFR	Total Own Funds Requirements
TOR/Ps	Top Operational Risks and Pathways
TTP	Temporary Transitional Power
UFCP	Unfunded credit Protection
UK	United Kingdom
VaR	Value at Risk
VC	Valuation Control