Morgan Stanley International Limited Group

Pillar 3 Regulatory Disclosures Report

As at 31 December 2020

Table of Contents

1. Overview and Key Metrics ... 5
2. Regulatory Frameworks ... 6
3. Risk Management ... 9
4. Basis of Preparation and Linkage to Financial Accounts ... 17
5. Capital Management ... 19
6. Capital Resources ... 20
7. Total Loss-Absorbing Capacity ... 22
8. Leverage ... 23
9. Capital Requirements and RWAs ... 25
10. Credit Risk ... 27
11. Counterparty Credit Risk ... 35
12. Securitisation ... 39
13. Market Risk ... 41
14. Operational Risk ... 51
15. Valuation Risk ... 54
16. Liquidity Coverage Ratio ... 55
17. Asset Encumbrance ... 60
18. Appendix I: Board of Directors Knowledge, Skills and Expertise ... 62
19. Appendix II:MSI Group,MSIP & MSEHSE Group Capital Instruments & Eligible Liabilities ... 66
20. Appendix III: MSI Group, MSIP and MSEHSE Group Own Funds Disclosure Template ... 69
21. Appendix IV: Countercyclical Capital Buffer (CCyB) ... 70
22. Appendix V: Additional Credit and Counterparty Credit Risk Tables ... 71
23. Appendix VI. Morgan Stanley Investment Management Group ... 91
24. Appendix VII: MSI Group Non-Statutory Financial Information ... 97
25. Appendix VIII: MSIM Group Non-Statutory Financial Information ... 127
26. Appendix IX: CRR Reference Mapping ... 150
27. Appendix X: Abbreviations ... 158

Table of Figures

Figure 1: Risk Management Framework ... 9
Figure 2: MSI Group Limit Framework ... 13
Figure 3: MSI Board of Directors as at 31 December 2020 ... 14
Figure 4: MSI Board Committee Structure and EMEA Executive Management Structure ... 15
Figure 5: Comparison of VaR Estimates with Gains/Losses – MSIP (EU MR4) ... 48
Figure 6: Comparison of VaR Estimates with Gains/Losses – MSEHSE Group (EU MR4) ... 49
Figure 7: MSI Directors: Number of Directorships ... 65

Tables

Table 1: Key metrics....5
Table 2: Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories (EU LI1)....18
Table 3: Main sources of differences between regulatory exposure amounts and carrying values in financial statements (EU LI2)....18
Table 4: Countercyclical Capital Buffer....19
Table 5: Own funds....20
Table 6: Reconciliation of balance sheet total equity to regulatory capital....21
Table 7: TLAC key metrics....22
Table 8: TLAC composition....22
Table 9: TLAC creditor ranking....23
Table 10: Reconciliation of accounting assets and leverage ratio exposures....23
Table 11: Leverage ratio common disclosure....24
Table 12: Split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures)....24
Table 13: Overview of RWAs (EU OV1)....26
Table 14: Credit and counterparty risk RWA summary....28
Table 15: Credit and counterparty credit risk summary....28
Table 16: RWA flow statements of credit risk exposures under the IRB approach (EU CR8)....29
Table 17: External Credit Assessments Institutions....29
Table 18: IRB geographical breakdown of exposure weighted average PD....31
Table 19: IRB (Specialised Lending and Equities) (EU CR10)....31
Table 20: Non-trading book equity gains and losses....32
Table 21: Estimated versus actual PD by exposure class....32
Table 22: IRB credit risk adjustments, expected loss and charge to the profit and loss....32
Table 23: Impaired and past due exposures, credit risk adjustments by industry type....33
Table 24: Impaired and past due exposures, credit risk adjustments by geographic region....33
Table 25: Analysis of the CCR exposure by approach (EU CCR1)....35
Table 26: RWA flow statements of CCR exposures under the IMM (EU CCR7)....36
Table 27: CVA capital charge (EU CCR2)....36
Table 28: Impact of netting and collateral held on exposure values (EU CCR5-A)....36
Table 29: Composition of collateral for exposures to CCR (EU CCR5-B)....37
Table 30: Exposures to CCPs (EU CCR8)....37
Table 31: Credit derivatives exposures (EU CCR6)....38
Table 32: Securitisation exposures summary....39
Table 33: Trading book securitisation exposures by exposure type....39
Table 34: Non-trading book securitisation exposures by exposure type....39
Table 35: Securitisation exposures and capital requirements by standardised approach (SEC-SA)....40
Table 36: Securitisation exposures and capital requirements by external ratings approach (SEC-ERBA)....40
Table 37: Securitisation exposures and capital requirements by default approach (1250% Risk Weight)....40
Table 38: Daily average, maximum and minimum values for the 99% regulatory VaR....43
Table 39: Market risk RWA summary....44
Table 40: Market risk under the standardised approach (EU MR1)....44
Table 41: Market risk under internal models approach (EU MR2-A)....45
Table 42: RWA flow statements of market risk exposures under the IMA (EU MR2-B)....45
Table 43: IMA values for trading portfolios (EU MR3)....46
Table 44: IRC liquidity horizon for material sub portfolios....50
Table 45: Interest rate risk in the banking book....51

Table 46: Liquidity Coverage Ratio 59
Table 47: Encumbered and unencumbered assets 60
Table 48: Collateral received 61
Table 49: Sources of encumbrance 61
Table 50: MSI Group, MSIP & MSEHSE capital instruments and eligible liabilities 66
Table 51: MSI Group, MSIP and MSEHSE Group own funds disclosure template 69
Table 52: Geographical distribution of credit exposures for the CCyB 70
Table 53: Amount of institution specific CCyB 70
Table 54: Total and average net amount of exposures (EU CRB-B) 71
Table 55: Geographical breakdown of exposures (EU CRB-C) 72
Table 56: Concentration of exposures by industry or counterparty type (EU CRB-D) 74
Table 57: Maturity of Exposures (EU CRB-E) 75
Table 58: Credit quality of exposures by exposure class and instrument (EU CR1-A) 77
Table 59: Credit quality of exposures by industry or counterparty types (EU CR1-B) 79
Table 60: Credit quality of exposures by geography (EU CR1-C) 80
Table 61: Credit Quality of Performing and Non-Performing exposures by past due days 81
Table 62: Performing and Non-performing exposures and related provisions 83
Table 63: Changes in stock of general and specific credit risk adjustments (EU CR2-A) 84
Table 64: Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B) 85
Table 65: Credit risk mitigation techniques – overview (EU CR3) 85
Table 66: Standardised approach – Credit risk exposure and credit risk mitigation (CRM) effects (EU CR4) 86
Table 67: Standardised approach (EU CR5) 87
Table 68: Standardised approach EAD by credit quality step 87
Table 69: IRB approach – Effect on the RWAs of credit derivatives used as CRM techniques (EU CR7) 88
Table 70: IRB approach – Credit risk exposures by exposure class and PD range (EU CR6) 88
Table 71: IRB approach – Backtesting of PD per exposure class (EU CR9) 89
Table 72: Standardised approach – CCR exposures by regulatory portfolio and risk weight (EU CCR3) 89
Table 73: IRB approach – CCR exposures by portfolio and PD scale (EU CCR4) 90
Table 74: MSIM Group key metrics 91
Table 75: MSIM Group own funds 92
Table 76: MSIM Group reconciliation of balance sheet total equity to regulatory capital 92
Table 77: MSIM Group own funds disclosure template 93
Table 78: MSIM Group overview of RWAs (EU OV1) 94
Table 79: MSIM Group credit risk summary 94
Table 80: MSIM Group RWA flow statements of credit risk exposures under the IRB approach (EU CR8) 95
Table 81: MSIM Group IRB (specialised lending and equities) (EU CR10) 95
Table 82: MSIM Group Capital instruments template 96

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 the 2020 and no significant change is expected.

As at 31 December 2020, Morgan Stanley & Co. International plc (“MSIP”) and Morgan Stanley Europe Holding SE (“MSEHSE Group”) are 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 is authorised by Bundesanstalt für Finanzdienstleistungsaufsicht (“BaFin”) and is regulated by the European Central Bank (“ECB”) and the Deutsche Bundesbank.

In addition, the MSI Group contains the MSIM sub-consolidated group (“MSIM Group”) which is authorised and regulated by the FCA.

The Pillar 3 disclosures of the MSI Group as at 31 December 2020 are prepared on the basis of the consolidated MSI Group. In addition, certain disclosures are provided for MSIP, MSEHSE Group and MSIM Group.

Key Metrics

Table 1: Key metrics
$MM

MSI Group[1]	Q4’20	Q3’20	Q2’20	Q1’20	Q4’19
Common Equity Tier 1 Capital	21,396	21,047	20,150	19,069	19,734
Additional Tier 1 Capital	3,500	3,500	3,500	3,500	3,500
Tier 1 Capital	**24,896**	**24,547**	**23,650**	**22,569**	**23,234**
Tier 2 Capital	**5,365**	**5,373**	**5,361**	**5,362**	**5,383**
Total Own Funds	**30,261**	**29,920**	**29,011**	**27,931**	**28,617**
Risk Weighted Assets	167,445	155,236	158,394	152,140	137,333
Common Equity Tier 1 Ratio	12.8%	13.6%	12.7%	12.5%	14.4%
Tier 1 Capital Ratio	14.9%	15.8%	14.9%	14.8%	16.9%
Total Capital Ratio	18.1%	19.3%	18.3%	18.4%	20.8%
Leverage Exposure	493,282	461,992	454,204	458,603	455,153
Leverage Ratio	5.0%	5.3%	5.2%	4.9%	5.1%
Liquidity buffer	45,310	45,785	46,883	48,508	48,541
Total net cash outflows	22,436	21,507	21,058	21,121	21,267
Liquidity Coverage Ratio	203%	213%	223%	230%	228%
MSIP[1]	**Q4’20**	**Q3’20**	**Q2’20**	**Q1’20**	**Q4’19**
Common Equity Tier 1 Capital	16,106	16,298	15,724	14,895	15,394
Additional Tier 1 Capital	3,500	3,500	3,500	3,500	3,500
Tier 1 Capital	**19,606**	**19,798**	**19,224**	**18,395**	**18,894**
Tier 2 Capital	**4,975**	**5,000**	**5,000**	**5,000**	**5,000**
Total Own Funds	**24,581**	**24,798**	**24,224**	**23,395**	**23,894**
Risk Weighted Assets	155,537	143,871	144,307	134,852	127,347
Common Equity Tier 1 Ratio	10.4%	11.3%	10.9%	11.0%	12.1%
Tier 1 Capital Ratio	12.6%	13.8%	13.3%	13.6%	14.8%
Total Capital Ratio	15.8%	17.2%	16.8%	17.3%	18.8%
Leverage Exposure	474,169	450,574	440,711	443,185	445,417
Leverage Ratio	4.1%	4.4%	4.4%	4.2%	4.2%

1. The MSI Group and MSIP are required to maintain a minimum ratio of Own Funds to Risk Weighted Assets (“RWAs”). As at 31 December 2020, the MSI Group and MSIP are in compliance with the PRA capital requirements.

Table 1: Key metrics $MM[2]	
MSEHSE Group[3]	**Q4'20**
Common Equity Tier 1 Capital	3,478
Additional Tier 1 Capital	734
Tier 1 Capital	**4,212**
Tier 2 Capital	**1,222**
Total Own Funds	**5,434**
Risk Weighted Assets	14,521
Common Equity Tier 1 Ratio	24.0%
Tier 1 Capital Ratio	29.0%
Total Capital Ratio	37.4%
Leverage Exposure	56,301
Leverage Ratio	7.5%

2. MSEHSE Group quantitative data for 31st December 2020 has been converted from EUR to USD at a rate of 1.2223
3. MSEHSE Group is required to maintain a minimum ratio of Own Funds to Risk Weighted Assets ("RWAs"). As at 31 December 2020, MSEHSE Group is in compliance with the regulatory capital requirements.

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 Liquidity Coverage Ratio 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, to file public disclosures, including Annual 10-K Report and Quarterly 10-Q Report. These can be accessed at http://www.morganstanley.com/pub/content/msdotcom/en/about-us-ir/sec-filings.

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 EU via the CRD and the CRR, both as amended.

The framework consists of three "Pillars":

- Pillar 1 – Minimum capital 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 required by CRD in relation to the MSI Group, as at 31 December 2020. 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 Part Eight of the CRR. For certain disclosures, these requirements are further detailed through the European Banking Authority ("EBA") Regulatory Technical Standards ("RTS") and Implementing Technical Standards ("ITS") which include a number of common templates. Where applicable, these templates are used within this disclosure.

2.2 Regulatory Development

Finalising Basel III reforms

Following the United Kingdom's ("UK") withdrawal from the European Union (the "EU"), the PRA is consulting on draft rules to implement key components of the Basel III reforms that have been finalised in the EU. This includes: Fundamental Review of the Trading Book, Standardised Approach to Counterparty Credit Risk, Net Stable Funding Ratio, revised Leverage Ratio, revised Large Exposure Framework, and revised Pillar 3 disclosure requirements. In the UK, these are expected to be implemented by 1 January 2022. In the EU, these rules have been finalised, effective 27 June 2019 and will be implemented over a four year period, with the majority of new requirements applying from 28 June 2021.

Following the impact of the COVID-19 pandemic and its impact on the global banking system, the BCBS has decided to defer the remaining standards of the Basel III reform package by one year to 1 January 2023. The key amendments provide updates to the standardised measures for calculating capital requirements and include an aggregate floor for RWA generated by the internal models, which will be set at 72.5% of total standardised RWA. The output floor will be phased in over five years. Banks will also need to disclose their RWA based upon the standardised approaches. The PRA has indicated they intend implementing these requirements in line with the proposed BCBS timetable. However, given no draft rules have yet been proposed, the final timing and impact remains uncertain. The same uncertainty exists in the EU.

Temporary Transitionary Period

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

The TTP will allow the 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, effective from 1 January 2021, is expected to end by March 31, 2022. During this period, from a prudential regulatory rules perspective, requirements as implemented by the EU will largely continue to apply in the UK in the same way as prior to 31 December 2020.

Investment Firm Regulation / Directive

In December 2019, the European Commission published the Investment Firm Regulation ("IFR") and Investment Firm Directive ("IFD") that introduce a tailored capital adequacy and liquidity framework for EU investment firms based on their size and type of business activity, and make changes to governance and remuneration requirements. Large systemic investment firms remain subject to existing requirements based on the CRR and CRD, whilst the new regime applies to other investment firms.

Final rules are effective 25 December 2019; however, implementation dates are staggered over an 18 month period, with the majority of the new requirements applying from 26 June 2021.

Following the end of the transition period of the UK's withdrawal from the EU, the UK will introduce the Investment Firms Prudential Regime ("IFPR") that is expected to be largely consistent with that of the EU's IFR and IFD. However, its application date is delayed by six months to 1 January 2022.

The MSI Group, as it includes a credit institution as a subsidiary, will remain subject to existing requirements based on the CRR and CRD.

UK withdrawal from the EU

On 31 January 2020, the UK withdrew from the EU under the terms of the withdrawal agreement which provided for a transition period to the end of December 2020, during which time the UK would continue to apply EU law as if it were a member state, and UK firms' passporting rights to provide financial services in EU jurisdictions continued.

On 24 December 2020 the UK and the EU announced that they had reached agreement on the terms of a trade and cooperation agreement to govern the future relationship between the parties. The agreement consists of three main pillars including: trade, citizens' security, and governance, covering a variety of arrangements in several areas. The agreement is provisionally applicable with effect from 1 January 2021 pending formal ratification by the EU.

With respect to financial services, although the UK chose to grant the EU equivalence in a number of key areas under European financial regulations, the EU only made certain more limited equivalence decisions, leaving decisions on equivalence and adequacy to be determined by each of the UK and EU unilaterally in due course. As a result, UK licensed entities, are unable to provide regulated services in a number of EU jurisdictions from the end of December 2020, absent regulatory relief or other measures implemented by individual countries.

The Group has assisted Morgan Stanley to restructure its European operations to ensure that it can continue to provide cross-border banking and investment and other services in EU member states. There continues to be uncertainty regarding the future regulatory landscape which could impact Morgan Stanley's European operations, including the operations of the Group, beyond those implemented or planned, as a result of which the Group's results of operations and business prospects could be negatively affected.

The impact to the MSI Group in 2020, included transferring employees, clients and Exchange memberships, as well as transferring the businesses of the MSI Group's EU branches.

The impact was not material to the MSI Group's financial position or 2020 financial results from these transfers.

3. Risk Management

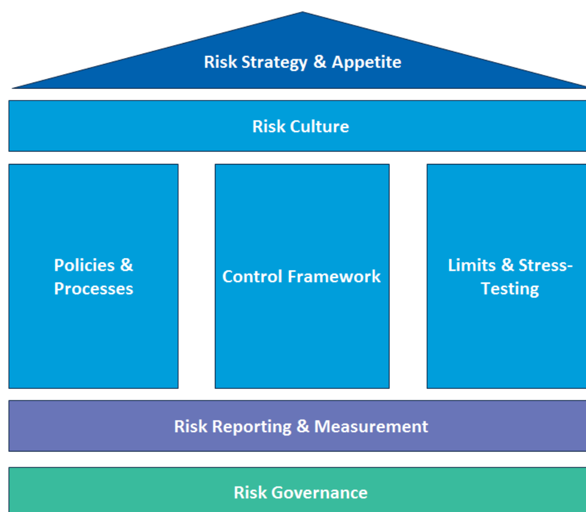
The quantitative disclosures in this document are calculated with reference to regulatory methodologies set out in CRD IV and are not necessarily the primary exposure measures used by management.

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. Business strategy and risk assessment are considered and aligned as part of the annual strategic review and subsequent planning process, or more frequently if necessary.

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 Risk Management Framework ("Framework") 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 key elements of the Framework are outlined in Figure 1.

Figure 1: Risk Management Framework



Risk Strategy and Appetite

The MSI Group Risk Appetite Statement articulates the aggregate level and type of risk that Morgan Stanley is willing to accept in order to execute its business strategy and is set to be within the resource capacity constraints.

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 for which are set out in this document.

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

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

The cornerstone of the MSI Group's risk appetite is the execution 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 risks 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, macroeconomic environment, or through other factors such as climate change. 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.

The Risk Appetite Framework defines a comprehensive approach to monitor, assess and report on the risk profiles of the MSI Group against the relevant risk limits and tolerances with regular reporting to the 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.

Valuation risk represents the possibility that a valuation estimate of a position would differ from the price in a close-out transaction due to uncertainty around the actual price that could be obtained. The MSI Group sets valuation risk appetite to ensure sufficient capital to cover positions subject to valuation uncertainty. Valuation models are subject to annual recertification to reaffirm that the model is operating as intended and to determine whether the existing validation activities are sufficient.

Leverage risk is defined as the risk resulting from an institution's vulnerability due to leverage or contingent leverage that may require unintended corrective measures to its business plan, including distressed selling of assets which might result in losses or in valuation adjustments to its remaining assets. The MSI Group sets the leverage risk appetite to minimise the risk of excessive leverage under both normal and stressed conditions.

Earnings at Risk is defined as the aim to deliver a sustainable business model that allows for a strategic presence in its core businesses/core countries, targeting stable earnings, accumulation of profits allowing for capital accretion and expense efficiency. The Risk Identification Framework defines the responsibilities for the identification and evaluation of risks that present themselves under normal and stressed conditions, including earnings at risk, strategic, and reputation risks.

In relation to Compliance risk, the MSI Group seeks to comply with applicable laws, rules and regulations, including those related to financial crime. The MSI Group has no appetite for transactions, business activities, or conduct by employees, contingents, customers or counterparties that give rise to a significant breach of the MSI Group's compliance obligations.

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. 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 EMEA Conduct Risk Committee.

Reputational risk, sometimes 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. The MSI Group has no risk appetite for conduct risk or reputational risk. It acknowledges, however, that conduct risk and reputational risk remains inherent in doing business and thus cannot be entirely eliminated.

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). The MSI Group sets its model risk appetite to a level of model risk that after considering the MSI Group's model governance and control processes does not pose a material risk to the MSI Group's capital adequacy, reputation and regulatory standing. The MSI Group has policies and procedures in place to establish the standards, principles, governance processes and roles and responsibilities for sound model risk management for the MSI Group including but not limited to the independent validation of models to verify that the models are performing as expected and in line with their design objectives and ongoing performance monitoring such as backtesting, benchmarking, sensitivity analysis and outcomes analysis.

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 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 "doing the right thing" and its values that managing risk is each employee's responsibility.

The senior management practices of the MSI Group rewards and enables individuals to make appropriate risk decisions. The MSI Group's Risk Appetite Statement is embedded in the MSI Group's risk culture and linked to its short-term and long-term strategic, capital and financial plans, as well as compensation programs.

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 program for monitoring and testing compliance risk management 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. 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 overall 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. The EMEA Conduct Risk Incident Procedure sets out the procedure for identifying, escalating, reviewing and reporting material conduct incidents and reporting and handling escalated concerns.

Within EMEA Risk Management, each risk type has a procedure which sets out the notification levels and process for breaches to risk limits and thresholds, including escalation process.

Risk Policies and Processes

Morgan Stanley 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 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 Coverage Ratio ("LCR"), unsecured funding and secured 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 (Second Line) and Internal Audit Department (Third Line).

Business units and support functions (such as Operations, Technology, Treasury, Legal, etc.) are owners of risk, and are responsible for managing risks associated with their activities in line with the MSI Group's risk appetite and its principles. They establish controls to comply with the policies and procedures and ensure compliance with applicable laws, rules and regulations.

The EMEA Legal Department reports to the EMEA General Counsel and provides legal and regulatory advice to protect the MSI Group's financial well-being and reputation, and to assist the businesses and operations of the MSI Group to understand legal risk and to comply with relevant financial services-related laws, regulations, firm policies and standards.

Independent Risk Management identify, measure, monitor and control risks. Independent Risk Management includes, for example, functions performed by the EMEA Risk Division, EMEA Compliance Department including Global Financial Crimes 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 Chief Executive Officer chairs the EMEA Risk Committee. EMEA Risk Division is independent of the business units and support functions and assists senior management and the EMEA Risk Committee in monitoring and managing risk through a number of control processes.

The EMEA Compliance Department is managed by the EMEA Head of Compliance, who ultimately reports to the Group Chief Legal Officer. The EMEA Compliance Department maintains an enterprise-wide, independent compliance risk management program, 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, operational, and compliance controls. The EMEA Internal Audit Department reports to the MSI Audit Committee and is independent of the Business Units and 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 2020, a new Head of EMEA Risk Management was appointed. There were no changes to the EMEA Heads of Compliance, Legal and IAD.

There are no planned material changes to the internal control framework or the risk management functions.

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 to support linkages between the MSI Group's overall risk appetite and more granular risk-taking decisions and activities. Using a suite of tools, most notably limits, these risks are tracked, monitored and reported to the appropriate executive risk committees, MSI Risk Committee and the MSI Board. All risk limits are reviewed periodically as appropriate and at least annually.

MSI Board-level risk limits address the most important aggregations of risk, primarily through stress limits. Stress tests set the boundary for risk-taking activities relative to the MSI Group's risk capacity and are used to set risk limits and tolerances. Figure 2 outlines the MSI Group's Risk Limit Framework for specific risk areas.

The Framework is comprised of market and credit risk limits including aggregate macroeconomic stress scenarios and proprietary tail risk metric limits, quantitative loss tolerances for each of the top operational risks and liquidity sufficiency limits which are all set by the MSI Board. These are complemented by granular business line limits that are set by the in-business risk senior management for day-to-day risk management.

Figure 2: 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 • Detailed risk exposure limits are allocated by desk / products	• MSI group-wide macroeconomic scenario loss limits. • MSI group single name, country and industry credit limits	• 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

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 informs a number of processes and associated decisions. It 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.
- 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.

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. 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.

Various policies and procedures are in place to support the systematic and regular review of risk management strategies inclusive of the risk frameworks covering independent identification, analysis, monitoring, reporting, and escalation of risks across the risk types. Policies are subject to MSI Board annual review and approval.

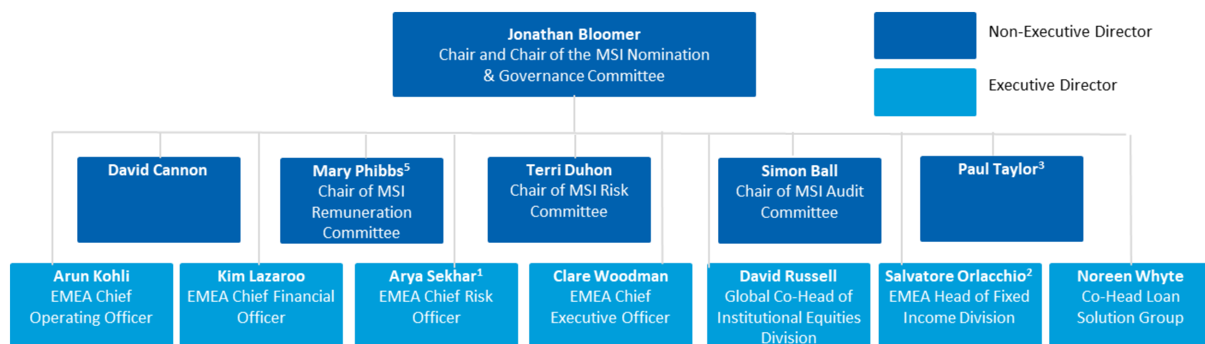
Risk Governance

The MSI Group has a comprehensive risk management governance framework which includes Board approved policies and a defined senior management risk oversight and escalation process. 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 EMEA Risk Committee assist and provide guidance to the MSI Board on the oversight of MSI Group risk management activities.

The MSI Board (and its committees) determines 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 delegated authority to its Audit, Risk, Remuneration and Nomination and Governance committees. Each of the committees is comprised solely of non-executive directors. The MSI Board, through the MSI Risk Committee, is regularly informed of the MSI Group's risk profile and relevant trends impacting its risk profile.

As at 31 December 2020, the MSI Board was comprised of 13 directors (7 executive directors and 6 non-executive directors). Figure 3 provides an overview of the MSI Board of Directors.

Figure 3: MSI Board of Directors as at 31 December 2020

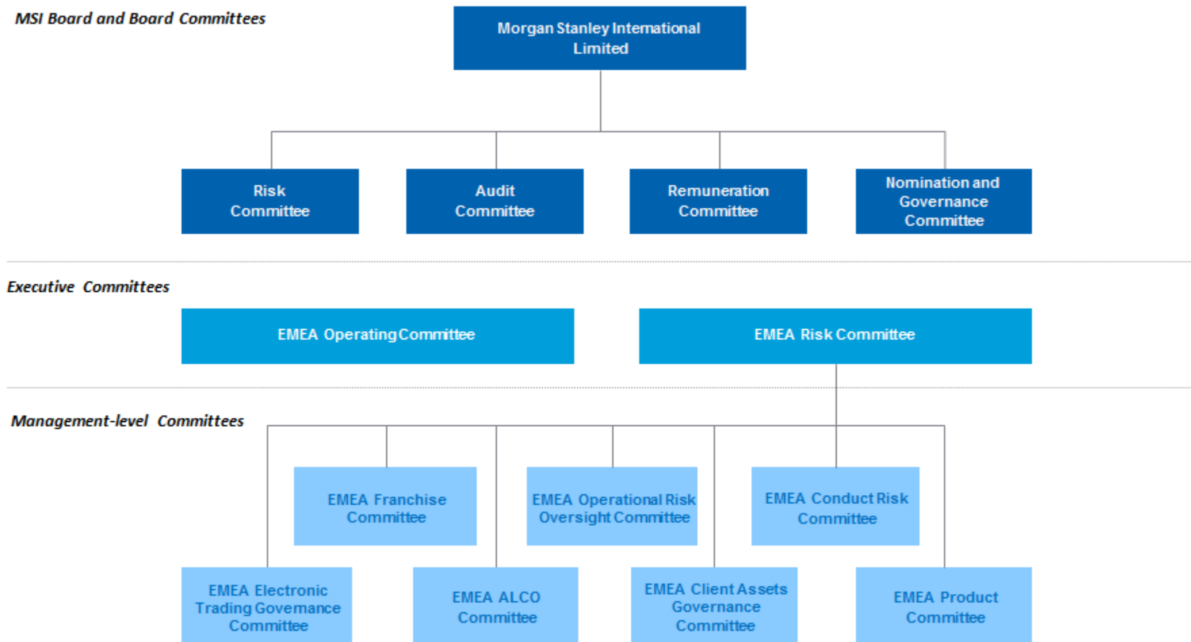


1. Arya Sekhar replaced Lee Guy as EMEA CRO and board director on 6 May 2020.
2. Salvatore Orlacchio replaced Jakob Horder as board director on 2 June 2020.
3. Paul Taylor was appointed as non-executive director on 1 August 2020.
4. Post 31 December 2020 Lucrezia Reichlin was appointed as non-executive director and Oliver Behrens as an executive director effective 28 January 2021.
5. Post 31 December 2020 Mary Phibbs resigned as a non-executive director and was replaced as Chair of the MSI Remuneration Committee by Jonathan Bloomer.

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 4: MSI Board Committee Structure and EMEA Executive Management Structure



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; (vi) financial resource management and capital; and (vii) recovery and resolution. The MSI Risk Committee met 12 times in 2020. The MSI Risk Committee reviews detailed risk reports on portfolio risk, market risk, credit risk, operational risk, e-trading risk, liquidity risk, conduct risk, franchise risk and product governance.

The Committee's focus during 2020 included:

- Oversight of material event risks including the impact of COVID-19;
- The MSI Group risk appetite statement, risk limit framework and top operational risks;
- Operational risks including cyber risk and third party vendor risk;
- 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: (i) financial reporting; (ii) internal controls; (iii) legal and regulatory compliance; (iv) internal audit; and (v) external auditors.

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 boards members; (ii) the assessment of the performance of the MSI Board and committees; and (iv) the corporate governance framework of the MSI Group.

EMEA Executive Committees

The EMEA Operating Committee is the forum for key decisions regarding matters affecting the operations and performance of the MSI Group and is responsible for the execution of strategy. The committee provides oversight of: (i) strategy; (ii) financial performance; (iii) risk and control; (iv) operational, legal and regulatory matters; and (v) human resources.

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

Management Level Committees (associated with Risk Governance)

The EMEA Franchise Committee assists in the oversight of potentially significant franchise risks in connection with transactions, activities, or clients with the MSI Group nexus.

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

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

The EMEA Electronic Trading Governance Committee reviews and challenges controls applicable to the electronic trading business undertaken by the MSI Group and the wider EMEA managed business. Further, the committee monitors the risk appetite and limits set by the ERC which are applicable to electronic trading, provides a forum to oversee the resolution of identified control issues in an appropriate and timely manner and escalates matters to the ERC as necessary.

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, being responsible for co-ordinating 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. In particular, the EMEA Product Committee reviews and challenges heightened risk New Product Approval ("NPA") proposals and provides recommendation to the ERC.

Adequacy of Risk Management Arrangements

The MSI Board is satisfied that the risk management arrangements and systems, as described above, are appropriate given the strategy and risk profile of the MSI Group. These elements are reviewed at least annually and, where appropriate, updated to reflect best practice, evolving market conditions and changing regulatory requirements.

4. Basis of Preparation and Linkage to Financial Accounts

Basis of Consolidation

The MSI Group completes its prudential consolidation in compliance with CRR Part One, Title II Chapter 2, 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 by CRD IV. The most significant subsidiaries of the MSI Group are MSIP and 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; UK accounting requirements under Financial Reporting Standard 101 (“FRS 101”) and for the MSIP Group and MSEHSE Group in accordance with EU adopted International Financial Reporting Standards (“IFRS”), with additional requirements for MSEHSE Group from the German Commercial Code (“HGB”).

With effect from 2014, the MSI Group applied 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 Morgan Stanley, therefore does not publish statutory group accounts.

However, audited, consolidated non-statutory financial information has been produced for the MSI Group, as approved by the MSI Board and MSI Audit Committee, in accordance with the recognition and measurement principles of IFRS issued by the International Accounting Standards Board as adopted by the European Union. For further detail, refer to Appendix VII. 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 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 2020 is based on its current understanding of CRD IV and related legislation, which will be subject to change as CRR II and CRD V comes into effect.

Balance Sheet Under the Regulatory Scope of Consolidation

Table 2 shows MSI Group's balance sheet as at 31 December 2020 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 (EU LI1)

$MM			Carrying value of items				
MSI Group[1,2]	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Credit risk framework	Counterparty credit risk framework	Securitisation framework	Market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets carrying amount	**626,470**	**626,470**	**104,364**	**389,861**	**369**	**501,285**	**12,331**
Cash and short-term deposits	34,617	34,617	23,003	-	-	-	11,614
Trading financial assets	398,993	398,993	481	291,236	369	398,993	-
Secured financing	100,458	100,458	-	89,464	-	100,458	-
Loans and advances	193	193	193	-	-	192	-
Investment securities	158	158	158	-	-	-	-
Trade and other receivables	89,254	89,254	78,427	9,161	-	1,642	22
Current tax assets	383	383	383	-	-	-	-
Deferred tax assets	314	314	314	-	-	-	-
Other assets	210	210	210	-	-	-	-
Property plant and equipment	1,195	1,195	1,195	-	-	-	-
Intangible assets	695	695	-	-	-	-	695
Liabilities carrying amount	**(599,234)**	**(599,234)**	**(93,095)**	**(410,181)**	**-**	**(494,897)**	**(6,633)**
Bank loans and overdrafts	(275)	(275)	-	-	-	-	(275)
Trading financial liabilities	(354,115)	(354,115)	-	(301,278)	-	(354,107)	-
Secured borrowing	(77,371)	(77,371)	-	(56,504)	-	(77,371)	-
Trade and other payables	(103,258)	(103,258)	(45,297)	(52,399)	-	(733)	(4,829)
Debt and other borrowings	(62,686)	(62,686)	(47,798)	-	-	(62,686)	-
Provisions	(90)	(90)	-	-	-	-	(90)
Current tax liabilities	(175)	(175)	-	-	-	-	(175)
Deferred tax liabilities	(2)	(2)	-	-	-	-	(2)
Accruals and deferred income	(1,166)	(1,166)	-	-	-	-	(1,166)
Post-employment benefit obligations	(96)	(96)	-	-	-	-	(96)

1. MSI Group does not publish financial statements. See Appendix VII 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.

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

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

$MM	Items subject to:		
MSI Group	Credit risk framework	Counterparty credit risk framework	Securitisation framework
Assets carrying amount (per LI1)	104,364	389,861	369
Liabilities carrying amount (per LI1)	(93,095)	(410,181)	-
Total net amount under the regulatory scope of consolidation	**11,269**	**(20,320)**	**369**
Off balance sheet amounts[1]	5,159	-	-
Difference due to netting rules[2]	149,012	61,578	(191)
Regulatory adjustments and credit risk mitigation[3]	(128,316)	109,548	137
Exposure amounts considered for regulatory purposes	**37,124**	**150,806**	**315**

1. Under the credit risk framework, off balance amounts principally consist of undrawn credit facilities after the use of a conversion factor. Under the counterparty credit risk framework, the off balance sheet items consist of the collateral given against cash received for securities financing transactions ("SFT").
2. Under IFRS, netting is only permitted if legal right of set-off exists and the cash flows are intended to be settled on a net basis. Under the PRA's regulatory rules, however, netting is applied for capital calculations if there is legal certainty and the positions are managed on a net collateralised basis.
3. Differences due to the regulatory adjustments (ie impact of the Internal Models Method ("IMM") models) to transform the Balance Sheet value to an EAD along with differences due to consideration of collateral and haircuts to arrive at the net exposure value.

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 Capital Requirements Directive.

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 the 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. During the second quarter of 2020, the PRA announced it would set Pillar 2A requirements as a nominal amount in the 2020 and 2021 SREPs, and firms who do not have a SREP due in 2020 could apply for a conversion of the current P2A requirement into a nominal amount. As of 31 December 2020 the MSI Group TCR was $17.9Bn, equivalent to 10.7% of RWAs. 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.

The Capital Conservation Buffer ("CCB") requires banks to build up a capital buffer that can be utilised to absorb losses during period of stress, whilst remaining compliant with minimum requirements, and must be met with Common Equity Tier 1 ("CET1") capital. The CCB was fully phased in on 1 January 2019 at 2.5%.

The Countercyclical Capital Buffer ("CCyB") was introduced to ensure that excessive growth in specific countries is accounted for by increasing minimum capital ratios by between 0% and 2.5%, and must be met with CET1 Capital. The CCyB for the MSI Group stood at 0.03% as of 31 December 2020. Table 4 provides details of the notable CCyB rates as at 31 December 2020, with Appendix IV providing the geographical distribution of credit exposures relevant for the calculation of CCyB.

Table 4: Countercyclical Capital Buffer

	CCyB rate	Effective from	MSI Group impact on capital ratio	MSIP impact on capital ratio	MSEHSE Group impact on capital ratio
Hong Kong	1.00%	16-Mar-20	0.02%	0.02%	0.00%
Luxembourg	0.25%	01-Jan-20	0.01%	0.01%	0.03%
Total			**0.03%**	**0.03%**	**0.03%**

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 the MSI Group and its subsidiaries.

COVID-19 Regulatory Measures

In response to the significant economic impact of the COVID-19 pandemic, global regulators have released a suite of regulatory updates and programs to facilitate market continuation and to provide incentives for banks to continue lending to business and consumers. In the UK, the Bank of England reduced countercyclical buffer requirements. Other guidance has also been provided, for example on the use of capital and liquidity buffers.

The impact of these regulatory measures is in included in the Company’s Capital Resources below and the impact of the termination of these measures are included within regular forward looking capital planning activities.

6. Capital Resources

The capital resources of the MSI Group, MSIP and MSEHSE are set out in Table 5. All capital resources included in Tier 1 and Tier 2 capital are of standard form and the main terms and conditions of the capital instruments are disclosed in Appendix II.

Table 5: Own funds

$MM	MSI Group	MSIP	MSEHSE Group
Capital instruments eligible as CET1 capital	2,403	12,978	0
Retained earnings[1]	13,728	3,130	12
Accumulated other comprehensive income	(504)	(364)	(27)
Other reserves	7,461	1,403	3,581
Adjustments to CET1 due to prudential filters	(922)	(836)	(75)
Other intangible assets	(449)	(2)	-
Internal Ratings Based shortfall of credit risk adjustments to expected losses	(299)	(203)	(13)
Defined-benefit pension fund assets	(22)	-	-
CET1 capital	**21,396**	**16,106**	**3,478**
Additional Tier 1 capital	3,500	3,500	734
Tier 1 capital	**24,896**	**19,606**	**4,212**
Capital instruments and subordinated loans eligible as Tier 2 capital	5,365	4,975	1,222
Instruments issued by subsidiaries that are given recognition in Tier 2 capital	-	-	-
Tier 2 capital	**5,365**	**4,975**	**1,222**
Total own funds	**30,261**	**24,581**	**5,434**

1. Retained earnings includes independently reviewed interim profits net of any foreseeable charge or dividend.

Over the fourth quarter of 2020, the MSI Group Own Funds have increased, due to the new EBA prudential treatment of software assets and other comprehensive income, offset by the AT1 coupon payment.

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 CRD IV, additional valuation adjustments 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 and MSESHE are based on audited, consolidated non-statutory financial information and MSIP's capital resources are based on audited financial statements.

Table 6 provides a reconciliation of audited shareholders' equity to regulatory capital.

Table 6: Reconciliation of balance sheet total equity to regulatory capital

$MM	MSI Group				MSIP				MSEHSE Group			
		CET1 capital	AT1 capital	Tier 2 capital		CET1 capital	AT1 capital	Tier 2 capital		CET1 capital	AT1 capital	Tier 2 capital
Equity instruments	5,866	2,366	3,500	-	15,965	12,465	3,500	-	734	0	734	-
Share premium	37	37	-	-	513	513	-	-	-	-	-	-
Other reserves	7,461	7,461	-	-	1,403	1,403	-	-	3,581	3,581	-	-
Other comprehensive income	(504)	(504)	-	-	(364)	(364)	-	-	(27)	(27)	-	-
Retained earnings	14,355	14,355	-	-	3,635	3,635	-	-	12	12	-	-
Non-controlling interest	21	21	-	-	-	-	-	-	-	-	-	-
Balance sheet total equity	**27,236**	**23,736**	**3,500**	**-**	**21,152**	**17,652**	**3,500**	**-**	**4,300**	**3,566**	**734**	**-**
Add:												
Tier 2 instruments classified as debt and other borrowings	**5,392**	**-**	**-**	**5,392**	**5,000**	**-**	**-**	**5,000**	**1,222**	**-**	**-**	**1,222**
Less:												
Qualifying own funds subordinated debt instruments not included in consolidated Tier 2 capital	-	-	-	-	-	-	-	-	-	-	-	-
Amortised portion of subordinated debt instruments not included in T2 capital	(27)	-	-	(27)	(25)	-	-	(25)	-	-	-	-
Part of interim or year-end profit not eligible	(627)	(627)	-	-	(505)	(505)	-	-	-	-	-	-
Minority interests (amount not allowed in consolidated CET1)	(21)	(21)	-	-	-	-	-	-	-	-	-	-
Additional value adjustments	(1,073)	(1,073)	-	-	(1,021)	(1,021)	-	-	(12)	(12)	-	-
Negative amounts resulting from the calculation of expected loss amounts	(299)	(299)	-	-	(203)	(203)	-	-	(13)	(13)	-	-
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	151	151	-	-	185	185	-	-	(63)	(63)	-	-
Intangible assets (net of related tax liability)	(449)	(449)	-	-	(2)	(2)	-	-	-	-	-	-
Defined-benefit pension fund assets	(22)	(22)	-	-	-	-	-	-	-	-	-	-
Total own funds (transitional rules and fully loaded position)	**30,261**	**21,396**	**3,500**	**5,365**	**24,581**	**16,106**	**3,500**	**4,975**	**5,434**	**3,478**	**734**	**1,222**

7. Total Loss-Absorbing Capacity

MSI Group is subject to internal TLAC requirements via CRR II. These requirements are designed to enhance the resilience of the financial system by ensuring firms have sufficient capital to absorb losses and recapitalise under resolution. The minimum capacity requirements are set at 16% of risk weighted assets and 6% of leverage exposure, scaled at 90% for MSI Group as the subsidiary of a non-EU Global Systemically Important Institution ("G-SII").

Morgan Stanley's preferred resolution strategy is a Single Point of Entry ("SPOE") strategy. Further information on resolution strategy can be found in Morgan Stanley Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q. The MSI Group TLAC key metrics are provided in Table 7.

Table 7: TLAC key metrics
$MM

MSI Group[1]	Q4'20	Q3'20	Q2'20	Q1'20	Q4'19
Total loss absorbing capacity (TLAC) available	**36,288**	**35,920**	**35,011**	**33,931**	**34,617**
Total RWA at the level of the resolution group	**167,445**	**155,236**	**158,394**	**152,140**	**137,333**
TLAC as a percentage of RWA (row 1/row2) (%)[1]	21.7%	23.1%	22.1%	22.3%	25.2%
Leverage ratio exposure measure at the level of the resolution group	493,282	461,992	454,204	458,603	455,153
TLAC at a percentage of leverage ratio exposures measure (row1/row4) (%)	7.4%	7.8%	7.7%	7.4%	7.6%

1. As at 31 December 2020, the MSI Group is in compliance with the TLAC requirements.

Table 8 provides details of the composition of the MSI Group's TLAC.

Table 8: TLAC composition
$MM

MSI Group	Q4'20
Common Equity Tier 1 Capital (CET1)	21,396
Additional Tier 1 Capital (AT1) before TLAC adjustments	3,500
AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
Other adjustments	-
AT1 instruments eligible under the TLAC framework	3,500
Tier 2 Capital (T2) before TLAC adjustments	5,365
Amortised portion of T2 instruments where remaining maturity >1 year	27
T2 Capital ineligible as TLAC as issued out of subsidiaries to third parties	-
Other adjustments	-
T2 instruments eligible under the TLAC framework	5,392
TLAC arising from regulatory capital	**30,288**
TLAC instruments subordinated to excluded liabilities	6,000
TLAC arising from non-regulatory capital instruments before adjustments	**6,000**
TLAC before deductions	**36,288**
Deduction of investments in own other TLAC liabilities	-
Other adjustments to TLAC	-
TLAC after deductions	**36,288**
Total risk-weighted assets adjusted as permitted under the TLAC regime	167,445
Leverage exposure measure	493,282
TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	21.7%
TLAC (as a percentage of leverage exposure)	7.4%
CET1 capital (as a percentage of RWA) available after meeting the resolution group's MCR and TLAC requirement	5.8%
Institution-specific buffer requirement	**2.53%**
Of which: capital conservation buffer requirement	2.50%
Of which: bank specific countercyclical buffer requirement	0.03%

Table 9 provides a breakdown of eligible instruments in the creditor hierarchy of the MSI Group.

Table 9: TLAC creditor ranking

	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	**2,366**	**3,500**	**5,392**	**6,000**	**17,258**
Excluded liabilities [2]	-	-	-	-	-
Total capital and liabilities less excluded liabilities	2,366	3,500	5,392	6,000	17,258
Eligible as TLAC	2,366	3,500	5,392	6,000	17,258
with 1 year ≤ residual maturity < 2 years	-	-	-	6,000	6,000
with 2 years ≤ residual maturity < 5 years	-	-	5,392	-	5,392
with 5 years ≤ residual maturity < 10 years	-	-	-	-	-
with residual maturity ≥ 10 years	-	-	-	-	-
perpetual securities	2,366	3,500	-	-	5,866

1. Ordinary Shares excludes the value of share premium and reserves.
2. As at 31 December 2020 MSI Group has no excluded liabilities as defined in CRR II Article 72a (2).

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, MSIP and MSEHSE Group leverage ratios as at 31 December 2020 exceed the minimum requirement of 3% that will apply once new legislation comes into effect, expected to be from 1 January 2022 for MSI Group and MSIP, and from 28 June 2021 for MSEHSE Group. MSI Group manages its risk of excessive leverage through the application of business unit leverage exposure limits and leverage ratio early warning trigger levels. Limits are calibrated in line with legal entity capacity and ensure that leverage exposure remains within the MSI Board's risk appetite. Leverage exposures for MSI Group as well as MSIP and MSEHSE Group are regularly calculated and reported to EMEA ALCO who monitor this, as well as maturity mismatches and asset encumbrance metrics, to ensure that any excessive risk is highlighted, assessed and mitigated appropriately.

The MSI Group and MSIP leverage ratios decreased (0.3)% from 30 September 2020 to 31 December 2020, primarily due to an increase in exposure.

The disclosures in the tables below have been made in accordance with the EU Delegated Act and are disclosed on a fully phased in basis. Table 10 provides a reconciliation between total assets in the financial statements and the leverage exposure measure for MSI Group, MSIP and MSEHSE Group as at 31 December 2020.

Table 10: Reconciliation of accounting assets and leverage ratio exposures

$MM	MSI Group	MSIP	MSEHSE Group
Total assets as per published financial statements[1]	**626,470**	**597,557**	**60,248**
Adjustments for derivative financial instruments	(154,701)	(143,311)	(5,476)
Adjustments for securities financing transactions	16,826	16,788	240
Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	6,498	4,761	1,313
(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-	(432)	-
Other adjustments	(1,811)	(1,194)	(24)
Total leverage ratio exposure	**493,282**	**474,169**	**56,301**

1. MSI Group does not publish financial statements. See Appendix VII for MSI Group non-statutory financial information.

Table 11 provides a detailed breakdown of the components of the leverage ratio exposure for MSI Group, MSIP and MSEHSE Group as at 31 December 2020.

Table 11: Leverage ratio common disclosure

$MM	MSI Group	MSIP	MSEHSE Group
On-balance sheet exposures (excluding derivatives and SFTs)			
On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	227,367	200,889	26,104
(Asset amounts deducted in determining Tier 1 capital)	(1,843)	(1,227)	(24)
Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)	**225,524**	**199,662**	**26,080**
Derivative exposures			
Replacement cost associated with *all* derivatives transactions (i.e. net of eligible cash variation margin)	31,297	28,459	3,213
Add-on amounts for PFE associated with *all* derivatives transactions (mark-to-market method)	155,053	147,069	16,988
Gross-up for derivatives collateral provided where deducted from the balance sheet pursuant to the applicable accounting framework	9,645	8,778	3,322
(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(44,225)	(39,406)	(5,885)
(Exempted CCP leg of client-cleared trade exposures)	(14,322)	(9,766)	(4,578)
Adjusted effective notional amount of written credit derivatives	235,944	227,805	11,434
(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(229,562)	(221,501)	(10,907)
Total derivative exposures	**143,830**	**141,438**	**13,587**
Securities financing transaction exposures			
Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	165,292	176,640	15,081
(Netted amounts of cash payables and cash receivables of gross SFT assets)	(57,028)	(57,028)	-
Counterparty credit risk exposure for SFT assets	9,166	9,128	240
Total securities financing transaction exposures	**117,430**	**128,740**	**15,321**
Other off-balance sheet exposures			
Off-balance sheet exposures at gross notional amount	15,414	11,860	2,757
(Adjustments for conversion to credit equivalent amounts)	(8,916)	(7,099)	(1,444)
Total other off-balance sheet exposures	**6,498**	**4,761**	**1,313**
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)			
(Intragroup exposures (solo basis) exempted in accordance with Article 429(7) and (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	-	(432)	-
Capital and total exposure measure			
Tier 1 capital	**24,896**	**19,606**	**4,212**
Total leverage ratio exposures	**493,282**	**474,169**	**56,301**
Leverage ratio	**5.0%**	**4.1%**	**7.5%**
Choice on transitional arrangements for the definition of the capital measure	**Fully phased in**	**Fully phased in**	**Fully phased in**

Table 12 provides a breakdown of the on-balance sheet exposures into trading and non-trading book exposures for MSI Group, MSIP and MSEHSE Group as at 31 December 2020.

Table 12: Split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

$MM	MSI Group	MSIP	MSEHSE Group
Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	**227,367**	**200,889**	**26,104**
Trading Book exposures	184,201	172,012	13,463
Non-Trading Book exposures, of which:	43,166	28,877	12,641
Regional governments, MDB, international organisations and PSE not treated as sovereigns	16,243	4,481	10,391
Exposures treated as sovereigns	8	8	-
Institutions	20,007	20,445	1,680
Corporate	3,880	3,033	499
Exposures in default	207	41	-
Other exposures (e.g. equity, securitisations, and other non-credit obligation assets)	2,821	869	71

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 Counterparty Credit Risk ("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 approved internal modelling approaches – the Foundation Internal Ratings Based approach ("IRB") for credit risk and the IMM for counterparty risk – as well as the Standardised Approach ("SA") and Mark-to-Market Method ("MTMM") for exposures not covered by internal models.

Credit Valuation Adjustment ("CVA") is the capital requirement that covers the risk of mark-to-market losses on the counterparty risk of Over-the-Counter ("OTC") 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.

Securitisations exposures are a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched, having the following characteristics. Payments in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures. Also, 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 CRR.

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, counterparty credit risk, market risk and operational risk, please refer to the specific sections within this document.

Table 13 summarises RWAs and minimum capital requirements ("MCR") for MSI Group, MSIP and MSEHSE by risk type. MSI Group, MSIP and MSEHSE Group calculate Pillar 1 capital requirements as 8% of RWAs in accordance with CRD IV.

Table 13: Overview of RWAs (EU OV1)

	MSI Group			MSIP			MSEHSE Group	
$MM MSI Group	**RWAs Q4'20**	**RWAs Q3'20**	**MCR Q4'20**	**RWAs Q4'20**	**RWAs Q3'20**	**MCR Q4'20**	**RWAs Q4'20**	**MCR Q4'20**
Credit risk (excluding CCR)	**11,954**	**12,121**	**956**	**8,723**	**9,621**	**698**	**1,823**	**146**
Of which standardised approach	3,365	4,264	269	1,801	2,782	144	149	12
Of which foundation IRB (FIRB) approach	5,910	5,772	473	4,437	4,877	355	1,639	131
Of which advanced IRB (AIRB) approach	-	-	-	-	-	-	-	-
Of which equity IRB under the simple risk-weighted approach or the IMA	2,679	2,085	214	2,485	1,962	199	35	3
CCR	**67,090**	**59,718**	**5,367**	**64,271**	**58,150**	**5,142**	**6,400**	**512**
Of which mark-to-market	9,018	9,171	722	8,582	8,945	687	868	69
Of which original exposure	-	-	-	-	-	-	-	-
Of which standardised approach	544	238	44	412	227	33	131	11
Of which internal model method	29,706	25,738	2,376	28,277	25,060	2,262	3,541	283
Of which Financial collateral comprehensive method (for SFTs)	10,055	8,157	804	10,630	8,517	850	467	37
Of which risk exposure amount for contributions to the default fund of a CCP	1,178	1041	94	813	685	65	359	29
Of which CVA	16,589	15,373	1,327	15,557	14,716	1,245	1,034	83
Settlement risk	**234**	**62**	**19**	**244**	**59**	**20**	**71**	**6**
Securitisation exposures in banking book (after cap)[1]	**237**	**193**	**19**	**237**	**193**	**19**	**-**	**-**
Of which IRB	-	-	-	-	-	-	-	-
Of which IRB supervisory formula approach (SFA)[1]	-	-	-	-	-	-	-	-
Of which internal assessment approach (IAA)	-	-	-	-	-	-	-	-
Of which standardised approach	-	-	-	-	-	-	-	-
Market risk	**66,767**	**62,593**	**5,341**	**55,362**	**53,650**	**4,429**	**5,389**	**431**
Of which standardised approach	15,480	13,521	1,238	9,444	8,143	756	19	2
Of which IMA	51,287	49,072	4,103	45,918	45,507	3,673	5,370	429
Large exposures	**7,617**	**7,971**	**610**	**16,937**	**12,884**	**1,354**	**-**	**-**
Operational risk	**12,760**	**12,094**	**1021**	**9,083**	**8,799**	**727**	**720**	**58**
Of which basic indicator approach	12,760	12,094	1021	9,083	8,799	727	720	58
Of which standardised approach	-	-	-	-	-	-	-	-
Of which advanced measurement approach	-	-	-	-	-	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	**786**	**484**	**63**	**680**	**515**	**54**	**118**	**9**
Floor adjustment	-	-	-	-	-	-	**-**	**-**
Total	**167,445**	**155,236**	**13,396**	**155,537**	**143,871**	**12,443**	**14,521**	**1,162**

1. As of 1 Jan 2020, these positions were subject to the hierarchy of methods laid down in the revised securitisation framework.

Over the fourth quarter RWAs on MSI Group increased, primarily driven by Counterparty Credit Risk due to an increase in IMM on equity positions and Market Risk following an increase in IMA due to RNIVs and IRC.

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 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 is an independent risk oversight group headed by the Head of Credit who reports directly to the EMEA Chief Risk Officer. The MSI Group Credit Risk Management department ("CRM") 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 framework 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, CRM establishes practices to evaluate, monitor and control credit risk exposure at the transaction, obligor and portfolio levels. CRM 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

CRM 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 limit restricts 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.

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, CRM evaluates the relative position of its particular exposure in the borrower's capital structure and relative recovery prospects. CRM 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 Counterparty Credit Risk 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. Counterparty credit 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. The distinction between Credit Risk and Counterparty Credit Risk exposures is due to the bilateral nature of the risk for Counterparty Credit Risk exposures, see Section 11 Counterparty Credit Risk.

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 standardised approach 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 standardised approach assigns fixed risk weights to the following exposures classes in accordance with the CRR: Central Governments and Central Banks, Corporates, Institutions, Multilateral Development Banks, International Organisations, Regional Governments and Local Authorities.

The exception to this is exposures to European Central Governments denominated in local currency which are risk-weighted at 0%.

Table 14 shows Credit Risk and Counterparty Credit Risk for MSI Group, MSIP and MSEHSE Group as at 31 December 2020.

Table 14: Credit and counterparty risk RWA summary

$MM	MSI Group			MSIP			MSEHSE Group	
	RWAs Q4'20	RWAs Q3'20	MCR Q4'20	RWAs Q4'20	RWAs Q3'20	MCR Q4'20	RWAs Q4'20	MCR Q4'20
Credit risk	11,954	12,121	956	8,723	9,621	698	1,823	146
Of which FIRB	5,910	5,772	473	4,437	4,877	355	1,639	131
Counterparty credit risk (excluding CVA)	50,501	44,345	4,040	48,714	43,434	3,897	5,366	429
Of which IMM	29,706	25,738	2,376	28,277	25,060	2,262	3,541	283
Securitisation[1]	237	193	19	237	193	19	-	-
Amounts below the thresholds for deduction	786	484	63	680	515	54	118	9
Total (excluding CVA)	**63,478**	**57,143**	**5,078**	**58,354**	**53,763**	**4,668**	**7,307**	**584**
CVA	16,589	15,373	1,327	15,557	14,716	1,245	1,034	83
Total	**80,067**	**72,516**	**6,405**	**73,911**	**68,479**	**5,913**	**8,341**	**667**

1. As of 1 Jan 2020, these positions were subject to the hierarchy of methods laid down in the revised securitisation framework.

Table 15 shows the Credit Risk and Counterparty Credit Risk for MSI Group, MSIP and MSEHSE Group as at 31 December 2020, for each exposure class as per the classification set out in the CRR.

Table 15: Credit and counterparty credit risk summary

$MM	MSI Group			MSIP			MSEHSE Group		
	EAD[2]	RWAs	MCR	EAD	RWAs	MCR	EAD	RWAs	MCR
IRB[1]									
Central governments or central banks	27,049	2,338	187	13,764	1,237	99	11,669	913	73
Corporates	64,800	34,115	2,729	56,476	30,413	2,433	7,154	4,004	320
Equity	881	2,679	214	918	2,741	219	12	35	3
Institutions	59,604	15,925	1,274	66,732	18,251	1,460	4,731	1,426	114
Total (IRB)	**152,334**	**55,057**	**4,404**	**137,890**	**52,642**	**4,211**	**23,566**	**6,378**	**510**
Standardised[1]									
Central governments or central banks	672	178	14	651	176	14	23	3	-
Corporates	2,867	2,765	221	2,264	2,261	181	216	228	19
High Risk	-	-	-	-	-	-	-	-	-
Institutions	25,684	1,884	151	24,241	1,770	142	2,513	150	12
Multilateral development banks	110	-	-	110	-	-	-	-	-
International organisations	-	-	-	-	-	-	-	-	-
Public sector entities	1	-	-	1	-	-	-	-	-
Exposures in default	-	1	-	-	-	-	-	-	-
Regional government or local authorities	5	-	-	5	-	-	-	-	-
Other items	1,707	2,178	174	201	455	36	118	189	15
Total (standardised)	**31,046**	**7,006**	**560**	**27,473**	**4,662**	**373**	**2,870**	**570**	**46**
Total (CCP default fund)[3]	**1,166**	**1,178**	**95**	**740**	**813**	**65**	**336**	**359**	**28**
Securitisation	**315**	**237**	**19**	**315**	**237**	**19**	**-**	**-**	**-**
Total[4]	**184,861**	**63,478**	**5,078**	**166,418**	**58,354**	**4,668**	**26,772**	**7,307**	**584**

1. Exposure classes which have no exposure are not shown in the table.
2. EAD figures are post credit risk mitigation ("CRM") and post Credit Conversion Factor ("CCF")
3. CCP Default Fund requirements have been included in the table to reflect the full population of Credit and CCR. CCP Default Fund exposures are shown in Table CCR8.
4. Exposures calculated under the FIRB approach account for 83% and the Standardised Approach account for 17%.

Credit Risk RWA flow statements

Table 16 summarises the movements of RWAs and MCR for MSI Group and MSIP's credit risk exposures under the IRB approach.

Table 16: RWA flow statements of credit risk exposures under the IRB approach (EU CR8)

$MM	MSI Group		MSIP	
	RWAs	MCR	RWAs	MCR
RWAs at the end of the previous reporting period[1]	**5,772**	**462**	**4,877**	**390**
Asset size	138	11	(440)	(35)
Asset quality	-	-	-	-
Model updates	-	-	-	-
Methodology and policy	-	-	-	-
Acquisitions and disposals	-	-	-	-
Foreign exchange movements	-	-	-	-
Other	-	-	-	-
RWAs at the end of the reporting period	**5,910**	**473**	**4,437**	**355**

1. Previous reporting period was Q3'20.

Over the fourth quarter, MSI Group and MSIP RWAs increased, primarily driven by cash exposure.

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 17: External Credit Assessments Institutions

Credit quality step	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 counterparty credit risk 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 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 Central Governments or Central Banks.

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 the MSI Group 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 low default portfolio, 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 low default portfolio. This scaling factor is floored at 100%.

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.

Table 18 summarises the IRB Geographical Breakdown of Exposure Weighted Average PD for the MSI Group.

Table 18: IRB geographical breakdown of exposure weighted average PD

MSI Group[1,2]	Americas	EMEA	Asia	Other
Central governments or central banks	0.06%	0.04%	0.03%	0.02%
Corporates	1.07%	1.23%	0.29%	0.19%
Institutions	0.07%	0.24%	0.12%	0.00%

1. The table does not include the IRB Equities exposure class, as these exposures are treated through the IRB simple risk weight approach (CRR Article 155.2).
2. Supranational exposures have been allocated to the region of the headquarters of the institution.

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. IAD 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 key performance measures including comparison of internal ratings versus agency ratings, ratings of defaulted parties, transitions across grades, and 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. The 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 19 shows the MSI Group's specialised lending and equity exposures using the simple risk-weighted approach.

Table 19: IRB (Specialised Lending and Equities) (EU CR10)

	Equities under the simple risk-weight approach					
	On-balance sheet amount	Off-balance sheet amount	Risk weight	Exposure amount	RWAs	Capital requirements
MSI Group	$MM	$MM	%	$MM	$MM	$MM
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	231	495	290%	726	2,105	168
Other equity exposures	155	-	370%	155	574	46
Total	**386**	**495**	**-**	**881**	**2,679**	**214**
MSIP						
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	228	437	290%	665	1,929	155
Other equity exposures	150	-	370%	150	556	44
Total	**378**	**437**	**-**	**815**	**2,485**	**199**
MSEHSE Group						
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	-	12	290%	12	35	3
Other equity exposures	-	-	370%	-	-	-
Total	**-**	**12**	**-**	**12**	**35**	**3**

1. There is no specialised lending information to report for MSI Group, MSIP or MSEHSE Group.

Over the second half of 2020, there have been no material changes.

Table 20 shows realised and unrealised gains and losses for equity exposures falling outside of the Trading Book for the MSI Group.

Table 20: Non-trading book equity gains and losses

MSI Group	$MM
Cumulative amount of realised gains or (losses) resulting from sales and liquidations in the period	(29)
Total unrealised gains or (losses)	(77)
Total latent revaluation gains or (losses)	-
Amount of unrealised gains or (losses) or latent revaluation gains or losses included in Tier 1 capital	-

Estimates Versus Actual Probability of Default and Losses

An analysis of estimated versus actual default rates by exposure class for the MSI Group is shown in Table 21. The estimated PDs are expressed as the simple average PD calculated on the number of obligors covered in each exposure class. These estimated PDs are a prediction, as at the end of prior year, of the 1-year forward looking default rate on a through-the-cycle basis, and are compared with the actual (realised) defaults in the current year. The comparatively low percentage of actual defaults reflects the benign credit environment and the conservativeness of internal estimates.

Table 21: Estimated versus actual PD by exposure class

MSI Group[1]	Estimate at 2018	Actual at 2019	Estimate at 2019	Actual at 2020
Central governments or central banks	0.34%	-	0.28%	-
Corporates	2.11%	0.03%	2.04%	0.13%
Institutions	1.00%	-	1.05%	-
Corporates – specialised lending	-	-	0.42%	-

1. The averaging approach for estimated PDs facilitates a meaningful comparison with actual defaults. The weighted average PDs by exposure class, are more reflective of the portfolio quality.

An analysis of credit risk adjustments and expected loss by IRB exposure class for the MSI Group is shown in Table 22 including additional information on charges to the profit and loss for loss events that occurred during the respective periods. The credit risk adjustments balances reflect impaired legacy loans entered into pre-2008 that were affected by the economic downturn and have not recovered. Charges to the profit and loss reflect continued write-downs of these positions.

Table 22: IRB credit risk adjustments, expected loss and charge to the profit and loss

$MM	Specific risk adjustments	Expected loss[1]	Charge to the profit and loss[2]	Specific risk adjustments	Expected loss[1]	Charge to the profit and loss[2]
MSI Group	2020	2020	2020	2019	2019	2019
Central governments or central banks	-	5	-	-	4	-
Corporates	4	312	(1)	(9)	193	1
Institutions	5	37	2	(6)	37	2
Equity	-	10	-	-	8	-
Total	**9**	**364**	**1**	**(15)**	**242**	**3**

1. Expected Losses mainly arise from exposures on MSIP.
2. Charge to the Profit and Loss represents loss events that occurred during the period, and does not include the effect of other movements in the Credit Risk Adjustments balance due to: currency translation; changes in estimates of losses arising on events which occurred in the preceding period.

The MSI Group does not establish credit reserves for traded products. Incurred credit valuation adjustments and debit valuation adjustments are taken through profit and loss.

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.

Table 23: Impaired and past due exposures, credit risk adjustments by industry type

$MM MSI Group	Past due[1]	Impaired exposures[2,3]	Specific credit risk adjustments	General credit risk adjustments	Charges for specific and general credit risk adjustments[4]
Sovereigns	31	1	-	-	-
Banks and securities firms	1,576	23	(5)	-	2
General industrials	-	-	-	-	-
Other corporates	85	3	(4)	-	(1)
Real estate	-	-	-	-	-
Total	**1,692**	**27**	**(9)**	**-**	**1**
MSIP					
Sovereigns	30	1	-	-	-
Banks and securities firms	945	17	(4)	-	1
General industrials	-	-	-	-	-
Other corporates	83	2	(2)	-	(2)
Real estate	-	-	-	-	-
Total	**1,058**	**20**	**(6)**	**-**	**(1)**
MSEHSE Group					
Sovereigns	-	-	-	-	-
Banks and securities firms	624	3	(1)	-	1
General industrials	-	-	-	-	-
Other corporates	-	-	-	-	-
Real estate	-	-	-	-	-
Total	**624**	**3**	**(1)**	**-**	**1**

1. A financial asset is considered 'past due' when a counterparty has failed to make a payment when contractually due.
2. A financial asset is considered 'impaired' under the Impairment policy if, and only if, there is objective evidence of impairment resulting from events occurring after initial recognition that have an impact on estimated future cash flows of the financial asset, and the impact on those cash flows can be reliably estimated.
3. Impairment requirements are based on expected credit losses ("ECL"). In calculating ECL and assessing evidence for a significant increase in credit risk, the MSI Group considers whether exposures are past due as well as other quantitative and qualitative factors. For further details refer to the MSIP Annual Accounts - Impairments of Financial Instruments.
4. Charges for Specific and General Credit Risk Adjustments represents the movement in the Credit Risk Adjustments balance for the year and may include: loss events that occurred during the period and changes in estimates of losses arising on events which occurred in the preceding period.

Table 24: Impaired and past due exposures, credit risk adjustments by geographic region

$MM MSI Group	America	EMEA	Asia	Other	Total
Impaired	12	15	-	-	27
Past due exposures	88	1,544	59	-	1,691
General credit risk adjustments	-	-	-	-	-
Specific credit risk adjustments	(4)	(5)	-	-	(9)
Total	**96**	**1,554**	**59**	**-**	**1,709**
MSIP					
Impaired	12	8	-	-	20
Past due exposures	88	912	59	-	1,059
General credit risk adjustments	-	-	-	-	-
Specific credit risk adjustments	(3)	(2)	-	-	(5)
Total	**97**	**918**	**59**	**-**	**1,074**
MSEHSE Group					
Impaired	1	3	-	-	4
Past due exposures	-	624	-	-	624
General credit risk adjustments	-	-	-	-	-
Specific credit risk adjustments	-	(1)	-	-	(1)
Total	**1**	**626**	**-**	**-**	**627**

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 counterparty, a qualifying master netting agreement must be in place between Morgan Stanley 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 market place, 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. CRM utilizes 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.

In the warehouse lending business loans secured on real estate can be used as eligible financial collateral. Commercial Real Estate loans can be secured by physical collateral including commercial property or land. 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.

Guarantees

A guarantee may reduce the MSI'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 guarantee 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 credit risk mitigation techniques. 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 Groups leverages on models under IMM and MTMM method for calculation of Counterparty Credit Risk Exposures. The majority of OTC derivatives 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 realizations 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 full distribution is used for 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. The MTMM is MTM plus add-on method used for both credit exposure and capital purposes.

Table 25 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 2020.

Table 25: Analysis of the CCR exposure by approach (EU CCR1)

$MM MSI Group	Notional	Replacement cost/current market value	Potential future exposure	Effective expected positive exposure	Multiplier	EAD post CRM	RWAs
Mark-to-market		4,886	26,692			25,641	8,681
Original exposure	-					-	-
Standardised approach		5,772			-	899	544
IMM (for derivatives and SFTs)				38,746	1.4	55,491	29,706
Of which securities financing transactions				-	-	-	-
Of which derivatives & long settlement transactions				38,746	1.4	55,491	29,706
Of which from contractual cross product netting				-	-	-	-
Financial collateral simple method (for SFTs)						-	-
Financial collateral comprehensive method (for SFTs)						46,372	9,983
VaR for SFTs						-	-
Total							**48,914**

Table 26 summarises the movements of RWAs and MCR for MSI Group and MSIP's CCR exposures under the IMM Model.

Table 26: RWA flow statements of CCR exposures under the IMM (EU CCR7)

$MM	MSI Group		MSIP	
	RWAs	MCR	RWAs	MCR
RWAs at the end of the previous reporting period[1]	**25,738**	**2,059**	**25,060**	**2,005**
Asset size	5,624	450	4,725	378
Credit quality of counterparties	(1,656)	(133)	(1,508)	(121)
Model updates (IMM only)	-	-	-	-
Methodology and policy (IMM only)	-	-	-	-
Acquisitions and disposals	-	-	-	-
Foreign exchange movements	-	-	-	-
Other	-	-	-	-
RWAs at the end of the reporting period	**29,706**	**2,376**	**28,277**	**2,262**

1. Previous reporting period was Q3'20.

Over the fourth quarter, asset size increased primarily driven by portfolio and market movements, with credit quality of counterparties decreasing due to ratings updates.

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 approaches and a standardised approach. Table 27 shows CVA by approach for the MSI Group as at 31 December 2020.

Table 27: CVA capital charge (EU CCR2)

$MM MSI Group	Exposure value	RWAs
Total portfolios subject to the advanced method	36,087	11,342
(i) VaR component (including the 3× multiplier)		4,083
(ii) Stressed VaR component (including the 3× multiplier)		7,259
All portfolios subject to the standardised method	21,385	5,247
Based on the original exposure method	-	-
Total subject to the CVA capital charge	**57,472**	**16,589**

Over the second half of 2020, the increase in exposures is primarily due to market movements.

11.3 Derivatives and SFTs credit exposure

Table 28 shows the impact of netting and collateral held on exposures on derivative and SFTs held as at 31 December 2020 for the MSI Group.

Table 28: Impact of netting and collateral held on exposure values (EU CCR5-A)

$MM MSI Group	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives[1]	399,552	335,277	64,275	44,799	19,476
SFTs[2]	654,878	-	654,878	530,942	123,936
Total	**1,054,430**	**335,277**	**719,153**	**575,741**	**143,412**

1. Derivatives exposures are predominately driven by OTC derivatives.
2. SFTs carrying amount reflects netting benefit. MSI Group does not engage in any cross product netting.

Gross positive fair value represents any long market value on derivative transactions before netting benefits are applied but after any regulatory eliminations and exemptions are applied. Collateral held represents the market value of enforceable collateral received after regulatory eliminations and exemptions are applied. Net derivatives credit exposure represents the net exposure after collateral received has been applied.

Table 29 shows the breakdown of all types of collateral posted or received by banks 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 2020 for the MSI Group.

Table 29: Composition of collateral for exposures to CCR (EU CCR5-B)

$MM	Collateral used in derivative transactions				Collateral used in 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		
Cash	455	85,529	2,553	63,337	376,104	417,187
Corporate bonds	1,314	2,945	1,803	737	10,212	4,983
Equity securities	1728	2,470	3,351	-	141,568	98,145
Government agency debt	2,528	2,201	-	192	18,874	10,028
Sovereign debt	2,928	8,342	1,562	6,411	167,679	129,457
Total	**8,953**	**101,487**	**9,269**	**70,677**	**714,437**	**659,800**

Over the second half of 2020, collateral used in derivatives transactions decreased primarily due to a reduction in unsegregated cash collateral posted on ITC derivatives. SFTs collateral received increased primarily in equity securities.

11.4 Exposures to CCPs

Table 30 shows the breakdown of the exposures by qualifying and non-qualifying CCPs as at 31 December 2020 for the MSI Group.

Table 30: Exposures to CCPs (EU CCR8)

$MM MSI Group	EAD post CRM	RWAs
Exposures to Qualifying CCPs ("QCCP") (total)		**1,829**
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	16,365	327
(i) OTC derivatives	3,941	79
(ii) Exchange-traded derivatives	8,865	177
(iii) SFTs	3,559	71
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	
Non-segregated initial margin	16,187	324
Prefunded default fund contributions	1,004	480
Alternative calculation of own funds requirements for exposures		698
Exposures to non-QCCPs (total)		**33**
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	165	33
(i) OTC derivatives	-	-
(ii) Exchange-traded derivatives	165	33
(iii) SFTs	-	-
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	
Non-segregated initial margin	-	-
Pre-funded default fund contributions	-	-
Unfunded default fund contributions	-	-

Over the second half of 2020, the underlying movements are driven by market changes.

Credit Derivative Transactions

Table 31 shows the extent of an institution's exposures to credit derivative transactions broken down between derivatives bought or sold for the MSI Group.

Table 31: Credit derivatives exposures (EU CCR6)

$MM	Credit derivative hedges		
MSI Group[1]	Protection bought	Protection sold	Other credit derivatives
Notionals			
Credit Derivative Products used for own credit portfolio			
Single-name credit default swaps	-	-	1,483
Index credit default swaps	-	-	-
Total return swaps	-	-	186
Credit options	-	-	-
Other credit derivatives	-	-	312
Total Notionals used for own credit portfolio	-	-	**1,981**
Credit Derivative Products used for intermediation			
Single-name credit default swaps	-	-	252,979
Index credit default swaps	-	-	163,268
Total return swaps	-	-	26,062
Credit options	-	-	38,594
Other credit derivatives	-	-	29,018
Total Notionals used for intermediation	-	-	**509,921**
Total credit derivative notionals	-	-	**511,902**
Fair values			
Positive fair value (asset)	-	-	7,837
Negative fair value (liability)	-	-	(7,704)

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

Over the second half of 2020, credit derivative products used for intermediation increased, primarily on single-name credit default swaps and index credit default swaps.

11.5 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 2020, 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 $153million and an incremental $106 million, respectively.

11.6 Wrong Way Risk

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 CRM and the business units.

12. Securitisation

12.1 Securitisation Activities

The MSI Group acts, or has historically acted, as 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 result from this activity and are Trading Book as at 31 December 2020.

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. Derivative exposures to securitisations are generally interest rate swaps and usually with senior payment priority.

The MSI Group participated as a book runner or lead manager in a number of new securitisations during 2020, primarily refinancing. The MSI Group did not originate or sponsor any new securitisations in 2020.

12.2 Regulatory Capital Treatment

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. MS does not apply the Securitisation IRB Approach (SEC-IRBA). The MSI Group uses ratings from three ECAIs: Moody's, S&P's and Fitch across all types of exposures.

12.3 Securitisation Exposures

Table 32 shows the securitisation exposures and MCR within the MSI Group as at 31 December 2020.

Table 32: Securitisation exposures summary

$MM MSI Group[1]	Trading book	Non-trading book
Exposures	936	315
MCR	312	19

1. Securitisation exposures decreased by $(109)MM and capital requirements decreased by $(53)MM, compared to 2019. The decrease in capital requirements was primarily driven by a reduction in Trading Book exposures.

Table 33 and 34 provide a summary of the types of securitisation exposures within the MSI Group as at 31 December 2020.

Table 33: Trading book securitisation exposures by exposure type

$MM MSI Group[1]	Traditional	Of which: Originator	Of which: Investor
Residential mortgages	320	-	320
Commercial mortgages	45	-	45
Credit card receivables	-	-	-
Loans to corporates or SMEs[2]	562	-	562
Consumer loans	9	-	9
Other assets	-	-	-
Total	**936**	**-**	**936**

1. There were no off-balance sheet or synthetic exposures in the Trading Book as at 31 December 2020.
2. Includes $7MM STS exposure.

Table 34: Non-trading book securitisation exposures by exposure type

$MM MSI Group[1]	Traditional	Of which: Originator	Of which: Investor
Residential mortgages	212	12	200
Commercial mortgages	1	-	1
Loans to corporates or SMEs	56	3	53
Consumer Loans	46	-	46
Other assets	-	-	-
Total	**315**	**15**	**300**

1. There were no off-balance sheet or synthetic securitisation exposures in the Non-Trading Book as at 31 December 2020.

Table 35 shows the securitisation positions broken down by SEC-SA capital approach and risk weight band within the MSI Group as at 31 December 2020.

Table 35: Securitisation exposures and capital requirements by standardised approach (SEC-SA)

$MM MSI Group	Trading book exposure	Non-trading book exposure	Trading book MCR	Non-trading book MCR
Investor securitisations by risk weight				
<=10%[1]	3	-	0	-
>10% <=20%	59	-	1	-
Total	**62**	**-**	**1**	**-**

1. Includes $3MM trading book STS exposures ($24k capital)

Table 36 shows the securitisation positions broken down by SEC-ERBA capital approach and risk weight band within the MSI Group as at 31 December 2020.

Table 36: Securitisation exposures and capital requirements by external ratings approach (SEC-ERBA)

$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%	1	-	0	-
>20% <=50%	23	200	2	6
>50% <= 100%	20	51	1	5
>100% <=650%[1]	411	-	53	-
>650% <1250%	152	-	83	-
1250%	0	-	0	-
Originator securitisations by risk weight				
<=10%	-	-	-	-
>10% <=20%	-	-	-	-
>20% <=50%	-	-	-	-
>50% <= 100%	-	7	-	0
>100% <=650%	-	9	-	1
>650% <1250%	-	-	-	-
1250%	-	-	-	-
Total	**607**	**267**	**139**	**12**

1. Includes $4MM trading book STS exposures ($2MM capital)

Table 37 shows the securitisation positions broken down by Default 1250% (Risk Weight) capital approach within the MSI Group as at 31 December 2020.

Table 37: Securitisation exposures and capital requirements by default approach (1250% Risk Weight)

$MM MSI Group	Trading book exposure	Non-trading book exposure	Trading book MCR	Non-trading book MCR
Investor securitisations	**259**	**47**	**164**	**6**
Originator securitisations	-	-	-	-
Investor re-securitisations[1]	8	1	8	1
Originator re-securitisations	-	-	-	-
Total	**267**	**48**	**172**	**7**

1. The exposures above are after a financial guarantee which reduced one re-securitisation exposure purchased position by $20MM based on year-end market value

12.4 Accounting

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 significant risk transfer. 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.

For further information on the MSI Group's financial instruments and de-recognition accounting policies, please refer to notes 2(c) and 2(e) in Appendix VII.

12.5 Valuation

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. For further information on the MSI Group's valuation techniques related to securitisation, please refer to note 2(d) in Appendix VII.

12.6 Risk Monitoring

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 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 (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 MSI Group manages the market risk associated with its trading activities at both 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 analyses. This 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 to MSIP and the MSEHSE Group entities. 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 Model Risk Management, and changes to methodologies are approved by the Model Oversight Committee ("MOC"). 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 Group's Board of Directors 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 ("KPIs") 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 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 same valuation and aggregation approach is used for Stressed Value at Risk ("SVaR"). The time series data is updated on a weekly basis, with the exception of idiosyncratic risk factors which are updated quarterly.

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.

Table 38 provides an analysis of the 99% Regulatory VaR over the year to 31 December 2020 for MSIP and MSEHSE Group respectively.

Table 38: Daily average, maximum and minimum values for the 99% regulatory VaR

	MSIP				MSEHSE Group			
$MM	**Period End VAR[1]**	**Average[2]**	**High[2]**	**Low[2]**	**Period End VAR[1]**	**Average[2]**	**High[2]**	**Low[2]**
Total	**77**	**61**	**128**	**24**	**4**	**3**	**8**	**0**
Of which:								
Interest rate	44	37	68	20	3	2	3	0
Credit spread	42	32	78	15	3	3	7	0
Equity	36	40	84	10	1	0	2	0
Foreign exchange	19	12	29	4	3	2	3	0
Commodity	1	0	1	0	0	0	0	0
Diversification[3]	(65)	-	-	-	(6)	-	-	-

1. This is the 1 Day 99% VaR for the year ending 31 December 2020
2. Average / High / Low end-of-day 99% Regulatory VaR calculated over the one year period to 31 December 2020, based on end-of day positions for all trading days during the one year period.
3. The extent of diversification benefit depends on the correlation between the assets and risk factors in the portfolio at a point in time.

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 analyses 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 more accurately estimate risks to 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 Standardised approach. Table 39 summarises the capital requirements under the respective approaches for the MSI Group. Testing to ensure that the capital assessment meets the required soundness standard is carried out on a quarterly basis with the results reported to the PRA.

Table 39: Market risk RWA summary

	MSI Group			MSIP			MSEHSE Group	
$MM	**RWAs Q4'20**	**RWAs Q3'20**	**MCR Q4'20**	**RWAs Q4'20**	**RWAs Q3'20**	**MCR Q4'20**	**RWAs Q4'20**	**MCR Q4'20**
Standardised approach	15,480	13,521	1,238	9,444	8,143	756	19	2
Internal models approach	51,287	49,072	4,103	45,918	45,507	3,673	5,370	429
Total	**66,767**	**62,593**	**5,341**	**55,362**	**53,650**	**4,429**	**5,389**	**431**

Standardised Approach

Table 40 shows the market risk capital requirements for the MSI Group as at 31 December 2020, calculated in accordance with the standardised approach and categorised by component type.

Table 40: Market risk under the standardised approach (EU MR1)

$MM MSI Group	RWAs	MCR
Outright products		
Interest rate risk (general and specific)	3,107	249
Equity risk (general and specific)	6	0
Foreign exchange risk	5,062	405
Commodity risk	1,031	82
Securitisation (specific risk)[1]	3,894	312
Options		
Simplified approach	-	-
Delta-plus method	2,380	190
Scenario approach	-	-
Total	**15,480**	**1,238**

Over the second half of 2020, capital requirements under the Standardised Approach increased in Q4, driven by Foreign Exchange Risk primarily due to increased EUR exposure.

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 charges are determined by the higher of the average of the latest 12 weeks IRC/CRM and the IRC/CRM charge for the relevant day.

Table 41 shows the VaR and SVaR, as well as the IRC and CRM measures for the MSI Group, for the year ending 31 December 2020. The VaR and SVaR capital measures presented in Table 42 were based on the 60 day averages, as they were higher than the daily measures as at 31 December 2020.

Table 41: Market risk under internal models approach (EU MR2-A)

$MM MSI Group		RWAs	MCR
VaR (higher of values a and b)		**8,150**	**652**
(a)	Previous day's VaR (Article 365(1) (VaRt-1))	3,213	257
(b)	Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR	8,150	652
SVaR (higher of values a and b)		**11,460**	**917**
(a)	Latest SVaR (Article 365(2) (sVaRt-1))	3,686	295
(b)	Average of the SVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)	11,460	917
IRC (higher of values a and b)		**5,129**	**410**
(a)	Most recent IRC value (incremental default and migration risks calculated in accordance with Article 370 and Article 371 of the CRR)	5,129	410
(b)	Average of the IRC number over the preceding 12 weeks	4,212	337
Comprehensive risk measure (higher of values a, b and c)		**0**	**0**
(a)	Most recent risk number for the correlation trading portfolio (Article 377 of the CRR)	0	0
(b)	Average of the risk number for the correlation trading portfolio over the preceding 12 weeks	0	0
(c)	8% of the own funds requirement in the standardised approach on the most recent risk number for the correlation trading portfolio (Article 338(4) of the CRR)	0	0
Other		**26,548**	**2,124**
Total		**51,287**	**4,103**

Table 42 summarises the key drivers of RWAs MCR for MSI Groups and MSIP's market risk exposures under the Internal IMA Model.

Table 42: RWA flow statements of market risk exposures under the IMA (EU MR2-B)

$MM MSI Group	VAR	Stressed VAR	IRC	Comprehensive risk measure	Other[4]	RWAs	MCR
RWAs at previous quarter end[1]	**9,428**	**12,374**	**3,463**	**0**	**23,807**	**49,072**	**3,926**
Regulatory adjustment[2]	(6,537)	(9,170)	(761)	-	(7,394)	(23,862)	(1,909)
RWAs at end of day previous quarter end	2,891	3,204	2,702	-	16,413	25,210	2,017
Movement in risk levels	370	500	2,579	-	(126)	3,323	266
Model updates/changes	(32)	36	-	-	(1,166)	(1,162)	(93)
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign exchange movements	-	-	-	-	-	-	-
Other[3]	(16)	(54)	(152)	-	-	(222)	(18)
RWAs at end of day current quarter end	3,213	3,686	5,129	-	15,121	27,149	2,172
Regulatory adjustment[2]	4,937	7,774	-	-	11,427	24,138	1,931
RWAs at end of reporting period	**8,150**	**11,460**	**5,129**	**0**	**26,548**	**51,287**	**4,103**
MSIP							
RWAs at previous quarter end[1]	**8,974**	**11,445**	**3,248**	**0**	**21,840**	**45,507**	**3,641**
Regulatory adjustment[2]	(6,235)	(8,519)	(752)	-	(6,146)	(21,652)	(1,734)
RWAs at end of day previous quarter end	2,739	2,926	2,496	-	15,694	23,855	1,907
Movement in risk levels	362	303	2,555	-	(1,509)	1,711	137
Model updates/changes	(32)	36	-	-	(1,166)	(1,162)	(92)
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign exchange movements	-	-	-	-	-	-	-
Other[3]	(16)	(54)	(151)	-	-	(221)	(17)
RWAs at end of day current quarter end	3,053	3,211	4,900	-	13,019	24,183	1,935
Regulatory adjustment[2]	4,639	7,267	-	-	9,829	21,735	1,738
RWAs at end of reporting period	**7,692**	**10,478**	**4,900**	**0**	**22,848**	**45,918**	**3,673**

1. Previous reporting period was Q3'20.
2. Regulatory adjustment accounts for the difference between the RWA calculated based on the end-of-day position, compared with the RWA 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 CRM. The regulatory adjustments also account for the multiplication factors mc and ms, 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 2020, there was a marginal increase in Market Risk RWA under IMA. Risk levels trended higher primarily driven by increased Credit and FX risks towards end of the quarter.

Table 43 provides a summary of the maximum, minimum, average and period-end values over the six months to 31 December 2020, for the MSI Group, resulting from the different types of models approved to be used for computing the regulatory capital charge.

Table 43: IMA values for trading portfolios (EU MR3)

MSI Group	$MM
VaR (10 day 99%)	
Maximum value	328
Average value	213
Minimum value	137
Period end	257
SVaR (10 day 99%)	
Maximum value	363
Average value	290
Minimum value	222
Period end	295
IRC (99.9%)	
Maximum value	549
Average value	301
Minimum value	176
Period end	410
Comprehensive Risk capital charge (99.9%)	
Maximum value	0
Average value	0
Minimum value	0
Period end	0

Over the second half of 2020, VaR and SVaR remained stable. Average IRC was reduced, while period-end IRC trended higher mainly driven by increased credit exposures in the fourth quarter of 2020.

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 standardised approach.

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. The firm carries out a CRR self-assessment of the articles governing Trading Book/Non Trading Book classification.

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

Morgan Stanley performs regulatory backtesting for MSIP and MSEHSE Group 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 of 31 December 2020, 77% 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 the MSIP Group) 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 net interest income. For the purposes of the Regulatory backtest, Actual profit and loss incorporates liquidity and model-driven fair value adjustments whist 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 MSEHSE Group level, 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.

Any backtesting results that may point to weaknesses in model performance or data inaccuracies, are reported, analysed and discussed by the firm's 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.

For the measurement period ended 31 December 2020, six Hypothetical and three Actual profit and loss exceptions were observed for MSIP, all of which occurred in March 2020. The Firm's analysis of these exceptions concluded that they were largely driven by significant directional market moves in risk factors that were captured in the VaR model with sufficient granularity, or from risks that were covered via Risk not in VaR (RNIV) Buffers. Under CRR Article 500 c), the regulator subsequently approved the Firm's application to exclude five Hypothetical and two Actual backtesting exceptions. Taking this relief into account, the MSIP exception count equates to the Green zone for capital multiplier purposes (less than five exceptions).

The plots of Actual and Hypothetical profit and loss, covering 250 business days of MSIP backtesting monitoring to 31 December 2020 are displayed below:

Figure 5: Comparison of VaR Estimates with Gains/Losses – MSIP (EU 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:

1. The graphs include the exceptions referenced above which were discounted for capital purposes under CRR article 500c

For the measurement period ended 31 December 2020, four Hypothetical and four Actual profit and loss exceptions were observed for MSEHSE Group. One of these Hypothetical (and Actual) profit and loss exceptions occurred in February 2020, with the remaining exceptions reported in March 2020. The Firm's analysis of these exceptions concluded that they were largely driven by significant directional market moves in risk factors that were captured in the VaR model with sufficient granularity. Under CRR Article 500 c), the regulator subsequently approved the Firm's application to exclude three Hypothetical and three Actual backtesting exceptions. Taking this relief into account, the MSEHSE Group exception count equates to the Green zone for capital multiplier purposes (less than five exceptions).

The plots of Actual and Hypothetical profit and loss, covering 250 business days of MSEHSE Group backtesting monitoring to 31 December 2020, are displayed below:

Figure 6: Comparison of VaR Estimates with Gains/Losses – MSEHSE Group (EU MR4)

The graphs below show the 1 day Regulatory Trading VaR against Actual and Hypothetical profit and loss for MSEHSE Group, values in millions of dollars:

1. The graphs include the exceptions referenced above which were discounted for capital purposes under CRR article 500c

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 losses arising from correlated credit rating migration events and potentially joint default events for credit products in Morgan Stanley'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. The weighted liquidity horizon for IRC is 4.56 months.

Morgan Stanley 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 44: IRC liquidity horizon for material sub portfolios

MSI Group	Liquidity horizon (months)
Fixed income division	4.29
Institutional equity division	5.32
Bank resource management	5.51

13.7 Comprehensive Risk Measure

The CRM measures the profit and loss impact in the correlation trading portfolio (“CTP”) of 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 Morgan Stanley’s inventory of CTP.

Comprehensive Risk Measure applies Monte Carlo simulations to a Merton style default modelling and separate but correlated multifactor processes for the modelled market risk factors. 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.

Morgan Stanley monitors the accuracy and consistency of the Comprehensive Risk Measure 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 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.

13.9 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 within 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. IRRBB risk was $20k gain per basis point as of 31st December 2020, i.e. gains or losses arising from increases in interest rate levels. Changes in the economic values of equity ("EVE") are evaluated using a 200BP parallel shift in interest rates. Impacts to Net Interest Income ("NII") are measured using a 100BP parallel shift in interest rates. There is a limit on the impact to NII and on the total IRRBB rates delta exposure, as well as a Key Risk Indicator for NII under a 200 basis point shock, which includes incremental funding cost. EVE and NII risk is mitigated by Treasury executing financial products to manage liquidity, funding and capital, including: cash, repo and reverse repo and interest rate derivatives.

Table 45: Interest rate risk in the banking book

$MM MSI Group[1]	Profit or loss of a +200BP parallel shift in interest rates	Profit or loss of a -200BP parallel shift in interest rates
USD	30	(30)
EUR	(9)	9
GBP	(15)	15
JPY	0	0
Other	(2)	2
Total	**4**	**(4)**

1. Changes in economic value of equity only.

14. 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 and is discussed below under "Legal, regulatory and compliance 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 the 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 program 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 cyberattacks; 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 2020 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 program 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 programs (e.g. cybersecurity), fraud risk management and prevention program and a third party risk management program.

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 program 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 program 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 EMEA Risk Committee
- 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.
- UK 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 of 31 December 2020, the MSI Group's Operational Risk Weighted Assets were $12,760MM.

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.

15. 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.

15.1 Fair Valuation

Valuation Control ("VC") within Finance is responsible for the MSI Group's fair value valuation policies, processes and procedures. VC implements valuation control 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 Model Risk Management 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. Adjustments are made to the books and records for resulting variances which are above tolerance limits. Limits are set by VC based on the subjectivity inherent in the external pricing data. An additional tolerance at the legal entity level 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.

15.2 Prudent Valuation

VC calculates a Prudent Valuation Adjustment as required by the Commission Delegated Regulation (EU) 2016/101. VC has documented policies and procedures, and specific methodologies for each valuation exposure covered by the regulation. Prudent Valuation consists of a series of Additional Valuation Adjustments ("AVAs") required to mark the firm's fair valued inventory to a prudent valuation. These AVAs are taken as a deduction to CET1 capital.

The AVAs represent 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. In addition, the AVA models are independently reviewed on an annual basis by Model Risk Management.

16. Liquidity Coverage Ratio

16.1 LCR Disclosure Requirements

The MSI Group's LCR Disclosure is effective 31 December 2020 and is based on the current understanding of the rules set out in the European Commission Delegated Regulation 2015/61 ("DA") adopted in October 2014 and related legislation.

On 31 December 2020, the MSI Group was in excess of the fully phased-in LCR required minimum of 100% (Pillar I) as specified by the total net cash outflows amount included in Table 46.

16.2 Risk Management Objectives and Policies for Liquidity Risk

Liquidity Risk Profile

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 the 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 the 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, the 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 the 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 uses Liquidity Stress Tests 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.

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 locally subject to the liquidity regulations prescribed by the PRA. The Group has daily monitoring and reporting processes in place to ensure compliance with its regulatory requirements.

Liquidity Risk Management

The primary goal of the Liquidity Risk Management Framework is to ensure that the 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 the 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.

Liquidity Risk Policies and Procedures

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, EMEA Risk Committee, EMEA 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 and the MSI Risk Committee.

Pillar II regime

The firm is subject to Pillar II requirements, assessed by the PRA, for risks not covered in the LCR (Pillar I). These risks are identified by the firm and documented in the Internal Liquidity Adequacy Assessment Process ("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 High Quality Liquid Assets ("HQLA") to meet both Pillar I and Pillar II requirements. Pillar II amounts are not disclosed in Table 46.

16.3 LCR Qualitative Disclosures

Main Drivers of the LCR

When discussing the main drivers of the LCR, the 12-month average values have been referred to. The most significant drivers of MSI Group's cash outflow amounts this quarter were secured wholesale funding and outflows related to derivative exposures and other collateral requirements. These outflows constituted more than 70 percent of the LCR cash outflow amount. Secured wholesale funding transactions include repurchase transactions, loans of collateral to customers to effect short positions, and other secured loans received by the Group. Asset exchanges transactions, where the counterparties have previously exchanged non-cash assets and have agreed to return such assets to each other at a later date, are also included in the secured wholesale funding line. Net derivative cash outflows include contractual payments and collateral that the Group will make or deliver to a counterparty within 30 calendar days under derivative transactions, taking into account any qualifying master netting agreement. Other outflow drivers are also noted in the "Total Weighted Value" column in Table 46.

These outflows reflect prescribed, industry-wide LCR rules related to liquidity risk in the Firm's business lines, activities and products, as measured for a projected 30-calendar day stress period.

The cash inflow amounts this quarter were principally driven by secured lending and asset exchange cash inflows, which constituted more than 70 percent of the LCR cash inflow amount. Secured lending transactions include reverse repurchase transactions and securities borrowed transactions. Other inflow drivers are noted in the "Total Weighted Value" column in Table 46.

Derivatives Exposures and Potential Collateral Calls

MSI Group is a participant in global derivatives markets. In some cases, the derivative counterparties have contractual rights that require the MSI Group to post collateral to them in the event that credit rating agencies downgrade the 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 would depend on a number of interrelated factors, including, among others, 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. The 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 program, 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 U.S. dollar, and changes in foreign exchange rates relative to the U.S. dollar, therefore, can affect the value of non-U.S. dollar 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-U.S. dollar 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.

Funding and Balance Sheet Management

The MSI Group manages its funding in a manner that reduces the risk of disruption to its operations. The 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.

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

In managing both the Morgan Stanley Group's and the 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 and the MSI Group with flexibility in managing the composition and size of its balance sheet.

The Centralized 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 the 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, EMEA Risk Committee and the MSI Risk Committee as appropriate.

The Treasury Department and applicable business units (collectively the Centralized Liquidity Management Function) have primary responsibility for evaluating, monitoring and controlling the liquidity and funding risks arising from the 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.

16.4 LCR Quantitative Disclosures

The LCR quantitative disclosures, shown in Table 46, reflect the monthly average value for the last 12-month period, 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 that are not included in the calculation used to determine the Firm's compliance with LCR requirements.

Table 46: Liquidity Coverage Ratio

$MM	Total unweighted value				Total weighted value			
MSI Group[1,2]	31-Mar-2020	30-Jun-2020	30-Sep-2020	31-Dec-2020	31-Mar-2020	30-Jun-2020	30-Sep-2020	31-Dec-2020
Number of data points used in the calculation of averages	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
High-Quality Liquid Assets								
Total high-quality liquid assets (HQLA)	-	-	-	-	48,508	46,883	45,785	45,310
Cash-Outflows								
Retail deposits and deposits from small business customers, of which:	-	-	-	-	-	-	-	-
Stable deposits	-	-	-	-	-	-	-	-
Less stable deposits	-	-	-	-	-	-	-	-
Unsecured wholesale funding	12,240	12,235	11,821	11,924	12,240	12,235	11,821	11,924
Operational deposits (all counterparties) and deposits in networks of cooperative banks	-	-	-	-	-	-	-	-
Non-operational deposits (all counterparties)	12,076	12,019	11,579	11,673	12,076	12,019	11,579	11,673
Unsecured debt	164	216	242	251	164	216	242	251
Secured wholesale funding					40,805	38,875	38,170	37,286
Additional requirements	21,567	22,592	23,480	24,684	15,477	16,431	17,274	18,400
Outflows related to derivative exposures and other collateral requirements	17,578	18,547	19,465	20,631	14,619	15,537	16,358	17,457
Outflows related to loss of funding on debt products	-	-	-	-	-	-	-	-
Credit and liquidity facilities	3,989	4,045	4,015	4,053	858	894	916	943
Other contractual funding obligations	53,640	52,127	49,191	47,676	1,282	1,197	1,051	998
Other contingent funding obligations	4,882	4,529	4,808	5,400	2,056	2,008	2,110	2,171
Total Cash Outflows					**71,860**	**70,746**	**70,426**	**70,779**
Cash Inflows								
Secured lending (e.g. reverse repos)	212,656	197,558	189,063	185,094	36,289	34,871	34,067	33,295
Inflows from fully performing exposures	11,842	11,896	11,855	12,237	10,725	10,855	10,764	11,004
Other cash inflows	4,569	4,843	5,029	5,161	4,569	4,843	5,029	5,161
(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)					663	702	762	848
(Excess inflows from a related specialised credit institution)					-	-	-	-
Total Cash Inflows	**229,067**	**214,297**	**205,947**	**202,492**	**50,920**	**49,867**	**49,098**	**48,612**
Fully exempt inflows	-	-	-	-	-	-	-	-
Inflows Subject to 90% Cap	-	-	-	-	-	-	-	-
Inflows Subject to 75% Cap	185,527	172,220	163,887	160,613	50,921	49,867	49,099	48,612
					Total Adjusted Value			
Liquidity Buffer	-	-	-	-	**48,508**	**46,883**	**45,785**	**45,310**
Total Net Cash Outflows	-	-	-	-	**21,121**	**21,058**	**21,507**	**22,346**
Liquidity Coverage Ratio (%)	-	-	-	-	**230%**	**223%**	**213%**	**203%**

1. All cash inflows and outflows shown are at the full unweighted/weighted value and do not reflect the phase in of LCR requirements.
2. As per the EBA guidance, Total HQLA amounts are before the application of the LCR HQLA caps (these are reflected in the Liquidity Buffer amounts, impacting Q1-Q2). Total Cash Inflows are prior to the application of the inflow cap that is reflected in the Total Net Cash Outflows balance.

17. 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 47 below. 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 2020 has decreased slightly from 2019. Collateral received has decreased year on year with the encumbrance level remaining materially in line with 2019. In compliance with PRA guidelines, amounts are presented as a median of the twelve month ends over 2020. Note the rows in the tables below are not additive, with the median calculated individually across all cells. The respective carrying amounts of notionally eligible EHQLA and HQLA comply with the exposure class-specific requirement (before the application of any haircuts) of liquid assets as specified in the delegated act.

Table 47 shows the MSI Group's encumbered and unencumbered on-balance sheet assets, presented as a median over 2020.

Table 47: Encumbered and unencumbered assets

$MM MSI Group[1,2]	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
Assets of the reporting institution	127,709	27,811	N/A	N/A	454,088	5,541	N/A	N/A
Equity instruments	41,316	8,760	41,316	8,760	18,026	1,848	18,026	1,848
Debt securities	26,624	19,686	26,624	19,686	8,614	3,434	8,614	3,434
of which: covered bonds	47	-	47	-	13	-	13	-
of which: asset-backed securities	399	-	377	-	330	-	330	-
of which: issued by general governments	18,903	17,217	18,903	17,217	4,444	3,031	4,444	3,031
of which: issued by financial corporations	2,035	-	2,035	-	814	-	814	-
of which: issued by non-financial corporations	5,198	2,362	5,198	2,362	2,619	267	2,619	267
Other assets[3,4]	59,164	-	N/A	N/A	424,716	-	N/A	N/A

1. A significant portion of MSI Group's business is conducted in currencies other than US Dollar.
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

Table 48 shows off-balance sheet collateral received broken out as encumbered and available for encumbrance, presented as a median over 2020.

Table 48: Collateral received

$MM MSI Group	Fair value of encumbered collateral received or own debt securities issued		Unencumbered 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
Collateral received by the reporting institution	235,442	162,159	38,622	28,476
Equity instruments	86,295	22,537	7,872	1,238
Debt securities	144,379	136,584	29,641	26,277
of which: covered bonds	809	-	5	-
of which: asset-backed securities	199	2	1,030	546
of which: issued by general governments	136,289	133,870	27,378	26,035
of which: issued by financial corporations	1,873	-	524	-
of which: issued by non-financial corporations	5,316	3,036	734	104
Loans and advances other than loans on demand	-	-	-	-
Other collateral received	1,801	-	-	-

Table 49 shows the total encumbered on-balance sheet assets and collateral received and the matching liabilities, presented as a median over 2020.

Table 49: Sources of encumbrance

$MM MSI Group	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities other than covered bonds and ABS's encumbered
Carrying Amount of selected financial liabilities	107,241	110,522
Other sources of encumbrance	243,302	250,020

18. 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 broad range of knowledge, skills, diversity and experience is present on the 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 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 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 diversity.

The MSI Board is aiming to reach a target of 33% female representation by the end of 2020; as at 31 December 2020 it had exceeded the target and there was 38% female representation. Selection of female candidates to join the MSI Board will be, in part, dependent on the pool of female candidates with the necessary skills, knowledge and experience. In order to promote the specific objective of gender diversity at Board level, the Nomination and Governance Committee expects short-lists of potential candidates prepared by external executive search firms to include at least one female candidate.

Non-Executive Directors

Jonathan Bloomer

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

Simon Ball

Simon was appointed a non-executive director of the MSI Board in February 2019 and was appointed Chairman of the Audit Committee in January 2020. He is a member of the Risk and Nomination & Governance Committees.

Simon has over 35 years working in a broad range of sectors, with a particular focus on banking and financial services. He trained as an accountant at Price Waterhouse & Company before leaving to join Dresdner Kleinwort Benson where he spent over 10 years including as Chief Operating Officer and Group Finance Director. Simon left to become Group Financial Director of Robert Fleming Holdings Ltd. He has held a number of executive and non-executive directorships with other financial institutions, including as Group Finance Director and executive board director of 3i Group plc, and as Director General of Finance for HMG Department for Constitutional Affairs.

He is a Chartered Accountant and holds a B.Sc. in Economics from University College, London.

David Cannon

David was appointed a non-executive director of the MSI Board in June 2013. He was Chairman of the Audit Committee until he resigned in January 2020, he remains a member of the Audit Committee as well as the Risk and Nomination & Governance Committees.

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 and Remuneration Committees.

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 Brothers plc. She is an Associate Fellow at Oxford University Said Business School. She graduated from MIT in Mathematics in 1994.

Mary Phibbs

Mary was appointed a non-executive director of the MSI Board in May 2013 and resigned in March 2021. She Chaired the Remuneration Committee until February 2021 and was a member of the Audit, Risk and Nomination & Governance Committees.

Mary has over forty years' international experience in audit, advisory, banking (wholesale and retail), finance and insurance in the UK, Australia and Asia Pacific. During her career she has held roles with a number of retail and investment banks, insurance and financial companies including Standard Chartered Bank in the UK and National Australia Bank in Australia.

Mary is a director of the Canada Pension Plan Investment Board and Chair of Virgin Money Unit Trust Managers Ltd. She has a Bachelor of Science Honours degree from Surrey University and is a qualified Chartered Accountant and fellow of the Institute of Chartered Accountants in England and Wales and Chartered Accountants Australia and New Zealand.

Paul Taylor

Paul was appointed a non-executive director of the MSI Board in August 2020. He is also a member of the 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 chairs the Advisory Board of Imperial College's Institute of Security Science and Technology.

Paul has a BSc in Chemical Engineering from Teesside University and is a Fellow of the Weatherhead Centre for International Affairs at Harvard University.

Executive Directors

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 EMEA Chief Financial Officer and an executive director of the MSI Board (appointed February 2019). Prior to this she was 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 and is a Member of the Institute of Chartered Accountants, Australia.

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). 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.

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 Market Risk Department 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) and Global Co-Head of the Loan Solutions & Securitisation Group within the Global Capital Markets Group. Noreen Co-Chairs the EMEA Diversity Action Counsel.

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.

Clare Woodman

Clare Woodman is Head of EMEA and CEO of Morgan Stanley & Co. International Plc and an executive director on the MSI Board (appointed September 2019). She is a member of both the global operating and management committees and Chair of Morgan Stanley Europe SE. Clare was previously Global Chief Operating Officer for Morgan Stanley's Institutional Securities Group. She joined Morgan Stanley in 2002 from Clifford Chance.

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

Clare holds a number of senior positions across industry organisations: she is a member of the FCA Markets Practitioner Panel, the Economic Crime Strategic Board and Chair of the U.S.-UK Business Council. She is a member of the British Museum Chairman's Advisory Board and a Trustee of the FT Financial Literacy and Inclusion Campaign.

Clare studied at the London Business School where she obtained her MBA.

Figure 7: MSI Directors: Number of Directorships

	Number of directorship held as at 31 December 2020	Directorships adjusted for SYSC4.3A.7(2)
Jonathan Bloomer	7	5
Simon Ball	6	2
David Cannon	6	1
Terri Duhon	7	2
Mary Phibbs	5	3
Paul Taylor	4	2
Arun Kohli	5	1
Kim Lazaroo	4	1
Salvatore Orlacchio	2	1
David Russell	10	2
Arya Sekhar	3	1
Noreen Whyte	6	1
Clare Woodman	6	1

19. Appendix II:MSI Group,MSIP & MSEHSE Group Capital Instruments & Eligible Liabilities

Table 50: MSI Group, MSIP & MSEHSE capital instruments and eligible liabilities

	Common Equity Tier 1		Additional Tier 1		Subordinated Debt			Senior Subordinated Debt	
MSI Group[1 2 3]	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Issuer	Morgan Stanley International Limited								
Unique Identifier	N/A								
Governing law(s) of the instrument	Companies Act 2006		English Law						
Transitional CRR rules	CET1		AT1		Tier 2			Eligible Liability	
Post-transitional CRR rules	CET1		AT1		Tier 2			Eligible Liability	
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	(Sub-) Consolidated								
Instrument type	Ordinary Shares		Perpetual Unsecured Fixed Rate Securities		Long-term subordinated multicurrency loan facility			Subordinated non-T2 Loan	
Amount recognised in regulatory capital $MM	USD 2,366MM	USD 0MM	USD 1,300MM	USD 2,200MM	USD 4,975MM	USD 51MM	USD 341MM	USD 5,000MM	USD 1,000MM
Currency of issuance and Nominal amount of instrument	$1 per ordinary share	$1 per ordinary share	USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	GBP 250MM	USD 5,000MM	USD 1,000MM
Reporting Currency and Nominal amount of instrument	$1 per ordinary share	N/A	USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	USD 341MM	USD 5,000MM	USD 1,000MM
Issue Price	N/A		USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	GBP 250MM	USD 5,000MM	USD 1,000MM
Redemption Price	N/A		USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	GBP 250MM	USD 5,000MM	USD 1,000MM
Accounting Classification	Shareholders' Equity				Liability - amortised cost				
Original date of issuance	13/11/98	18/06/98	25/11/20	23/08/18	08/02/17	21/12/15		27/11/18	
Perpetual or dated	Perpetual				Dated				
Original maturity date	No Maturity				21/12/25			395 days from issuance	
Issuer call subject to prior supervisory approval	N/A		Yes		N/A				
Option call date, contingent call dates	N/A		30/11/25	30/11/23	N/A				
Redemption amount			100% plus tax and regulatory calls at 100%		N/A				
Subsequent call dates, if applicable	N/A		Daily thereafter		N/A				
Fixed or floating dividend / coupon	Floating		Fixed		Floating				
Coupon rate and any related index	N/A		5.5%	7.5%	OBFR + 2.300%	OBFR + 2.086%	SONIA + 2.121%	Proxy	
Existence of a dividend stopper	No								
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary				Mandatory				
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary				Mandatory				
Existence of step up or other incentive to redeem	No								
Noncumulative or cumulative	Noncumulative				Cumulative				
Convertible or non-convertible	Non-convertible								
If convertible,									
conversion trigger(s)	N/A								
fully or partially	N/A								
conversion rate	N/A								
mandatory or optional conversion	N/A								
specify instrument type convertible into	N/A								
specify issuer of instrument it converts into	N/A								
Write-down features	No		Yes		No			Yes	
If write-down, write-down trigger(s)	N/A		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		BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers			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	
If write-down, full or partial	N/A		Full		N/A			Partial	
If write-down, permanent or temporary	N/A		Permanent		N/A			Permanent	
If temporary write-down, description of write-up mechanism	N/A								
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Perpetual Unsecured Fixed Rate Securities [column C, D]		Long-term subordinated loan facility [columns E, F, G]		Senior Subordinated Facility [columns H and I]			Other Liabilities	
Non-compliant transitioned features	No								
If yes, specify non-compliant features	N/A								
TLAC Eligibility	Yes		No		Yes				

1. All capital instruments issued by the MSI Group are issued within Morgan Stanley and are not marketable instruments.
2. 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.
3. The repayment date can be extended by 395 days on each business day but no later than 49 years from utilisation date, and unless a term-out notice is sent.

Description	Common Equity Tier 1			Additional Tier 1		Subordinated Debt
MSIP [1 2 3]	A	B	C	D	E	F
Issuer	Morgan Stanley & Co. International plc					
Unique Identifier	N/A					
Governing law(s) of the instrument	Companies Act 2006			English Law		
Transitional CRR rules	CET1			AT1		Tier 2
Post-transitional CRR rules	CET1			AT1		Tier 2
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	Solo and (Sub-) Consolidated					
Instrument type	Ordinary Shares			Perpetual Unsecured Fixed Rate Securities		Long-term subordinated multicurrency loan facility
Amount recognised in regulatory capital $MM	USD 10,935MM	USD 30MM	USD 1,500MM	USD 1,300MM	USD 2,200MM	USD 4,975MM
Currency of issuance and Nominal amount of instrument	$1 per ordinary share	£1 per ordinary share	$1 per ordinary share	USD 1,300MM	USD 2,200MM	USD 5,000MM
Reporting Currency and Nominal amount of instrument	$1 per ordinary share	N/A	USD 1,500MM	USD 1,300MM	USD 2,200MM	USD 5,000MM
Issue Price	N/A			USD 1,300MM	USD 2,200MM	USD 5,000MM
Redemption Price	N/A			USD 1,300MM	USD 2,200MM	USD 5,000MM
Accounting Classification	Shareholders' Equity					Liability - amortised cost
Original date of issuance	01/02/94	28/10/86	22/12/11	25/11/20	23/08/18	08/02/17
Perpetual or dated	Perpetual					Dated
Original maturity date	No maturity					21/12/25
Issuer call subject to prior supervisory approval	N/A			Yes		N/A
Option call date, contingent call dates	N/A			30/11/25	30/11/23	N/A
Redemption amount	N/A			100% plus tax and regulatory calls at 100%		N/A
Subsequent call dates, if applicable	N/A			Daily thereafter		N/A
Fixed or floating dividend / coupon	Floating			Fixed		Floating
Coupon rate and any related index	N/A			5.5%	7.5%	OBFR + 2.300%
Existence of a dividend stopper	No					
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary					Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary					Mandatory
Existence of step up or other incentive to redeem	No					
Noncumulative or cumulative	Noncumulative					Cumulative
Convertible or non-convertible	Nonconvertible					
If convertible						
conversion trigger(s)	N/A					
fully or partially	N/A					
conversion rate	N/A					
mandatory or optional conversion	N/A					
specify instrument type convertible into	N/A					
specify issuer of instrument it converts into	N/A					
Write-down features	No			Yes		No
If write-down, write-down trigger(s)	N/A			Contractual write down if CET1 Capital Ratio of MSIP or 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		BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers
If write-down, full or partial	N/A			Full		N/A
If write-down, permanent or temporary	N/A			Permanent		N/A
If temporary write-down, description of write-up mechanism	N/A					
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
Non-compliant transitioned features	No					
If yes, specify non-compliant features	N/A					

1. All capital instruments issued by MSIP are issued within Morgan Stanley and are not marketable instruments.
2. 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.
3. The repayment date can be extended by 395 days on each business day but no later than 49 years from utilisation date, and unless a term-out notice is sent.

Description	Common Equity Tier 1	Additional Tier 1	Subordinated Debt
MSEHSE Group[1 2]	A	B	C
Issuer	Morgan Stanley Europe Holding SE		
Unique Identifier	N/A		
Governing law(s) of the instrument	German Stock Corporation Act	German Law	
Transitional CRR rules	CET1	AT1	Tier 2
Post-transitional CRR rules	CET1	AT1	Tier 2
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	(Sub-) Consolidated	Solo and (Sub-) Consolidated	
Instrument type	Ordinary Shares	Undated Subordinated AT1 Notes	Schuldschein Loan
Amount recognised in regulatory capital $MM	EUR 0MM	EUR 600MM	EUR 1,000MM
Currency of issuance and Nominal amount of instrument	€1 per ordinary share	EUR 600MM	EUR 1,000MM
Reporting Currency and Nominal amount of instrument	€1 per ordinary share	EUR 600MM	EUR 1,000MM
Issue Price	N/A	EUR 600MM	EUR 1,000MM
Redemption Price	N/A	EUR 600MM	EUR 1,000MM
Accounting Classification	Shareholders' Equity	Liability under German GAAP; shareholders' equity under IFRS	Liability - amortised cost
Original date of issuance	26/09/17	29/10/20	27/10/20
Perpetual or dated	Perpetual		Dated
Original maturity date	No maturity		27/10/31
Issuer call subject to prior supervisory approval	N/A	Yes	
Option call date, contingent call dates	N/A	30/11/25	27/10/25
Redemption amount	N/A		
Subsequent call dates, if applicable	N/A	Daily thereafter	Each interest payment date
Fixed or floating dividend / coupon	Floating	Fixed	Floating
Coupon rate and any related index	N/A	4.7%	3M EURIBOR + 1.6%
Existence of a dividend stopper	No		
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary		Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary		Mandatory
Existence of step up or other incentive to redeem	No		
Noncumulative or cumulative	Noncumulative		Cumulative
Convertible or non-convertible	Non-convertible		
If convertible			
conversion trigger(s)	N/A		
fully or partially	N/A		
conversion rate	N/A		
mandatory or optional conversion	N/A		
specify instrument type convertible into	N/A		
specify issuer of instrument it converts into	N/A		
Write-down features	No	Yes	No
If write-down, write-down trigger(s)	N/A	Contractual write down if CET1 Capital Ratio of MSEHSE Group falls below 5.125%. Competent Authority will trigger the write down of the instrument upon the exercise of statutory powers	N/A
If write-down, full or partial	N/A	Full	N/A
If write-down, permanent or temporary	N/A	Temporary	N/A
If temporary write-down, description of write-up mechanism	N/A	The Current Principal Amount, unless previously redeemed or repurchased and cancelled, may be written up in each of the financial years until the full Initial Principal Amount has been reached, to the extent that a corresponding Annual Profit is recorded and the write-up will not give rise to or increase an annual net loss.	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Perpetual Unsecured Fixed Rate Securities [column B]	Long-term subordinated loan facility [column C]	Other Liabilities
Non-compliant transitioned features	No		
If yes, specify non-compliant features	N/A		

1. All capital instruments issued by the MSEHSE Group are issued within Morgan Stanley and are not marketable instruments.
2. 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.

20. Appendix III: MSI Group, MSIP and MSEHSE Group Own Funds Disclosure Template

Table 51: MSI Group, MSIP and MSEHSE Group own funds disclosure template

$MM[1]	MSI Group	MSIP	MSEHSE Group
Capital instruments and the related share premium accounts	2,403	12,978	0
Paid up capital instruments	2,366	12,465	0
Of which: Ordinary shares	2,366	10,965	-
Of which: Class A Ordinary shares (non-voting)	-	1,500	-
Share premium	37	513	-
Retained earnings	13,030	2,589	12
Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	6,957	1,039	3,554
Independently reviewed interim profits net of any foreseeable charge or dividend	698	541	-
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**23,088**	**17,147**	**3,566**
Additional value adjustments (negative amount)	(1,073)	(1,021)	(12)
Intangible assets (net of related tax liability) (negative amount)	(449)	(2)	-
Negative amounts resulting from the calculation of expected loss amounts	(299)	(203)	(13)
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	151	185	(63)
Defined-benefit pension fund assets (negative amount)	(22)	-	-
Total regulatory adjustments to Common equity Tier 1 (CET1)	(1,692)	**(1,041)**	**(88)**
Common Equity Tier 1 (CET1) capital	**21,396**	**16,106**	**3,478**
Capital instruments and the related share premium accounts	3,500	3,500	734
Of which: classified as equity under applicable accounting standards	3,500	3,500	734
Additional Tier 1 (AT1) capital	**3,500**	**3,500**	**734**
Tier 1 capital (T1 = CET1 + AT1)	**24,896**	**19,606**	**4,212**
Capital instruments and the related share premium accounts	5,365	4,975	1,222
Qualifying own funds instruments included in consolidated Tier 2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-	-	-
Of which: Instruments issued by subsidiaries subject to phase out	-	-	-
Tier 2 capital before regulatory adjustments	**5,365**	**4,975**	**1,222**
Tier 2 capital	**5,365**	**4,975**	**1,222**
Total capital (TC = T1 + T2)	**30,261**	**24,581**	**5,434**
Total risk weighted assets	**167,445**	**155,537**	**14,521**
Common Equity Tier 1 (as a percentage of risk exposure amount)	12.8%	10.4%	24.0%
Tier 1 (as a percentage of risk exposure amount)	14.9%	12.6%	29.0%
Total capital (as a percentage of risk exposure amount)	18.1%	15.8%	37.4%
Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	7.03%	7.03%	7.03%
Of which: Capital conservation buffer requirement	2.50%	2.50%	2.50%
Of which: Countercyclical buffer requirement	0.03%	0.03%	0.03%
Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	6.8%	4.4%	18.2%
Direct and indirect holdings of the capital 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)	1,143	1,298	1
Direct and indirect holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	-	105	-
Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	314	170	47

1. Under PRA and ECB supervision respectively, the MSI Group, MSIP and MSEHSE Group are required to maintain a minimum ratio of Own Funds to RWAs. As at 31 December 2020, the MSI Group, MSIP and MSEHSE Group are in compliance with the capital requirements as defined by the CRR.

21. Appendix IV: Countercyclical Capital Buffer (CCyB)

Table 52 shows the geographical distribution of credit exposures relevant for the calculation of CCyB as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 52: Geographical distribution of credit exposures for the CCyB

	General credit exposures		Trading book exposures			Own funds requirements					
	Exposure value for SA	Exposure value for IRB	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for internal models	Securitisation Exposures	Of which: General credit exposures	Of which: Trading book exposures	Of which: Securitisation exposures	Total	Own funds requirement weights	CCyB rate
MSI Group	$MM	$MM	$MM	$MM	$MM	$MM	$MM	$MM	$MM	%	%
Bulgaria	-	-	-	9	-	-	1	-	1	0.01%	0.50%
Czech Republic	-	-	-	2	-	-	1	-	1	0.01%	0.50%
Hong Kong	132	1,027	569	141	-	47	65	-	112	1.94%	1.00%
Luxembourg	270	3,769	56	162	-	188	78	-	266	4.61%	0.25%
Norway	-	37	-	10	-	1	3	-	4	0.06%	1.00%
Slovakia	-	-	-	2	-	-	-	-	-	0.00%	1.00%
Other	32,914	95,017	2,048	3,908	315	3,893	1,495	19	5,407	93.37%	0.00%
TOTAL	**33,316**	**99,850**	**2,673**	**4,234**	**315**	**4,129**	**1,643**	**19**	**5,791**	**100.00%**	
MSIP											
Bulgaria	-	-	-	9	-	-	1	-	1	0.01%	0.50%
Czech Republic	-	-	-	2	-	-	1	-	1	0.01%	0.50%
Hong Kong	132	989	569	141	-	46	65	-	111	2.11%	1.00%
Luxembourg	129	2,748	-	162	-	144	72	-	216	4.12%	0.25%
Norway	-	35	-	10	-	1	3	-	4	0.06%	1.00%
Slovakia	-	-	-	2	-	-	-	-	-	0.00%	1.00%
Other	27,726	89,007	1,776	3,436	315	3,464	1,449	19	4,932	93.69%	0.00%
TOTAL	**27,987**	**92,779**	**2,345**	**3,762**	**315**	**3,655**	**1,591**	**19**	**5,265**	**100.00%**	
MSEHSE Group											
Bulgaria	-	-	-	-	-	-	-	-	-	0.00%	0.50%
Czech Republic	-	-	-	-	-	-	-	-	-	0.00%	0.50%
Hong Kong	-	35	-	-	-	1	-	-	1	0.18%	1.00%
Luxembourg	144	912	-	-	-	65	-	-	65	13.10%	0.25%
Norway	-	1	-	-	-	-	-	-	-	0.03%	1.00%
Slovakia	-	-	-	-	-	-	-	-	-	0.00%	1.00%
Other	3,058	10,260	-	472	-	413	20	-	433	86.69%	0.00%
TOTAL	**3,202**	**11,208**	**-**	**472**	**-**	**479**	**20**	**-**	**499**	**100.00%**	

Table 53: Amount of institution specific CCyB

$MM	MSI Group	MSIP	MSEHSE Group
Total risk exposure amount	**167,445**	**155,537**	**14,521**
Institution specific countercyclical buffer rate	0.03%	0.03%	0.03%
Institution specific countercyclical buffer requirement	53	50	5

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

Table 54 shows the total and average net amount of exposures as at 31 December 2020 for the MSI Group, MSIP and MSEHSE.

Table 54: Total and average net amount of exposures (EU CRB-B)

$MM	MSI Group		MSIP		MSEHSE Group	
	Net value of exposures at the end of the period	Average net exposures over the period	Net value of exposures at the end of the period	Average net exposures over the period	Net value of exposures at the end of the period	Average net exposures over the period
Central governments or central banks	15,312	14,418	3,723	7,606	10,322	6,018
Institutions	10,053	10,809	12,936	11,107	440	553
Corporates	7,531	7,589	3,478	5,147	2,821	765
Of Which: Specialised Lending	-	50	-	-	-	-
Equity	881	946	815	901	12	10
Total IRB approach	**33,777**	**33,762**	**20,952**	**24,761**	**13,595**	**7,346**
Central governments or central banks	603	513	583	462	22	33
Regional governments or local authorities	5	3	5	3	-	-
Public sector entities	1	0	1	0	-	-
Multilateral Development Banks	3	5	3	5	-	-
International Organisations	-	-	-	-	-	-
Institutions	836	685	877	718	40	15
Corporates	847	938	594	717	27	28
Retail	-	-	-	-	-	-
Secured by mortgages on immovable property	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other exposures	1,707	1,549	201	109	118	81
Total standardised approach	**4,002**	**3,693**	**2,264**	**2,014**	**207**	**157**
Total	**37,779**	**37,455**	**23,216**	**26,775**	**13,802**	**7,503**

Over the course of 2020, MSI Group net exposures within IRB to Central Governments and Central Banks have decreased driven by cash balances at central bank due to liquidity management.

Table 55 shows the breakdown of exposures by geographical areas and exposure classes as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 55: Geographical breakdown of exposures (EU CRB-C)

$MM	EMEA								Asia						Americas			Other	Total
Country of Jurisdiction[1]	EMEA Total	Germany	United Kingdom	France	Italy	Luxembourg	Switzerland	Other	Asia Total	Japan	Hong Kong	Taiwan	China	Other	Americas Total	United States	Other		
MSI Group																			
Central governments or central banks	15,112	10,094	3,724	1,030	-	-	226	38	199	-	-	-	179	20	-	-	-	-	**15,311**
Institutions	3,212	60	731	1,294	8	76	68	975	3,601	2,077	922	8	389	205	3,240	3,098	142	-	**10,053**
Corporates	6,520	352	374	3,056	857	475	340	1,066	686	-	-	570	-	116	325	257	68	-	**7,531**
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Equity	312	5	82	4	1	101	9	110	13	4	2	2	1	4	556	550	6	-	**881**
Total IRB approach	**25,156**	**10,511**	**4,911**	**5,384**	**866**	**652**	**643**	**2,189**	**4,499**	**2,081**	**924**	**580**	**569**	**345**	**4,121**	**3,905**	**216**	**-**	**33,776**
Central governments or central banks	555	21	419	20	29	-	-	66	37	1	-	-	5	31	9	8	1	2	**603**
Regional governments or local authorities	3	-	-	-	-	-	-	3	-	-	-	-	-	-	2	1	1	-	**5**
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	**1**
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	**3**
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Institutions	625	127	124	304	12	19	7	32	47	21	1	-	2	23	165	161	4	-	**837**
Corporates	657	32	533	25	4	6	3	54	67	6	8	19	10	24	123	78	45	-	**847**
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Other exposures	1,707	117	1,535	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,707**
Total standardised approach	**3,547**	**297**	**2,611**	**404**	**45**	**25**	**10**	**155**	**151**	**28**	**9**	**19**	**17**	**78**	**300**	**249**	**51**	**5**	**4,003**
Total	**28,703**	**10,808**	**7,522**	**5,788**	**911**	**677**	**653**	**2,344**	**4,650**	**2,109**	**933**	**599**	**586**	**423**	**4,421**	**4,154**	**267**	**5**	**37,779**
MSIP																			
Central governments or central banks	3,723	-	3,723	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3,723**
Institutions	6,538	2,488	1,906	1,215	4	-	33	892	3,471	2,073	914	-	284	200	2,925	2,786	139	-	**12,934**
Corporates	2,787	25	351	1,527	13	209	267	395	387	-	-	337	-	50	305	237	68	-	**3,479**
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Equity	305	5	77	4	1	100	9	109	13	4	2	2	1	4	498	492	6	-	**816**
Total IRB approach	**13,353**	**2,518**	**6,057**	**2,746**	**18**	**309**	**309**	**1,396**	**3,871**	**2,077**	**916**	**339**	**285**	**254**	**3,728**	**3,515**	**213**	**-**	**20,952**
Central governments or central banks	539	9	425	17	27	-	-	61	34	1	-	-	3	30	9	8	1	2	**584**
Regional governments or local authorities	3	-	-	-	-	-	-	3	-	-	-	-	-	-	1	1	-	-	**4**
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	**3**
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Institutions	668	161	149	305	11	4	6	32	46	21	1	-	1	23	164	160	4	-	**878**
Corporates	405	18	308	16	3	5	2	53	67	6	8	19	10	24	122	77	45	-	**594**
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Other exposures	201	-	201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**201**
Total standardised approach	**1,816**	**188**	**1,083**	**338**	**41**	**9**	**8**	**149**	**147**	**28**	**9**	**19**	**14**	**77**	**296**	**246**	**50**	**5**	**2,264**
Total	**15,169**	**2,706**	**7,140**	**3,084**	**59**	**318**	**317**	**1,545**	**4,018**	**2,105**	**925**	**358**	**299**	**331**	**4,024**	**3,761**	**263**	**5**	**23,216**

MSEHSE Group	EMEA								Asia						Americas			Other	Total
	EMEA Total	Germany	United Kingdom	France	Italy	Luxembourg	Switzerland	Other	Asia Total	Japan	Hong Kong	Taiwan	China	Other	Americas Total	United States	Other		
Central governments or central banks	10,322	10,096	-	-	-	-	226	-	-	-	-	-	-	-	-	-	-	-	**10,322**
Institutions	275	20	180	10	-	-	-	65	4	-	2	-	-	2	161	158	3	-	**440**
Corporates	2,809	252	-	1,056	702	113	63	623	-	-	-	-	-	-	12	12	-	-	**2,821**
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	**12**
Total IRB approach	**13,406**	**10,368**	**180**	**1,066**	**702**	**113**	**289**	**688**	**4**	**-**	**2**	**-**	**-**	**2**	**185**	**182**	**3**	**-**	**13,595**
Central governments or central banks	21	12	-	2	2	-	-	5	-	-	-	-	-	-	-	-	-	-	**21**
Regional governments or local authorities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Institutions	39	-	22	1	-	15	-	1	-	-	-	-	-	-	1	1	-	-	**40**
Corporates	26	23	-	-	1	-	-	2	-	-	-	-	-	-	1	1	-	-	**27**
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Other exposures	118	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**118**
Total standardised approach	**204**	**153**	**22**	**3**	**3**	**15**	**-**	**8**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**-**	**-**	**206**
Total	**13,610**	**10,521**	**202**	**1,069**	**705**	**128**	**289**	**696**	**4**	**-**	**2**	**-**	**-**	**2**	**187**	**184**	**3**	**-**	**13,801**

1. A threshold based on the Gross Carrying Value or credit risk exposure is applied to identify material geographical areas.

Over the course of 2020, IRB exposures to EMEA Central Government and Central Banks decreased due to cash balances at Central Banks for liquidity management.

Table 56 shows a breakdown of exposures by industry or counterparty types and exposure classes as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 56: Concentration of exposures by industry or counterparty type (EU CRB-D)

$MM	Public administration and defence	Financial and insurance activities	Manufacturing	Electricity, gas, steam and air conditioning supply	Professional, Scientific and technical	Information and Communication	Transformation and Storage	Others	Total
MSI Group									
Central governments or central banks	15,312	-	-	-	-	-	-	-	**15,312**
Institutions	-	10,053	-	-	-	-	-	-	**10,053**
Corporates	-	2,293	1,991	801	754	511	430	751	**7,531**
Retail	-	-	-	-	-	-	-	-	**-**
Equity	-	790	34	1	6	35	-	15	**881**
Total IRB approach	**15,312**	**13,136**	**2,025**	**802**	**760**	**546**	**430**	**766**	**33,777**
Central governments or central banks	233	-	-	-	-	-	-	370	**603**
Regional governments or local authorities	5	-	-	-	-	-	-	-	**5**
Public sector entities	1	-	-	-	-	-	-	-	**1**
Multilateral development banks	3	-	-	-	-	-	-	-	**3**
International organisations	-	-	-	-	-	-	-	-	**-**
Institutions	-	836	-	-	-	-	-	-	**836**
Corporates	4	242	77	12	20	24	11	457	**847**
Retail	-	-	-	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	-	-	-	**-**
Claims on institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	**-**
Collective investments undertakings	-	-	-	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	-	-	-	**-**
Other exposures	55	92	-	-	-	-	-	1,560	**1,707**
Total standardised approach	**301**	**1,170**	**77**	**12**	**20**	**24**	**11**	**2,387**	**4,002**
Total	**15,613**	**14,306**	**2,102**	**814**	**780**	**570**	**441**	**3,153**	**37,779**
MSIP									
Central governments or central banks	3,723	-	-	-	-	-	-	-	**3,723**
Institutions	-	12,937	-	-	-	-	-	-	**12,937**
Corporates	-	1,551	781	-	433	259	220	234	**3,478**
Retail	-	-	-	-	-	-	-	-	**-**
Equity	-	725	33	1	6	35	-	15	**815**
Total IRB approach	**3,723**	**15,213**	**814**	**1**	**439**	**294**	**220**	**249**	**20,953**
Central governments or central banks	206	-	-	-	-	-	-	377	**583**
Regional governments or local authorities	5	-	-	-	-	-	-	-	**5**
Public sector entities	-	-	-	-	-	-	-	-	**-**
Multilateral development banks	3	-	-	-	-	-	-	-	**3**
International organisations	-	-	-	-	-	-	-	-	**-**
Institutions	-	877	-	-	-	-	-	-	**877**
Corporates	4	236	68	12	14	15	11	234	**594**
Retail	-	-	-	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	-	-	-	**-**
Claims on institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	**-**
Collective investments undertakings	-	-	-	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	-	-	-	**-**
Other exposures	-	-	-	-	-	-	-	201	**201**
Total standardised approach	**218**	**1,113**	**68**	**12**	**14**	**15**	**11**	**812**	**2,263**
Total	**3,941**	**16,326**	**882**	**13**	**453**	**309**	**231**	**1,061**	**23,216**

MSEHSE Group	Public administration and defence	Financial and insurance activities	Manufacturing	Electricity, gas, steam and air conditioning supply	Professional, Scientific and technical	Information and Communication	Transformation and Storage	Others	Total
Central governments or central banks	10,322	-	-	-	-	-	-	-	**10,322**
Institutions	-	440	-	-	-	-	-	-	**440**
Corporates	-	313	1,088	801	327	166	-	126	**2,821**
Retail	-	-	-	-	-	-	-	-	**-**
Equity	-	12	-	-	-	-	-	-	**12**
Total IRB approach	**10,322**	**765**	**1,088**	**801**	**327**	**166**	**-**	**126**	**13,595**
Central governments or central banks	22	-	-	-	-	-	-	-	**22**
Regional governments or local authorities	-	-	-	-	-	-	-	-	**-**
Public sector entities	-	-	-	-	-	-	-	-	**-**
Multilateral development banks	-	-	-	-	-	-	-	-	**-**
International organisations	-	-	-	-	-	-	-	-	**-**
Institutions	-	40	-	-	-	-	-	-	**40**
Corporates	-	5	1	-	6	8	-	7	**27**
Retail	-	-	-	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	-	-	-	**-**
Claims on institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	**-**
Collective investments undertakings	-	-	-	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	-	-	-	**-**
Other exposures	47	-	-	-	-	-	-	71	**118**
Total standardised approach	**69**	**45**	**1**	**-**	**6**	**8**	**-**	**78**	**207**
Total	**10,391**	**810**	**1,089**	**801**	**333**	**174**	**-**	**204**	**13,802**

Over the course of 2020, the decrease in MSI Group and MSIP standardised approach is due to a reduction in general ledger receivables against Institutions and Corporates. IRB decreased due to cash balances at central banks for liquidity management.

Table 57 shows a breakdown of net exposures by residual maturity and exposure classes as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 57: Maturity of Exposures (EU CRB-E)

$MM MSI Group	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
Central governments or central banks	-	15,312	-	-	-	**15,312**
Institutions	-	9,568	128	11	-	**9,707**
Corporates	-	1,360	567	264	-	**2,191**
Retail	-	-	-	-	-	**-**
Equity	-	-	168	218	-	**386**
Total IRB approach	**-**	**26,240**	**863**	**493**	**-**	**27,596**
Central governments or central banks	-	-	383	-	220	**603**
Regional governments or local authorities	-	-	-	-	5	**5**
Public sector entities	-	-	-	-	1	**1**
Multilateral development banks	-	-	-	-	3	**3**
International organisations	-	-	-	-	-	**-**
Institutions	-	252	-	-	61	**313**
Corporates	-	184	-	-	663	**847**
Retail	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	**-**
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	**-**
Collective investments undertakings (CIU)	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	**-**
Other exposures	-	-	1,707	-	-	**1,707**
Total standardised approach	**-**	**436**	**2,090**	**-**	**953**	**3,479**
Total	**-**	**26,676**	**2,953**	**493**	**953**	**31,075**

$MM	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
MSIP						
Central governments or central banks	-	3,723	-	-	-	**3,723**
Institutions	-	12,617	95	8	-	**12,720**
Corporates	-	985	452	69	-	**1,506**
Retail	-	-	-	-	-	**-**
Equity	-	-	160	218	-	**378**
Total IRB approach	**-**	**17,325**	**707**	**295**	**-**	**18,327**
Central governments or central banks	-	-	377	-	206	**583**
Regional governments or local authorities	-	-	-	-	5	**5**
Public sector entities	-	-	-	-	1	**1**
Multilateral development banks	-	-	-	-	3	**3**
International organisations	-	-	-	-	-	**-**
Institutions	-	284	-	12	57	**353**
Corporates	-	155	-	-	439	**594**
Retail	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	**-**
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	**-**
Collective investments undertakings (CIU)	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	**-**
Other exposures	-	-	201	-	-	**201**
Total standardised approach	**-**	**439**	**578**	**12**	**711**	**1,740**
Total	**-**	**17,764**	**1,285**	**307**	**711**	**20,067**
MSEHSE Group						
Central governments or central banks	-	10,321	-	-	-	**10,321**
Institutions	-	290	150	-	-	**440**
Corporates	-	79	3	-	-	**82**
Retail	-	-	-	-	-	**-**
Equity	-	-	-	-	-	**-**
Total IRB approach	**-**	**10,690**	**153**	**-**	**-**	**10,843**
Central governments or central banks	-	-	11	-	11	**22**
Regional governments or local authorities	-	-	-	-	-	**-**
Public sector entities	-	-	-	-	-	**-**
Multilateral development banks	-	-	-	-	-	**-**
International organisations	-	-	-	-	-	**-**
Institutions	-	38	-	-	2	**40**
Corporates	-	1	-	-	26	**27**
Retail	-	-	-	-	-	**-**
Secured by mortgages on immovable property	-	-	-	-	-	**-**
Exposures in default	-	-	-	-	-	**-**
Items associated with particularly high risk	-	-	-	-	-	**-**
Covered bonds	-	-	-	-	-	**-**
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	**-**
Collective investments undertakings (CIU)	-	-	-	-	-	**-**
Equity exposures	-	-	-	-	-	**-**
Other exposures	-	-	118	-	-	**118**
Total standardised approach	**-**	**39**	**129**	**-**	**39**	**207**
Total	**-**	**10,729**	**282**	**-**	**39**	**11,050**

Over the course of 2020, the decrease in MSI Group and MSIP standardised approach is due to a reduction in general ledger receivables against Institutions and Corporates. IRB decreased due to cash balances at central banks for liquidity management.

Table 58 shows the credit quality of exposures by exposure class and instruments as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 58: Credit quality of exposures by exposure class and instrument (EU CR1-A)

$MM	Gross carrying values of						
MSI Group	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net Values[1]
Central governments or central banks	-	15,312	-	-	-	-	15,312
Institutions	-	10,053	-	-	-	-	10,053
Corporates	244	7,287	-	-	-	-	7,531
Of which: Specialised lending	-	-	-	-	-	-	-
Equity	-	881	-	-	-	-	881
Total IRB approach	**244**	**33,533**	**-**	**-**	**-**	**-**	**33,777**
Central governments or central banks	-	603	-	-	-	-	603
Regional governments or local authorities	-	5	-	-	-	-	5
Public sector entities	-	1	-	-	-	-	1
Multilateral development banks	-	3	-	-	-	-	3
International organisations	-	-	-	-	-	-	-
Institutions	5	836	5	-	-	2	836
Corporates	4	847	4	-	-	(1)	847
Secured by mortgages on immovable property	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short- term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-
Other exposures	-	1,707	-	-	-	-	1,707
Total standardised approach	**9**	**4,002**	**9**	**-**	**-**	**1**	**4,002**
Total	**253**	**37,535**	**9**	**-**	**-**	**1**	**37,779**
Of which: Loans and advances	216	30,312	9	-	-	1	30,519
Of which: Off-balance sheet	37	6,172	-	-	-	-	6,209
Of which: Equity	-	881	-	-	-	-	881
Of which: Debt securities	-	170	-	-	-	-	170
MSIP							
Central governments or central banks	-	3,723	-	-	-	-	3,723
Institutions	-	12,936	-	-	-	-	12,936
Corporates	48	3,430	-	-	-	-	3,478
Of which: Specialised lending	-	-	-	-	-	-	-
Equity	-	815	-	-	-	-	815
Total IRB approach	**48**	**20,904**	**-**	**-**	**-**	**-**	**20,952**
Central governments or central banks	-	583	-	-	-	-	583
Regional governments or local authorities	-	5	-	-	-	-	5
Public sector entities	-	1	-	-	-	-	1
Multilateral development banks	-	3	-	-	-	-	3
International organisations	-	-	-	-	-	-	-
Institutions	4	877	4	-	-	1	877
Corporates	2	594	2	-	-	(2)	594
Secured by mortgages on immovable property	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short- term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-
Other exposures	-	201	-	-	-	-	201
Total standardised approach	**6**	**2,264**	**6**	**-**	**-**	**(1)**	**2,264**
Total	**54**	**23,168**	**6**	**-**	**-**	**(1)**	**23,216**
Of which: Loans and advances	47	19,476	6	-	-	(1)	19,517
Of which: Off-balance sheet	7	2,707	-	-	-	-	2,714
Of which: Equity	-	815	-	-	-	-	815
Of which: Debt securities	-	170	-	-	-	-	170

MSEHSE Group							
Central governments or central banks	-	10,322	-	-	-	-	10,322
Institutions	-	440	-	-	-	-	440
Corporates	-	2,821	-	-	-	-	2,821
Of which: Specialised lending	-	-	-	-	-	-	-
Equity	-	12	-	-	-	-	12
Total IRB approach	**-**	**13,595**	**-**	**-**	**-**	**-**	**13,595**
Central governments or central banks	-	22	-	-	-	-	22
Regional governments or local authorities	-	-	-	-	-	-	-
Public sector entities	-	-	-	-	-	-	-
Multilateral development banks	-	-	-	-	-	-	-
International organisations	-	-	-	-	-	-	-
Institutions	1	40	1	-	-	1	40
Corporates	-	27	-	-	-	-	27
Secured by mortgages on immovable property	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short- term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-
Other exposures	-	118	-	-	-	-	118
Total standardised approach	**1**	**207**	**1**	**-**	**-**	**1**	**207**
Total	**1**	**13,802**	**1**	**-**	**-**	**1**	**13,802**
Of which: Loans and advances	1	11,050	1	-	-	1	11,050
Of which: Off-balance sheet	-	2,740	-	-	-	-	2,740
Of which: Equity	-	12	-	-	-	-	12
Of which: Debt securities	-	-	-	-	-	-	-

1. Net value is the total of defaulted, non defaulted exposures, less specific credit risk adjustments.

Over the second half of 2020, MSI Group and MSIP IRB exposures to Central Government and Central Banks decreased due to liquidity management.

Table 59 shows the credit quality of on-balance-sheet and off-balance-sheet by industry as at 31 December 2020 for MSI Group, MSIP and MSEHSE Group.

Table 59: Credit quality of exposures by industry or counterparty types (EU CR1-B)

$MM	Gross carrying values of						
MSI Group	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-Offs	Credit risk adjustment charge	Net values[1]
Public Administration and Defence; Compulsory Social Security	-	15,612	-	-	-	-	15,612
Financial and Insurance Activities	9	14,302	5	-	-	2	14,306
Manufacturing	7	2,095	2	-	-	-	2,100
Electricity, Gas, Steam and Air Conditioning Supply	-	814	-	-	-	-	814
Professional, Scientific and Technical Activities	-	781	-	-	-	-	781
Information and Communication	-	570	-	-	-	(1)	570
Transportation and Storage	1	441	-	-	-	-	442
Other	236	2,920	2	-	-	-	3,154
Total	**253**	**37,535**	**9**	**-**	**-**	**1**	**37,779**
MSIP							
Public Administration and Defence; Compulsory Social Security	-	3,941	-	-	-	-	3,941
Financial and Insurance Activities	8	16,322	4	-	-	1	16,326
Manufacturing	6	877	1	-	-	-	882
Electricity, Gas, Steam and Air Conditioning Supply	-	13	-	-	-	-	13
Professional, Scientific and Technical Activities	-	453	-	-	-	-	453
Information and Communication	-	309	-	-	-	(2)	309
Transportation and Storage	1	230	-	-	-	-	231
Other	39	1,023	1	-	-	-	1,061
Total	**54**	**23,168**	**6**	**-**	**-**	**(1)**	**23,216**
MSEHSE Group							
Public Administration and Defence; Compulsory Social Security	-	10,391	-	-	-	-	10,391
Financial and Insurance Activities	1	810	1	-	-	1	810
Manufacturing	-	1,089	-	-	-	-	1,089
Electricity, Gas, Steam and Air Conditioning Supply	-	801	-	-	-	-	801
Professional, Scientific and Technical Activities	-	332	-	-	-	-	332
Information and Communication	-	175	-	-	-	-	175
Transportation and Storage	-	-	-	-	-	-	-
Other	-	204	-	-	-	-	204
Total	**1**	**13,802**	**1**	**-**	**-**	**1**	**13,802**

1. Net value is the total of defaulted, non defaulted exposures, less specific credit risk adjustments.

Over the second half of 2020, MSI Group and MSIP exposures to Public Administration and Defence, Compulsory Social Security decreased due to liquidity management.

Table 60 shows the credit quality of on-balance-sheet and off-balance-sheet by geography as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 60: Credit quality of exposures by geography (EU CR1-C)

$MM	Gross carrying values of		Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net Values[2]
	Defaulted exposures	Non-defaulted exposures					
MSI Group[1]							
EMEA	**245**	**28,465**	**6**	**-**	**-**	**(1)**	**28,704**
Germany	100	10,711	1	-	-	-	10,810
United Kingdom	23	7,498	1	-	-	-	7,520
France	2	5,789	2	-	-	(1)	5,789
Italy	112	800	-	-	-	-	912
Luxembourg	-	677	-	-	-	-	677
Switzerland	1	652	1	-	-	-	652
Other countries	7	2,338	1	-	-	-	2,344
Asia	**-**	**4,648**	**-**	**-**	**-**	**-**	**4,648**
Japan	-	2,110	-	-	-	-	2,110
Hong Kong	-	932	-	-	-	-	932
Taiwan	-	598	-	-	-	-	598
China	-	586	-	-	-	-	586
Other Countries	-	422	-	-	-	-	422
Americas	**8**	**4,417**	**3**	**-**	**-**	**2**	**4,422**
United States	-	4,155	-	-	-	1	4,155
Other countries	8	262	3	-	-	1	267
Other geographical areas	**-**	**5**	**-**	**-**	**-**	**-**	**5**
Total	**253**	**37,535**	**9**	**-**	**-**	**1**	**37,779**
MSIP[1]							
EMEA	**46**	**15,125**	**2**	**-**	**-**	**(2)**	**15,169**
Germany	25	2,680	-	-	-	-	2,705
United Kingdom	19	7,123	1	-	-	-	7,141
France	-	3,084	-	-	-	(2)	3,084
Italy	1	59	-	-	-	-	60
Luxembourg	-	318	-	-	-	-	318
Switzerland	-	318	-	-	-	-	318
Other countries	1	1,543	1	-	-	-	1,543
Asia	**-**	**4,018**	**-**	**-**	**-**	**-**	**4,018**
Japan	-	2,106	-	-	-	-	2,106
Hong Kong	-	925	-	-	-	-	925
Taiwan	-	358	-	-	-	-	358
China	-	299	-	-	-	-	299
Other Countries	-	330	-	-	-	-	330
Americas	**8**	**4,020**	**4**	**-**	**-**	**-**	**4,024**
United States	-	3,759	-	-	-	-	3,759
Other countries	8	261	4	-	-	-	265
Other geographical areas	**-**	**5**	**-**	**-**	**-**	**1**	**5**
Total	**54**	**23,168**	**6**	**-**	**-**	**(1)**	**23,216**
MSEHSE Group[1]							
EMEA	**1**	**13,611**	**1**	**-**	**-**	**1**	**13,611**
Germany	-	10,520	-	-	-	-	10,520
United Kingdom	-	203	-	-	-	-	203
France	1	1,069	1	-	-	1	1,069
Italy	-	706	-	-	-	-	706
Luxembourg	-	128	-	-	-	-	128
Switzerland	-	290	-	-	-	-	290
Other countries	-	695	-	-	-	-	695
Asia	**-**	**4**	**-**	**-**	**-**	**-**	**4**
Japan	-	-	-	-	-	-	-
Hong Kong	-	2	-	-	-	-	2
Taiwan	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-
Other Countries	-	2	-	-	-	-	2
Americas	**-**	**187**	**-**	**-**	**-**	**-**	**187**
United States	-	184	-	-	-	-	184
Other countries	-	3	-	-	-	-	3
Other geographical areas	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**1**	**13,802**	**1**	**-**	**-**	**1**	**13,802**

1. A threshold based on the Gross Carrying Value or credit risk exposure is applied to identify material geographical areas.
2. Net value is the total of defaulted, non defaulted exposures, less specific credit risk adjustments.

Over the second half of 2020, MSI Group and MSIP exposures on France decreased and also increased on Germany driven by cash balances at Central Banks due to liquidity management.

Table 61 provides a breakdown of performing and non-performing exposures by portfolio, exposure class and days past due as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 61: Credit Quality of Performing and Non-Performing exposures by past due days

	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
$MM MSI Group[1,2]		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
Loans and advances	**122,301**	**122,208**	**93**	**30**	**-**	**12**	**9**	**8**	**1**	**-**	**-**	**30**
Central banks	15,831	15,831	-	-	-	-	-	-	-	-	-	-
General governments	3,419	3,417	2	-	-	-	-	-	-	-	-	-
Credit institutions	28,036	28,016	20	3	-	1	1	1	-	-	-	3
Other financial corporations	73,852	73,787	65	21	-	8	7	6	-	-	-	21
Non-financial corporations	1,163	1,157	6	6	-	3	1	1	1	-	-	6
Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-
Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**6,469**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	179	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	642	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	5,648	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-
Total	**128,770**	**122,208**	**93**	**30**	**-**	**12**	**9**	**8**	**1**	**-**	**-**	**30**
MSIP[1]												
Loans and advances	**106,503**	**106,428**	**75**	**23**	**-**	**11**	**4**	**7**	**1**	**-**	**-**	**23**
Central banks	4,364	4,364	-	-	-	-	-	-	-	-	-	-
General governments	3,008	3,006	2	-	-	-	-	-	-	-	-	-
Credit institutions	28,950	28,935	15	2	-	1	-	1	-	-	-	2
Other financial corporations	69,146	69,094	52	17	-	7	4	6	-	-	-	17
Non-financial corporations	1,035	1,029	6	4	-	3	-	-	1	-	-	4
Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-
Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**4,053**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	65	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	282	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	3,706	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-
Total	**110,556**	**106,428**	**75**	**23**	**-**	**11**	**4**	**7**	**1**	**-**	**-**	**23**

MSEHSE Group[1]	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
		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
Loans and advances	**20,325**	**20,307**	**18**	**3**	**-**	**1**	**1**	**1**	**-**	**-**	**-**	**3**
Central banks	10,324	10,324	-	-	-	-	-	-	-	-	-	-
General governments	284	284	-	-	-	-	-	-	-	-	-	-
Credit institutions	2,617	2,612	5	-	-	-	-	-	-	-	-	-
Other financial corporations	7,001	6,988	13	3	-	1	1	1	-	-	-	3
Non-financial corporations	99	99	-	-	-	-	-	-	-	-	-	-
Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-
Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**5,449**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	3,838	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	1,611	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-
Total	**25,774**	**20,307**	**18**	**3**	**-**	**1**	**1**	**1**	**-**	**-**	**-**	**3**

1. The Gross Non-Performing Loan (“NPL”) ratio as of 31 December 2020 was MSI Group 0.04%,MSIP 0.03% and MSEHSE Group 0.04%
2. The MSI Group has no forborne exposures.

Over the second half of 2020, there have been no material movements.

Table 62 shows an overview of performing and non-performing exposures and the related provisions as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 62: Performing and Non-performing exposures and related provisions

$MM	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	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				On performing exposures	On non-performing exposures
MSI Group[1]		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			
Loans and advances	**122,301**	**63,996**	**58,305**	**30**	**4**	**26**	**(2)**	**(1)**	**(1)**	**(7)**	**-**	**(7)**	**-**	**-**	**-**
Central banks	15,831	15,186	645	-	-	-	-	-	-	-	-	-	-	-	-
General governments	3,419	14	3,405	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	28,036	18,487	9,549	3	-	3	-	-	-	(2)	-	(2)	-	-	-
Other financial corporations	73,852	30,300	43,552	21	1	20	(1)	(1)	-	(3)	-	(3)	-	-	-
Non-financial corporations	1,163	9	1,154	6	3	3	(1)	-	(1)	(2)	-	(2)	-	-	-
Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**6,469**	**2,992**	**428**	**-**	**-**	**-**	**2**	**1**	**2**	**-**	**-**	**-**	**-**	**321**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	179	179	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	642	459	171	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	5,648	2,354	257	-	-	-	2	1	2	-	-	-	-	321	-
Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**128,770**	**66,988**	**58,733**	**30**	**4**	**26**	**0**	**0**	**1**	**(7)**	**-**	**(7)**	**-**	**321**	**-**
MSIP															
Loans and advances	**106,503**	**55,426**	**51,077**	**24**	**4**	**20**	**(1)**	**-**	**(1)**	**(4)**	**-**	**(4)**	**-**	**-**	**-**
Central banks	4,364	3,722	642	-	-	-	-	-	-	-	-	-	-	-	-
General governments	3,008	6	3,002	1	-	1	-	-	-	-	-	-	-	-	-
Credit institutions	28,950	21,054	7,896	1	-	1	-	-	-	(1)	-	(1)	-	-	-
Other financial corporations	69,146	30,644	38,502	17	1	16	-	-	-	(2)	-	(2)	-	-	-
Non-financial corporations	1,035	-	1035	5	3	2	(1)	-	(1)	(1)	-	(1)	-	-	-
Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**4,053**	**932**	**72**	**-**	**-**	**-**	**2**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	65	65	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	282	270	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	3,706	597	72	-	-	-	2	-	1	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**110,556**	**56,358**	**51,149**	**24**	**4**	**20**	**1**	**-**	**0**	**(4)**	**-**	**(4)**	**-**	**-**	**-**

MSEHSE Group	Gross carrying amount/nominal amount – Performing exposures	Performing exposures – Of which stage 1	Performing exposures – Of which stage 2	Gross carrying amount/nominal amount – Non-performing exposures	Non-performing exposures – Of which stage 2	Non-performing exposures – Of which stage 3	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions – Performing exposures – accumulated impairment and provisions	Of which stage 1	Of which stage 2	Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	Of which stage 2	Of which stage 3	Accumulated partial write-off	Collateral and financial guarantees received – On performing exposures	Collateral and financial guarantees received – On non-performing exposures
Loans and advances	**20,325**	**13,665**	**6,660**	**3**	**-**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	10,324	10,322	2	-	-	-	-	-	-	-	-	-	-	-	-
General governments	284	-	284	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	2,617	1,268	1,349	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	7,001	2,073	4,928	3	-	3	-	-	-	-	-	-	-	-	-
Non-financial corporations	99	2	97	-	-	-	-	-	-	-	-	-	-	-	-
Of which SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debt securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**5,449**	**5,449**	**-**	**-**	**-**	**-**	**1**	**1**	**-**	**-**	**-**	**-**	**-**	**321**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	3,838	3,838	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	1,611	1,611	-	-	-	-	1	1	-	-	-	-	-	321	-
Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**25,774**	**19,114**	**6,660**	**3**	**-**	**3**	**1**	**1**	**-**	**-**	**-**	**-**	**-**	**321**	**-**

1. The MSI Group has no foreclosed assets obtained from non-performing exposures.

Over the second half of 2020, there have been no material movements.

Table 63 shows the changes in stock of general and specific credit risk adjustments held against loans and debt securities that are defaulted or impaired as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 63: Changes in stock of general and specific credit risk adjustments (EU CR2-A)

$MM	MSI Group		MSIP		MSEHSE Group	
	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
Opening balance	**10**	**-**	**9**	-	**-**	-
Increases due to amounts set aside for estimated loan losses during the period	2	-	-	-	1	-
Decreases due to amounts reversed for estimated loan losses during the period	(3)	-	(3)	-	-	-
Decreases due to amounts taken against accumulated credit risk adjustments	-	-	-	-	-	-
Transfers between credit risk adjustments	-	-	-	-	-	-
Impact of exchange rate differences	-	-	-	-	-	-
Business combinations, including acquisitions and disposals of subsidiaries	-	-	-	-	-	-
Other adjustments	-	-	-	-	-	-
Closing balance	**9**	**-**	**6**	-	**1**	-
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	-	-	-	-	-	-
Specific credit risk adjustments recorded directly to the statement of profit or loss	-	-	-	-	-	-

Over the second half of 2020, there have been no material changes.

Table 64 shows the changes in stock of defaulted loans and debt securities as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 64: Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B)

$MM	MSI Group	MSIP	MSEHSE Group
	Gross carrying value defaulted exposures	Gross carrying value defaulted exposures	Gross carrying value defaulted exposures
Opening balance	**59**	**54**	**5**
Loans and debt securities that have defaulted or impaired since the last reporting period	-	-	-
Returned to non-defaulted status	(28)	(29)	(2)
Amounts written off	-	-	-
Other changes	-	-	-
Closing balance	**31**	**25**	**3**

Over the second half of 2020, there have been no material changes.

Table 65 shows the extent of the use of CRM techniques as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 65: Credit risk mitigation techniques – overview (EU CR3)

$MM	Exposures unsecured: carrying amount	Exposures secured: carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
MSI Group					
Total loans	30,306	213	213	-	-
Total debt securities	170	-	-	-	-
Equity exposures	386	-	-	-	-
Total exposures	**30,862**	**213**	**213**	**-**	**-**
Of which defaulted	216	-	-	-	-
MSIP					
Total loans	18,081	1,436	214	1,222	-
Total debt securities	170	-	-	-	-
Equity exposures	378	-	-	-	-
Total exposures	**18,629**	**1,436**	**214**	**1,222**	**-**
Of which defaulted	47	-	-	-	-
MSEHSE Group					
Total loans	11,050	-	-	-	-
Total debt securities	-	-	-	-	-
Equity exposures	-	-	-	-	-
Total exposures	**11,050**	**-**	**-**	**-**	**-**
Of which defaulted	1	-	-	-	-

Over the second half of 2020, MSI Group total loans decreased due to liquidity management.

Table 66 shows the effect of all CRM techniques as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group.

Table 66: Standardised approach – Credit risk exposure and credit risk mitigation (CRM) effects (EU CR4)

	Exposures before CCF[1] and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWAs	RWA density
MSI Group	$MM	$MM	$MM	$MM	$MM	%
Central governments or central banks	603	-	603	-	125	21%
Regional government or local authorities	5	-	5	-	-	3%
Public sector entities	1	-	1	-	-	11%
Multilateral development banks	3	-	3	-	-	0%
International organisations	-	-	-	-	-	0%
Institutions	313	523	313	188	920	184%
Corporates	847	-	847	-	927	109%
Retail	-	-	-	-	-	0%
Secured by mortgages on immovable property	-	-	-	-	-	0%
Exposures in default	-	-	-	-	1	150%
Higher-risk categories	-	-	-	-	-	0%
Covered bonds	-	-	-	-	-	0%
Institutions and corporates with a short term credit assessment	-	-	-	-	-	0%
Collective investment undertakings	-	-	-	-	-	0%
Equity	-	-	-	-	-	0%
Other items	1,707	-	1,707	-	2,178	128%
Total	**3,479**	**523**	**3,479**	**188**	**4,151**	**113%**
MSIP						
Central governments or central banks	583	-	583	-	123	21%
Regional government or local authorities	5	-	5	-	-	3%
Public sector entities	1	-	1	-	-	12%
Multilateral development banks	3	-	3	-	-	0%
International organisations	-	-	-	-	-	0%
Institutions	353	523	353	188	970	179%
Corporates	594	-	594	-	676	114%
Retail	-	-	-	-	-	0%
Secured by mortgages on immovable property	-	-	-	-	-	0%
Exposures in default	-	-	-	-	-	0%
Higher-risk categories	-	-	-	-	-	0%
Covered bonds	-	-	-	-	-	0%
Institutions and corporates with a short term credit assessment	-	-	-	-	-	0%
Collective investment undertakings	-	-	-	-	-	0%
Equity	-	-	-	-	-	0%
Other items	201	-	201	-	455	227%
Total	**1,740**	**523**	**1,740**	**188**	**2,224**	**115%**
MSEHSE Group						
Central governments or central banks	22	-	22	-	3	13%
Regional government or local authorities	-	-	-	-	-	0%
Public sector entities	-	-	-	-	-	0%
Multilateral development banks	-	-	-	-	-	0%
International organisations	-	-	-	-	-	0%
Institutions	40	-	40	-	49	122%
Corporates	27	-	27	-	26	99%
Retail	-	-	-	-	-	0%
Secured by mortgages on immovable property	-	-	-	-	-	0%
Exposures in default	-	-	-	-	-	0%
Higher-risk categories	-	-	-	-	-	0%
Covered bonds	-	-	-	-	-	0%
Institutions and corporates with a short term credit assessment	-	-	-	-	-	0%
Collective investment undertakings	-	-	-	-	-	0%
Equity	-	-	-	-	-	0%
Other items	118	-	118	-	189	160%
Total	**207**	**-**	**207**	**-**	**267**	**129%**

Over the second half of 2020, the RWA increase on institutions was driven by settlement risk and deferred tax assets, with corporates decreasing due to general ledger receivables.

Table 67 shows the breakdown of exposures under the standardised approach by asset class and risk weight as at 31 December 2020 for the MSI Group.

Table 67: Standardised approach (EU CR5)

$MM	Risk Weight																	
MSI Group	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Deducted	Total	Of which unrated
Central governments or central banks	137	-	-	-	395	-	50	-	-	20	-	-	-	-	-	-	**602**	1
Regional government or local authorities	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**4**	4
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Multilateral development banks	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**	-
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions	-	188	-	-	173	-	25	-	-	49	-	-	-	66	-	-	**501**	51
Corporates	3	-	-	-	4	-	107	-	-	680	43	-	-	10	-	-	**847**	499
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Higher-risk categories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Collective investment undertakings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Other items	-	-	-	-	-	-	-	-	-	1,393	-	314	-	-	-	-	**1,707**	-
Total	**147**	**188**	**-**	**-**	**572**	**-**	**182**	**-**	**-**	**2,142**	**43**	**314**	**-**	**76**	**-**	**-**	**3,664**	**555**

Over the second half of 2020, there have been no material changes.

Table 68 shows the exposures for the MSI Group, calculated using the Standardised approach for each exposure class and broken down by CQS.

Table 68: Standardised approach EAD by credit quality step

$MM MSI Group[1]		CQS1	CQS2	CQS3	CQS4	CQS5	CQS6	Other[2]	Unrated	Total
Central Governments or Central Banks	GROSS EAD	170	10	101	7	8	-	1	374	**671**
	EAD	170	10	101	7	8	-	1	374	**671**
Corporates	GROSS EAD	27	227	80	18	56	7	11	2,442	**2,868**
	EAD	27	227	80	18	56	7	11	2,442	**2,868**
High risk	GROSS EAD	-	-	-	-	-	-	-	-	**-**
	EAD	-	-	-	-	-	-	-	-	**-**
Institutions	GROSS EAD	7,916	5,930	71	111	5	1	13,501	649	**28,184**
	EAD	7,282	5,930	71	111	5	1	11,636	649	**25,685**
Multilateral developments banks	GROSS EAD	110	-	-	-	-	-	-	-	**110**
	EAD	110	-	-	-	-	-	-	-	**110**
Public sector entities	GROSS EAD	1	-	-	-	-	-	-	-	**1**
	EAD	1	-	-	-	-	-	-	-	**1**
Regional governments or Local Authorities	GROSS EAD	3	1	-	-	-	-	-	1	**5**
	EAD	3	1	-	-	-	-	-	1	**5**
International Organisations	GROSS EAD	-	-	-	-	-	-	-	-	**-**
	EAD	-	-	-	-	-	-	-	-	**-**
Securitisation	GROSS EAD	-	-	200	-	7	-	61	68	**336**
	EAD	-	-	200	-	7	-	61	47	**315**
Other Items	GROSS EAD	87	-	-	-	-	-	-	1,620	**1,707**
	EAD	87	-	-	-	-	-	-	1,620	**1,707**
Total	**GROSS EAD**	**8,314**	**6,168**	**452**	**136**	**76**	**8**	**13,574**	**5,154**	**33,882**
	EAD	**7,680**	**6,168**	**452**	**136**	**76**	**8**	**11,709**	**5,133**	**31,362**

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.

Table 69 shows the breakdown of exposures under the standardised approach by asset class and risk weight as at 31 December 2020 for the MSI Group, MSIP and MSEHSE Group. Credit Derivatives are not used as a CRM technique for RWA benefits.

Table 69: IRB approach – Effect on the RWAs of credit derivatives used as CRM techniques (EU CR7)

$MM	MSI Group		MSIP		MSEHSE Group	
	Pre-credit derivatives RWAs	Actual RWAs	Pre-credit derivatives RWAs	Actual RWAs	Pre-credit derivatives RWAs	Actual RWAs
Exposures under Foundation IRB	**5,910**	**5,910**	**4,437**	**4,437**	**1,639**	**1,639**
Central governments and central banks	906	906	214	214	593	593
Institutions	2,133	2,133	2,729	2,729	96	96
Corporates – SME	-	-	-	-	-	-
Corporates - specialised lending	-	-	-	-	-	-
Corporates – other	2,871	2,871	1,494	1,494	950	950
Exposures under Advanced IRB	-	-	-	-	-	-
Total	**5,910**	**5,910**	**4,437**	**4,437**	**1,639**	**1,639**

Table 70 shows the parameters used for the calculation of capital requirements for IRB models as at 31 December 2020 for the MSI Group.

Table 70: IRB approach – Credit risk exposures by exposure class and PD range (EU CR6)

	Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Value adjustments and provisions
MSI Group	$MM	$MM	%	$MM	%	#	%	Years	$MM	%	$MM	$MM
0.00 to <0.15	15,273	-	0.00%	15,273	0.02%	6	45%	-	886	6%	1	
0.15 to <0.25	-	-	0.00%	-	-	-	-	-	-	-	-	
0.25 to <0.50	38	-	0.00%	38	0.42%	2	45%	-	19	50%	-	
0.50 to <0.75	-	-	0.00%	-	-	-	-	-	-	-	-	
0.75 to <2.50	-	-	0.00%	-	-	-	-	-	-	-	-	
2.50 to <10.00	-	-	0.00%	-	-	-	-	-	-	-	-	
10.00 to <100.00	-	-	0.00%	-	-	-	-	-	-	-	-	
100.00 (Default)	-	-	0.00%	-	-	-	-	-	-	-	-	
Central governments or central banks	**15,311**	**-**	**0.00%**	**15,311**	**0.02%**	**8**	**45%**	**-**	**905**	**6%**	**1**	**-**
0.00 to <0.15	9,182	282	80.82%	9,407	0.06%	72	45%	1	1,704	18%	3	
0.15 to <0.25	127	-	0.00%	129	0.20%	9	45%	1	56	43%	-	
0.25 to <0.50	237	-	75.00%	237	0.29%	19	45%	1	127	53%	-	
0.50 to <0.75	74	59	51.14%	104	0.71%	6	45%	2	113	109%	-	
0.75 to <2.50	18	-	0.00%	18	1.38%	2	45%	1	22	122%	-	
2.50 to <10.00	70	4	3.07%	70	5.76%	48	45%	1	112	159%	2	
10.00 to <100.00	-	-	0.00%	-	-	-	-	-	-	-		
100.00 (Default)	-	-	0.00%	-	-	-	-	-	-	-		
Institutions	**9,708**	**345**	**75.58%**	**9,965**	**0.12%**	**156**	**45%**	**1**	**2,134**	**21%**	**5**	**-**
0.00 to <0.15	1,472	2,729	101.31%	4,236	0.08%	50	45%	2	1,325	31%	2	
0.15 to <0.25	72	926	75.00%	766	0.20%	29	45%	2	367	48%	1	
0.25 to <0.50	108	494	65.25%	430	0.33%	38	45%	2	280	65%	1	
0.50 to <0.75	13	129	39.20%	64	0.71%	7	45%	2	55	86%	-	
0.75 to <2.50	112	370	28.04%	215	1.36%	18	45%	3	259	120%	1	
2.50 to <10.00	110	638	6.68%	152	7.40%	90	44%	3	314	206%	5	
10.00 to <100.00	98	17	10.78%	100	27.91%	19	45%	3	271	272%	13	
100.00 (Default)	207	38	75.00%	235	100.00%	22	45%	4	-	-	106	
Corporates	**2,192**	**5,341**	**75.06%**	**6,198**	**4.57%**	**273**	**45%**	**2**	**2,871**	**46%**	**129**	**-**
Total	**27,211**	**5,686**	**75.10%**	**31,474**	**0.95%**	**437**	**45%**	**1**	**5,910**	**19%**	**135**	**-**

Over the second half of 2020, the decrease in exposures to Corporates is due to liquidity management.

Table 71 provides details of backtesting data to validate PD calculations for the MSI Group as at 31 December 2020.

Table 71: IRB approach – Backtesting of PD per exposure class (EU CR9)

MSI Group	External rating equivalent Moody's	External rating equivalent S&P	External rating equivalent Fitch	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: End of previous year	Number of obligors: End of the year	Defaulted obligors in the year	Of which new obligors	Average historic annual default rate
				%	%	#	#	#	#	%
0.0 to <0.15	Aa2	AAA to AA	AAA	0.02%	0.02%	10	6	-	-	0.00%
0.15 to <0.25				0.00%	0.00%	-	-	-	-	0.00%
0.25 to <0.50	Baa2	BBB	BBB	0.45%	0.36%	2	2	-	-	0.00%
0.50 to <0.75				0.00%	0.00%	-	-	-	-	0.00%
0.75 to <2.50				0.00%	0.00%	-	-	-	-	0.00%
2.50 to <10.00				0.00%	0.00%	-	-	-	-	0.00%
10.00 to<100.00				0.00%	0.00%	-	-	-	-	0.00%
100.00				0.00%	0.00%	-	-	-	-	0.00%
Central governments or central banks	**Aa2 to Baa2**	**AAA to BBB**	**AAA to BBB**	**0.02%**	**0.11%**	**12**	**8**	**-**	**-**	**0.00%**
0.0 to <0.15	Aa3	AA+ to BBB+	AA	0.08%	0.10%	64	50	-	-	0.00%
0.15 to <0.25	A2	BBB+ to BBB-	A	0.20%	0.20%	33	29	-	-	0.00%
0.25 to <0.50	Baa1	BBB+ to BB+	BBB+	0.33%	0.32%	36	38	-	-	0.00%
0.50 to <0.75	Ba2		BBB-	0.71%	0.71%	4	7	-	-	0.00%
0.75 to <2.50	Ba3	BB- to B+	BB-	1.36%	1.56%	12	18	-	-	0.00%
2.50 to <10.00	B1	B+ to CCC+	B+	7.40%	7.43%	121	90	-	-	0.00%
10.00 to <100.00	Caa1	A to CCC	A+	27.91%	27.91%	15	19	-	-	0.00%
100.00	Ca			100.00%	100.00%	11	22	22	12	0.00%
Corporates	**Aa3 to Ca**	**AA+ to CCC**	**AA to B+**	**4.57%**	**12.65%**	**296**	**273**	**22**	**12**	**0.00%**
0.0 to <0.15	Aa1	AA to BBB-	AA+	0.06%	0.08%	89	72	-	-	0.00%
0.15 to <0.25	A1	A- to BBB	BBB+	0.20%	0.20%	14	9	-	-	0.00%
0.25 to <0.50	A2	BBB+ to BBB		0.29%	0.30%	29	19	-	-	0.00%
0.50 to <0.75	A1	BBB- to BB-	BBB	0.71%	0.71%	4	6	-	-	0.00%
0.75 to <2.50				1.38%	1.75%	10	2	-	-	0.00%
2.50 to <10.00	B2	BB- to B+	BBB	5.76%	7.59%	54	48	-	-	0.00%
10.00 to <100.00				0.00%	0.00%	-	-	-	-	0.00%
100.00				0.00%	0.00%	-	-	-	-	0.00%
Institutions	**Aa1 to B2**	**AA to B+**	**AA+ to BBB**	**0.12%**	**2.47%**	**200**	**156**	**-**	**-**	**0.00%**

Over the course of 2020, the composition of corporate obligors changed, resulting in a decrease in the credit quality of the population.

Table 72 shows the all relevant parameters used for the calculation of CCR capital requirements for IRB models as at 31 December 2020 for the MSI Group.

Table 72: Standardised approach – CCR exposures by regulatory portfolio and risk weight (EU CCR3)

$MM

MSI Group	Risk weight: 0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	1250%	Others	Total	Of which unrated
Central governments or central banks	16	-	-	-	-	-	-	-	53	-	-	-	**69**	2
Regional governments or local authorities	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Multilateral development banks	107	-	-	-	-	-	-	-	-	-	-	-	**107**	-
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions	-	18,787	5,640	-	491	2	-	-	263	-	-	-	**25,183**	206
Corporates	-	-	-	-	166	136	-	-	1,680	38	-	-	**2,020**	968
Retail	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Other Items	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Total standardised approach	**123**	**18,787**	**5,640**	**-**	**657**	**138**	**-**	**-**	**1,996**	**38**	**-**	**-**	**27,379**	**1,176**

Table 73 shows the all relevant parameters used for the calculation of CCR capital requirements for IRB models as at 31 December 2020 for the MSI Group.

Table 73: IRB approach – CCR exposures by portfolio and PD scale (EU CCR4)

MSI Group	EAD post-CRM	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density
	$MM	%	#	%	Years	$MM	%
Central governments and central banks	**11,736**	**0.06%**	**186**	**41.16%**	**1**	**1,432**	**12%**
0.00 to <0.15	11,117	0.04%	158	40.94%	1	1033	9%
0.15 to <0.25	285	0.20%	5	45.00%	1	102	36%
0.25 to <0.50	293	0.29%	11	45.00%	4	243	82%
0.50 to <0.75	8	0.71%	3	45.00%	-	5	63%
0.75 to <2.50	5	2.32%	2	45.00%	-	6	120%
2.50 to <10.00	28	5.26%	7	45.00%	2	43	154%
10.00 to <100.00	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-
Corporates	**58,602**	**0.70%**	**10,206**	**45.65%**	**1**	**31,244**	**53%**
0.00 to <0.15	32,264	0.07%	4,716	45.22%	1	9,344	29%
0.15 to <0.25	6,660	0.20%	377	52.03%	2	4,046	61%
0.25 to <0.50	10,333	0.34%	2,772	43.44%	1	6,046	59%
0.50 to <0.75	1,883	0.71%	323	45.00%	0	1,501	80%
0.75 to <2.50	4461	2.05%	208	45.00%	1	5059	113%
2.50 to <10.00	2,724	5.66%	1,298	45.01%	1	4,526	166%
10.00 to <100.00	277	27.91%	510	45.22%	1	722	261%
100.00 (Default)	-	100.00%	2	45.00%	3	-	0%
Institutions	**49,638**	**0.13%**	**550**	**45.39%**	**1**	**13,792**	**28%**
0.00 to <0.15	46,648	0.07%	257	45.27%	1	10,622	23%
0.15 to <0.25	1,007	0.20%	51	45.00%	2	667	66%
0.25 to <0.50	864	0.33%	90	45.18%	2	709	82%
0.50 to <0.75	371	0.71%	38	46.08%	2	401	108%
0.75 to <2.50	420	1.97%	45	45.00%	0	443	106%
2.50 to <10.00	328	5.11%	65	63.51%	3	950	290%
10.00 to <100.00	-	27.91%	4	45.00%	1	0	0%
100.00 (Default	-	0.00%	-	0.00%	-	-	-
Total (all portfolios)	**119,976**	**0.40%**	**10,942**	**45.10%**	**1**	**46,468**	**39%**

Over the second half of 2020 institutions and corporates increased due to derivatives and stock loan.

23. Appendix VI. Morgan Stanley Investment Management Group

The principal activity of MSIM Ltd is the provision of investment management services to clients. While the provision of certain services was impacted by the United Kingdom (“UK”)’s decision to leave the European Union (“EU”), there have not been any significant changes in the discharge by MSIM Ltd of its principal activity in the year under review. The Morgan Stanley Group undertook a number of planned, structural changes in preparation for the UK withdrawal from the EU. At the end of the transition period on 31 December 2020, MSIM Ltd transferred the activity and operations of its branches in Amsterdam (the Netherlands), Milan (Italy) and Frankfurt (Germany), including property, plant and equipment, leases and employee contracts to MSIM Fund Management (Ireland) Limited (“MSIM FM”), an EU-based Morgan Stanley Group undertaking. As part of the transfers outlined above, MSIM Ltd also transferred a number of client contracts to MSIM FM. The investment management activity of some of these contracts was subsequently delegated by MSIM FM to MSIM Ltd, to enable MSIM Ltd to continue to service these clients. MSIM Ltd has continued to operate a representative office in the Dubai International Financial Centre (“DIFC”). MSIM Ltd is authorised and regulated by the Financial Conduct Authority (“FCA”).

The principal activity of MSIM ACD is the provision of authorised corporate director services to a United Kingdom (“UK”) authorised open-ended investment company (“OEIC”), being Morgan Stanley Funds (UK). There have not been any significant changes in MSIM ACD’s principal activity in the year under review. MSIM ACD is authorised and regulated by the Financial Conduct Authority (“FCA”).

Key Metrics

As an investment firm MSIM Group reports its total risk exposure amount as the higher of the sum of credit risk and market risk RWAs, or the fixed overhead requirement. The fixed overhead requirement is calculated using figures resulting from the applicable accounting framework of the preceding year.

Table 74: MSIM Group key metrics

$MM	Q4’20	Q4’19
Common Equity Tier 1 Capital	196	193
Additional Tier 1 Capital	-	-
Tier 1 Capital	**196**	**193**
Tier 2 Capital	**51**	**51**
Total Own Funds	**247**	**244**
Risk Weighted Assets	367	261
Fixed Overhead Requirement	824	902
Total Risk Exposure Amount	**824**	**902**
CET1 Ratio	23.8%	21.4%
Tier 1 Capital Ratio	23.8%	21.4%
Total Capital Ratio[1]	30.0%	27.1%

1. The MSIM Group is required to maintain a minimum ratio of Own Funds to RWAs. As at 31 December 2020, the MSIM Group is in compliance with the minimum capital requirements.

Capital Management

The MSIM 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 the MSI Group’s capital management policies, the MSIM Group manages its capital position based upon among other things, business opportunities, risks, capital availability and rates of return together with internal capital policies and regulatory requirements, and therefore, in the future may expand or contract its capital base to address the changing needs of its business.

The MSIM Group conducts an ICAAP at least annually in order to meet its obligations under CRD IV which the FCA reviews through its SREP.

MSIM Group capital is managed to ensure capital requirements assessed through the ICAAP and SREP are met. Internal capital ratio minima are set by the MSIM Board to ensure the MSIM Group has sufficient capital to meet its regulatory requirements at all times.

Capital Resources

Table 75 summarises the capital resources of the MSIM Group as at 31 December 2020.

Table 75: MSIM Group own funds

	$MM
Capital instruments eligible as CET1 capital	1
Retained earnings	195
Accumulated other comprehensive income	0
Other reserves	-
Adjustments to CET1 due to prudential filters	-
Other intangible assets	-
IRB shortfall of credit risk adjustments to expected losses	-
CET1 capital	**196**
Additional Tier 1 capital	-
Tier 1 capital	**196**
Capital instruments and subordinated loans eligible as Tier 2 capital	51
Instruments issued by subsidiaries that are given recognition in Tier 2 capital	-
Transitional adjustments due to additional recognition in Tier 2 capital of instruments issued by subsidiaries	-
Tier 2 capital	**51**
Total own funds	**247**

The capital resources of the MSIM Group are based on audited, consolidated non-statutory financial information. Table 76 provides a reconciliation of audited shareholders' equity to regulatory capital.

Table 76: MSIM Group reconciliation of balance sheet total equity to regulatory capital

$MM[1]		CET1 capital	AT1 capital	Tier 2 capital
Equity instruments	1	1	-	-
Share premium	-	-	-	-
Other reserves	-	-	-	-
Other comprehensive income	0	0	-	-
Retained earnings	414	414	-	-
Non-controlling interest	-	-	-	-
Balance sheet total equity	**415**	**415**	**-**	**-**
Add: Tier 2 instruments classified as debt and other borrowings	**51**	-	-	**51**
Less:				
Qualifying own funds subordinated debt instruments not included in consolidated Tier 2 capital	-	-	-	-
Amortised portion subordinated debt instruments not included in T2 capital	0	-	-	0
Part of interim or year-end profit not eligible	(219)	(219)	-	-
Non-controlling interest (amount not allowed in consolidated CET1)	-	-	-	-
Additional value adjustments (negative amount)	-	-	-	-
Negative amounts resulting from the calculation of expected loss amounts	0	0	-	-
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-	-	-	-
Intangible assets (net of related tax liability) (negative amount)	-	-	-	-
Total own funds (transitional rules and fully loaded position)	**247**	**196**	**-**	**51**

1. For further details, refer to Appendix VIII.

Table 77 shows the regulatory capital for the MSIM Group at both a transitional and fully loaded basis as at 31 December 2020.

Table 77: MSIM Group own funds disclosure template

	$MM[1]
Capital instruments and the related share premium accounts	1
Paid up capital instruments	1
Of which: Ordinary shares	1
Of which: Class A Ordinary shares (non-voting)	-
Share premium	-
Retained earnings	195
Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	0
Independently reviewed interim profits net of any foreseeable charge or dividend	-
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**196**
Additional value adjustments (negative amount)	-
Intangible assets (net of related tax liability) (negative amount)	-
Negative amounts resulting from the calculation of expected loss amounts	-
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-
Total regulatory adjustments to Common equity Tier 1 (CET1)	**-**
Common Equity Tier 1 (CET1) capital	**196**
Capital instruments and the related share premium accounts	-
Of which: classified as equity under applicable accounting standards	-
Additional Tier 1 (AT1) capital	**-**
Tier 1 capital (T1 = CET1 + AT1)	**196**
Capital instruments and the related share premium accounts	51
Qualifying own funds instruments included in consolidated Tier 2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-
Of which: Instruments issued by subsidiaries subject to phase out	-
Tier 2 capital before regulatory adjustments	**51**
Tier 2 capital	**51**
Total capital (TC = T1 + T2)	**247**
Total risk weighted assets	**367**
Fixed Overhead Requirements	**824**
Total Risk Exposure Amount	**824**
Common Equity Tier 1 (as a percentage of risk exposure amount)	23.8%
Tier 1 (as a percentage of risk exposure amount)	23.8%
Total capital (as a percentage of risk exposure amount)	30.0%
Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	4.5%
Of which: Capital conservation buffer requirement	-
Of which: Countercyclical buffer requirement	-
Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	10.2%
Direct and indirect holdings of the capital 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)	-
Direct and indirect holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	-
Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	0

1. As a limited licence firm under CRR Article 95, IFPRU 10 on capital buffers is not applicable. Therefore MSIM Group is exempt from both CCB and CCYB.

Capital Requirements

Table 78 summarises RWAs and MCR for MSIM Group by risk type, with MCR calculated as 8% of RWAs in accordance with CRD IV.

Table 78: MSIM Group overview of RWAs (EU OV1)

$MM	RWAs Q4'20	RWAs Q4'19	MCR Q4'20
Credit risk (excluding CCR)	**285**	**234**	**23**
Of which standardised approach	186	156	15
Of which foundation IRB (FIRB) approach	76	58	6
Of which advanced IRB (AIRB) approach	-	-	-
Of which equity IRB under the simple risk-weighted approach or the IMA	23	20	2
CCR	**-**	**-**	**-**
Of which mark- to-market	-	-	-
Of which original exposure	-	-	-
Of which standardised approach	-	-	-
Of which internal model method (“IMM”)	-	-	-
Of which financial collateral comprehensive method (for SFTs)	-	-	-
Of which risk exposure amount for contributions to the default fund of a CCP	-	-	-
Of which CVA	-	-	-
Settlement risk	**-**	**-**	**-**
Securitisation exposures in banking book (after cap)	**-**	**-**	**-**
Of which IRB	-	-	-
Of which IRB supervisory formula approach (SFA)	-	-	-
Of which internal assessment approach (IAA)	-	-	-
Of which standardised approach	-	-	-
Market risk	**82**	**27**	**6**
Of which standardised approach	82	27	6
Of which IMA	-	-	-
Large exposures	**-**	**-**	**-**
Operational risk	**-**	**-**	**-**
Of which basic indicator approach	-	-	-
Of which standardised approach	-	-	-
Of which advanced measurement approach	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	**-**	**-**	**-**
Total credit risk and market risk	**367**	**261**	**29**
Fixed overhead requirement	**824**	**902**	**66**
Floor adjustment	**-**	**-**	**-**
Total risk exposure amount	**824**	**902**	**66**

Table 79 summarises the MSIM Groups credit risk exposures for both IRB and standardised approaches as at 31 December 2020.

Table 79: MSIM Group credit risk summary

$MM[1]	EAD	RWA	MCR
IRB			
Corporates	101	54	4
Equity	8	23	2
Institutions	151	22	2
Total (IRB)	**260**	**99**	**8**
Standardised			
Central governments or central banks	0	0	0
Corporates	88	60	5
Institutions	292	-	-
Other items	126	126	10
Total (standardised)	**506**	**186**	**15**
Total	**766**	**285**	**23**

1. Exposure classes where MSIM Group has no exposure are not shown in the table.

RWA flow statements

Table 80 summarises the key drivers of RWAs and MCR for the MSIM Groups' credit risk exposures under the IRB approach.

Table 80: MSIM Group RWA flow statements of credit risk exposures under the IRB approach (EU CR8)

$MM	RWAs	MCR
RWAs at the end of the previous reporting period[1]	**58**	**5**
Asset size	19	1
Asset quality	(1)	0
Model updates	-	-
Methodology and policy	-	-
Acquisitions and disposals	-	-
Foreign exchange movements	-	-
Other	-	-
RWAs at the end of the reporting period	**76**	**6**

1. Previous reporting period was Q4'19.

Over the course of 2020, MSIM Group asset size increased due to intercompany receivables.

Table 81 shows the MSIM Group's equity exposures using the simple risk-weighted approach.

Table 81: MSIM Group IRB (specialised lending and equities) (EU CR10)

	Equities under the simple risk-weight approach					
Categories[1]	On-balance sheet amount $MM	Off-balance sheet amount $MM	Risk weight %	Exposure amount $MM	RWAs $MM	Capital requirements $MM
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	-	8	290%	8	23	2
Other equity exposures	-	-	370%	-	-	-
Total	**-**	**8**	**-**	**8**	**23**	**2**

1. There is no specialised lending on the MSIM Group.

Over the course of 2020, there have been no material changes.

Table 82: MSIM Group Capital instruments template

	Reported in USD unless otherwise stated		
Description	**Common Equity Tier 1**		**Subordinated Debt**
MSIM Group[1]	**A**	**B**	**C**
Issuer	Morgan Stanley Investment Management Limited		
Unique Identifier	N/A		
Governing law(s) of the instrument	Companies Act 2006		English Law
Transitional CRR rules	CET1		Tier 2
Post-transitional CRR rules	CET1		Tier 2
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	Solo and (Sub-) Consolidated		
Instrument type	Ordinary Shares		Long-term subordinated multicurrency loan facility
Amount recognised in regulatory capital ($MM)	USD 1MM	USD 0MM	USD 51MM
Currency of issuance and nominal amount of instrument	$1per ordinary share	£1per ordinary share	USD 51MM
Reporting currency and nominal amount of instrument	$1per ordinary share	N/A	USD 51MM
Issue Price	N/A		USD 51MM
Redemption Price	N/A		USD 51MM
Accounting Classification	Shareholders' Equity		Liability – amortised cost
Original date of issuance	04/02/2016	22/01/1986	21/12/2015
Perpetual or dated	Perpetual		Dated
Original maturity date	No maturity		21/12/2025
Issuer call subject to prior supervisory approval	N/A		
Option call date, contingent call dates	N/A		
Redemption amount	N/A		
Subsequent call dates, if applicable	N/A		
Fixed or floating dividend / coupon	Floating		
Coupon rate and any related index	N/A	N/A	OBFR +2.086%
Existence of a dividend stopper	No		
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary		Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary		Mandatory
Existence of step up or other incentive to redeem	No		
Noncumulative or cumulative	Noncumulative		Cumulative
Convertible or non-convertible	Nonconvertible		
If convertible,			
conversion trigger(s)	N/A		
fully or partially	N/A		
conversion rate	N/A		
mandatory or optional conversion	N/A		
specify instrument type convertible into	N/A		
specify issuer of instrument it converts into	N/A		
Write-down features	No		
If write-down, write-down trigger(s)	N/A		
If write-down, full or partial	N/A		
If write-down, permanent or temporary	N/A		
If temporary write-down, description of write-up mechanism	N/A		
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Long-term subordinated loan facility (column C)		Other Liabilities
Non-compliant transitioned features	No		
If yes, specify non-compliant features	N/A		

1. All Capital instruments issued by the MSIM Group are issued within Morgan Stanley and are not marketable instruments.

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

MORGAN STANLEY INTERNATIONAL LIMITED

Consolidated non-statutory financial information

31 December 2020

MORGAN STANLEY INTERNATIONAL LIMITED

CONTENTS	PAGE
Directors' responsibilities statement	1
Independent auditor's report	2
Consolidated income statement	6
Consolidated statement of comprehensive income	7
Consolidated statement of changes in equity	8
Consolidated statement of financial position	9
Notes to the consolidated non-statutory financial information	10

MORGAN STANLEY INTERNATIONAL LIMITED

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.

Approved by the Board and signed on its behalf by:

K Lazaroo
Director
22 April 2021

Board of Directors:

S P Ball	
O M Behrens	(appointed 28 January 2021)
J W Bloomer	(Chairman)
D O Cannon	
T L Duhon	
L Guy	(resigned 6 May 2020)
J Horder	(resigned 2 June 2020)
A Kohli	
K M Lazaroo	
S Orlacchio	(appointed 2 June 2020)
M C Phibbs	(resigned 31 March 2021)
L Reichlin	(appointed 28 January 2021)
D A Russell	
A V C Sekhar	(appointed 6 May 2020)
P D Taylor	(appointed 1 August 2020)
N P Whyte	
C E Woodman	

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS 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 2020 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's') 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 IV 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 are authorised for issue.

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INTERNATIONAL LIMITED (CONTINUED)

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 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.

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INTERNATIONAL LIMITED (CONTINUED)

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; 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 company's obligations under the Financial Conduct Authority (FCA) Handbook and regulatory capital requirements.

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 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.

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INTERNATIONAL LIMITED (CONTINUED)

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 16 February 2021 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.

Deloitte LLP
London, United Kingdom

22 April 2021

MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED INCOME STATEMENT
Year ended 31 December 2020

in $ millions	2020	2019
Net trading income	4,750	5,412
Net loss from other financial instruments held at fair value	(110)	(534)
Fee and commission income	4,878	4,374
Other revenue	(15)	17
Interest income	295	2,021
Interest expense	(832)	(3,604)
Net interest expense	(537)	(1,583)
Net revenues	**8,966**	**7,686**
Non-interest expenses:		
Operating expense	(6,968)	(6,645)
Net impairment (loss) on financial assets	(2)	(1)
PROFIT BEFORE TAXATION	**1,996**	**1,040**
Income tax	(670)	(237)
PROFIT FOR THE YEAR	**1,326**	**803**
Attributable to:		
Owners of the Company	1,326	801
Non-controlling interest	-	2
PROFIT FOR THE YEAR	**1,326**	**803**

The notes on pages 10 to 28 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
Year ended 31 December 2020

in $ millions	2020	2019
PROFIT FOR THE YEAR	**1,326**	**803**
Items that will not be reclassified subsequently to profit or loss:		
Remeasurement of net defined benefit liability	(12)	(1)
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	(199)	(198)
Items that may be reclassified subsequently to profit or loss:		
Currency translation reserve:		
Foreign currency translation differences arising on foreign operations	461	(26)
OTHER COMPREHENSIVE INCOME, AFTER INCOME TAX	**250**	**(225)**
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	**1,576**	**578**
Attributable to:		
Owners of the Company	1,573	578
Non-controlling interest	3	-
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	**1,576**	**578**

The notes on pages 10 to 28 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
Year ended 31 December 2020

in $ millions	2020	2019
Share capital and Other equity instruments - at 1 January	**5,796**	**5,116**
Issue of ordinary share capital	70	680
Share capital and Other equity instruments - at 31 December	**5,866**	**5,796**
Share premium - at 1 January	**17**	**-**
Issue of ordinary share capital	20	17
Share premium - at 31 December	**37**	**17**
Pension reserve - at 1 January	**(102)**	**(101)**
Remeasurement of defined benefit liability	(12)	(1)
Pension reserve - at 31 December	**(114)**	**(102)**
Currency translation reserve - at 1 January	**(509)**	**(485)**
Foreign currency translation differences arising during the year	458	(24)
Currency translation reserve - at 31 December	**(51)**	**(509)**
Capital contribution reserve - at 1 January and 31 December	**6,061**	**6,061**
Capital redemption reserve - at 1 January and 31 December	**1,400**	**1,400**
Debt valuation adjustment reserve - at 1 January	**(141)**	**53**
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	(199)	(198)
Realised debt valuation losses	1	4
Debt valuation adjustment - at 31 December	**(339)**	**(141)**
Retained earnings - at 1 January	**13,372**	**12,900**
Profit for the year	1,326	801
Realised debt valuation losses	(1)	(4)
Dividends	(342)	(328)
Transfer of business to Morgan Stanley S.V., S.A.U.	-	3
Retained earnings - at 31 December	**14,355**	**13,372**
Equity attributable to the owners of the parent at 31 December	**27,215**	**25,894**
Non-controlling interest - at 1 January	**104**	**104**
Profit for the year	-	2
Foreign currency translation differences arising during the year	3	(2)
Acquisition of minority interest	(59)	-
Disposal of Morgan Stanley Finance (C.I.) Limited	(27)	-
Non-controlling interest - at 31 December	**21**	**104**
Total equity at 31 December	**27,236**	**25,998**

The notes on pages 10 to 28 form an integral part of the consolidated non-statutory financial information.

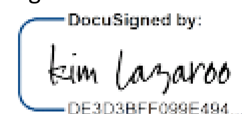
MORGAN STANLEY INTERNATIONAL LIMITED

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at 31 December 2020

in $ millions	2020	2019
ASSETS		
Cash and short term deposits	34,617	34,341
Trading financial assets (of which $36,063 million (2019: $49,108 million) were pledged to various parties)	398,993	322,309
Secured financing	100,458	82,690
Loans and advances	193	289
Investment securities	158	141
Trade and other receivables	89,254	72,005
Current tax assets	383	305
Deferred tax assets	314	173
Other assets	210	219
Property, plant and equipment	1,195	1,247
Intangible assets	695	678
TOTAL ASSETS	**626,470**	**514,397**
LIABILITIES AND EQUITY		
Bank loans and overdrafts	275	124
Trading financial liabilities	354,115	266,673
Secured borrowing	77,371	75,908
Trade and other payables	103,258	90,856
Debt and other borrowings	62,686	53,675
Provisions	90	93
Current tax liabilities	175	59
Deferred tax liabilities	2	-
Accruals and deferred income	1,166	940
Post employment benefit obligations	96	71
TOTAL LIABILITIES	**599,234**	**488,399**
EQUITY		
Share capital	2,366	2,296
Other equity instruments	3,500	3,500
Share premium	37	17
Currency translation reserve	(51)	(509)
Capital contribution reserve	6,061	6,061
Capital redemption reserve	1,400	1,400
Pension reserve	(114)	(102)
Debt valuation reserve	(339)	(141)
Retained earnings	14,355	13,372
Equity attributable to the owners of the Company	**27,215**	**25,894**
Non-controlling interests	**21**	**104**
TOTAL EQUITY	**27,236**	**25,998**
TOTAL LIABILITIES AND EQUITY	**626,470**	**514,397**

The consolidated non-statutory financial information was approved by the Board and authorised for issue on 21 April 2021.

Signed on behalf of the Board



K Lazaroo
Director

The notes on pages 10 to 28 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

1. BASIS OF PREPARATION

a. Statement of compliance

The Company has prepared consolidated non-statutory financial information comprising information about the Company and its subsidiaries (together "the Group") as at 31 December 2020. 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 2020 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 2020.

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 plus the basis of consolidation set out below. A summary of significant accounting policies applied to the Group is detailed in note 2.

b. Basis of consolidation

The consolidated non-statutory financial information of the Group comprises information about the Company and its subsidiaries as at 31 December 2020. 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

1. BASIS OF PREPARATION (CONTINUED)

c. 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 1 '*Presentation of Financial Statements*' and IAS 8 '*Accounting Policies, Changes in Accounting Estimates and Errors*': Definition of Material were issued by the IASB in October 2018, for application in accounting periods beginning on or after 1 January 2020. The amendments were endorsed by the EU in December 2019.

An amendment to IFRS 3 '*Business Combinations*' was issued by the IASB in October 2018, for application in accounting periods beginning on or after 1 January 2020. The amendment was endorsed by the EU in April 2020.

An amendment to IFRS 16 '*Leases*': Covid-19-Related Rent Concessions was issued by the IASB in May 2020, for retrospective application in accounting periods beginning on or after 1 June 2020. The amendment was endorsed by the EU in October 2020. The Group has early adopted this amendment from 1 January 2020.

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

d. New standards and interpretations not yet adopted

At the date of authorisation of these consolidated non-statutory 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 2020. 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.

Until 31 December 2020 endorsement of new standards was the responsibility of the EU. With effect from 1 January 2021, as a result of the UK's withdrawal from the EU, endorsement was undertaken by the UK Endorsement Board.

Amendments to IAS 1 '*Presentation of Financial Statements*': 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 1 'Presentation of Financial Statements': 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.

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.

Amendments to IAS 37 '*Provisions, Contingent Liabilities and Contingent Assets*': Onerous Contracts – Cost 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. Early application is permitted.

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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

1. BASIS OF PREPARATION (CONTINUED)

d. New standards and interpretations not yet adopted (continued)

Amendments were issued to IFRS 9 '*Financial Instruments*', IAS 39 '*Financial Instruments: Recognition and Measurement*', IFRS 7 '*Financial Instruments: Disclosure*', 'IFRS 4 '*Insurance Contracts*' and IFRS 16 '*Leases*' in August 2020. The amendments outline the accounting and disclosure requirements for the financial instruments which are transitioned to alternative benchmark rates. The amendments are applicable retrospectively and are effective from and will be applied for annual periods beginning on or after 1 January 2021.The amendments were endorsed by the UK in January 2021.

e. 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.

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.

Specifically, the existing and potential effects of COVID-19 (coronavirus) on the operational capacity of the business, access to liquidity and capital, contractual obligations, asset valuations and other critical accounting judgements and key sources of estimation uncertainty have been considered. Additionally, the specific impact of the UK leaving the EU on the business of the Group has been considered.

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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Functional currency

Items included within 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'.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

b. Foreign currencies (continued)

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 parent 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 trading income’. 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 trading income’.

All changes in fair value, foreign exchange differences, interest and dividends are reflected in the consolidated income statement in ‘Net trading income’. When interest is included as a component of an instrument’s fair value, interest is also reflected in the consolidated income statement in ‘Net trading income’, 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).

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

c. Financial instruments (continued)

i) Financial instruments mandatorily at fair value through profit and loss (continued)

Non-trading financial assets at fair value through profit or loss (continued)

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 and Company 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 income from other financial instruments held at fair value'. 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 income from other financial investments held at fair value'. When interest in included as a component of an instrument's fair value, interest is also reflected in the consolidated income statement in 'Net income from other financial instruments held at fair value', 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

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 income from other financial instruments held at fair value' 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 income from other financial instruments held at fair value', otherwise it is included within 'Interest income' or 'Interest expense'. DVA presented within other comprehensive income is subsequently reclassified to the consolidated income statement, but is transferred to 'Retained earnings' when realised.

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'.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION

Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

c. Financial instruments (continued)

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 ECL allowance. Interest is recognised in the consolidated income statement in 'Interest income', using the 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 gain/(loss) 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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, including, 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 Group 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

d. Fair value (continued)

Fair value measurement (continued)

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.

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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

d. Fair value (continued)

Valuation techniques (continued)

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 the Financial Control Group ("FCG") is responsible for the Group's fair value valuation policies, processes and procedures. 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 financial instruments. 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 Review.* 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' theoretical soundness, the appropriateness of the valuation methodology and calibration techniques developed by the business units using observable inputs. Where inputs are not observable, VC reviews the appropriateness of the proposed valuation methodology to determine that it is consistent with how a market participant would arrive at the unobservable input. The valuation methodologies utilised in the absence of observable inputs may include extrapolation techniques and the use of comparable observable inputs. As part of the review, VC develops a methodology to independently verify the fair value generated by the business unit's valuation models. The Group generally subjects 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 independently validates the fair values of financial instruments determined using valuation models 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.

  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 MSI Group's business segments (i.e. Institutional Securities and Investment Management), the CFO and the CRO on a regular basis. VC uses recently executed transactions, other observable market data such as exchange data, broker/ dealer quotes, third-party pricing vendors and aggregation services for validating the fair values of financial instruments generated using valuation models. VC assesses the external sources and their valuation methodologies to determine if the external providers meet the minimum standards expected of a third-party pricing source.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

d. Fair value (continued)

Valuation process (continued)

Pricing data provided by approved external sources are evaluated using a number of approaches; for example, by corroborating the external sources' prices to executed trades, by analysing the methodology and assumptions used by the external source to generate a price and/ or by evaluating how active the third-party pricing source (or originating sources used by the third-party pricing source) is in the market. Based on this analysis, VC generates a ranking of the observable market data designed to ensure that the highest-ranked market data source is used to validate the business unit's fair value of financial instruments.

VC reviews the models and valuation methodology used to price new material Level 2 and Level 3 transactions and both FCG and MRM must approve the fair value of the trade that is initially recognised.

- *Level 3 Transactions.* VC reviews the business unit's valuation techniques to assess whether these are consistent with market participant assumptions.

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. 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

e. Derecognition of financial assets and liabilities (continued)

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

For financial assets, ECLs are the present value of cash shortfalls (i.e. the difference between contractual and expected cash flows) over the expected life of the financial instrument, discounted at the asset's EIR.

Where a financial asset is credit-impaired at the reporting date, the ECL is measured as the difference between the asset's gross carrying amount and the present value of future cash flows, discounted at the original EIR.

For in-scope loan commitments, ECLs are the present value of the cash shortfalls (i.e. the difference between contractual and expected cash flows), assuming that the loan is drawn down.

For a financial guarantee contract, the ECLs are the present value of the cash shortfalls based on the expected payments to reimburse the holder for a credit loss that it may incur when a debtor fails to make payment when due.

The Group applies a three stage approach to measuring ECL 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 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

f. Impairment of financial instruments (continued)

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 probability of default ("PD") is derived from internal credit rating grades (based on available information about the borrower) and multiple forward-looking macroeconomic scenarios which are probability weighted. Credit risk is considered to have increased significantly if the PD has significantly increased at the reporting date relative to the PD of the facility, at the date of initial recognition. The assessment of whether a change in PD is "significant" is based both on a consideration of the relative change in PD and on qualitative indicators of the credit risk of the facility, which indicate whether a loan is performing or in difficulty. In addition, as a backstop, the Group considers that SICR has occurred in all cases when an asset is more than 30 days past due.

The Group does not use the 'low' credit risk practical expedient. As a result, the Group monitors all financial instruments subject to impairment for SICR, with the exception of trade receivables, as noted.

In general, ECLs are measured so that they reflect:

- A probability-weighted range of possible outcomes;
- The time value of money; and
- Relevant information relating to past, current and future economic conditions.

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.
- 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 expect 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Calculation of ECL (continued)

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, in 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)/gain on financial instruments'. ECL on financial assets measured at amortised cost and lease receivables are presented as an ECL allowance. The allowance reduces the net carrying amount on the face of the consolidated statement of financial position. ECLs on loan commitments and financial guarantee contracts are presented as a provision in the consolidated statement of financial position, i.e. as a liability.

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 which generally occurs when all commercially-reasonable means of recovering the loan balance have been exhausted. Such determination is based on an indication that the borrower can no longer pay the obligation, or that the proceeds from collateral will not be sufficient to pay the loan. Partial write-offs are made when a portion of the loan is uncollectable. Financial assets that are written off could still be subject to enforcement activities for recoveries of amounts due. If the amount to be written off is greater than the accumulated loss allowance, the difference is reflected directly in the consolidated income statement within 'Net impairment (loss)/reversal on financial instruments' and is not recognised in the loss allowance account. Any subsequent recoveries are credited to 'Net impairment (loss)/gain on financial instruments' within the consolidated income statement.

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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

g. Revenue recognition (continued)

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 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 operating 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 25 years
Fixtures, fittings and equipment	- 1 to 8 years

j. Combination of businesses under common control

Business combinations involving entities under common control, where all combining entities are ultimately controlled by the same entity 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 aggregate book value of the assets and liabilities as of the date of the transfer of the acquired entity 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 entity or entities 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 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 of business is recorded as an adjustment to equity within 'Retained earnings'. 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'.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 ("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. Cash and short term deposits

Cash and short term deposits comprise cash and demand deposits with banks, net of outstanding bank overdrafts, along with highly liquid investments, with original maturities of three months or less, that are readily convertible to known amounts of cash and subject to insignificant risk of change in value. This may include segregated client money, held in accordance with the FCA's Client Money Rules or is not available for use by the Group.

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 income tax 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. 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

m. Income tax (continued)

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.

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 statement of financial position.

o. Provisions 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.

A commitment is any legal obligation to potentially make or receive cash payments or transfer cash.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

p. Employee compensation plans

Morgan Stanley maintains various equity-settled share-based and cash-based deferred compensation plans for the benefit of employees.

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 on the date the award is granted, measured as the volume-weighted average price on the date of grant ("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 scheduled conversion date.

Awards generally contain clawback and cancellation provisions. Certain awards provide Morgan Stanley the discretion to 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 recognises compensation cost 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 Group chargeback arrangements, the Group pays Morgan Stanley for the procurement of shares. The Group pays Morgan Stanley the grant date fair value and any subsequent movement in fair value up to the time of delivery to the employees.

Share based compensation expense is recorded within 'Operating expense' in the consolidated income statement.

ii) Deferred cash-based compensation plans

Morgan Stanley awards 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 recognises 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 occur.

Deferred cash-based compensation expense is recorded within 'Operating expense' in the income statement. The liability for the awards is measured at fair value and is included within 'Accruals and deferred income' in the statement of financial position.

The Group enters into derivative contracts with other Morgan Stanley Group undertakings to economically hedge the exposure created by these deferred compensation plans. The derivatives are recognised within 'Trading financial instruments' in the statement of financial position and the related gains and losses are recorded within 'Net trading income' in the 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.

MORGAN STANLEY INTERNATIONAL LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 'Operating expense' in the income statement as the related employee service is rendered.

For the Group 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. A surplus or deficit of plan assets over liabilities is recognised in the 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 is charged to 'Staff costs' within 'Operating expense' in the 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 participates in a defined benefit plan operated by another Morgan Stanley affiliate. The Group recognises 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 VIII: MSIM Group Non-Statutory Financial Information

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

Consolidated non-statutory financial information

31 December 2020

CONTENTS	**PAGE**
Directors' responsibilities statement	1
Independent auditor's report	2
Consolidated income statement	6
Consolidated statement of comprehensive income	7
Consolidated statement of changes in equity	8
Consolidated statement of financial position	9
Notes to the consolidated non-statutory financial information	10

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

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 Investment Management Group which comprises of Morgan Stanley Investment Management Limited ("the Company") and its subsidiary (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.

Approved by the Board and signed on its behalf by

R O'Healai

Director

22 April 2021

Board of Directors:

D E M Best (appointed 23 February 2021)
T L Duhon (Chair)
D J Hosie
F C Kelly
R A Lockwood
R O'Healai

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

REPORT ON THE AUDIT OF THE CONSOLIDATED NON-STATUTORY FINANCIAL STATEMENTS

Opinion

In our opinion the consolidated non-statutory financial information of Morgan Stanley Investment Management Group (the 'company') for the year ended 31 December 2020 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 financial position
- the statement of changes in equity;
- 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's') 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 assist the company in complying with the financial reporting provisions of the Financial Conduct Authority ("FCA"). 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 are 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.

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

Other information

The directors are responsible for the other information. The other information comprises the information included in the Director's Responsibility 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.

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

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; 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 company's obligations under the Financial Conduct Authority (FCA) Handbook and regulatory capital requirements.

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 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.

INDEPENDENT AUDITOR'S REPORT TO THE DIRECTORS OF MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

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 for the exclusive use of the directors and solely for the purpose of reporting to the FCA. 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 Andrew Partridge.

Deloitte LLP

Glasgow, United Kingdom

22 April 2021

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

CONSOLIDATED INCOME STATEMENT
Year ended 31 December 2020

	2020 $'000	2019 $'000
Fee and commission income	1,079,668	897,998
Other revenue	-	560
Total non-interest revenues	1,079,668	898,558
Interest income	5,294	10,926
Interest expense	(1,972)	(4,623)
Net interest income	3,322	6,303
Net revenues	1,082,990	904,861
Non-interest expense:		
Other expense	(877,083)	(752,896)
PROFIT BEFORE TAXATION	**205,907**	**151,965**
Income tax credit / (expense)	(5,042)	11,890
PROFIT FOR THE YEAR	**200,865**	**163,855**

The notes on pages 10 to 21 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

CONSOLIDATED INCOME STATEMENT
Year ended 31 December 2020

	2020 $'000	2019 $'000
PROFIT FOR THE YEAR	**200,865**	**163,855**
Items that will not be reclassified subsequently to profit or loss:		
Remeasurement of net defined benefit liability	(154)	(151)
Items that may be reclassified subsequently to profit or loss:		
Currency translation reserve:		
Foreign currency translation differences arising on foreign operations	2,351	(208)
OTHER COMPREHENSIVE INCOME AFTER INCOME TAX	**2,197**	**(359)**
TOTAL COMPREHENSIVE INCOME FOR THE YEAR ATTRIBUTABLE TO OWNERS OF THE GROUP	**203,062**	**163,496**

The notes on pages 10 to 21 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
Year ended 31 December 2020

	Share capital $'000	Currency translation reserve $'000	Pension reserve $'000	Retained earnings $'000	Total equity $'000
Balance at 1 January 2020	**1,000**	**(2,595)**	**(154)**	**358,591**	**356,842**
Profit for the year	-	-	-	200,865	200,865
Other comprehensive income for the year:					
Remeasurement of net defined benefit liabilities	-	-	(154)	-	(154)
Currency translation reserve:	-	-	-	-	-
Foreign currency translation differences arising on foreign operations	-	2,351	-	-	2,351
Total comprehensive income for the year	**-**	**2,351**	**(154)**	**200,865**	**203,062**
Transactions with owners:					
Dividends	-	-	-	(163,000)	(163,000)
Impact of branch business transfer					
Gain on business transfer (Amsterdam branch)	-	-	-	28,263	28,263
Current tax charge (Frankfurt branch)	-	-	-	(9,755)	(9,755)
Current tax charge (Milan branch)	-	-	-	(645)	(645)
Pension reserve release	-	-	308	(308)	-
Balance at 31 December 2020	**1,000**	**(244)**	**-**	**414,011**	**414,767**

	Share capital $'000	Currency translation reserve $'000	Pension reserve $'000	Retained earnings $'000	Total equity $'000
Balance at 1 January 2019	**1,000**	**(2,387)**	**(3)**	**314,736**	**313,346**
Profit for the year	-	-	-	163,855	163,855
Other comprehensive income for the year:					
Remeasurement of net defined benefit liabilities	-	-	(151)	-	(151)
Currency translation reserve:	-	-	-	-	-
Foreign currency translation differences arising on foreign operations	-	(208)	-	-	(208)
Total comprehensive income for the year	**-**	**(208)**	**(151)**	**163,855**	**163,496**
Transactions with owners:					
Dividends	-	-	-	(120,000)	(120,000)
Balance at 31 December 2019	**1,000**	**(2,595)**	**(154)**	**358,591**	**356,842**

The notes on pages 10 to 21 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at 31 December 2020

	2020 $'000	2019 $'000
ASSETS		
Cash and short-term deposits	135,675	131,989
Loans and advances	291,480	207,239
Investment securities	4	4
Trade and other receivables	203,149	105,448
Deferred tax assets	11	1,269
Other assets	125,100	130,909
Property, plant and equipment	909	1,323
TOTAL ASSETS	**756,328**	**578,181**
LIABILITIES AND EQUITY		
Trade and other payables	148,560	64,085
Debt and other borrowings	51,480	51,002
Provisions	154	156
Current tax liabilities	12,127	9,106
Other liabilities	129,240	96,288
Post-employment benefit obligations	-	702
TOTAL LIABILITIES	**341,561**	**221,339**
Share capital	1,000	1,000
Currency translation reserve	(244)	(2,595)
Pension reserve	-	(154)
Retained earnings	414,011	358,591
TOTAL EQUITY	**414,767**	**356,842**
TOTAL LIABILITIES AND EQUITY	**756,328**	**578,181**

The consolidated non-statutory financial information was approved by the Board and authorised for issue on 22 April 2021.

Signed on behalf of the Board

R O'Healai

Director

The notes on pages 10 to 21 form an integral part of the consolidated non-statutory financial information.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

1. BASIS OF PREPARATION

The Group has prepared consolidated non-statutory financial information comprising of information about the Company and its subsidiary as at 31 December 2020. The Group confirms in accordance with section 435 of the Companies Act 2006 that:

The consolidated non-statutory financial information does not constitute its statutory accounts;

- A copy of the Company's statutory accounts for the year ended 31 December 2020 will be filed with the Registrar of Companies for England and Wales, Companies House, Cardiff CF14 3UZ; and
- The Company's independent auditor has issued an unqualified report on the Company's statutory accounts for the year ended 31 December 2020.
- The Group has prepared the consolidated non-statutory financial information in accordance with the basis of preparation detailed in the Company's statutory accounts plus the basis of consolidation set out below. A summary of significant accounting policies applied to the Group are detailed in note 2 below.

Basis of consolidation

The consolidated non-statutory financial information of the Group comprises information about the Company and its subsidiary as at 31 December 2020. Subsidiaries are all entities over which the Company has control. The Company controls an entity when the Company 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 subsidiary is prepared for the same reporting year as the Company, using consistent accounting policies. Subsidiaries are consolidated from the date that the Company gains control until the date that control ceases.

In certain cases, the Company 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 Company 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 Company will consider all relevant factors, including in particular:

- the scope of the Company's decision-making authority over the investee;
- the rights, including removal rights, held by other parties;
- the remuneration to which the Company is entitled; and
- the significance of the Company'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.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

1. BASIS OF PREPARATION (CONTINUED)

New standards and interpretations adopted during the year

The following amendments to standards relevant to the Group's operations were adopted during the year. Except where otherwise stated, these amendments to standards did not have a material impact on the Group's financial statements.

Amendments to IAS 1 'Presentation of Financial Statements' and IAS 8 'Accounting Policies, Changes in Accounting Estimates and Errors': Definition of Material were issued by the IASB in October 2018, for application in accounting periods beginning on or after 1 January 2020. The amendments were endorsed by the EU in December 2019.

An amendment to IFRS 3 'Business Combinations' was issued by the IASB in October 2018, for application in accounting periods beginning on or after 1 January 2020. The amendment was endorsed by the EU in April 2020.

An amendment to IFRS 16 'Leases': COVID-19 Related Rent Concessions was issued by the IASB in May 2020, for retrospective application in accounting periods beginning on or after 1 June 2020. The amendment was endorsed by the EU in October 2020. The Company has early adopted this amendment from 1 January 2020.

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

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.

Specifically, the existing and potential effects of COVID-19 (coronavirus) on the operational capacity of the business, access to liquidity and capital, contractual obligations, asset valuations and other critical accounting judgements and key sources of estimation uncertainty have been considered. Additionally, the specific impact of Brexit on the business of the Group has also been considered.

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 annual report and financial statements.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Functional currency

Items included in the financial statements are measured and presented in US dollars, the currency of the primary economic environment in which the Group operates.

All currency amounts in the financial statements and Strategic and Directors' reports are rounded to the nearest thousand 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'. All other translation differences are taken through the consolidated income statement. Exchange differences recognised in the consolidated income statement are presented in 'Other revenue' or 'Other 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 Group is reclassified to the consolidated income statement and recorded within 'Gain/ (loss) on disposal of branch'.

c. Financial instruments

i) Financial instruments mandatorily at fair value through profit and loss

Non-trading financial assets at fair value through profit or loss

Non-trading financial assets at fair value through profit or loss ("FVPL") include 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 and 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 income from other financial instruments held at fair value'.

For all non-trading financial assets at FVPL, transaction costs are excluded from the initial fair value measurement of the financial assets. These costs are recognised in the consolidated income statement in 'Other expense'.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

c. Financial instruments (continued)

ii) Financial assets and financial liabilities at amortised cost

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 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 are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial instrument. 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 on financial instruments'.

Financial assets at amortised cost include cash and short-term deposits, trade and other receivables and loans and advances.

Financial liabilities 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.

Financial liabilities classified at amortised cost include trade and other payables and debt and other borrowings.

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.

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.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

d. Fair value (continued)

Fair value measurement (continued)

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.

Valuation process

Valuation Control (“VC”) within Finance is responsible for the Group’s fair value valuation policies, processes and procedures. 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 financial instruments. 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.

e. 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 shall continue 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.

Upon derecognition of a financial asset, the difference between the previous carrying amount and the sum of any consideration received is recognised in the consolidated income statement within ‘Net gains/ (losses) on derecognition of financial assets measured at amortised cost’.

The Group derecognises financial liabilities when the Group’s obligations are discharged or cancelled or when they expire.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

f. Impairment of financial instruments

The Group recognises loss allowances for ECL for financial assets measured at amortised cost.

Measurement of ECL

For financial assets, ECL are the present value of cash shortfalls (i.e. the difference between contractual and expected cash flows) over the expected life of the financial instrument, discounted at the asset's EIR.

The Group applies a three stage approach to measuring ECL 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.

Assessment of significant increase in credit risk

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 probability of default ("PD") is derived from internal credit rating grades (based on available information about the borrower) and multiple forward-looking macroeconomic scenarios which are probability weighted. Credit risk is considered to have increased significantly if the PD has significantly increased at the reporting date relative to the PD of the facility, at the date of initial recognition. The assessment of whether a change in PD is "significant" is based both on a consideration of the relative change in PD and on qualitative indicators of the credit risk of the facility, which indicate whether a loan is performing or in difficulty.

The Group's accounting policy is to not use the 'low' credit risk practical expedient. As a result, the Group monitors all financial instruments which do not have a significant financing component that are subject to impairment for SICR, with the exception of trade receivables and contract assets arising from transactions within the scope of IFRS 15 which do not have a significant financing component, for which a lifetime ECL is always calculated.

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 credit enhancements, it may be determined that the ECL for a financial instrument is de minimis (highly immaterial) and recognition of the ECL may not be necessary.

The Group measures ECL on an individual asset basis and has no purchased or originated credit-impaired financial assets.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

f. Impairment of financial instruments (continued)

Presentation of ECL

ECL is recognised in the consolidated income statement within ‘Net impairment loss on financial instruments’. ECL on financial assets measured at amortised cost are presented as an ECL allowance reducing the net carrying amount on the face of the consolidated statement of financial position.

g. Revenue recognition and contract assets and liabilities

Fees and commissions classified within ‘Fee and commission income’ in the consolidated income statement include investment management, distribution, administration, performance and sub-advisory fees. These are generally recognised when services are performed and the fees become known, except for performance fees as noted below.

- Investment management fees are primarily based on pre-determined percentages of the market value of AUM.
- Distribution fees are received on certain funds managed by the Group and are primarily priced at pre-determined percentages, dependent on share class.
- Administration fees are received on certain funds managed by the Group to reimburse any costs, charges, fees and expenses incurred in relation to the administration of the funds. These are primarily priced at pre-determined fixed percentages.
- Performance fees are received from certain investment products. These are earned upon exceeding specified relative and/ or absolute investment return thresholds. Performance fees are recognised only when the performance obligation is satisfied, upon completion of the measurement period, which varies by product or account, and could be monthly, quarterly, annually or longer.
- Sub-advisory revenues in respect of investment management services are received from other Morgan Stanley Group undertakings and represent various fee types where another Morgan Stanley Group undertaking is designated as the initial contracted entity but the Group is the sub-contracted entity. The Group receives a portion of the revenue on an arm’s length basis.

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 and customer payment is conditional, and are presented within ‘Others 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.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

h. Fee and commission expense

Fees and commissions classified within 'Other expense' in the consolidated income statement include fee sharing and distribution expenses.

- Fee sharing expenses are primarily based on specified percentages of the management fees received, dependent on share class, and are recognised as the services are performed.
- Distribution expenses are based on the distribution fees received and are recognised either as the services are performed or across a number of years, dependent on fee type.

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(j) below) which are included within 'Other expense' in the consolidated income statement.

For premises held under operating leases, 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	- over the remaining lease term
Fixtures, fittings and equipment	- 3 to 9 years
Right-of-use – Property	- 3 years

The carrying amount of an item of property, plant and equipment shall be derecognised on disposal or when no further economic benefits are expected from its use or disposal.

j. 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). 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.

k. Cash and cash equivalents

Cash and cash equivalents comprise cash and demand deposits with banks, net of outstanding bank overdrafts, along with highly liquid investments, with original maturities of three months or less, that are readily convertible to known amounts of cash and subject to insignificant risk of change in value.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

l. Income tax expense

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 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 it further excludes items that are never taxable or deductible. 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 financial statements 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.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

m. Leases

For leases whose original lease term exceeds one year, ROU assets and lease liabilities are initially recognised based on the present value of the lease payments over the lease term. The discount rate used in determining the present value is the Group's incremental 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 interest on lease liabilities are accrued at a constant periodic rate of interest on the remaining balance of the lease liability. 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 'Other expenses'. 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.

n. Provisions

Provisions are recognised when the Group has a 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 the 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.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

o. 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 date of grant ("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 scheduled conversion date.

Awards generally contain clawback and cancellation provisions. Certain awards provide Morgan Stanley the discretion to 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 recognises compensation cost 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 Group chargeback agreements, the Group pays Morgan Stanley for the procurement of shares. The Group pays Morgan Stanley the grant date fair value and any subsequent movement in fair value up to the time of delivery to the employees.

Share based compensation expense is recorded within 'Other expense' in the consolidated income statement.

ii) Deferred cash-based compensation plans

Morgan Stanley awards 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 recognises 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 within 'Other expense' in the consolidated income statement. The liability for the awards is measured at fair value and is included within 'Other liabilities' in the consolidated statement of financial position.

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.

MORGAN STANLEY INVESTMENT MANAGEMENT LIMITED

NOTES TO THE CONSOLIDATED NON-STATUTORY FINANCIAL INFORMATION
Year ended 31 December 2020

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

p. 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 'Other expense' in the consolidated income statement when payable.

For the Group's defined benefit post-employment plan, 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. 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 cost and any past service costs together with the net interest on the net defined benefit obligation/ asset is charged to 'Staff costs' within 'Other 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.

q. Deferred commission asset

The Group pays up-front costs to third party distributors on certain classes of fund units on which it may earn fees (such as management fees) from the underlying fund whilst its fund units remain in issuance. Additionally, the Group earns a contingent deferred sales charge ("CDSC") on such units if the fund unitholders redeem before a specified time. CDSC income is reported in 'Investment management fees' within 'Fee and commission income' on the consolidated income statement. Accordingly such upfront distribution costs are deferred and amortised over the expected life of the contract where the contract duration exceeds one year and costs are expected to be recovered. The deferred costs are reported in the 'Deferred commission asset' within 'Other assets' in the consolidated statement of financial position.

The deferred commission asset is assessed for impairment at each reporting date. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds the future revenues expected to be earned from the relevant fund units, less the future costs that relate directly to providing the related services. 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. Deferred commission assets that have suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

26. Appendix IX: CRR Reference Mapping

CRR Ref	High Level Summary	Compliance Reference
Article 431 Scope of disclosure requirements		
431 (1)	Requirement to publish Pillar 3 disclosures.	The 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 14 provides a description of the Operational Risk framework.
431 (3)	Institution must have a policy covering frequency of disclosures. Their verification, comprehensiveness and appropriateness.	The MSI Group has a dedicated Pillar 3 policy, reviewed on an annual basis.
431 (4)	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 the 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 the MSI Group's policy.
432 (3)	Where 432 (1) and (2) apply this must be stated in the disclosures, and more general information must be disclosed.	Not applicable
432 (4)	Use of 432 (1) or (2) is without prejudice to scope of liability for failure to disclose material information.	Not Applicable
Article 433: Frequency of disclosure		
433	Disclosures must be published at least on an annual basis and more frequently as necessary.	The MSI Group publishes Pillar 3 disclosures on a quarterly basis.
Article 434: Means of disclosure		
434 (1)	All disclosures shall be provided in one medium, or provide clear cross references.	The disclosures are published to the Morgan Stanley Investor Relations website. Signposting within the disclosure directs the reader to other publications as relevant.
434 (2)	Disclosures made under other requirements (e.g. accounting) can be used to satisfy Pillar 3 if appropriate.	Signposting within the disclosure directs the reader to other publications as relevant.
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)	Difference in the basis of consolidation for accounting and prudential purposes, with a brief description of the entities, explaining whether:	Section 4: Basis of Preparation and Linkage to Financial Accounts Pages
436(b) (i)	Fully consolidated.	
436(b) (ii)	Proportionally consolidated.	
436(b) (iii)	Deducted from Own Funds.	
436(b) (iv)	Neither consolidated nor deducted.	
436 (c)	Impediments to transfer of own funds or repayment of liabilities between parent and subsidiaries.	Section 5: Capital Management
436 (d)	Capital shortfalls in any subsidiaries not included in the consolidation.	Not Applicable
436 (e)	If applicable, making use of the provisions laid out in Article 7 (waiving solo requirements) & Article 9 (solo consolidation).	Not Applicable
Article 437: Own Funds		
437 (1)(a)	Full reconciliation of CET1, AT1, Tier 2.	Section 6: Capital Resources - Table 6: Reconciliation of balance sheet total equity to regulatory capital Appendix VI: Morgan Stanley Investment Management Group - Table 76: MSIM Group reconciliation of balance sheet total equity to regulatory capital
437 (1)(b)	Description of the main features of CET1, AT1, Tier 2.	Appendix II: Table 50 - MSI Group, MSIP and MSEHSE Group capital instruments and eligible liabilities Appendix VI: Table 82 MSIM Group capital instruments template
437 (1)(c)	Full terms of all CET1, AT1, Tier 2 instruments.	
437 (1)(d)(i)	Each prudential filter applied pursuant to Articles 32 to 35.	Section 6: Capital Resources - Table 6: Reconciliation of balance sheet total equity to regulatory capital Appendix VI: Morgan Stanley Investment Management Group - Table 76: MSIM Group reconciliation of balance sheet total equity to regulatory capital
437(1)(d)(ii)	Each deduction applied pursuant to Articles 36, 56 and 66.	
437(1)(d)(iii)	Items not deducted in accordance with Articles 47, 48, 56, 66, 79.	
437 (1)(e)	A description of all restrictions applied to the calculation of own funds.	Not Applicable
437 (1)(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 Appendix VI: Morgan Stanley Investment Management Group
438 (b)	Result of ICAAP on demand from authorities.	Not Applicable
438 (c)	Capital requirement amounts for credit risk for each Standardised Approach exposure class.	Section 9: Capital Requirements and RWAs - Table 13: Overview of RWAs (EU-OV1) Section 10: Credit Risk - Table 15: Credit and counterparty credit risk summary Appendix VI: Morgan Stanley Investment Management Group - Table 79: MSIM Group credit risk summary
438 (d)	Capital requirement amounts for credit risk for each Internal Ratings Based Approach exposure class.	
438 (d) (i)		
438 (d) (ii)		
438 (d)(iii)		
438 (d)(iv)		
438 (e)	Capital requirement amounts for Market Risk or Settlement Risk, or Large Exposures where they exceed limits.	Section 9: Capital Requirements and RWAs - Table 13: Overview of RWAs (EU-OV1) Section 13: Market Risk – Table 39: Market Risk RWA summary Appendix VI: Morgan Stanley Investment Management Group - Table 78: Overview of RWAs (EU-OV1)

438 (f)	Capital requirement amounts for Operational Risk, separately for the Basic Indicator Approach, Standardised Approach and Advanced Measurement Approach, as applicable.	Section 9: Capital Requirements and RWAs Table 13: Overview of RWAs (EU-OV1) Section 14: Operational Risk
438	Requirement to disclose specialised lending exposures and equity exposures in the banking book, falling under the simple risk weight approach.	Section 10: Credit Risk - Table 19: IRB (specialised lending and equities) (EU CR10) Appendix VI: Morgan Stanley Investment Management Group – Table 81: IRB (specialised lending and equities) (EU CR10)
Article 439: Exposure to Counterparty Credit Risk (CCR)		
439 (a)	Discussion of the methodology used to assign internal capital and credit limits for CCR.	Section 10: Credit Risk - "Credit Risk Limits" and "Credit Evaluation"
439 (b)	Discussion of policies for securing collateral and establishing credit reserves.	Section 10: Credit Risk - "Credit Risk Mitigation" Section 11: Counterparty Credit Risk "Counterparty Credit Exposure" and "Derivatives and SFTs Credit Exposure"
439 (c)	Discussion of policies with respect to wrong-way risk exposures.	Section 11: Counterparty Credit Risk - "Wrong Way Risk"
439 (d)	Discussion of the impact of the amount of collateral to be provided in the event of a ratings downgrade.	Section 10: Credit Risk - "Credit Risk Mitigation" Section 11: Counterparty Credit Risk - "Collateral Impact of a Downgrade"
439 (e)	Derivation of net derivative credit exposure.	Section 11: Counterparty Credit Risk - Table 28: Impact of netting and collateral held on exposure values (EU CCR5-A)
439 (f)	Exposure values for mark-to-market, standardised and internal model methods.	Section 11: Counterparty Credit Risk - Table 25: Analysis of the CCR exposure by approach (EU CCR1)
439 (g)	Notional value of credit derivative hedges and distribution of current credit exposure by type of exposure.	Section 11: Counterparty Credit Risk - Table 25: Analysis of the CCR exposure by approach (EU CCR1), Table 29: Composition of collateral for exposures to CCR (EU CCR5-B) Table 31: Credit derivatives exposure (EU CCR6)
439 (h)	Notional amounts of credit derivative transactions for own credit, intermediation, bought and sold, by product type.	
439 (i)	Estimate of alpha, if applicable.	Not Applicable
Article 440: Capital Buffers		
440 (1) (a)	The geographical distribution of its credit exposures relevant for the calculation of its countercyclical capital buffer.	Section 5: Capital Management Appendix IV: Countercyclical Capital Buffer
440 (1) (b)	The amount of its institution specific countercyclical capital buffer.	
Article 441: Indicators of Global Systemic Importance		
441 (1)	Disclosure of the indicators of global systemic importance.	Not Applicable
Article 442: Credit Risk Adjustments		
442 (a)	Definitions for accounting purposes of "past due" and "impaired".	Section 10: Credit Risk - Table 23: Impaired and past due exposures, credit risk adjustments by industry type
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 Table 22: IRB credit risk adjustments, expected loss and charge to the profit and loss Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 63: Changes in stock of general and specific credit risk adjustments (EU CR2-A)
442 (c)	Disclosure of pre credit risk mitigation by exposure class.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 54: Total and average net amount of exposures (EU CRB-B) Table 58: Credit quality of exposures by exposure class and instrument (EU CR1-A)
442 (d)	Geographic distribution of the exposures broken down by exposure classes.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 55: Geographical breakdown of exposures (EU CRB-C)
442 (e)	Distribution of exposures by industry or counterparty type, broken down by exposure classes.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 56: Concentration of exposures by industry or counterparty type (EU CRB-D)

442 (f)	Residual maturity breakdown of all the exposures, broken down by exposure classes.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 57: Maturity of exposures (EU CRB-E)
442 (g) (i)	By significant industry or counterparty type the amount of: Impaired exposures and past due exposures, provided separately.	Section 10: Credit Risk - Table 23: Impaired and past due exposures, credit risk adjustments by industry type
442(g) (ii)	By significant industry or counterparty type the amount of: Specific and general credit risk adjustments.	Appendix V: Additional Credit and Counterparty Credit Risk Tables – Table 58: Credit quality of exposures by exposure class and instrument (EU CR1-A) Table 59: Credit quality of exposures by industry or counterparty types (EU CR1-B) Table 61: Credit Quality of Performing and Non-Performing exposures by past due days Table 62: Performing and Non-performing exposures and related provisions
442(g) (iii)	By significant industry or counterparty type the amount of: Charges for specific and general credit risk adjustments during the reporting period.	
442 (h)	Amount of the impaired exposures and past due exposures, broken down by significant geographical areas and the amounts of specific and general impairment for each geography.	Section 10: Credit Risk - Table 24: Impaired and past due exposures, credit risk adjustments by geographic region Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 60: Credit quality of exposures by geography (EU CR1-C)
442 (i)	Reconciliation of changes in the specific and general credit risk adjustments for impaired exposures.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 63: Changes in stock of general and specific credit risk adjustments (EU CR2-A) Table 64: Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B)
442(i) (i)	A description of the type of specific and general credit risk adjustments.	
442(i) (ii)	The opening balances.	
442(i) (iii)	The amounts taken against the credit risk adjustments during the reporting period.	
442(i) (iv)	The amounts set aside for estimated probable losses on exposures	
442(i) (v)	The closing balances.	
Article 443: Unencumbered Assets		
443	Disclosures on Unencumbered Assets.	Section 17: 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 assessments onto items not included in the Trading Book.	Section 10: Credit Risk "10.2 Counterparty and Credit Risk Capital Requirements"
444 (d)	Mapping of the external rating of each ECAI to credit quality steps.	Section 10: Credit Risk - Table 17: External Credit Assessment Institutions ("ECAI")
444 (e)	Exposure value post-credit risk mitigation associated with each credit quality step.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 67: Standardised Approach (EU CR5) Table 72: Standardised Approach – CCR Exposures by Regulatory Portfolio and Risk Weight (EU 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 - "13.2 Market Risk Capital Requirements" Table 40: Market risk under the standardised approach (EU MR1)
Article 446: Operational Risk		
446	Disclosure of scope of approaches used to calculate operational risk, discussion of the advanced methodology approach and the relevant internal and external factors considered in the firms measurement approach.	Section 14: Operational Risk
Article 447: Exposures in Equities not included in the Trading Book		
447 (a)	Differentiation between exposures based on their objectives.	Section 10: Credit Risk - "10.3 Internal Ratings Based Approach"

447 (b)	Balance sheet value, the fair value and actual prices of exchange traded equity where it differs from the fair value.	Section 10: Credit Risk - Table 19: IRB (specialised lending and equities) (EU CR10)
447 (c)	Types, nature and amounts of the relevant classes of equity exposures.	
447 (d)	Cumulative realised gains and losses arising from sales over the period.	Section 10: Credit Risk - Table 20: Non-trading book equity gains and losses
447 (e)	Total unrealised gains or losses, the total latent revaluation gains and losses and amounts included in CET1 capital.	
447h: Disclosure of Key Metrics (CRR II)		
447h	Disclose key metrics – own funds and eligible liability ratios and their components, numerator and denominator	Section 7: Total Loss-Absorbing Capacity
Article 448: Exposure to Interest Rate Risk on positions not included in the Trading Book		
448 (a)	Nature of the interest rate risk and key assumptions.	Section 13: Market Risk - “13.9 Interest Rate Risk in the Non-Trading Book” Table 45: Interest rate risk in non-trading book
448 (b)	Variation in earnings or economic value, or other methods used by the firm for upward and downward rate shocks to interest rates, by currency.	
Article 449: Exposure to Securitisation Positions		
449 (a)	Objectives in relation to securitisation activity.	Section 12: Securitisation - “12.1 Securitisation Activities”
449 (b)	Nature of other risks including liquidity risk inherent in securitised assets.	Section 12: Securitisation - “12.6 Risk Monitoring”
449 (c)	Risks in terms of seniority of underlying securitisation positions and underlying assets.	Section 12: Securitisation – Table 35: Securitisation exposures and capital requirements by standardised approach (SEC-SA) Table 36: Securitisation exposures and capital requirements by external ratings approach (SEC-ERBA) Table 37: Securitisation exposures and capital requirements by default approach (1250% Risk Weight)
449 (d)	Different roles played by the institution in the securitisation process.	Section 12: Securitisation - “12.1 Securitisation Activities”
449 (e)	Indication of the extent in the firms involvement in the roles referred to in point (d).	Section 12: Securitisation - “12.1 Securitisation Activities”
449 (f)	Process in place to monitor changes in the credit and market risk of securitisation exposures and how the processes differ for re-securitisation exposures.	Section 12: Securitisation - “12.6 Risk Monitoring”
449 (g)	Description of the firms policy governing the use of hedging and unfunded protection to mitigate the risk of retained securitisation and re-securitisation exposures, including identification of material hedge counterparties.	Not Applicable
449 (h)	Approaches to calculating RWA for securitisation mapped to types of exposures.	Section 12: Securitisation - “12.2 Regulatory Capital Treatment”
449 (i)	Types of SSPE the firm, as sponsor, uses to securitise third party exposures, and list of SSPE’s.	Not Applicable: The MSI Group did not originate or sponsor any securitisations.
449 (j)	Summary of firms accounting policies for securitisation activities.	Section 12: Securitisation - “12.4 Accounting”
449 (j) (i)	Whether transactions are treated as sales or financings.	
449 (j) (ii)	The recognition of gains on sales.	
449 (j) (iii)	Approach to valuing securitisation positions.	Section 12: Securitisation - “12.5 Valuation”
449 (j) (iv)	Treatment of synthetic securitisations.	Not Applicable
449 (j) (v)	Valuation of assets awaiting securitisations.	Section 12: Securitisation - “12.5 Valuation”
449 (j) (vi)	Recognition of arrangements that could require the bank to provide support to securitised assets.	Not Applicable
449 (k)	Names of ECAIs used for securitisations.	Section 12: Securitisation - “12.2 Regulatory Capital Treatment”
449 (l)	Full description of Internal Assessment Approach.	Not Applicable
449 (m)	Explanation of changes in quantitative disclosures.	Section 12: Securitisation - “12.1 Securitisation Activities”
449 (n) (i)	Amount of outstanding exposures securitised.	Section 12: Securitisation - Table 32: Securitisation exposures

449 (n) (ii)	On balance sheet securitisation retained or purchased, and off-balance sheet exposures;	Section 12: Securitisation - Table 33: Trading book securitisation exposures by exposure type Table 34: Non-trading book securitisation exposures by exposure type
449 (n) (iii)	Amount of assets awaiting securitisation.	Not Applicable
449 (n) (iv)	Early amortisation treatment; aggregate drawn exposures capital requirements.	Not Applicable
449 (n) (v)	Deducted or 1250% risk weighted securitisation positions.	Section 12: Securitisation – Table 35: Securitisation exposures and capital requirements by standardised approach (SEC-SA) Table 36: Securitisation exposures and capital requirements by external ratings approach (SEC-ERBA) Table 37: Securitisation exposures and capital requirements by default approach (1250% Risk Weight)
449 (n) (vi)	Amount of exposures securitised and recognised gains or losses on sales.	
449 (o) (i)	Retained and purchased exposure and associated capital requirements, broken down by risk-weight bands.	
449 (o) (ii)	Retained and purchased re-securitisation exposures before and after hedging and insurance; exposure to financial guarantors broken down by guarantor credit worthiness.	Not Applicable
449 (p)	Impaired assets and recognised losses related to banking book securitisations, by exposure type.	Not Applicable
449 (q)	Exposure and capital requirements for Trading Book securitisations, separately into traditional and by exposure type.	Section 12: Securitisation - Table 33: Trading book securitisation exposures by exposure type
449 (r)	Whether the institution has provided financial support to securitisation vehicles.	Not Applicable
Article 450: Remuneration Disclosures		
450	Remuneration Disclosure.	Remuneration Policy is disclosed separately
Article 451: Leverage		
451 (1) (a)	The leverage ratio and how the institution applies Article 499(2) and (3).	Section 8: Leverage - Table 11: Leverage ratio common disclosure
451 (1) (b)	A 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 10: Reconciliation of accounting assets and leverage ratio exposures Table 12: Split of on-balance sheet exposures
451 (1) (c)	Where applicable, the amount of derecognised fiduciary items in accordance with Article 429(11).	Not Applicable
451 (1) (d)	A description of the processes used to manage the risk of excessive leverage.	Section 8: Leverage
451 (1) (e)	A description of the factors that had an impact on the leverage ratio during the period to which the disclosed leverage ratio refers.	Section 8: Leverage
Article 452: Use of the IRB Approach to Credit Risk		
452 (a)	Permission for the use of the IRB approach from the competent authority.	Section 10: Credit Risk - "10.3 Internal Ratings Based Approach"
452 (b)(i)	The structure of internal rating systems and relation between internal and external ratings.	Section 10: Credit Risk "10.3 Internal Ratings Based Approach" "Control Mechanisms for the Rating System"
452 (b)(ii)	The use of internal estimates other than for the purposes of calculating capital requirements under the IRB approach.	
452(b)(iii)	The process for managing and recognising credit risk mitigation.	
452(b)(iv)	The control mechanisms for rating systems including a description of independence, accountability, and rating systems review.	
452 (c)(i)	Description of the internal ratings process: for central governments and central banks.	Section 10: Credit Risk - "10.3 Internal Ratings Based Approach" "Rating Process" "Rating Philosophy and PD Estimation"
452 (c)(ii)	Description of the internal ratings process: for institutions.	
452(c)(iii)	Description of the internal ratings process: for corporates, including SMEs, specialised lending and purchased corporate receivables.	

452(c)(iv)	Description of the internal ratings process: for retail, for each of the categories of exposures to which the different correlations in Article 154(1) to (4) correspond.	
452 (c)(v)	Description of the internal ratings process: for equities.	
452 (d)	The exposure values for each IRB exposure class. Exposures to central governments and central banks, institutions and corporates where institutions use own estimates of LGDs or conversion factors for the calculation of risk-weighted exposure amounts, shall be disclosed separately from exposures for which the institutions do not use such estimates.	Section 10: Credit Risk: Table 15: Credit and Counterparty Credit Risk Summary Appendix V: Additional Credit and Counterparty Credit Risk Tables Table 70: IRB – Credit Risk Exposures by Exposure Class and PD Range (EU CR6) Table 73: IRB – CCR Exposures by Portfolio and PD Scale (EU CCR4)
452 (e)(i)	For wholesale exposure classes, disclosed separately by obligor grade: Total exposure, separating loans and undrawn exposures where applicable.	
452(e)(ii)	For wholesale exposure classes, disclosed separately by obligor grade: Exposure-weighted average risk weight.	
452(e)(iii)	For wholesale exposure classes, disclosed separately by obligor grade: Undrawn commitments and average exposure values by asset class.	
452 (f)	For retail exposure classes, same disclosures as under 452 (e), by risk grade or EL grade.	Not Applicable
452 (g)	Actual specific risk adjustments for the period and explanation of changes.	Section 10: Credit Risk - Table 22: IRB Credit Risk adjustments, expected loss and charge to the profit and loss
452 (h)	Commentary on drivers of losses in preceding period.	Section 10: Credit Risk - “Estimates Versus Actual Probability of Default”: Table 21: Estimated versus actual PD by exposure class Table 22: IRB credit risk adjustments, expected loss and charge to the profit and loss
452 (i)	Disclosure of predicted against actual losses for sufficient period, and historical analysis to help assess the performance of the rating system over a sufficient period.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 71: IRB approach – Backtesting of PD per exposure class (EU CR9)
452 (j) (i) 452 (j) (ii)	Where applicable, PD and LGD by each country where the firm operates	Section 10: Credit Risk -Table 18: IRB geographical breakdown of exposure weighted average PD
Article 453: Use of Credit Risk Mitigation Techniques		
453 (a)	The policies and processes for, and an indication of the extent to which the entity makes use of, on- and off-balance sheet netting.	Section 10: Credit Risk - “10.5 Credit Risk Mitigation”
453 (b)	The policies and processes for collateral valuation and management.	Section 10: Credit Risk - “10.5 Credit Risk Mitigation” “Collateral”
453 (c)	A description of the main types of collateral taken by the institution.	
453 (d)	The main types of guarantor and credit derivative counterparty and their creditworthiness.	Section 11: Counterparty Credit Risk - “11.3 Derivatives and SFTs Credit Exposure”
453 (e)	Information about market or credit risk concentrations within the credit mitigation taken.	Section 10: Credit Risk - “10.5 Credit Risk Mitigation”
453 (f)	Standardised or IRB approach, exposure value covered by eligible collateral.	Appendix V: Additional Credit and Counterparty Credit Risk Tables - Table 65: Credit risk mitigation techniques – overview (EU CR3) Table 66: Standardised Approach –Credit risk exposure and credit risk mitigation (CRM) Effects (EU CR4) Table 69: IRB Approach – Effect on the RWAs of credit derivatives used as CRM techniques (EU CR7)
453 (g)	Exposures covered by guarantees or credit derivatives.	

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)	Disclosure of the characteristics of the market risk models.	Section 13: Market Risk - "13.1 VaR Methodology, Assumptions and Limitations"
455(a)(ii)	Disclosure of the 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 - "13.4 Backtesting" "Incremental Risk Charge""13.7 Comprehensive Risk Measure"
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 15: Valuation Risk
455(d)(i)	The highest, the lowest and the mean of: The daily value-at-risk measures over the reporting period and as per the period end.	Section 13: Market Risk - Table 43: IMA values for trading portfolios (EU MR3)
455(d)(ii)	The highest, the lowest and the mean of: The stressed value-at-risk 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)	The elements of the own funds requirement.	Section 13: Market Risk - "13.2 Market Risk Capital Requirements" Table 41: Market risk under the internal models approach (EU MR2-A)
455(f)	Weighted average liquidity horizons of portfolios covered by models.	Section 13: Market Risk - "13.6 Incremental Risk Charge" Table 43: IRC liquidity horizon for material sub portfolios
455(g)	Comparison of end-of-day VaR measures compared with one-day changes in portfolio's value.	Section 13: Market Risk – Figure 5 / 6: Comparison of VaR estimates with gains/losses

27. Appendix X: Abbreviations

Term	Definition
AT1	Additional Tier 1 Capital
AVAs	Additional Valuation Adjustments
BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht
BCBS	Basel Committee on Banking Supervision
BIA	Basic Indicator Approach
BOE	Bank of England
BRRD	Bank Recovery and Resolution Directive
CASS	Client Assets Sourcebook
CCB	Capital Conservation Buffer
CCF	Credit Conversion Factor
CCP	Central Counterparty
CCR	Counterparty Credit Risk
CCyB	Countercyclical Capital Buffer
CET1	Common Equity Tier 1 Capital
CLF	Credit Limits Framework
CQS	Credit Quality Step
CRD	Capital Requirements Directive
CRD IV	Capital Requirements Directive — EU implementation of Basel III
CRM	Credit Risk Mitigation
CRR	Capital Requirements Regulation
CTP	Correlation Trading Portfolio
CVA	Credit Valuation Adjustment
DA	Delegated Act
EAD	Exposure at Default
EBA	European Banking Authority
ECAI	External Credit Assessment Institutions
ECB	European Central Bank
ECL	Expected Credit Losses
EEA	European Economic Area
EHQLA	Extremely High Quality Liquid Assets
EMEA	Europe, the Middle East and Africa
EMEA ALCO	EMEA Asset and Liability Committee
ERC	EMEA Risk Committee
EU	European Union
EVE	Economic Values of Equity
FCA	Financial Conduct Authority
FIRB	Foundation Internal Ratings Based
FRS	Financial Reporting Standards
FRTB	Fundamental Review of the Trading Book
G-SIIs	Global Systematically Important Institutions
HGB	German Commercial Code
HQLA	High Quality Liquid Assets
ICAAP	Internal Capital Adequacy Assessment Process
IFD	Investment Firm Directive
IFPR	Investment Firms Prudential Regime
IFR	Investment Firm Regulation
IFRS	International Financial Reporting Standards
ILAAP	Internal Liquidity Adequacy Assessment Process
IPU	Intermediate Parent Undertaking
IRB	Internal Ratings Based
IRC	Incremental Risk Charge
IRRBB	Interest Rate Risk in the Banking Book
IMA	Internal Modelling Approach
IMM	Internal Models Method
ITS	Implementing Technical Standards
LCR	Liquidity Coverage Ratio
LDP	Low Default Portfolio
LGD	Loss-Given Default
LRD	Liquidity Risk Department
MCR	Minimum Capital Requirements
MM	Millions
MOC	Model Oversight Committee
MRD	Market Risk Department
MSEHSE	Morgan Stanley Europe Holding SE
MSI	Morgan Stanley International Limited
MSI Group	Morgan Stanley International Limited (and its subsidiaries)
MSIM	Morgan Stanley Investment Management Limited

Term	Definition
MSIM ACD	Morgan Stanley Investment Management (ACD) Limited
MSIM FM	MSIM Fund Management (Ireland) Limited
MSIM Group	MSIM sub-consolidated Group
MSIP	Morgan Stanley & Co. International plc
MSIP Group	Morgan Stanley & Co. International plc and its subsidiaries
MTMM	Mark-to-Market Method
NII	Net Interest Income
NPL	Non-Performing Loan
NSFR	Net Stable Funding Ratio
NPA	New Product Approval
OEICs	Open Ended Investment Company
ORD	Operational Risk Department
O-SII	Other Systemic Important Institutions
OTC	Over-the-counter
PD	Probability of Default
QCCP	Qualifying Central Counterparty
PRA	Prudential Regulation Authority
RCSA	Risk Control Self-Assessment
RNIV	Risks Not In VaR
RTS	Regulatory Technical Standards
RWAs	Risk Weighted Assets
SA	Standardised Approach
SFTs	Securities Financing Transactions
SEC-ERBA	Securitisation External Ratings Based Approach
SEC-IRBA	Securitisation IRB Approach
SEC-SA	Securitisation Standardised Approach
SPOE	Single Point of Entry
SPV	Special Purpose Vehicles
SREP	Supervisory Review and Evaluation Process
S&P	Standard and Poor’s
STAR	Significant Transaction Analytical Review
SVaR	Stressed Value at Risk
T1	Tier 1
TCR	Total Capital Requirement
TLAC	Total Loss-Absorbing Capacity
TOR/Ps	Top Operational Risks and Pathways
TTP	Temporary Transitional Power
UK	United Kingdom
VaR	Value at Risk
VC	Valuation Control