Morgan Stanley

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Morgan Stanley & Co. International plc

Report and financial statements

31 December 2022

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The Directors present their Strategic Report for Morgan Stanley & Co. International plc (the "Company") and all of its subsidiary undertakings (together "the Group") for the year ended 31 December 2022.

Group and Company Overview

The Company, Governance and Stakeholders

The ultimate parent undertaking and controlling entity of the Company is Morgan Stanley, which together with the Group and Morgan Stanley's other subsidiary undertakings, forms the "Morgan Stanley Group". Morgan Stanley is a global financial services firm authorised as a Financial Holding Company and regulated by the Board of Governors of the Federal Reserve System in the United States of America.

Morgan Stanley International Limited ("MSI") is the ultimate United Kingdom ("UK") parent undertaking of the Company. MSI, together with all of its subsidiary undertakings, forms the "MSI Group".

The Company operates within the financial services industry and is subject to extensive supervision and regulation. The Company shares elements of its corporate governance and its supervision with MSI and the MSI Group. Throughout the Strategic Report, the Directors may refer to policies, procedures and practices of MSI and the MSI Group that are relevant to the Group and/or Company.

These policies, procedures and practices are consistent with the Morgan Stanley Group to the extent permissible by local law and regulation. More information on Morgan Stanley is available at www.morganstanley.com.

The Group follows the core values of the Morgan Stanley Group. The core values are designed to guide decision making and ensure alignment to the expectations of stakeholders. The core values are:

Put Clients First

Do the Right Thing

Lead with Exceptional Ideas

Commit to Diversity and Inclusion

Give Back

Further detail on the engagement with stakeholders by the Board of Directors ("Board") and the Company's section 172(1) statement is in the 'Corporate Governance' section within the Strategic Report.

Principal Activity

The principal activity of the Group is the provision of financial services to a global client base consisting of corporations, governments and financial institutions. There has been no change to the Group's principal activity during the year and no significant change is expected.

The Group is a key contributor to the execution of the Morgan Stanley Group's global Institutional Securities segment strategy. The Group provides investment banking, sales and trading, and other services to its clients. Investment Banking services consist of capital raising (including underwriting of debt, equity and other securities) and financial advisory services (including advice on mergers and acquisitions, restructurings and project finance). Sales and Trading services include sales, financing, prime brokerage and market-making activities in equity and fixed income as well as the provision of secured lending to sales and trading customers. Other services include Asset Management.

The Company conducts business from its headquarters in London, UK and operates branches in the Dubai International Financial Centre, the Qatar Financial Centre, South Korea, France and Switzerland. Details of the Company's subsidiaries can be found in note 14 and in the Appendix.

Supervision and Regulation

As a UK-based financial services provider, the Company is authorised by the Prudential Regulation Authority ("PRA") as a PRA-designated investment firm and is regulated by the PRA and the Financial Conduct Authority ("FCA").

As a provider of services to global clients, the Company is registered with the Securities and Exchange Commission ("SEC") as a Securities Based Swap Dealer ("SBSD"). The Company is also provisionally registered with the Commodity Futures Trading Commission ("CFTC") as a Swap Dealer. The CFTC are developing specific requirements to allow provisionally registered swap dealers to meet CFTC requirements by reference to local prudential standards. This work is country specific with a draft proposal for the UK still to be published. The provisional status exists until rules are finalised. These swap dealer registrations provide a comprehensive regulatory framework applicable to the Company's US-related swap and security-based swap dealer activities.

During the year, the Company ceased its structured notes issuance on the London Stock Exchange ("LSE") and is, therefore no longer subject to the FCA Disclosure and Transparency Rules. The Company continues to trade on European Union ("EU") regulated markets and to be subject to the Luxembourg Law of Transparency Requirements.

The key regulations impacting the financial soundness of the Company are as follows:

Capital and Liquidity Standards: Until 31 December 2020, the Company was subject to risk-based capital, leverage and liquidity standards for EU regulated financial institutions prescribed in the Capital Requirements Directive ("CRD") and the Capital Requirements Regulation ("CRR"), as implemented by the PRA. These are largely based on the standards developed by the Basel Committee on Banking Supervision ("BCBS"). Following the UK's withdrawal from the EU, a Temporary Transitional Power ("TTP") ensured that EU law largely continued to apply in the UK. Discussion of the standards impacted by the TTP and their management can be found in 'Capital and Liquidity Resource Management and Regulation'. The TTP period expired on 31 March 2022. From 1 April 2022, the Company has been subject to the UK on-shored regulatory obligations, predominantly unchanged from the EU CRR.

Recovery and Resolution: The Company is subject to regulatory requirements on recovery and resolution planning set by the PRA and the Bank of England ("BOE"), as part of the UK's recovery and resolution framework, established through the UK Banking Act 2009 and related legislation. This includes regulatory requirements that apply directly to the Company, and those regulatory requirements that apply to the MSI Group and therefore, indirectly apply to the Company. The Company is also within the scope of the resolution strategy adopted by the Morgan Stanley Group. Refer to 'Capital and Liquidity Resource Management and Regulation – Recovery and Resolution Planning' for further information.

Risk Factors and Business Environment

The business results of the Group's operations may be impacted by exposure to risk factors and the current business environment in which it operates.

Risk Factors

Risk is an inherent part of the Group's business activity. The Group seeks to identify, assess, monitor and manage each of the various types of risk involved in its business activities, in accordance with defined policies and procedures.

The Group Risk Appetite Statement articulates the aggregate level and type of risk that the Group is willing to accept to execute its business strategy and protect its capital and liquidity resources.

The Group has an established Risk Management Framework to support the identification, monitoring and management of risk, including any risk acceptances.

The primary risk areas for the Group include Market, Credit, Operational and Liquidity risks. Climate risk is one of the drivers of these risks. A description of these and other principal risks and how these risks are managed is outlined in the 'Risk Management' section.

Business Environment

During 2022, the global economic and geopolitical environment in which the Group operates has been characterised by elevated inflation, rising interest rates and volatility in global financial markets and these factors have continued into 2023. These factors had a mixed impact on the performance of the Group - see 'Overview of 2022 Financial Results'.

In addition to the aforementioned conditions, certain institutions have come under significant stress in early 2023. While the full impact of these events in the banking sector remains uncertain, there has so far been limited impact on the results and financial condition of the Group.

Russia and Ukraine War

The Group continues to monitor the war in Ukraine and its impact on the world economies and the financial markets. During the year the Group recognised expected credit losses ("ECL") of $144 million (31 December 2021: $nil) in relation to cash and margin cash deposited with banks and exchanges in Russia, see 'Overview of 2022 Financial Results'. Following the recognition of these ECL, the Group's direct exposure to Russia and Ukraine is de minimis.

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

Replacement of London Interbank Offered Rate ("LIBOR") and Replacement or Reform of Other Interest Rate Benchmarks

Central banks around the world, including the BOE and the Federal Reserve, have sponsored committees in recent years to replace LIBOR and replace or reform other interest rate benchmarks (collectively, the "IBORs"). The Morgan Stanley Group continues to implement its IBOR transition plan. At 31 December 2022 and 2021, the Group's exposure to financial instruments which did not contain fallback provisions to allow for the transition to alternative reference rates upon the cessation of the applicable IBOR rate was not significant.

Future Developments

The Strategic Report contains certain forward-looking statements and information on future developments. These statements are made by the Board in good faith, based on the information available at the time of the approval of the report and such statements should be treated with caution due to the inherent uncertainties, including both economic and business risk factors, underlying any such forward-looking information.

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Financial Performance and Condition

Performance Indicators

To assess the effectiveness of the execution of the Group's strategy, the Board monitors the results of the Group by reference to a range of performance and risk based metrics, including, but not limited to the following:

Key Performance Indicators

Return on Shareholders' Equity (Group)

in $ millions	2022	2021
Total shareholders' equity at beginning of the year	22,175	21,021
Profit after tax	1,396	1,351
Return on shareholders' equity	6.3%	6.4%

Tier 1 Capital Ratio (Company)

in $ millions	2022	2021
Risk-weighted assets ("RWAs")	124,739	136,746
Tier 1 capital	22,202	20,522
Tier 1 capital ratio	17.8%	15.0%

Leverage Ratio (Company)

in $ millions	2022	2021
Leverage exposure	416,138	496,231
Tier 1 capital	22,202	20,522
Leverage ratio	5.3%	4.1%

Liquidity Coverage Ratio (Company)

in $ millions	2022	2021
Liquidity buffer - High quality liquid assets ("HQLA")	41,800	40,982
Liquidity coverage ratio[(1)]	184%	196%

1. Calculated as the average of the preceding twelve months

Net Stable Funding Ratio (Company)

in $ millions	2022
Net Stable Funding Ratio ("NSFR")	110%

From 1 January 2022, the Company was required to maintain a minimum NSFR of 100%.

Senior Unsecured Credit Ratings (Company)

At 31 December 2022 and 31 December 2021, the Company's senior unsecured ratings were as follows:

	Short-Term Debt	Long-Term Debt	Rating Outlook
Moody's Investor Service, Inc	P-1	Aa3	Stable
Standard & Poor's Rating Service	A-1	A+	Stable

The explanation behind the movements in the performance indicators can be found in 'Overview of 2022 Financial Results', as well as the 'Capital Resources' and 'Regulatory Liquidity and Funding Requirements' sections of 'Capital and Liquidity Resource Management and Regulation'.

Other Indicator

The PRA requires the Group to disclose the Return on Assets ratio, as per the PRA Rulebook for CRR firms. This is not an indicator that the Board monitors to assess the effectiveness of the execution of the Group's strategy.

Return on Assets (Group)

in $ millions	2022	2021
Return on assets		
Total assets at beginning of the year	567,186	597,789
Profit after tax	1,396	1,351
Return on assets	0.25%	0.23%

Overview of 2022 Financial Results

Income Statement

Set out below is an overview of the Group's financial results for the years ended 31 December 2022 and 31 December 2021.

in $ millions	2022	2021	Increase/ (decrease)	Variance %
Investment Banking	738	1,801	(1,063)	(59%)
Sales and Trading	1,252	1,347	(95)	(7%)
Other	56	75	(19)	(25%)
Fee and Commission Income	**2,046**	**3,223**	**(1,177)**	**(37%)**
Sales and Trading net trading income	**5,076**	**4,342**	**734**	**17%**
Net revenue	**7,122**	**7,565**	**(443)**	**(6%)**
Staff related expenses	1,805	2,154	(349)	(16%)
Non-staff related expenses	3,456	3,473	(17)	(1%)
Net impairment loss/ (reversal) on financial instruments	148	(2)	150	N/M
Non-interest expenses	**5,409**	**5,625**	**(216)**	**(4%)**
Net gain on investment in subsidiary	4	—	4	N/M
Profit before tax	**1,717**	**1,940**	**(223)**	**(11%)**
Income tax expense	321	589	(268)	(46%)
Profit after tax	**1,396**	**1,351**	**45**	**3%**

Non meaningful ("N/M")

The consolidated income statement for the year is set out on page 52 and the geographical split is in 'Segment reporting' note 25.

The Group reported an 11% decrease in profit before tax for the year, driven by lower investment banking activity and fee and commission income as a result of the uncertain macroeconomic environment partially offset by higher Sales and Trading net trading income.

2022	Net revenues ($ millions / %)		Profit before tax ($ millions / %)	
EMEA	4,645	65%	700	41%
Asia	2,012	28%	820	48%
Americas	465	7%	197	11%
Total	**7,122**		**1,717**	
2021				
EMEA	5,174	68%	1,138	59%
Asia	2,014	27%	701	36%
Americas	377	5%	101	5%
Total	**7,565**		**1,940**	

The profit before tax for 2022 reflects the continued strong performance of equity products in the Group's Asia segment.

Net Revenue

Investment Banking

Investment Banking fee income is derived from client engagements in which the Group acts as an advisor in relation to mergers and acquisitions, divestitures and corporate restructurings, underwriter of equity and fixed income securities or distributor of capital.

Investment Banking revenue decreased 59% reflecting lower underwriting and advisory revenues in line with market levels, reflecting a decline in global volumes.

Sales and Trading

Sales and Trading income consists of fee and commission income of $1,252 million (2021: $1,347 million) and net trading income of $5,076 million (2021: $4,342 million).

Sales and Trading fee and commission income arises from arrangements in which the client is charged commission for executing and clearing transactions related to securities and other listed products. Sales and Trading fee and commission income decreased 7%, primarily in equity products due to lower client activity amid challenging market conditions.

Sales and Trading net trading income is comprised of 'Net gains from financial instruments at fair value through profit or loss ("FVPL")' and 'Net interest expense' as set out in the consolidated income statement on page 52. These revenues can be affected by a variety of interrelated factors, including market volumes, bid-offer spreads and the impact of market conditions on positions held to facilitate client activity, as well as the effect of hedging activity.

Sales and Trading net trading income increased by 17%, reflecting an increase from equity and fixed income products.

- The equity revenues increased, benefiting from higher client activity notably in derivative products and the impact of market conditions on positions held to facilitate client activity.
- The fixed income product revenues increase was primarily in macro products across all regions as a result of higher client activity

partially offset by credit products from lower client activity.

- 'Net interest expense' increased as a result of interest rates increasing, notably in United States Dollar ("USD"), British pound ("GBP") and Euro ("EUR") markets. Refer to note 6.

Operating Expenses

Staff-Related Expenses

Staff-related expenses include: base salaries and fixed allowances, discretionary incentive compensation, amortisation of deferred cash and equity awards, changes in the fair value of investments to which certain deferred compensation plans are referenced, carried interest allocated to employees, severance costs, and other items such as health and welfare benefits. Incentive compensation is determined following the assessment of the Morgan Stanley Group's, business unit's and individual's performance.

For the Group, staff-related expenses primarily reflect those of the European, the Middle East and Africa ("EMEA") segment. The impact to the Group of staff-related expenses for the Asia and Americas segments is primarily reflected in transfer pricing payments to the employing entities which are reflected within net revenues. Refer to 'Related Party Disclosures' note 34 for further details on Morgan Stanley's Global Transfer Pricing Policies.

Staff-related expenses decreased by 16%. This decrease was mainly driven by the mark-to-market on deferred equity compensation.

Non Staff-Related Expenses

Non-staff related expenses decreased by 1%, reflecting a decrease in transaction taxes, partially offset by increase in Asia and EMEA brokerage fees and litigation provisions.

Refer to 'Operating expense' note 7 for further detail.

Net Impairment Loss/(Reversal) on Financial Instruments

During the year, the Group recognised $148 million of ECL, predominantly related to cash and margin cash deposited with banks and exchanges in Russia.

Income Tax Expense

The Group's tax expense represents an effective tax rate ("ETR") of 18.7% (2021: 30.4%), which is lower than the average standard rate of UK corporation tax (inclusive of the UK Banking surcharge) of 27% (2021: 27%). The main reasons that the effective tax rate is lower than the statutory rate are the allocation of UK group relief from UK entities outside of the Group for nil consideration, and the impact of the tax deductible AT1 coupons.

Balance Sheet

in $ millions	2022	2021	Increase/ (decrease)	Variance %
Cash and short term deposits	18,754	28,532	(9,778)	(34%)
Trading financial assets	329,382	332,635	(3,253)	(1%)
Secured financing	129,779	125,895	3,884	3%
Trade and other receivables	81,780	79,334	2,446	3%
Other assets	696	790	(94)	(12%)
Total Assets	**560,391**	**567,186**	**(6,795)**	**(1%)**
Trading financial liabilities	298,690	300,325	(1,635)	(1%)
Secured borrowing	93,966	97,262	(3,296)	(3%)
Trade and other payables	97,150	94,052	3,098	3%
Debt and other borrowings	45,682	52,679	(6,997)	(13%)
Other liabilities	670	693	(23)	(3%)
Total Liabilities	**536,158**	**545,011**	**(8,853)**	**(2%)**
Total Equity	**24,233**	**22,175**	**2,058**	**9%**

Assets and Liabilities

The decrease in 'Cash and short term deposits' is mainly due to a decrease in cash held with central banks as part of the management of the Group's liquidity reserve.

The decreases in 'Trading financial assets' and 'Trading financial liabilities' were primarily driven by a reduction in cash securities as a result of lower client activity towards the end of the year and market movements across the EMEA and Asia segments. Partially offsetting the decrease in cash securities, derivative products increased largely due to fair value movements caused by an increase in interest rates and changes in foreign exchange rates as the USD strengthened against major currencies, including EUR.

The increase in 'Secured financing' is due to an increase in reverse repurchase agreements held as part of the Group's liquidity reserve, partially offset by lower client activity towards the end of the year.

The decrease in 'Debt and other borrowings' is due to a decrease in unsecured funding as business activity decreased towards the end of the year.

Equity

Total Equity increased by $2,058 million, primarily reflecting profit after tax of $1,396 million, the issuance of $800 million of AT1 capital in the year and a gain of $137 million in the 'Debt valuation reserve' within Other Comprehensive Income ("OCI") as a result of widening credit spreads. This was partially offset by dividends paid of $236 million.

Key Accounting Estimates and Judgements

Throughout 2022, in the preparation of the financial results, management is required to make accounting estimates and assumptions (see note 2 for further details). Of the significant accounting policies (see note 3), the following policies involved a higher degree of judgement and complexity, and consequentially greater consideration by management.

Valuation of Financial Instruments at Fair Value

Given the extent to which the Group recognises financial instrument assets and liabilities at fair value, the preparation of the Group's consolidated financial statements requires management to consider on an on-going basis the key valuation metrics and judgements involved in the determination of fair value. 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.

Management have reviewed the key valuation metrics, assumptions and methodologies involved in the determination of the fair value of financial instruments and determined that the valuations were reasonable.

Refer to accounting policy note 3(d) and note 30 for more detail on the Group's fair value measurement and valuation methods.

Tax and Litigation Provisions

The preparation of the Group's consolidated financial statements requires management to make judgements, estimates and assumptions regarding the outcome of matters that are uncertain, including those relating to tax and litigation. The Group has provisions arising on a number of uncertain tax and litigation matters, for which management has made judgements and interpretations when determining these provisions. Whilst a range of outcomes is foreseeable, management considers the amount provided to be a reasonable estimate of expected future liabilities after consideration of all pertinent facts.

Refer to accounting policy note 3(k) and note 18 for more details.

Capital and Liquidity Resource Management and Regulation

The Company manages and monitors its capital and liquidity in line with established policies and procedures and in compliance with local regulatory requirements. Consistent with the 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.

Further information is available in the Pillar 3 Regulatory Disclosures Report of the MSI Group, available at https://www.morganstanley.com/about-us-ir/pillar-uk. The MSI Group's Pillar 3 report includes specific disclosure of the Company as a significant subsidiary.

Regulatory Capital and Leverage Requirements

The Company is subject to minimum capital requirements calculated in accordance with PRA rules – referred to as Pillar 1. The Company is also subject to a Pillar 2 supervisory review process, including a requirement to undertake an Internal Capital Adequacy Assessment ("ICAAP"), assessed by the PRA, for risks not covered in Pillar 1.

The MSI Group conducts an ICAAP at least annually. The ICAAP is a key tool used to inform the MSI Board and executive management on risk profile and capital adequacy. The MSI Group ICAAP includes specific consideration of the Company as a significant subsidiary.

The PRA reviews the 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 the Company.

As at 31 December 2022, the Company's TCR was $13,634 million, equivalent to 10.9% of RWAs. In addition, the PRA sets a buffer, which is available to support the Company in a stressed market environment.

Set out below are the Company's minimum risk-based capital requirements.

in $ millions	2022	2021
TCR	13,634	15,015

The Company's capital is monitored on an ongoing basis to ensure compliance with these requirements. The Company complied with all of its capital requirements during the year.

Capital Resources

The capital managed by the Company includes share capital, AT1 capital instruments, subordinated debt and reserves.

To maintain or adjust its capital structure, the Company may pay dividends, return capital to its shareholders, issue new shares, or issue or repay AT1 capital instruments or subordinated debt.

Set out below are details of the Company's Capital Resources, as at 31 December 2022 and 31 December 2021:

in $ millions	2022	2021
Total Company equity	24,214	22,330
Regulatory adjustments	(2,012)	(1,808)
Tier 1 Capital	22,202	20,522
Of which		
CET1	*17,902*	*17,022*
AT1	*4,300*	*3,500*
Tier 2 Capital	6,874	5,376
Total Capital Resources	**29,076**	**25,898**
RWAs	124,739	136,746
CET1 capital ratio	14.4 %	12.4 %
Tier 1 capital ratio	17.8 %	15.0 %
Total capital ratio	23.3 %	18.9 %

The increase in the Total capital ratio reflects the increase in total Company equity (Refer to 'Overview of 2022 Financial Results') and from lower RWAs, see below. Regulatory adjustments includes deductions applied based on the prudential filters in compliance with the PRA Rule book (CRR).

RWAs

Set out below are details of the Company's RWAs.

in $ millions	2022	2021
Credit RWAs	64,770	77,267
Market RWAs	49,162	49,412
Operational risk RWAs	10,807	10,067
Total RWAs	**124,739**	**136,746**

RWAs decreased by $12,007 million over the year, due to broad reductions in business and market activity as well as a decrease in affiliate concentration risk. This was partially offset by increases driven by the implementation of the Capital Requirements Regulation ("CRRII").

Leverage Ratio

The leverage ratio is a supplementary measure to the risk-based capital requirements calculated as the ratio of Tier 1 capital to total leverage exposure (certain assets plus certain off-balance sheet exposures adjusted for Tier 1 capital deductions). Although there was no binding leverage requirement for 2022, the Group managed 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.

From 1 January 2023, the Company became subject to a minimum leverage ratio of 3.25% as part of the UK's implementation of the prudential standards included in the CRRII.

The Company's leverage ratio is detailed below.

in $ millions	2022	2021
Tier 1 Capital	22,202	20,522
Leverage Exposure	416,138	496,231
Leverage Ratio	5.3%	4.1%

Leverage exposure decreased over the year primarily driven by the introduction of the standardised approach to counterparty credit risk ("SA-CCR") calculation and the deduction of central bank claims, implemented into the PRA rulebook (CRR) on 1 January 2022.

Funding and Liquidity Management

Funding and Balance Sheet Management

Liquidity and funding risk refers to the risk that the Group is unable to meet its financial obligations without experiencing significant business disruption or reputational damage that may threaten its viability as a going concern, as well as the associated funding risks triggered by the market or idiosyncratic stress events that may negatively affect our liquidity and may impact our ability to raise new funding.

The 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 and investor) 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 and deposits. 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 provide the Morgan Stanley Group and the Group with flexibility in managing the composition and size of its balance sheet.

Credit Ratings

The Company relies on external sources to finance a significant portion of its daily operations. The cost and availability of financing generally are impacted by the Company's credit ratings, among other variables. In addition, the Company's credit ratings can have an impact on certain trading revenues, particularly in those businesses where longer-term counterparty performance is a key consideration, such as certain over the counter ("OTC") derivative transactions. When determining credit ratings, ratings agencies consider both company-specific and industry-wide factors. The Company's unsecured credit ratings are included in 'Financial Performance and Condition'.

Regulatory Liquidity and Funding Requirements

The Company is subject to the liquidity regulations prescribed by the PRA which include the Liquidity Coverage Ratio ("LCR"), Pillar 1 and Pillar 2 requirements.

The Pillar 2 requirements are assessed by the PRA for risks not captured in Pillar 1. Pillar 2 risks are identified by the Company and documented in the Internal Liquidity Adequacy Assessment Process ("ILAAP"), reviewed and assessed by the PRA as part of the Liquidity Supervisory Review Process ("L-SREP"). From 1

January 2022, the PRA required the Company to maintain a regulatory minimum NSFR of 100%.

Throughout the year, the Company held adequate liquidity in the form of HQLA and maintained an appropriate funding profile to meet LCR and NSFR regulatory requirements.

The Company complied with all liquidity requirements during the year.

in $ millions	2022	2021
Liquidity buffer - High quality liquid assets ("HQLA")	41,800	40,982
Liquidity coverage ratio(1)	184%	196%

1. Calculated as the average of the preceding twelve months

in $ millions	2022	2021
NSFR	110%	N/A(1)

(1) NSFR not disclosed for 2021 as PRA requirement from 1 January 2022.

Recovery and Resolution Planning

The UK Banking Act 2009 and related legislation established a recovery and resolution framework for UK institutions, including the Company.

Annually, the MSI Group prepares a recovery plan which identifies mitigation tools available in times of severe stress. The Company is covered in the recovery plan and is identified as a material legal entity of the MSI Group.

The MSI Group and the Company produce information required for resolution purposes by the BOE, as the UK Resolution Authority in accordance with UK statutory and regulatory requirements. The Company also complies with relevant BOE and PRA rules on resolution planning and resolvability, including requirements under the BOE's Resolvability Assessment Framework, and the Minimum Requirement for own funds and Eligible Liabilities ("MREL") set by the BOE (see following sub-section).

The Morgan Stanley Group has developed a resolution plan in accordance with the requirements of Section 165(d) of Title I of the Dodd-Frank Wall Street Reform and Consumer Protection Act and its implementing regulations adopted by the Federal Reserve Board and the Federal Deposit Insurance Corporation. The resolution plan presents Morgan Stanley's strategy for resolution of Morgan Stanley upon material financial distress or failure. The Company is a Material Operating Entity of the Morgan Stanley Group and is within the scope of the single point of entry resolution strategy adopted by the Morgan Stanley Group.

MREL and Total Loss Absorbing Capacity ("TLAC")

MREL, as implemented by the BOE, and TLAC, as implemented by the EU and on-shored into UK law, are broadly consistent measures that are designed to enhance the resilience of the financial system by ensuring firms have sufficient capital instruments and eligible liabilities to absorb losses and appropriately recapitalise entities in the case of resolution. They reflect the recommendations of the Financial Stability Board on TLAC standards for global systemically important banks and as reflected within the EU's Bank Recovery and Resolution Directive.

MREL requirements apply to the Company on an individual level and to the MSI Group on a consolidated basis. TLAC applies to the MSI Group only.

The Company and MSI Group have issued senior subordinated loans to ensure compliance with these requirements.

Regulatory Developments

The Company continues to monitor the changing political, tax and regulatory environment, with specific changes expected as part of the BOE implementation of Basel III standards, as described below. Whilst the Company continues to engage with various stakeholders, it remains difficult to predict the exact impact these changes and other changes will have on its business, statement of financial position, results of operations and cash flows for a particular future period. The Company expects to remain subject to extensive supervision and regulation.

Finalising Basel III Reforms

BCBS sets the standard for international banking prudential regulation in a series of accords ("Basel Accords") that are implemented in the UK via the PRA Rulebook including retained EU Law under the European Union (Withdrawal) Act 2018. This includes the CRR as amended but also other technical standards issued by EU bodies, such as European Banking Authority, that were in place as at 31 December 2020.

Following the UK's withdrawal from the EU, the PRA issued its final rules, to implement key components of the Basel III reforms that were previously finalised in the EU, effective 28 June 2021. This includes but is not limited to: Standardised Approach to Counterparty Credit Risk, Net Stable Funding Ratio, revised Leverage Ratio, revised Large Exposure Framework, and revised Pillar 3 disclosure requirements. These were effective and fully implemented from 1 January 2022.

Following the impact of the COVID-19 pandemic and its impact on the global banking system, the BCBS decided to defer the remaining standards of the Basel III reform package (referred to as "Finalisation of Basel III") by one year to 1 January 2023. The key remaining amendments include revised market RWA requirements through the Fundamental Review of the Trading Book, new Credit Valuation Adjustments ("CVA") RWA requirements, revisions to the credit RWA calculations covering both standardised and advanced treatments, and a new RWA requirement for operational risk. They also 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 issued their draft rules to implement these final standards, which are referred to as Basel 3.1, for consultation on 30 November 2022. These rules are expected to be effective from 1 January 2025. The proposed rules are largely consistent with the Basel III reform package with some adjustments to address UK specificities. Pending the publication of the final rules, expected in 2023, there remains some uncertainty as to the final requirements and overall impact.

Environmental, Social and Governance ("ESG")

On 28 November 2022, the European Commission adopted the Corporate Sustainability Reporting Directive ("CSRD") which replaces the existing reporting requirements of the Non-financial Reporting Directive ("NFRD"). The CSRD extends the scope of entities required to report on non-financial matters and introduces a requirement to report according to mandatory EU sustainability reporting standards. The CSRD was published in the Official Journal of the EU on 16 December 2022 and EU Member States have 18 months to transpose the CSRD into their national laws. The requirements will apply to financial years commencing on or after 1 January 2024. As a UK entity, the Company is subject to the CSRD from the financial year ending 31 December 2024, as a result of having securities listed on an EU regulated market and also meeting the size criteria of the CSRD scoping requirements.

The Taxonomy Regulation (Regulation (EU) 2020/852) ("Taxonomy Regulation") entered into force on 12 July 2020 and establishes criteria for determining whether an economic activity is "environmentally sustainable". Article 8 of the Taxonomy Regulation requires certain companies to report on how, and to what extent, their activities are associated with environmentally sustainable economic activities. The Company is subject to Taxonomy Regulation reporting requirements from the financial year ending 31 December 2024 as a result of the scoping criteria of the CSRD outlined above.

The UK is also introducing ESG-related regulation of which the Company is in-scope. FCA Policy Statement 21/24 was published on 17 December 2021 and applies on a phased basis from 1 January 2022, with the requirements applying to the Company from the financial year ending 31 December 2023. It introduces required disclosures on an annual basis consistent with the recommendations of the Taskforce on Climate-related Financial Disclosures ("TCFD") at both the entity level and the product or portfolio level. The Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 2022 ("Regulations") were published on 17 January 2022 and apply to financial years commencing on or after 6 April 2022. The Regulations introduce required disclosures on an annual basis consistent with the recommendations of the TCFD at entity level.

Temporary Transitional Power ("TTP")

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

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

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

Risk Management

Risk is an inherent part of the Group's business activities. The Group seeks to identify, assess, monitor and manage each of the various types of risk involved in its business activities, in accordance with defined policies and procedures.

The Company's Board is assisted in its oversight of the Group's risk management by the MSI Audit Committee, the MSI Risk Committee and the executive management EMEA Risk Committee in addition to a number of management level committees. The corporate governance structure between MSI and the Company, including the executive and management-level Committees (associated with Risk Governance) is described in further detail within the 'Corporate Governance' section.

Note 26 provides additional qualitative and quantitative disclosures about the Group's management of, and exposure to, certain financial risks.

Risk Strategy and Appetite

The Group Risk Appetite Statement articulates the aggregate level and types of risk that the Group is willing to accept to execute its business strategy and protect its capital and liquidity resources. The combination of qualitative risk appetite and tolerance statements and quantitative limits aims to ensure that the Group's businesses are carried out in accordance with the risk appetite approved by the Board, and to protect the Group's reputation in both normal and stressed environments.

The Group has no risk appetite for conduct risk or reputational risk. It acknowledges, however, that conduct and reputational risk remain inherent in conducting business and thus cannot be entirely eliminated.

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

Risk Management Framework

Risk of loss is an inevitable consequence of the Group's business activities and effective risk management is vital to the Group's success. The Group has an established Risk Management Framework, which leverages the risk management policies and procedures of the MSI Group and the Morgan Stanley Group, to support the identification, monitoring and management of risk.

The Risk Management Framework includes a well-defined, comprehensive risk governance structure with appropriate risk management expertise, including processes for periodically assessing the efficacy of the Risk Management Framework. The key components of the framework are set out below.

Risk Policies and Processes

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

These policies include:

- EMEA and MSI Group Risk Management Principles
- MSI Group Market Risk Management Policy
- MSI Group Credit Policy
- MSI Group Liquidity Risk Oversight Policy
- MSI Group Operational Risk Management Policy

Control Framework

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

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

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

The Internal Audit Department is the Third line of defence, and is an independent source of assurance to the Board on controls over financial and non-financial (predominantly Operational and Compliance) risks, operational, and compliance controls. The Internal Audit Department reports to the MSI Audit Committee and is independent of the Business Units and Support Functions and Independent Risk Management. The Internal Audit Department provide independent assurance over the design quality and operating effectiveness of the 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.

Culture, Values and Conduct of Employees

Employees of the Morgan Stanley Group are accountable for conducting themselves in accordance with the Morgan Stanley Group's core values. The Morgan Stanley Group is committed to reinforcing and confirming adherence to the core values through its governance framework, tone from the top, management oversight, risk management and controls, and Three Lines of Defence structure.

The Morgan Stanley Group's Board is responsible for overseeing the Morgan Stanley Group's practices and procedures relating to culture, values and conduct, with support from senior management committees that report regularly to the Morgan Stanley Group's Board, as set forth in its corporate governance policies. A fundamental building block of this program is the Morgan Stanley Group's Code of Conduct, which establishes standards for employee conduct that further reinforce the Morgan Stanley Group's commitment to integrity and ethical conduct. All employees are required to certify their understanding of and adherence to the Code of Conduct annually.

Morgan Stanley's Global Conduct Risk Management Policy also sets out a consistent global framework for managing conduct risk (i.e. the risk arising from misconduct by employees or contingent workers) and conduct risk incidents.

The employee annual performance review process includes evaluation of employee conduct related to risk management practices and Morgan Stanley's expectations. The Morgan Stanley Group also has several mutually reinforcing processes to identify employee conduct that may have an impact on employment status, current year compensation and/or prior year compensation. Further details of the MSI Group's remuneration policies and practices can be found in the CRR Article 450 Disclosure, available at https://www.morganstanley.com/about-us-ir/pillar-uk.

Limits and Tolerance Framework

The MSI Group Risk Appetite is translated into a comprehensive Risk Limit and Tolerance framework across four primary areas: market risk, credit risk, operational risk and liquidity risk.

The MSI Group maintains risk limits and tolerances at various levels of the governance structure, including for key MSI Group legal entities, as appropriate, to support linkages between the MSI Group's overall risk appetite, which is determined by the MSI Board, and more granular risk-taking decisions and activities. All risk limits are reviewed periodically as appropriate and at least annually. Adherence to these limits and tolerances, as well as any breaches, as tracked, monitored and reported to the appropriate executive risk committees, MSI Risk Committee and the MSI Board. Figure 1 outlines the MSI Group's Risk Limit Framework for specific risk areas.

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Figure 1 MSI Group's Risk Limit Framework

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

Stress Testing

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

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

Risk Reporting and Measurement

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

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

Market Risk

Definition

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

Governance

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

Sound market risk management is an integral part of the Group's culture. The business units and trading desks are responsible for ensuring that market risk exposures are well-managed and monitored. The Market Risk Department ("MRD") ensures transparency of material market risks, monitors compliance with established limits, and escalates risk concentrations to appropriate senior management.

To execute these responsibilities, the Group monitors its market risk against limits on aggregate risk exposures, performs a variety of risk analyses including monitoring Value-at-risk ("VaR") and stress testing analyses, routinely reports risk summaries and maintains the VaR and scenario analysis methodologies. The material risks identified by these processes are summarised and reported to senior management.

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

Additional information on primary market risk exposures, market risk management and measurement and non-trading risks and currency risk together with an analysis of VaR sensitivity is presented in note 26. For information regarding the management of market risk driven by climate risk, refer to 'Risk Management - Climate and Environmental Risk'.

Year End VaR

The Group's VaR for Primary Risk Categories and Total Management VaR for the years ended 31 December 2022 and 31 December 2021 are shown in the below table. Refer to note 26 for further detail.

	95%/ one-day VaR 2022		95%/ one-day VaR 2021	
in $ millions	Period end	Average	Period end	Average
Primary Market Risk Categories	24	25	23	29
Credit Portfolio[(1)]	12	8	6	7
Less diversification benefit[(2)]	(6)	(7)	(6)	(6)
Total Management VaR	**30**	**26**	**23**	**30**

(1) The Credit Portfolio VaR is disclosed as a separate category from the Primary Risk Categories and includes loans that are carried at fair value and associated hedges as well as counterparty credit valuation adjustments and related hedges.

(2) Diversification benefit equals the difference between total trading VaR and the sum of the VaRs for the individual risk categories. This benefit arises because the simulated one-day losses for each of the primary market risk categories occur on different days; similar diversification benefits are also taken into account within each category.

The 2022 period-end Total Management VaR of $30 million was higher than the average of $26 million as the 1 year VaR time series includes larger market volatility caused by the UK mini budget.

The average Total Management VaR for 2022 was $26 million compared with $30 million for 2021. The decrease was primarily driven by decreased exposure to equity prices and the associated implied volatilities.

Credit Risk

Definition

Credit risk refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations to the Group. Credit risk includes country risk, which is further described below.

Governance

Credit risk exposure is managed on a global basis and in consideration of each significant legal entity within the Morgan Stanley Group. The credit risk management policies and procedures establish the framework for identifying, measuring, monitoring and controlling credit risk whilst ensuring transparency of material credit risks, compliance with established limits and escalating risk concentrations to appropriate senior management.

Additional information about the primary credit exposures, credit risk management and mitigation, exposure to credit risk, including the maximum exposure to credit risk by credit rating is presented in note 26. For information regarding the management of credit risk driven by climate-related credit risk, refer to 'Risk Management - Climate and Environmental Risk'.

Exposure to Credit Risk

Counterparty Risk Exposure

The table below shows the Group's maximum exposure to credit risk and credit exposure for certain financial assets which are exposed to credit risk and where the Group has entered into credit enhancements, including receiving cash and securities as collateral and master netting agreements. The net credit exposure represents the credit exposure remaining after the effect of the credit enhancements. Exposure to other Morgan Stanley Group undertakings is included in this table.

	2022		
in $ millions (audited)	Gross credit exposure[1]	Credit enhancements[2]	Net credit exposure
Trading financial assets:			
Derivatives	251,076	(240,879)	10,197
Secured financing	129,779	(128,908)	871
Trade and other receivables	1,298	(319)	979
Loan commitments	15	—	15
	382,168	**(370,106)**	**12,062**

	2021		
in $ millions (audited)	Gross credit exposure[1]	Credit enhancements[2]	Net credit exposure
Trading financial assets:			
Derivatives	242,432	(229,230)	13,202
Secured financing	125,895	(124,594)	1,301
Trade and other receivables	993	(777)	216
Loan commitments	121	(2)	119
	369,441	**(354,603)**	**14,838**

(1) Gross credit exposure is the carrying amount which best represents the Group's maximum exposure to credit risk, and for financial instruments - FVPL is reflected in the consolidated statement of financial position.

(2) Credit enhancements include collateral received and netting allowable under master netting agreements used to manage credit exposure.

Country and Sovereign Risk Exposure

Definition

Country risk is the risk that events in, or affecting, a foreign country might adversely affect the Group. "Foreign country" means any country other than the UK. Sovereign risk, by contrast, is the risk that a government will be unwilling or unable to meet its debt obligations or will renege on the debt that it guarantees. Sovereign risk is single-name risk for a sovereign government, its agencies and guaranteed entities.

Risk Management and Measurement

Country risk exposure is measured in accordance with the Group's internal risk management standards and includes obligations from sovereign governments, corporations, clearing houses and financial institutions. The Group actively manages country risk exposure through a comprehensive risk management framework that combines credit and market fundamentals and allows the Group to effectively identify, monitor and limit country risk.

The Group's obligor credit evaluation process may also identify indirect exposures, whereby an obligor has vulnerability or exposure to another country or jurisdiction. Examples of indirect exposures include mutual funds that invest in a single country, offshore companies whose assets reside in a different country to that of the offshore jurisdiction and finance company subsidiaries of corporations. Indirect exposures identified through the credit evaluation process may result in a reclassification of country risk.

The Group's sovereign exposures consist of financial instruments entered into with sovereign and local governments. Its non-sovereign exposures primarily consist of exposures to corporations and financial institutions. The following table shows the Group's five largest non-UK net country exposures as at 31 December 2022.

Exposures to other Morgan Stanley Group undertakings have been excluded from this table

Five Largest Non-UK Country Risk Total Net Exposures for the Group:

in $ millions Country	Net inventory(1)	Net counterparty exposure(2)	Funded lending	Exposure before hedges	Hedges(3)	Total net exposure 2022(4)	Total net exposure 2021
United States							
Sovereigns	16	93	—	109	(30)	79	(262)
Non-sovereigns	4,883	4,945	28	9,856	(13)	9,843	5,273
Total United States	**4,899**	**5,038**	**28**	**9,965**	**(43)**	**9,922**	**5,011**
Germany							
Sovereigns	1,151	—	—	1,151	(359)	792	(2,819)
Non-sovereigns	(379)	3,023	—	2,644	(16)	2,628	1,504
Total Germany	**772**	**3,023**	**—**	**3,795**	**(375)**	**3,420**	**(1,315)**
France							
Sovereigns	300	10	—	310	—	310	(1,069)
Non-sovereigns	(459)	2,700	—	2,241	(434)	1,807	1,556
Total France	**(159)**	**2,710**	**—**	**2,551**	**(434)**	**2,117**	**487**
Singapore							
Sovereigns	—	474	—	474	—	474	201
Non-sovereigns	38	429	—	467	(5)	462	302
Total Singapore	**38**	**903**	**—**	**941**	**(5)**	**936**	**503**
Korea							
Sovereigns	225	254	—	479	(25)	454	1,047
Non-sovereigns	69	396	—	465	—	465	622
Total Korea	**294**	**650**	**—**	**944**	**(25)**	**919**	**1,669**

(1) Net inventory represents exposure to both long and short single name and index positions (i.e. bonds and equities at fair value and CDS based on notional amount assuming zero recovery adjusted for any fair value receivable or payable). As a market maker, the Group transacts in these CDS positions to facilitate client trading.
(2) Current exposure of repurchase transactions, securities lending and derivatives taking into consideration legally enforceable master netting agreements and collateral as well as relevant valuation adjustments.
(3) Represents CDS hedges (purchased and sold) on net counterparty exposure and lending executed by trading desks responsible for hedging counterparty and lending credit risk exposures for the Group. Amounts are based on the CDS notional amount assuming zero recovery adjusted for any fair value receivable or payable.
(4) Total net exposure represents the sum of net inventory exposure, net counterparty exposure, funded lending and hedges.
(5) In addition, at 31 December 2022, the Group had exposure to these countries for overnight deposits with banks of approximately $1,040 million.

Liquidity Risk

Definition

Liquidity risk refers to the risk that the Group will be unable to finance its operations due to a loss of access to capital markets or difficulty in liquidating its assets. Liquidity risk encompasses the Group's ability (or perceived ability) to meet its financial obligations without experiencing significant business disruption or reputational damage that may threaten its 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 risk as a result of its trading, investing and client facilitation activities.

Liquidity Risk Management

The primary goal of the Company's liquidity risk management framework is to ensure that the Company has access to sufficient liquidity assets across a wide range of market conditions and time horizons. The framework is designed to enable the Company to fulfil its financial obligations and to support the execution of its business strategies. The key components of the Company's liquidity risk management include its Required Liquidity Framework, Liquidity Stress Testing and Liquidity Reserve, which are further described in note 26.

Operational Risk

Definition

Operational risk refers to the risk of loss, or of damage to the Group's reputation, resulting from inadequate or failed processes or systems, from human factors or from external events (e.g. fraud, theft, legal and compliance risks, cyber-attacks or damage to physical assets). This includes legal risk and includes the risks arising from ESG Risks (e.g. Climate and Environmental Risks), but excludes strategic risk. 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 scope also includes oversight of technology risk, cybersecurity risk, information security risk, and third party risk management (supplier and affiliate risk).

Governance

The Group has established an operational risk framework to identify, measure, monitor and control risk across the Group. This framework is consistent with the framework established by the Morgan Stanley Group and includes escalation to the Group's Board and appropriate senior management personnel. The framework is continually evolving to reflect changes in the Group and to respond to the changing regulatory and business environment.

Additional information regarding operational risk management; measurement and risk mitigation; business continuity management and disaster recovery; third-party risk management; cyber and information risk management; and legal and regulatory and compliance risk is presented in note 26.

Cyber and Information Security Risk Management

The Group maintains a program that oversees its cyber and information security risks, leveraging the Morgan Stanley Group wide program. Cybersecurity and information security policies, procedures and technologies are designed to protect the Group's information assets against unauthorised disclosure, modification or misuse. These policies and procedures 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.

A cyber-attack, information or security breach or a technology failure could adversely affect the Morgan Stanley Group's ability to conduct business, manage exposure to risk and may result in disclosure or misuse of confidential or proprietary information and otherwise adversely impact results of operations, liquidity and financial condition, as well as cause reputational harm.

Additional information on cyber risk management and risk mitigation is presented in note 26.

Legal, Regulatory and Compliance Risk

Definition

Legal, regulatory and compliance risk includes the risk of legal or regulatory sanctions, material financial loss; including fines, penalties, judgements, damages and/ or settlements or reputational damage which the Group may suffer as a result of failure to comply with laws, regulations, rules, related self-regulatory organisation standards and codes of conduct applicable to business activities. This risk also includes contractual and commercial risk, such as the risk that a counterparty's performance obligations will be unenforceable. It also includes compliance with Anti-Money Laundering and terrorist financing rules and regulations. The Group is generally subject to extensive regulation in the different jurisdictions in which it conducts its business.

Governance

The 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 Group's policies relating to business conduct, ethics and practices are followed globally.

Risk Mitigation

The 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. The heightened legal and regulatory focus on the financial services and banking industries globally presents a continuing business challenge for the Group.

Conduct Risk

Definition

Conduct risk is defined within the MSI Group as the risk arising from misconduct by individual employees or contingent workers (collectively, "Covered Persons") or groups of Covered Persons, or the risk arising from conduct by Morgan Stanley where the outcome has an adverse impact on clients, markets or the Morgan Stanley Group's reputation. Conduct includes both intentional and unintentional behaviours.

Governance

The MSI Group has an approved Global Conduct Risk Management Policy and an EMEA and MSI Group Conduct Risk Management Supplement. These documents cover the two main strands of Morgan Stanley's Conduct Risk management, as well as setting out roles and responsibilities in relation to Conduct Risk Management including key support and governance mechanisms:

i) Managing the risk associated with misconduct by Covered Persons relating to:
   - Business activities and obligations ("Business Conduct")
   - "HR or Personal Conduct", defined as:
     - misconduct relating to employee relations, such as misconduct relating to the work environment, working relationships, compensation, or performance management, or in relation to any allegation of retaliation, or other detrimental treatment by the Morgan Stanley Group or violations of discrimination and harassment policies
     - violations of law or other misconduct outside of the workplace that poses a potential franchise risk or could otherwise compromise Morgan Stanley's reputation

ii) Managing the risk arising from conduct by Morgan Stanley where the outcome is an adverse impact on clients or markets ("Firm Conduct Risk").

Model Risk

Definition

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, and reputational damage. Model risk increases with greater model complexity, higher uncertainty about inputs and assumptions, broader use, and larger potential impact (financial, regulatory and reputational).

Governance

Sound model risk management is an integral part of the Risk Management Framework. The Model Risk Management ("MRM") function is responsible for the oversight of model risk. MRM establishes a model risk tolerance in line with the risk appetite.

The MRM framework includes policy, procedures and controls, which set out standards as well as roles and responsibilities to manage the risk related to all models, including valuation, risk, capital and stress testing models.

Risk Mitigation

Model Risk is owned by the model developers, who are the first line in managing the risk. They are responsible for adherence to model development and implementation standards, which set out requirements related to model purpose, scope and use, model design and methodology, input and data, model testing, implementation, and documentation.

The MRM function, as the second line of defence, is responsible for the oversight of model risk and provides the effective challenge of models. The effective challenge is defined as critical analysis by objective, informed parties who can identify model limitations and assumptions and drive appropriate changes. The MRM function provides such challenge, independently validates and approves models for use, annually recertifies models, identifies and tracks remediation plans for model limitations and reports on model risk metrics. The function also oversees the development of controls to support a complete and accurate Morgan Stanley-wide model inventory.

In addition to the MRM function, Valuation Control ("VC"), within Finance, performs a suite of controls to ensure accurate valuation of the Group's inventory and its compliance with fair value accounting standards. VC is responsible for approving that the model valuation methodology is appropriate, model inputs and valuations are consistent with accounting standards and that a mark review can be performed.

Model risk monitoring, within the MRM framework, is in place in the form of ongoing performance monitoring by model developers, regular independent model reviews by MRM, and regular model risk reporting to senior management and the MSI Risk Committee.

Climate and Environmental Risks

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

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

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

In addition, the Group may be exposed to litigation risk or reputational risk losses arising from reliance on statements or representations in relation to ESG matters which are later discovered to be incorrect or misleading.

Managing Climate and Environmental Risks

Climate and environmental risk is managed by integrating climate change and other environmental considerations into the MSI Group Risk Framework as drivers of credit, market, operational, and liquidity risks. Climate and environmental risks are also integrated into policies and procedures. The Framework continues to be developed to meet the requirements set out in new and evolving regulations.

Risk Identification and Materiality Assessment

As part of its established Risk Identification and Materiality Assessment process, the MSI Group has a granular risk assessment of climate and environmental risks. This includes:

- *Risk Inventory:* The risk inventory captures climate and environmental risks as drivers of existing risks. Risk events considered include those related to transition risk, such as environmental policy (e.g. carbon pricing scenario) as well as to physical risks.
- *Materiality Assessment:* A quantitative assessment is performed across risk types to determine the materiality of the impact of climate and environmental risks. A risk is considered material if the estimated stress loss or outflow is above the existing risk identification materiality threshold. In 2022 based on the evolving understanding of climate and environmental risks, the materiality assessment was further expanded to assess collateral risk, a broader range of physical and environmental risks for credit as well as litigation and reputational risk for operational risk. The transition risk carbon repricing scenario was assessed and quantified for strategic risk. A risk is considered material if the estimated stress loss is above the existing risk identification materiality thresholds.

In 2022, for the MSI Group, climate transition risk driven by carbon repricing or an accelerated green energy technology transition as well as climate physical risk were assessed as material for credit risk exposures. Climate transition risk and physical risk were assessed as material because the stress loss of the respective scenarios is above the risk identification materiality thresholds for credit risk. Climate transition and physical risks were assessed as nonmaterial for MSI Group collateral positions. Operational risk (business disruption, litigation risk and reputational risk) and strategic risk were assessed as non-material for climate and environmental risks given estimated losses fall below respective materiality thresholds. As the assessment is performed quarterly, the materiality assessment may change in the future.

Risk Appetite and Limit Framework

Climate transition risk is incorporated into the MSI Group Risk Appetite and Limits Framework. An MSI Board-level Climate Stress Loss Limit is set across credit and market risk, and is reviewed on an annual basis.

In addition to the Climate Stress Loss Limit, climate risk is incorporated into the Credit Risk Management Framework through industry sector limits as well as country and borrower ratings. Limits and ratings are monitored as per standards in credit risk management policies and procedures.

- *Climate Stress Loss Limit:* The MSI Group Board manages portfolio risk appetite via a Climate Stress Loss Limit. To monitor potential credit and market risk losses against this limit, the MSI Group runs a short-term transition risk carbon pricing scenario assuming a sudden and sustained carbon repricing in line with global efforts to meet the Paris Agreement. This scenario is run monthly and the results are reported quarterly to the MSI Risk Committee.
- *Industry Sector Limit:* Credit risk limits are established for industries highly exposed to climate risk. This process includes a portfolio segmentation of industries into groups with common climate risk profiles. These limits enable the MSI Group to monitor and manage credit risk from climate risk in the MSI Group portfolio.
- *Country Ratings:* ESG risk is being incorporated into the internal sovereign credit rating assessment. The sovereign rating is an important input in determining country limits, therefore climate risk and ESG considerations will influence risk appetite at the country level.
- *Borrower Ratings:* Climate risk is being incorporated into the rating assessment for corporates. The corporate rating is an important input in determining single name limits, therefore climate risk will influence risk appetite at the single name level.

Scenario Analysis and Stress Testing

Scenario Analysis is central to the MSI Group's Climate Risk Management Framework.

Short-term Credit and Market Risk Scenario Analysis: Informed by carbon emissions data from external providers, the MSI Group assesses the financial impact of climate policy (carbon repricing) in a scenario that captures both counterparties' probability of default and market price movements. An additional credit risk scenario that considers an accelerated transition to green energy technology is assessed for the counterparties in the Energy sector and updated on a quarterly basis. Physical risk is assessed in stress scenarios to calculate the losses from acute physical events. As transition risk poses a greater risk of losses to the MSI Group than physical risk, a Climate Stress Loss Limit was established for a transition risk scenario.

Operational Risk Scenario Analysis: A number of physical risk scenarios on the MSI Group are assessed focusing on business disruption due to climate change events (including extreme weather). Physical risk scenarios are selected based on a combination of probability and severity.

Litigation and Reputational Risk Scenarios: Litigation risk arising from Product Design is assessed, including inadequate due diligence and disclosure. Reputational risk losses are assessed for the scenario that is expected to result in the greatest harm to clients.

Strategic risk: The transition risk carbon repricing scenario was assessed for Strategic Risk. The scenario considers an impact on the Group's revenues driven by the counterparties that default in the stress scenario. As of 2022, carbon repricing is assessed as non-material.

Reverse Stress Testing: The MSI Group has developed a reverse stress test focused on physical risk of sea level rise. This is one of the scenarios considered in the ICAAP process.

Long-term Strategy Scenarios: The MSI Group has conducted an exploratory long-term scenario analysis, running two 30-year quantitative scenarios modelling late action (transition risk) and no additional action (physical risk) to inform MSI Group strategy.

Metrics

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

Credit Exposures: The Group's exposure to industries identified as having high climate transition or physical risk is a small percentage of overall credit exposures. Exposures to these industries with high climate transitional or physical risk comprise 4% and 1% of the Group's aggregate credit and counterparty risk net current exposure, respectively. Among industries identified as having high climate transition risk, the energy sector is the only sector with credit exposure above 1% of the Group's aggregate credit exposure. Credit exposures to climate risk in the table below are current exposures after taking into consideration legally enforceable master netting agreements, collateral and credit risk mitigants and includes deposits, repurchase transactions, securities lending, derivatives and corporate loan commitments. Trade and other receivables are excluded.

Exposures to High Risk Industries

	2022	
	Exposure in $ millions	% of Exposure
Transition Risk	1,689	4 %
Physical Risk(1)	478	1 %
Total Net Exposure (excluding trade and other receivables)	43,412	
	2021	
	Exposure in $ millions	% of Exposure
Transition Risk	1,068	2 %
Physical Risk(1)	595	1 %
Total Net Exposure (excluding trade and other receivables)	48,723	

(1) The industries identified as having high climate physical risk were updated in 2022. The 2021 figures included in this table were re-stated accordingly.

The table includes the credit exposure to industry sectors highly vulnerable to climate transition and climate physical risks. The vulnerability of obligors is assessed based on a segmentation approach which differentiates between low, medium. high and very high (high and very high presented in the table). The segments are sub-industries with consistent climate risk profile. The assessment considers expert credit assessment, greenhouse gas emission data and external physical risk scores.

Sustainability

Sustainability Strategy and Disclosures

The Group's approach to sustainability is consistent with that of the Morgan Stanley Group. The Morgan Stanley Group's sustainability strategy seeks to integrate sustainability into core businesses and support functions through extensive partnership between teams across Morgan Stanley. Further information on the Morgan Stanley Group's approach to sustainability can be found at www.morganstanley.com/about-us/sustainability-at-morgan-stanley.

Sustainability activity at Morgan Stanley is organised across three core areas of focus:

Sustainable Solutions and Services

As part of its focus on Sustainable Solutions and Services, the Morgan Stanley Group is responding to client demand with financial solutions and advisory services designed to help deliver both competitive financial returns and positive environmental and social outcomes. For more on this core focus area, refer to the 'Accelerating the adoption of sustainable investing' section and https://www.morganstanley.com/about-us/sustainable-solutions-services.

Institute for Sustainable Investing

Housed within the Morgan Stanley Group's Global Sustainability Office ("GSO") team, the Morgan Stanley Institute for Sustainable Investing (the "Institute") works to accelerate the adoption of sustainable investing and finance by fostering innovation, empowering investors through actionable analysis and developing the next generation of leaders in the field. The Institute supports two capacity building efforts that help emerging talent contribute their ideas to sustainable solutions: the Sustainable Investing Challenge and the Sustainable Investing Fellowship. The Institute also runs the Sustainable Solutions Collaborative that channels $250,000 awards to innovators engaged in breakthrough sustainable solutions that range from commercial to non-profit. For more on this core focus area, refer to: https://www.morganstanley.com/what-we-do/institute-for-sustainable-investing.

Firmwide Sustainability

The Morgan Stanley Group's commitment to sustainable business, climate action and inclusive growth extends to integrating ESG considerations across business practices, operations and culture. Priorities include building a diverse and inclusive workforce, improving business resilience and maintaining strong governance practices and prudent risk management. For more on the Firmwide Sustainability focus area, refer to https://www.morganstanley.com/about-us/corp-sustainability

Morgan Stanley Group Sustainability Disclosure

The Morgan Stanley Group is committed to transparent disclosure of information. The full list of available disclosures is in the Morgan Stanley Group's Sustainability Report. The Sustainability Report focuses on investor-relevant ESG topics and goals in line with the Sustainability Accounting Standards Board ("SASB") standards for Investment Banking, Asset Management and Commercial Banking guide. This is available at https://www.morganstanley.com/content/dam/msdotcom/en/assets/pdfs/Morgan_Stanley_2021_Sustainability_Report.pdf

The Sustainability Report for 2022 will be published later in the year.

Sustainability Governance

Information on the Corporate Governance arrangements in place for the Company are described in the 'Corporate Governance Framework' section in the Strategic Report.

Details of engagement activities undertaken by the Board in 2022 with employees, suppliers, clients and other stakeholders and how they inform decision making are also provided in the Strategic Report within the 'Stakeholder Engagement and Section 172(1) Statement'.

Morgan Stanley Group takes an integrated approach to ESG management, with oversight from leadership and input from across the core business and support functions. To coordinate and support the EMEA region's efforts around sustainability, a management level EMEA ESG Oversight Committee has been established to support the MSI Group and EMEA business in the continued development of an ESG strategy and risk management framework. The EMEA ESG Oversight Committee oversees the embedding of ESG risks into the risk and control framework and the tracking, analysis and implementation of key regional regulatory requirements. In addition to its existing reporting to the Board, from 2023, the EMEA ESG Oversight Committee will report as required to a newly established Morgan Stanley-wide ESG Committee.

At a Company level, the Board has appointed the EMEA Chief Risk Officer ("CRO") as the Senior Manager responsible for managing the financial risks from climate change. The EMEA CRO Co-Chairs the EMEA ESG Oversight Committee and is a member of the Board.

During 2022, the MSI Board and the Board had oversight of various climate related matters on a regular basis. In particular the MSI Board and the Board approved the Business Plan, which included the commitment to sustainability and delivering ESG related regulatory requirements. Also, the MSI Board and the Board reviewed and approved updates to their respective Risk Appetite Statements to include climate change as a driver of existing risks. Furthermore, the MSI Board approved the KPI for lending exposure retained on MSI Group to align to Morgan Stanley's Net Zero commitment and targets.

As part of the quarterly review of risks, the MSI Risk Committee reviews the utilisation of the Climate Stress Loss Limit and the credit risk limits that are established for industries highly exposed to climate risk. Please refer to the 'Climate and Environmental Risks, Risk Appetite and Limit Framework' section for additional details.

Environmental Matters

Climate Change

The Morgan Stanley Group and the Group's climate strategy is built on four pillars:

- Support the transition to a low-carbon economy by mobilising capital toward low carbon solutions and publishing industry-leading research and thought leadership for an investor audience;
- Manage climate change risk by integrating climate change considerations into risk management processes and governance structures (see 'Climate and Environmental Risk');
- Provide relevant, transparent and useful climate-related disclosures in Morgan Stanley's Climate Report and other publications (see 'Morgan Stanley Group Sustainability Disclosure');
- Enhance the climate resilience of operations by minimising footprint and enhancing operational resiliency (see 'Operational Sustainability').

Central to Morgan Stanley Group's climate strategy is the commitment, announced in September 2020, to reach net-zero financed emissions by 2050.

To demonstrate progress toward net-zero emissions by 2050, the Morgan Stanley Group set interim 2030 financed emissions lending intensity ("FELI") targets in November 2021 for the three most emissions-intensive sectors: Auto Manufacturing, Energy, and Power. The MSI Group has established a KPI that monitors its contribution to the Morgan Stanley Group's targets in these three sectors. For details on the Morgan Stanley Group's targets and methodology, including its Measure-Manage-Report framework launched in 2021, refer to: https://www.morganstanley.com/about-us/sustainability-at-morgan-stanley/net-zero-financed-emissions

The Morgan Stanley Group is also involved in industry-led initiatives that inform how financial institutions set net-zero targets, and measure and disclose financed emissions, including the Net-Zero Banking Alliance ("NZBA") and the Partnership for Carbon Accounting Financials ("PCAF"). While these industry initiatives inform Morgan Stanley's work, the Morgan Stanley Group makes independent decisions that considers the interests of the Morgan Stanley Group, clients, and shareholders.

Further information about the Morgan Stanley Group's efforts to support climate change mitigation is available in the Climate Report, which is guided by the recommendations of the Task Force on Climate-related Financial Disclosures ("TCFD"). This is available at:

https://www.morganstanley.com/content/dam/msdotcom/en/assets/pdfs/Morgan_Stanley_2021_Climate_Report.pdf.

The Climate Report for 2022 will be published later in the year.

Accelerating the Adoption of Sustainable Investing and Finance

The Morgan Stanley Group continues to partner with clients and stakeholders to mobilise capital at scale for the low-carbon transition and in 2021, increased its commitment to $750 billion by 2030. This goal is part of a larger commitment to mobilise $1 trillion in capital toward broader sustainability solutions in support of the UN Sustainable Development Goals. Together, these goals drive the Morgan Stanley Group's efforts to develop innovative, market-leading climate finance and investment solutions that meet growing client demand. By incorporating climate considerations into business activities, the Morgan Stanley Group aims to manage business for the long term while providing value for clients and shareholders. For details, refer to: https://www.morganstanley.com/ideas/low-carbon-finance-1-trillion-dollar-pledge.

Operational Sustainability

Morgan Stanley believes that its commitment to sustainability must include steps to address its own operations. Global Corporate Services operates Morgan Stanley's real estate in accordance with its Environmental and Social Policy Statement, which was established by the GSO and Environmental Social Risk Management ("ESRM") Group. For more detail refer to the 'Sustainable Operations' section of the Environmental and Social Policy Statement available at:

https://www.morganstanley.com/content/dam/msdotcom/en/about-us-governance/pdf/Environmental_and_Social_Policy_Statement.pdf .

Morgan Stanley committed to achieving carbon neutrality by 2022, covering Scope 1 and 2 emissions and Scope 3 business travel emissions. Progress towards this goal will be reported in the Morgan Stanley Group's Sustainability report that will be published in 2023.

For more on the approach to operational sustainability, refer to:

https://www.morganstanley.com/about-us/sustainability-at-work.

Greenhouse Gas Emissions, Energy Consumption and Energy Efficiency

Morgan Stanley sets global operational targets that are focussed on climate, resource management and supply chain. As part of Morgan Stanley's commitment to a 25% reduction in energy consumption, Morgan Stanley has implemented a number of initiatives in the UK which are relevant to the Company including:

- Continual assessment of plant and equipment run-times with operational requirements;
- Replacement of lighting and control systems with energy efficient alternatives (LED);
- Upgrade of air conditioning and ventilation control systems with energy efficient alternatives;
- Ongoing provision of energy and environmental awareness training to vendors and staff.

The following table sets out the Group's carbon emissions of the energy sources from its UK locations as required under the Companies Act 2006. Emissions have been calculated in line with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (revised edition) using emission factors from the Department of Business, Energy & Industrial Strategy (Greenhouse gas reporting: conversion factors for 2022), the Department for Environment, Food & Rural Affairs (Table 13 – Indirect Emissions from the supply chain, March 2014) and the US EPA Center for Climate Leadership (Emission Factor Hub, April 2021).

In line with the Morgan Stanley Group's organisational structure, properties are primarily leased by service entity subsidiaries of the Morgan Stanley Group. The service entities recharge property and travel costs to the Group reflecting their usage. Total scope 1 and scope 2 emissions reported relate to the Group's usage of UK properties only. Scope 3 emissions relate to the Group's share of UK employee business travel only. This disclosure is a subset of the emissions reported in the financial statements of Morgan Stanley's UK service entities - Morgan Stanley UK Limited ("MSUKL") and Morgan Stanley UK Group Limited, both of which are subsidiaries of the MSI Group. Emissions reported exclude any emissions relating to employees working from home, as such emissions cannot be quantified reliably.

The table below represents the Group's share of the UK's carbon emissions for the years ended 31 December 2022 and 31 December 2021:

	2022		2021	
*Energy consumption used to calculate emissions in kWh**	53,999,651		57,802,992	
	CO2e Tonnes**		CO2e Tonnes**	
	Location based	Market based	Location based	Market based
Emission source				
Scope 1 – combustion of fuel and operation of facilities	394	394	545	545
Scope 2 – Electricity, heat, steam and cooling purchased for own use***	10,048	1,534	11,694	1,339
Total scope 1 and scope 2	**10,442**	**1,928**	**12,239**	**1,884**
Scope 3 – Commercial air and ground transportation	3,682	3,682	709	709
Scope 3 – Employee expensed car mileage	19	19	8	8
Total emissions	**14,143**	**5,629**	**12,956**	**2,601**
Intensity ratio (tCO2e/SQM)****	0.1327	0.0245	0.1492	0.0230

* Energy consumption includes Scope 1,2 and Scope 3 - Employee expensed car mileage only

** Tonnes of carbon dioxide equivalent

*** The prior year scope 2 market-based emissions have been revised to be based on residual emissions where the Morgan Stanley Group's UK service entities occupy space in multi-tenanted buildings (see below)

**** Tonnes of CO2e per square metre of UK real estate (Scope 1 and 2 emissions only)

The Group has chosen to report both location-based and market-based emissions for scope 2. The location-based emissions reflect the average emissions of the grid where the energy consumption occurs and is calculated using the government-published UK electricity grid average factors. Where energy can be directly procured from energy suppliers, the Morgan Stanley Group UK service entities have entered into contractual arrangements to purchase 100% renewable electricity, backed by renewable energy guarantee of origin certificates, as such, the Group can report a reduced emission figure based on the specific electricity purchased under the market-based method. In locations where the Morgan Stanley Group's UK service entities occupy space within multi-tenanted buildings, for which renewable energy and associated renewable energy attributes are procured and reported by others, market-based emissions have been calculated using the residual emissions factors.

Total energy consumption for 2022 decreased by 7% from 2021, driven by lower leasehold premises gas and electricity consumption. Scope 1 and 2 location-based emissions for 2022 decreased by 15% from 2021 due to lower consumption and as a result of UK grid electricity conversion factors reducing due to lower UK coal generation, and higher renewable and nuclear generation. Scope 3 location-based emissions increased by 416% due to higher demand for business travel following the end of COVID-19 health restrictions in 2022.

The intensity ratio is calculated using square metre ("SQM") of UK real estate. This is considered most appropriate as the service entity subsidiaries of the Morgan Stanley Group recharge property costs to the Group using SQM reflecting their usage. In addition, the Morgan Stanley Group manages its carbon emissions using this metric.

An independent third party provided limited assurance of the reported energy and emissions data for 2021 and will do so for 2022 data as part of the Morgan Stanley's global greenhouse gas inventory management process later in 2023. To Morgan Stanley's knowledge there are no material omissions or misstatements reported herein.

Environmental and Social Risk Management

A Morgan Stanley-wide approach is taken to the management of environmental and social risks that could impact its reputation. Morgan Stanley's ESRM Group provides internal subject matter expertise on environmental and social risk, conducts diligence on relevant transactions, and monitors emerging environmental and social issues.

Due diligence and risk management processes are designed to identify, assess and address potentially significant environmental and social issues that may impact Morgan Stanley, clients and other stakeholders. As outlined in Morgan Stanley's Environmental and Social Policy Statement, Morgan Stanley has tailored approaches to certain sectors and activities, including carbon-intensive sectors. Transactions that meet designated environmental and social risk criteria may require approval by the Global Franchise Committee, or Regional Franchise

Committees such as the EMEA Franchise Committee, as well as senior management. This Policy Statement is reviewed annually and updated to reflect strategy and key developments. For further detail, refer to Morgan Stanley's Environmental and Social Policy Statement which can be found at http://www.morganstanley.com/about-us-governance.

Human Rights in the Supply Chain

The Morgan Stanley Group is committed to being a responsible corporate citizen and fulfilling the important role business can play in protecting and advancing global standards for human rights including equal opportunity, the freedom to associate and bargain collectively, and the elimination of modern slavery, human trafficking and harmful or exploitative forms of child labour.

Human rights considerations are incorporated into our transaction due diligence process, our engagement with companies, our supplier expectations, and our own operations.

Morgan Stanley is committed to complying with the laws and regulations of the countries in which it operates while simultaneously conducting business and encouraging the promotion of human rights through its policies, standards, and practices. Its approach is guided by leading frameworks, including the Universal Declaration of Human Rights, adopted by the United Nations ("U.N.") General Assembly and the U.N. Guiding Principles on Business and Human Rights.

Morgan Stanley's Supplier Code of Conduct outlines expectations with regard to human rights, employment and non-discrimination practices, health and safety, diversity and inclusion, and data protection. As outlined in the Supplier Code of Conduct, suppliers must conduct their operations in a socially responsible, non-discriminatory manner, and in full compliance with applicable laws including, but not limited to, those associated with personal information, equal opportunity, child labour, forced or compulsory labour, working hours and compensation, freedom of association, collective bargaining and a harassment-free work environment.

Each year, Morgan Stanley publishes its Modern Slavery and Human Trafficking Statement in accordance with Section 54 of the UK Modern Slavery Act 2015 that outlines the steps taken by Morgan Stanley during the preceding financial year to address the risk of modern slavery in its own operations and supply chain, as well as future plans in that regard.

Both the Supplier Code of Conduct and the Modern Slavery Statement are part of the contractual supplier agreements. If Morgan Stanley finds information through its negative media searches that a supplier is violating them, they would be considered to be in breach of contract, and subject to termination of the supplier agreement. For assessments completed in 2022, the Group has not found and is not aware of any suppliers engaging in Modern Slavery and Human Trafficking.

For further detail, refer to Morgan Stanley's Human Rights Statement, Modern Slavery and Human Trafficking Statement, Environmental and Social Policy Statement, and Supplier Code of Conduct, which can be found at http://www.morganstanley.com/about-us-governance.

Anti-Corruption and Bribery

The Group, principally through Morgan Stanley Group's Legal and Compliance Division, has established and implemented policies, procedures, and internal controls reasonably designed to comply with applicable anti-corruption laws and regulations in the jurisdictions in which it operates.

The Morgan Stanley Group's Global Anti-Corruption Policy, which is updated annually and approved by the Audit Committee, addresses corruption risks and prohibits offering, promising, giving or authorising others to give anything of value, either directly or indirectly, to any party, to improperly obtain or retain business or gain an improper business advantage. It also prohibits receiving, or agreeing to receive, anything of value that results or may result in the improper performance of employees' duties at Morgan Stanley. These values are embedded within the Morgan Stanley Group's Code of Conduct, to which employees must attest their understanding of, and adherence to, on an annual basis. For details, refer to:

https://www.morganstanley.com/about-us-governance/code-of-conduct

An annual risk assessment is performed to consider key areas of potential corruption risk to the Morgan Stanley Group.

Anti-corruption training is provided to all staff globally on an annual basis and targeted training is additionally conducted as necessary.

The Group maintains whistleblowing policies and procedures to ensure that individuals can confidentially report concerns when these arise. Management information regarding the anti-corruption program is reported to appropriate senior management personnel through Legal and Compliance Division governance frameworks.

Our People

The Group's employees are its most important asset. To facilitate talent attraction and retention, Morgan Stanley Group strives to create a diverse and inclusive workplace, with a strong culture and opportunities for employees to grow and develop in their careers and be supported by competitive compensation, benefits, and health and wellness programs.

Diversity & Inclusion

Morgan Stanley's diversity and inclusion strategy is designed to drive meaningful and sustainable change, and to help achieve a truly diverse and inclusive workforce. It informs the way the Morgan Stanley Group engages with and supports its employees, as well as how it serves clients, investors, and the diverse communities in which Morgan Stanley operates. The strategy is built on five key pillars: accountability, representation, advancement, culture and outreach.

Morgan Stanley Group is an equal opportunity employer committed to ensuring, within the framework of the law, that the workplace is free from unlawful discrimination. The Morgan Stanley Group aims to ensure that staff achieve their full potential and that all employment decisions are taken without reference to irrelevant or discriminatory criteria. The Dignity at Work Policy for the Group aims to draw attention to, and therefore prevent, all forms of unacceptable behaviour and to ensure all staff are treated with dignity and respect.

The correlation between inclusive teams and improved decision-making, innovation and performance aligns with Morgan Stanley core values. The EMEA Diversity Action Council acts as a catalyst to drive forward the EMEA diversity strategy. Accountability is underscored by quarterly meetings with the European Operating Committee and regular discussion at Divisional Operating Committees.

Morgan Stanley Group's commitment to Diversity and Inclusion, including its UK Gender Pay Gap Results and as signatory of the UK Governments' Women in Finance Charter, is outlined in the Diversity and Inclusion report. This report and further information can be found at https://www.morganstanley.com/about-us/diversity

The Board also has a diversity policy in place which is reviewed annually. For further detail on this and the targets set, refer to 'Board Composition' within the Corporate Governance section.

Culture

The Morgan Stanley Group's core values are designed to guide decision making aligned to the expectations of employees, clients, shareholders, regulators, directors and the communities in which Morgan Stanley operates. These guiding values are the heart of workplace culture and underpin Morgan Stanley's success.

Each year, Managing Directors and other senior staff lead mandatory Morgan Stanley wide culture conversations, engaging employees and on-site contingent workers in a dialogue about appropriate conduct, behaviour and decision-making. Case studies and other reference materials used during the sessions encourage robust discussion on sustaining Morgan Stanley's culture, and attendance is tracked to ensure participation.

For further detail, refer to the 'Risk Management Framework – Culture, values and conduct of employees' section as well as the Morgan Stanley Group's Sustainability Report. This report and further information can be found at https://www.morganstanley.com/about-us/corp-sustainability

Talent Management

Both the Company and the Morgan Stanley Group place considerable value on the investment in their employees and have continued their practice of keeping employees informed on matters affecting them. Employees are encouraged to present their suggestions and views on Morgan Stanley performance to management and employees participate directly in the success of the business through various Morgan Stanley compensation incentive plans.

The Group's recruiting strategy aims to attract top tier talent in all disciplines required for the execution of the Morgan Stanley Group's business activities. The recruitment priorities include a mandate seeking to identify a diverse pool of candidates with the requisite skills and demonstrated abilities to contribute meaningfully and productively to the Morgan Stanley Group's culture, consistent with its values and standards. The Morgan Stanley Group also encourages internal mobility to retain talent and provide growth opportunities within the Morgan Stanley Group.

Wellbeing

Morgan Stanley Group aims to foster an inclusive culture that supports employees' entire wellbeing, encompassing positive physical, mental, social and financial health, by raising awareness, educating employees on preventive care and providing best-in-class resources for employees and their families.

In September 2022, Morgan Stanley launched a community of wellbeing culture carriers known as the Global Wellbeing Influencer Network. These individuals will help guide wellbeing strategy, amplify awareness and surface key issues that arise from the work environment.

As part of Morgan Stanley's continued increased focus on mental health at work, the EMEA Mental Health Advisory Board have signed 'The Mental Health at Work Commitment' in the UK, an industry framework for best practice which Morgan Stanley is working towards.

Giving Back to the Community

The Morgan Stanley Group is committed to giving back to the communities in which it operates through a range of philanthropic programs. The Morgan Stanley Foundation supports healthy starts and solid education for children in local communities, expanding the reach of those initiatives globally through the Morgan Stanley International Foundation. The impact of these philanthropic initiatives includes:

Volunteering

In 2022, following a two year hiatus, Morgan Stanley restarted its traditional Global Volunteer Month, engaging over 41,000 employees across all offices globally. As part of this, employees dedicated 211,550 volunteer hours to support local community organisations where they live and work. In the UK, 70% of employees were involved.

Morgan Stanley also ran its annual Strategy Challenge pro-bono program where teams of employees make a meaningful impact on a charitable organisation's ability to deliver on its mission. In 2022, London employees delivered over 4,900 hours of pro-bono service to six charities, valued at over £625,000.

London employees spent over 1,600 hours supporting four charities as part of the Skills Connectors program to tackle strategic and operational issues. In Glasgow, employees provided over 900 hours of pro-bono advice to eight charities. Pro-bono programs were also run in the Frankfurt and Budapest offices. In Budapest and London, employees spent 85 hours supporting two charities through their 'Technology Change Makers' program.

Giving

In EMEA, the Morgan Stanley International Foundation granted over £1.6 million to 23 charities focused on the fundamentals of children's health and education.

Employees in offices across EMEA nominate charity partners, raising funds over a two year period, supported by the Morgan Stanley International Foundation. In October 2021, London employees nominated the Felix Project as their new charity partner for two years, aiming to raise over £1 million to enable the charity to collect surplus food and distribute 75 million meals to hundreds of charities, schools, and community groups in East London. By 31 December 2022, over £600,000 had been raised.

In October 2021, Glasgow employees nominated Children's Hospices Across Scotland as their new charity partner for two years, aiming to raise over £180,000 to fund a support service to ensure that bereaved brothers and sisters across Scotland are given the best chance in life. By 31 December 2022, over £70,000 had been raised.

Other employee-nominated charity partners across EMEA were: L'Envol in Paris, Fundacion Aladina in Milan, Association CAF Onlus in Madrid, Salva Vita in Budapest, Deutscher Kinderschutzbund in Frankfurt and Kinderspital Zurich. These charities all work to support a range of children's causes.

In response to the cost of living crisis across EMEA, the Morgan Stanley International Foundation has extended support to six charities across EMEA to provide emergency aid to local communities.

In response to the humanitarian crisis in Ukraine, Morgan Stanley and its employees contributed $4.5 million globally to the International Rescue Committee to provide critical assistance to civilians affected.

Community Impact

For 60 years, the Morgan Stanley Foundation has supported healthy starts and solid educations for the children in local communities, and for over 25 years, has expanded the reach of those initiatives across the EMEA region. This includes the establishment of the Morgan Stanley Alliance for Children's Mental Health, which funds critical research on children's mental health, drives thought leadership, and grows programs in schools, hospitals and physicians' offices, reaching over 11 million students, families and teachers globally since February 2020.

In the UK, Morgan Stanley has partnered with Place2Be to support a range of critical mental health initiatives for students, parents and teachers in London and Glasgow, addressing the ever-growing children's mental health space. This includes enabling the charity to extend its school based mental health services for over 8,400 children in 14 schools in London and Glasgow.

Corporate Governance

Corporate Governance Framework

The Company seeks to align with best practice guidance on the corporate governance of financial institutions. While it has chosen not to formally adopt an additional corporate governance code, the corporate governance arrangements in place for the Company are described below and are materially in accordance with the framework set out in the Wates Corporate Governance Principles. As a financial services firm, the Company applies regulatory requirements set out by the PRA and FCA when determining its corporate governance arrangements.

Purpose

The Company's purpose is to deliver the strategy of the Morgan Stanley Group in the markets and communities in which it operates and to its global client base.

Our Strategy

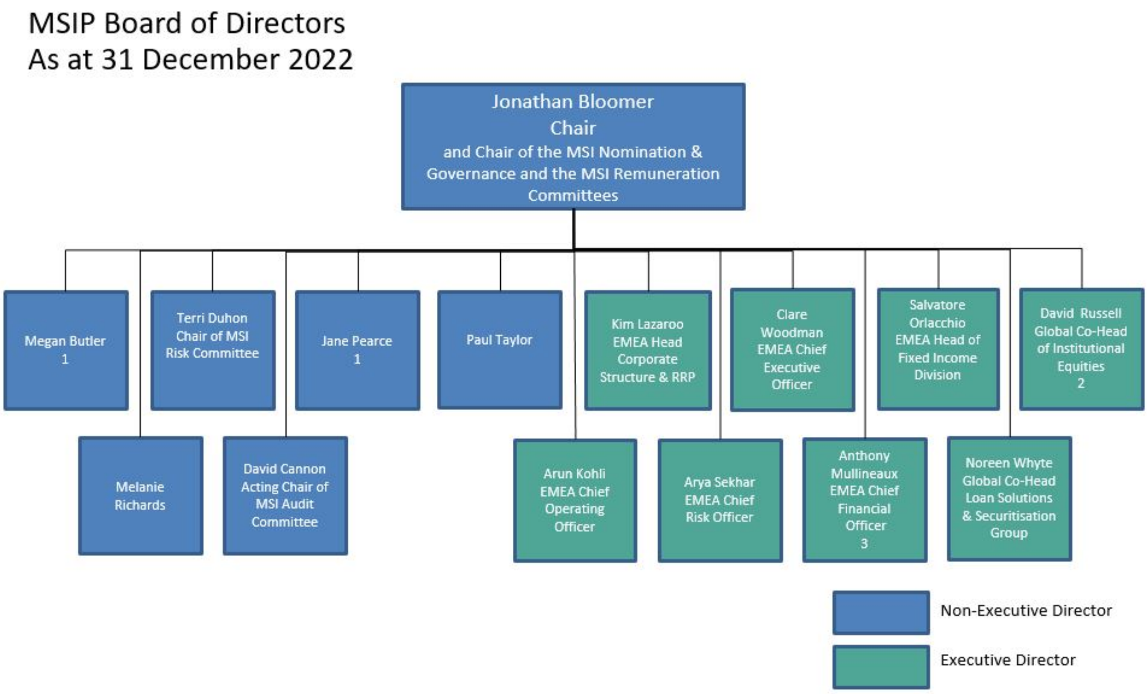
What we do - advise, originate, trade, manage and distribute capital for governments, institutions and individuals, and always do so with a standard of excellence.

How we do it - Execute in a way that is consistent with our values and, whenever possible, deliver more than one part of the Morgan Stanley Group.

With what result - Deliver strong returns for our shareholders, build long-term value for our clients and offer highly attractive career opportunities for our employees.

Board Composition

At 31 December 2022, the Board comprised 15 Directors (8 Executive Directors and 7 Non-Executive Directors). The diagram below provides an overview of the Board. In line with corporate governance best practice, the roles of Chair and CEO are held by different people.



1. Megan Butler and Jane Pearce were appointed as Non-Executive Directors of the Company on 1 October 2022.
2. David Russell retired as an Executive Director of the Company on 17 January 2023 and was replaced by David Cantillon on the same date.
3. Anthony Mullineaux was appointed as an Executive Director of the Company on 25 October 2022.

The size, structure and composition of the Board is reviewed annually to ensure it remains appropriate and promotes effective decision making. The MSI Nomination and Governance Committee ("NomCo"), led by the Chair, considers the balance of skills and experience on the Board, with recommendations made to the Board as needed. Having a diverse range of approaches, backgrounds, skills, experience, opinions and views on the Board is important. To promote this the Board has a Board Diversity policy in place which is reviewed annually. As at 31 December 2022, the policy included a target of at least 33% female representation on the Board and in February 2023, the target was increased to 40% by 2025. As at 31 December 2022, the representation of women on the Board was 47%. The policy also includes a target of a minimum of one Board director from an ethnic minority background, which the Board currently meets. The targets set out in the policy are in line with industry targets for diversity and inclusion.

New appointments to the Board are reviewed by the NomCo prior to recommendation to the Board for approval. The NomCo will consider a number of factors when deciding on a new appointment including, but not limited to, a candidate's: skills, experience, demographics, ethnicity, gender and geographical experience; honesty, integrity and independence of mind; time commitment; and collective fit with the Board and the Morgan Stanley Core Values.

When new Directors are appointed to the Board, they receive a tailored induction program designed to give them a broad understanding of the Company, its business and governance and risk management frameworks and an understanding of their regulatory and legal responsibilities. To keep their skills and knowledge up to date, the Board receives training sessions on key topics. Non-Executive Directors receive additional briefings from senior management, attend site visits to ensure they continue to have the skills and knowledge needed to fulfil their role and Directors continued a program of "open door sessions" throughout 2022. For more information see the 'Employees' section of the 'Stakeholder Engagement and Section 172(1) Statement'.

The Board reviews its effectiveness annually using either an internal or externally facilitated assessment. In 2022 an internal assessment was facilitated by Company Secretarial. Directors also receive individual annual performance assessments to assist with their personal development.

Director Responsibilities

The Board and each Director have a clear understanding of their responsibilities. These are set out in the matters reserved to the Board and the terms of reference for each of the MSI Board Committees and the role profile provided to each director on appointment, and are reviewed periodically.

The Company is a wholly owned subsidiary of MSI. The MSI Board has established core Board Committees to assist it, and a number of its regulated subsidiaries, in performing their duties. The MSI Board is assisted in discharging its responsibilities via its core Board Committees, the MSI Audit, Risk, Remuneration, and Nomination and Governance Committees. In 2022, the MSI Board established an additional Board Committee, the EMEA 2022 Enhancement Programme Committee. The Board Committees are described below in 'MSI Board Committee Structure and EMEA Executive Management Structure'.

The Board meets approximately 10 times a year and receives regular reporting on key aspects of the Company's business, including performance against KPIs, financial performance, risk management information and updates on market conditions and the regulatory environment. The MSI Risk Committee and MSI Audit Committee meet at least quarterly and the MSI Remuneration Committee and NomCo meet at least twice a year to receive reports on key matters within their remit.

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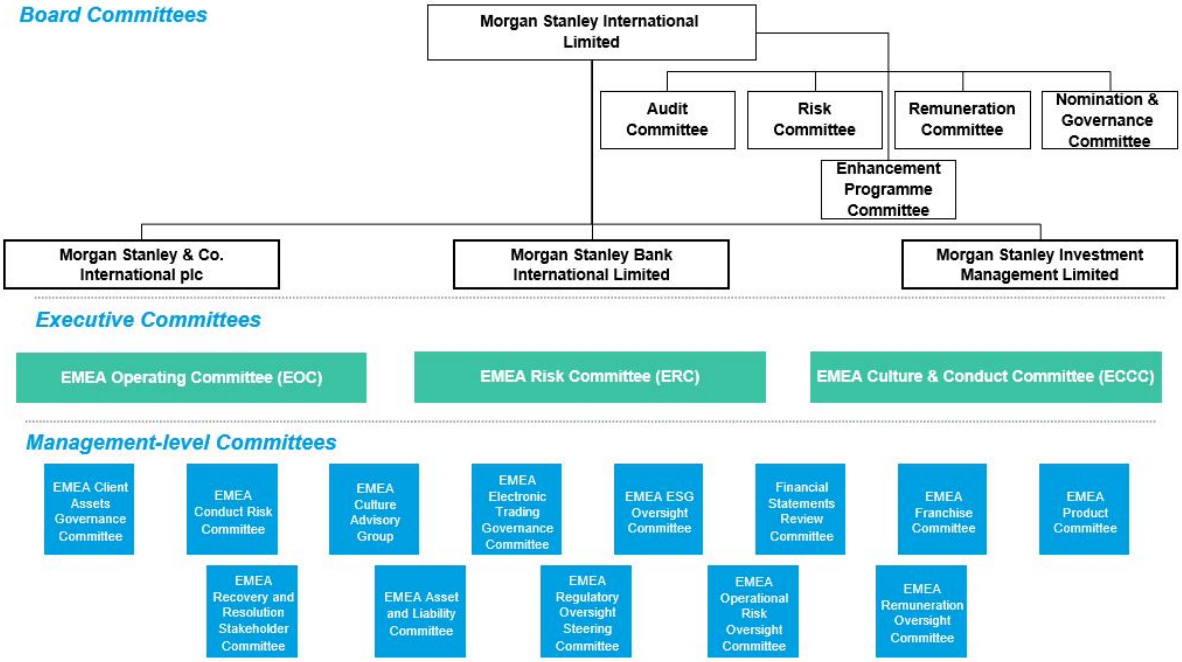
MSI Board Committee Structure and EMEA Executive Management Structure



Board Committees

The MSI Risk Committee assists the Board on 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 against tolerance and limits; (v) risk culture (save for conduct risk, which is overseen by the MSI Audit Committee); (vi) financial resource management and capital; and (vii) recovery and resolution.

The MSI Audit Committee assists the Board in monitoring: (i) financial reporting; (ii) internal controls; (iii) legal and regulatory compliance (including Client Assets Sourcebook ("CASS") requirements); (iv) internal audit; (v) external auditors; and (vi) recovery and resolution planning.

The MSI Remuneration Committee assists the Board in (i) overseeing the implementation of remuneration policies and practices applicable to the Company (as a member of the MSI Group) and (ii) overseeing compliance by the Company with applicable EU and UK remuneration rules, statements and guidance.

The MSI NomCo assists the Board in (i) the recruitment of Board members; (ii) assessment of the performance of the Board and (iii) the MSI Group corporate governance framework (as it applies to the Company).

The EMEA 2022 Enhancement Programme Committee assists and provide guidance to the Board on its oversight of the implementation of a program of control enhancements.

Each MSI Board Committee (other than the EMEA 2022 Enhancement Programme Committee) is comprised solely of independent Non-Executive Directors appointed to provide robust and effective challenge of the matters within its remit. Processes are in place to manage conflicts of interest, should they arise.

EMEA Executive and Risk Focused Management Committees

Day to day management of the Company's business is delegated to key EMEA Executive Committees, namely the EMEA Operating Committee, the EMEA Risk Committee and the EMEA Culture and Conduct Committee.

These 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 Executive Committees are supported in their oversight of specific areas of the MSI Group's activities by a number of management committees.

Executive Committees

The EMEA Operating Committee is the principal forum for key decisions regarding matters affecting the operations and performance of the MSI Group in accordance with the strategy approved by the MSI Board. The Committee's responsibilities include matters relating to: (i) strategy; (ii) financial and business 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 management; (iii) risk framework and policies; (iv) risk behaviour; and (v) financial resource management and capital.

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

Management-level Committees (Associated with Risk Governance)

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

The **EMEA ALCO** assists the ERC to oversee the capital adequacy, funding, and liquidity risk management of the MSI Group.

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

The **EMEA Client Assets Governance Committee** provides support for MSI Group's compliance with 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 Conduct Risk Committee** assists the ERC in the oversight and management of conduct risk within the MSI Group.

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

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

The **EMEA ESG Oversight Committee** supports the MSI Group and EMEA business in the development of a comprehensive approach to the incorporation of ESG risks into business strategy, business processes and risk management in EMEA.

Management Committees (Associated with Financial Reporting)

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

Changes Subsequent to 31 December 2022

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

Strategy and Risk

The Board sets the Company strategy, which implements the Global Morgan Stanley Strategy as it applies to the Company's business and is aligned to the Company's Risk Appetite Statement. The Board, with assistance from the MSI Risk Committee, reviews performance against the strategy and risk appetite (including compliance with the risk management framework, risk tolerances and risk limits) at its meetings throughout the year. The Board holds an annual strategy day to consider long term strategic opportunities and risks for the business. Significant changes in strategy or risk appetite, including material changes to the Company's business, require Board consideration and approval to ensure they are in the long-term interests of the Company and to consider the impact on key stakeholders. The Board is supported in its monitoring of financial and non-financial risk by the MSI Risk Committee. The ERC is responsible for the oversight of the day to day management of the Company's financial and non-financial risks. Further information on the risk management framework applicable to the Company's business is provided in the 'Risk Management' section of the Strategic Report.

Remuneration

The Company, as a wholly owned subsidiary of Morgan Stanley, is subject to Global Morgan Stanley Remuneration Policies and Procedures which determine the remuneration paid to Company employees. Morgan Stanley has a pay for performance philosophy and is committed to responsible compensation programs with the following key objectives, all of which support Morgan Stanley's culture and values and shareholders' interests: deliver pay for sustainable performance; align compensation with shareholders' interests; attract and retain top talent; and mitigate excessive risk-taking. The Board has delegated responsibility to the MSI Remuneration Committee to oversee the implementation of those policies and procedures to the Company's business and oversee compliance by the Company with applicable EU and UK remuneration rules, statements and guidance. Further information on the link between the culture, values and conduct of employees and their remuneration is provided in the 'Culture, Values and Conduct of Employees' section of Risk Management. Information about compliance with the Capital Requirements Directive ("CRD IV"), the FCA Remuneration Code for dual-regulated firms ("SYSC 19D"), the PRA Rulebook: Remuneration, and any guidelines or guidance related to these provisions is included in MSI's annual CRR 450 remuneration disclosure.

Stakeholder Engagement and Section 172(1) Statement

Directors of the Company are required to act in a way that they consider, in good faith, to be most likely to promote the success of the Company for the benefit of its members as a whole, and in so doing have regard, among other matters, to:

- the likely consequences of any decision in the long term;
- the interests of the Company's employees;
- the need to foster the Company's business relationships with suppliers, customers and others;
- the impact of the Company's operations on the community and the environment;
- the desirability of the Company maintaining a reputation for high standards of business conduct; and
- the need to act fairly as between members of the Company.

To assist them in discharging their duty under s172 Companies Act 2006, Directors undertake a number of stakeholder engagement activities to provide them with the information they need to understand the views and interests of stakeholders. This information helps Directors to have regard to stakeholder interests, and the likely long term consequences, including to the reputation of the Company, when making decisions and setting strategy. The Company's key stakeholders were considered in 2022, and are listed below with examples of the stakeholder engagement activities that took place in 2022.

Employees

During 2022, Directors continued a program of "open door" sessions at which employees were encouraged to ask questions about the Company's business, its strategy, performance, current initiatives and the role of the Board. Employees also attended MSI Board meetings to report on employee initiatives as part of the employee talent programs and NomCo meetings to report on Diversity and Inclusion initiatives within the MSI Group. The Board continued to focus on employee culture and conduct as part of its review of the EMEA Culture Plan which informed management actions for the year. People and culture were also areas of particular focus of the Board Strategy day. The Board continued to focus on the future of working practices post the pandemic. For more information on employees, diversity and inclusion, and culture, refer to 'Our People' within the Strategic Report.

Suppliers

Reporting on the Morgan Stanley Modern Slavery Act Statement provided the Board with insights into how supplier relationships are managed, and the vendor due diligence program to assess risks with third party suppliers. The Board also considered supply chain operational resilience.

Clients

Throughout the year, the Board received reports from the heads of each Business Unit on the competitive landscape for their business and the plans in place to respond to changing client demands. The Board focused particularly on market volatility as a result of the war in Ukraine and the wider geopolitical and client impacts. Focus areas of the Board Strategy day were technology innovation and disruption, and energy transition and the impact on clients. The Board also considered the implementation plans for the FCA's new Consumer Duty Principles. Business Unit heads also provided regular updates on performance and client focus areas which gave the Board insight into client issues and concerns.

Community and Environment

The Morgan Stanley Group is committed to giving back to the communities in which it operates. The Board receives updates on giving back and sustainability initiatives taking place in EMEA. Refer to the following sections of the Strategic Report for more information on (i) Morgan Stanley's community initiatives see the 'Giving Back to the Community' section; (ii) Morgan Stanley Group's and the MSI Group's approach to Climate Risk, see the 'Climate and Environmental Risk' section; and (iii) Morgan Stanley's and the MSI Group's sustainability initiatives, see 'Sustainability' within the Strategic Report (including 'Governance' for more information on climate-related matters considered by the MSI Board and the Company).

See also 'Clients' for the Board's consideration of energy transition and the impact on clients.

Regulators

In 2022, the Board has continued its open and continuous dialogue with the Company's regulators, including through meetings with the Chair and CEO. In addition, individual Directors engage regularly with both regulators through Continuous Assessment and Proactive Engagement meetings.

Investors

The Company is a wholly owned subsidiary of Morgan Stanley. A number of Executive Directors on the Board are members of Morgan Stanley Group management committees and are able to provide the Board with insights on Morgan Stanley's views and priorities. Further insight into the views of Morgan Stanley and its shareholders are obtained through regular interactions between the Company's Chair and Chairs of the MSI Board Committees and the Morgan Stanley non-executive directors, including the Chairs of the Morgan Stanley Audit, Risk, and Compensation, Management Development and Succession Committees.

Making Decisions

When making decisions, the Board considers the insights obtained through relevant stakeholder engagement activities as well as the need to maintain a reputation for high standards of business conduct and the long term consequences of its decisions. Principal decisions taken by the Board in 2022 included: approval of the implementation plans for the FCA's new Consumer Duty Principles, and a number of annual approvals, including the Business Plan, the 2021 Internal Capital Adequacy Assessment and the MSI Group's 2022 Internal Liquidity Adequacy Assessment Process.

Approved by the Board and signed on its behalf by

DocuSigned by:

Anthony Mullineaux

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A Mullineaux

Director

21 April 2023

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DIRECTORS' REPORT

The Directors present their report and consolidated financial statements of the Group and Company, which comprise the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity, consolidated statement of financial position, consolidated statement of cash flows, together with the Company's statement of changes in equity, statement of financial position and the Group and Company related notes 1 to 34 and the appendix to the financial statements for the year ended 31 December 2022.

Results and Dividends

The Group's profit for the year, after tax, was $1,396 million (2021: $1,351 million).

The Company paid the following dividends on 30 November 2022 (see 'Dividends' note 22):

- Coupon payment on the $1,300 million AT1 instrument of $71 million (2021: $72 million);
- Coupon payment on the $2,200 million AT1 capital instrument of $165 million (2021: $165 million).

Regulation, Risk Management, Branches and Future Developments

Information regarding regulation, risk management, branches and future developments has been included in the Strategic Report.

Energy and Carbon Reporting

Information on the Company's UK energy and carbon reporting has been included in the Strategic Report within the 'Environmental Matters' section.

Employees

Both the Company and the Morgan Stanley Group place considerable value on the investment in their employees and have continued their practice of keeping employees informed on matters affecting them. Employees are encouraged to present their suggestions and views on the Morgan Stanley Group's performance to management and employees participate directly in the success of the business through the Morgan Stanley Group's various compensation incentive plans.

Every effort is also made to ensure that disabled applicants, or those existing employees who are disabled or may have become disabled, are treated as fairly as possible on terms comparable with those of other employees. Appropriate training is arranged for disabled persons, including retraining for alternative work for employees who become disabled, to promote their career development within the organisation.

Pillar 3 Disclosures and Country-by-Country Reporting

The Company is included in the MSI Group Pillar 3 disclosures, which allow investors and other market participants to understand capital adequacy, particularly risk exposures and risk management processes of individual firms required by the EU implementation of Basel capital standards.

The Company is also included in the MSI consolidated disclosure to comply with the provisions of Statutory Instrument 2013 No. 3118 Capital Requirements (Country-by-Country Reporting) Regulations 2013, which implements in the UK the requirements set out in Article 89 of the Capital Requirement Directive (Directive 2013/36/EU). The Pillar 3 disclosures and the Country-by-Country Reporting for the MSI Group for the year ended 31 December 2022 will be made available on the Morgan Stanley website at https://www.morganstanley.com/investorrelations

Directors

The following Directors held office throughout the year and to the date of approval of this report (except where otherwise shown):

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

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Directors' and Officers' Liability Insurance

Directors' and Officers' Liability Insurance is taken out by Morgan Stanley, for the benefit of the Directors and Officers of the Group.

Directors' Indemnity

Qualifying third party indemnity provisions (as defined in section 234 of the Companies Act 2006) were in force during the year and up to and including the date of the Directors' report for the benefit of the Directors of the Group.

Audit Committee

MSI, the Company's ultimate UK parent undertaking, has appointed the MSI Audit Committee to assist and provide guidance to the Boards of MSI, the Company, other MSI regulated subsidiary undertakings and certain other Morgan Stanley Group undertakings in monitoring, among other things, internal controls, compliance, and external financial reporting obligations. For details on the Risk governance framework, refer to 'Risk Management Framework' within the Strategic Report.

Employee Remuneration

The Group employs staff directly, in addition to utilising staff employed by other Morgan Stanley Group undertakings. The Group's policies are comparable and consistent with those of the Morgan Stanley Group, which include the deferral of significant portions of certain key employees' discretionary compensation. Notes 7 and 32 to the consolidated financial statements provide additional information and disclosure regarding the Group's compensation policies.

Going Concern

Business risks associated with the uncertain market and economic conditions are being actively monitored and managed by the Group. Retaining sufficient capital and liquidity to withstand these market pressures remains central to the Group's strategy. In particular, the Group's capital and liquidity is deemed sufficient to exceed regulatory minimums under both a normal and in a stressed market environment. The effect of relevant macroeconomic scenarios on the business of the Group have been considered as part of the going concern analysis, including impact on operational capacity, access to capital and liquidity, contractual obligations, asset valuations and other critical accounting judgements and key sources of estimation uncertainty. The Group has access to further Morgan Stanley Group capital and liquidity as required.

Taking all of these 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 reports and financial statements.

Auditor

Deloitte LLP have expressed their willingness to continue in office as auditor of the Group and their re-appointment was approved by the MSI Board on 28 March 2022.

Statement as to Disclosure of Information to the Auditor

Each of the persons who are Directors of the Company at the date when this report is approved confirms that:

- so far as each of the Directors is aware, there is no relevant audit information (being information needed by the Group's auditor in connection with preparing their report) of which the Group's auditor is unaware; and
- each of the Directors has taken all the steps that they ought to have taken as a Director to make themselves aware of any relevant audit information and to establish that the Group's auditor is aware of that information.

This confirmation is given and should be interpreted in accordance with the provisions of section 418 of the Companies Act 2006.

Approved by the Board and signed on its behalf by

DocuSigned by:

Anthony Mullineaux

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A Mullineaux

Director

21 April 2023

Directors' Responsibilities Statement

The Directors are responsible for preparing the annual report and the financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors have prepared the Group financial statements in accordance with International Financial Reporting Standards ("IFRS") as adopted by the EU and Article 4 of the International Accounting Standards ("IAS") Regulation and have elected to prepare the parent company financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law), including FRS 101 "Reduced Disclosure Framework" ("FRS 101"). Under company law the Directors must not approve the accounts unless they are satisfied that they give a true and fair view of the state of affairs of the Group and of the profit or loss of the Group for that period.

In preparing the Group financial statements, the Directors are required by IAS 1 *'Presentation of financial statements'* to:

- properly select and apply accounting policies;
- present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information;
- provide additional disclosures when compliance with the specific requirements in IFRSs is insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity's financial position and financial performance; and
- make an assessment of the Group's ability to continue as a going concern.

In preparing the Company financial statements, the Directors are also required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent;
- state whether applicable UK accounting standards have been followed; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Group's transactions and disclose with reasonable accuracy at any time the financial position of the Group and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

The Directors are responsible for preparing and filing the consolidated financial statements of the Group in compliance with the European Single Electronic Format Regulatory Technical Standard ("ESEF RTS") with the relevant member state regulator's storage mechanism. In preparing the Group financial statements in compliance with ESEF RTS, the Directors are required to:

- prepare the Group financial statements in a valid xHTML format; and
- apply iXBRL markup of the Group financial statements using the core taxonomy and the common rules on markups specified in the ESEF RTS.

The Directors confirm to the best of their knowledge:

- in accordance with Article 3.2(c) of the Luxembourg Law on Transparency Requirements for Issuers of 11 January 2008, as amended ("Luxembourg Transparency Law"), the consolidated financial statements, which have been prepared in accordance with IFRSs as issued by the International Accounting Standards Board ("IASB") and as endorsed by the EU and in compliance with the European Single Electronic Filing ("ESEF") Regulation 2019/815, have been prepared in accordance with the applicable set of accounting standards and give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group and

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the undertakings included in the consolidation taken as a whole; and

- the management report represented by the Strategic Report has been prepared in accordance with Article 3.2(c) of Luxembourg Transparency Law, and includes a fair review of the development and performance of the business and the position of the Group and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that the Group faces.

Approved by the Board and signed on its behalf by

DocuSigned by:

Anthony Mullineaux

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A Mullineaux

Director

21 April 2023

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INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF MORGAN STANLEY & CO. INTERNATIONAL plc

Report on the Audit of the Financial Statements

Opinion

In our opinion:

- the financial statements of Morgan Stanley & Co. International plc (the "parent company") and its subsidiaries (the "Group") give a true and fair view of the state of the Group's and the parent company's affairs as at 31 December 2022 and of the Group's profit for the year then ended;
- the Group financial statements have been properly prepared in accordance with United Kingdom adopted international accounting standards and, International Financial Reporting Standards ("IFRSs") issued by the International Accounting Standards Board ("IASB") as adopted by the European Union ("EU") and UK;
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including Financial Reporting Standard ("FRS") 101 "Reduced Disclosure Framework"; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements which comprise:

Group	Parent company
• Consolidated income statement; • Consolidated statement of comprehensive income; • Consolidated statement of changes in equity; • Consolidated statement of financial position; and • Consolidated statement of cash flows.	• Statement of changes in equity; and • Statement of financial position.
Group and Parent Company	
• Relevant notes 1 – 34 to the financial statements.	

The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law, United Kingdom adopted international accounting standards, IFRSs as adopted by the EU and IFRSs as issued by the IASB.

The financial reporting framework that has been applied in the preparation of the parent company financial statements is applicable law and United Kingdom Accounting Standards, including FRS 101 "Reduced Disclosure Framework".

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the Group and the parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements 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. The non-audit services provided to the Group and parent company for the year are disclosed in note 7 to the financial statements. We confirm that we have not provided any non-audit services prohibited by the FRC's Ethical Standard to the Group or the parent company.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Summary of our audit approach

Key audit matter

The key audit matter that we identified in the current year was:

- Valuation of Level 3 financial instruments;

Materiality

The materiality that we used for the Group financial statements in the current year was $120 million, which was determined on the basis of 0.5% of total equity.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF MORGAN STANLEY & CO. INTERNATIONAL plc

Scoping

The planning and scoping of our audit considers the Group's business, organisational structure and global operating model. This model comprises a common control structure for key business processes and internal controls over financial reporting.

Based on this global operating model, our audit scope is globally integrated with various audit testing procedures performed by our component auditor, Deloitte & Touche LLP, USA, the lead auditor of the ultimate parent company, Morgan Stanley.

Significant changes in our approach

There are no significant changes in our approach as compared to the prior year.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the Directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Our evaluation of the Directors' assessment of the Group's and parent company's ability to continue to adopt the going concern basis of accounting included understanding the current and forecast profitability of the entity, the historical accuracy of the forecasts and the capital and liquidity position relative to minimum regulatory requirements under base and stress forecasts, over the lookout period, being twelve months from the date of approval of the financial statements.

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 Group's and parent company's ability to continue as a going concern for a period of at least twelve months from when the financial statements 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.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team.

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Valuation of Level 3 financial instruments

Relevant references in the financial statements

Group financial statements:

- Note 2 – Basis of Preparation – (e) Critical accounting judgements and sources of estimation uncertainty
- Note 3 – Summary of significant accounting policies – (d) Fair value
- Note 30 – Financial instruments measured at fair value – (a) (c) (d) (e)

Key audit matter description

The Group's trading and financing activities result in the Group carrying material financial instruments for which the fair value is derived using significant unobservable inputs. Under IFRS 13 *Fair Value Measurement*, such financial instruments are classified as Level 3 financial assets or liabilities.

Unlike financial instruments whose inputs are readily observable and, therefore, more easily independently corroborated, the valuation of financial instruments classified as Level 3 are inherently subjective, and often involve the use of inputs and proprietary valuation models whose underlying algorithms and valuation methodologies are complex. This degree of subjectivity may also give rise to potential fraud through management intentionally manipulating fair values or incorporating management bias in determining fair values. Auditing the Group's valuation of Level 3 financial instruments is therefore subjective and presents certain challenges in evaluating the appropriateness of the Group's valuation judgements and estimates.

Significant judgements made by the Group include the derivation of key model inputs which are not observable and the underlying valuation methodologies used by the pricing model to determine an appropriate fair value. Performing our audit procedures to evaluate the appropriateness of these models and inputs involved a high degree of auditor judgement, professionals with specialised skills and knowledge, and an increased extent of testing.

As at 31 December 2022, the Group's total financial assets and liabilities measured at fair value were $461 billion (2021: $460 billion) and $370 billion (2021: $375 billion), respectively, of which Level 3 financial assets and liabilities were $4.9 billion (2021: $4.7 billion) and $2.3 billion (2021: $2.4 billion), respectively.

How the scope of our audit responded to the key audit matter

To address the complexities associated with auditing the valuation of Level 3 financial instruments, our team included valuation specialists who have significant valuation and modelling expertise. Our valuation audit procedures included the following procedures:

- Testing the Group's internal controls that address the risk of errors in the fair value estimates. This includes, model review controls and independent price verification controls. Management maintains these internal controls to assess the appropriateness of its valuation methodologies and the relevant inputs and assumptions used to determine fair value estimates.
- On a sample basis in line with our audit methodology, we:
  - Evaluated Group's significant valuation methodologies, including the input assumptions, considering our observations of assumptions made by other market participants, and external data, when available.
  - Performed a retrospective assessment of management's fair value estimates for certain Level 3 financial instruments, for which there were events or transactions occurring after the valuation date. We did so by comparing management's estimates to the relevant evidence provided by such events or transactions, as applicable.
  - Developed independent fair value estimates for Level 3 financial instruments, using externally sourced inputs and independent valuation models, to the extent possible, compared the resulting fair values to those recorded by the Group and assessed the differences against pre-determined thresholds.
  - Tested the revenues arising from the trade date fair value estimates for selected structured transactions classified as Level 3 financial instruments. For selected transactions, we developed independent fair value estimates to test the valuation inputs and assumptions used by management and evaluated whether these methods were consistent with the relevant Morgan Stanley's valuation policies.
  - Assessed the consistency with which management has applied significant and unobservable valuation assumptions used in developing fair value estimates, across similar transactions.
- Assessment of financial statement disclosures related to Level 3 financial instruments.

Key observations

As a result of our audit procedures performed, we concluded with reasonable assurance that the valuation of Level 3 financial instruments is materially correct.

Our application of materiality

We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF MORGAN STANLEY & CO. INTERNATIONAL plc

	Group financial statements	Parent company financial statements
Materiality	$120 million (2021: $110 million)	$118 million (2021: $109 million)
Basis for determining materiality	The Group materiality of $120 million represents 0.5% (2021: 0.5%) of total equity	The parent company materiality of $118 million represents 0.5% (2021: 0.5%) of total equity
Rationale for the benchmark applied	We have considered total equity to be the most appropriate benchmark as the Group is wholly owned by the ultimate parent entity Morgan Stanley and is a regulated entity, therefore its capital position is of importance to the key users of the financial statements. These key users include regulators, counterparties, external rating agencies and the ultimate parent entity.	We considered it appropriate to maintain the same benchmark as that for the Group as the parent company is the most significant member of the Group and its solo capital position is of importance to the key users of the financial statements who are common with those for the Group.
Performance materiality	Group performance materiality and parent company performance materiality was set at 70% of Group materiality for the 2022 audit (2021: 65%).	
Basis and rationale for determining performance materiality	We set performance materiality at a level lower than materiality to reduce the probability that, in aggregate, uncorrected and undetected misstatements exceed the materiality for the financial statements as a whole. In determining performance materiality, we considered the following factors: – our risk assessment, including our assessment of the Group's overall control environment and that we consider it appropriate to rely on controls over a number of business processes; – limited impact of Covid-19 on the control environment; – ability of the Group to detect misstatements; and – our past experience of the audit, which has indicated a low number of corrected and uncorrected misstatements identified in prior periods.	

Error reporting threshold

We agreed with the Group Audit Committee that we would report to the Committee all audit differences in excess of $6 million (2021: $5 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. We also report to the Group Audit Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

An overview of the scope of our audit

Identification and scoping of components

Morgan Stanley is a globally managed business with a global operating model in which major classes of transactions are subject to a common control processing environment irrespective of product, region or legal entity. Given this global operating model for the Group, we audit relevant controls, financial reporting processes and balances utilising significant component auditors in New York.

We instructed our component auditor, Deloitte & Touche LLP, USA to perform their audit procedures at a materiality level of $114 million (2021: $104 million).

Involvement with component auditor

We exercised oversight over the work of our component auditor by remaining in active dialogue at regular intervals throughout the duration of the audit. We remotely attended the audit planning meetings in New York, involved our component auditor in our team briefing and issued a set of instructions setting out the audit work and the specified audit procedures we requested them to undertake. We undertook visits to our component auditor during the interim period and final stages of our audit, in conjunction with regular remote meetings and review sessions throughout the year, to oversee and review the work performed in support of our audit.

Audit procedures undertaken at the Group level

We designed our audit approach for the Group based on our understanding of the business and our independent assessment of the risks of material misstatement arising in the financial statements. These procedures included, amongst others, auditing the consolidation of the Group's results and the preparation of the financial statements as well as obtaining an understanding and testing of relevant controls over the financial reporting process.

Our consideration of the control environment

For certain relevant controls, we have tested internal controls over financial reporting and key business process where our scoping and risk assessment determined those controls to be relevant to the audit and where we intended to place reliance on controls. This included testing of general IT controls with the involvement of our IT specialist, process level controls and entity level controls at the Group level. For certain other relevant controls, we have obtained an understanding to support our risk assessment and design our audit procedures.

Our consideration of climate-related risks

In planning our audit, we have considered the impact of climate change on the Group's operations and subsequent impact on its financial statements. The Group sets out its assessment of the potential impact on pages 23 to 25 of the Strategic Report and in note 26.3.2.3 Credit Evaluation on page 98 of the Annual Report.

We have held discussions with the Group to understand their:

- process for identifying affected operations, including the governance and controls over this process, and the subsequent effect on the financial reporting for the Group; and
- long-term strategy to respond to climate change risks as they evolve including the effect on the Group's forecasts.

Our audit work has involved:

- obtaining an understanding of management's analysis and data considered in the Group's climate risk assessment; and
- assessing disclosures in the annual report and the consistency between the financial statements and the remainder of the annual report.

As part of our audit procedures, we are required to read and consider whether climate related disclosures are materially inconsistent with the financial statements or knowledge obtained in the audit and we did not identify any material inconsistencies as a result of these procedures.

Other information

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The Directors are responsible for the other information contained within the annual report.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements 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 financial statements 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 financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Group's and the parent 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 Group or the parent company or to cease operations, or have no realistic alternative but to do so.

The Directors are responsible for preparing the Group financial statements in compliance with the requirements set out in the European Single Electronic Format Regulatory Technical Standard ("ESEF RTS").

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements 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 financial statements.

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

Our responsibility is to assess whether the Group financial statements have been prepared, in all material respects, with the requirements laid down in the ESEF RTS.

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.

Identifying and assessing potential risks related to irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, we considered the following:

- the nature of the industry and sector, control environment and business performance including the design of the Group's remuneration policies, key drivers for Directors' remuneration, bonus levels and performance targets;
- the Group's own assessment of the risks that irregularities may occur either as a result of fraud or error in the financial statements that was reviewed by the Audit Committee on 13 April 2023;
- results of our enquiries of management, internal audit, the Directors and the audit committee about their own identification and assessment of the risks of irregularities, including those that are specific to the Group's sector;
- any matters we identified having obtained and reviewed the Group's documentation of their policies and procedures relating to:
  - identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
  - detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud; and
  - the internal controls established to mitigate risks of fraud or non-compliance with laws and regulations.
- the matters discussed among the audit engagement team including the component audit team and relevant internal specialists, including tax, valuations, IT and industry specialists regarding how and where fraud might occur in the financial statements and any potential indicators of fraud.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF MORGAN STANLEY & CO. INTERNATIONAL plc

As a result of these procedures, we considered the opportunities and incentives that may exist within the Group for fraud and identified the greatest potential for fraud in the following area: valuation of Level 3 financial instruments. In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override.

We also obtained an understanding of the legal and regulatory frameworks that the Group operates in, focusing on provisions of those laws and regulations that had a direct effect on the determination of material amounts and disclosures in the financial statements. The key laws and regulations we considered in this context included the UK Companies Act 2006, Luxembourg Transparency Law, Luxembourg Listing Rules, pensions legislation and tax legislation. In addition, we considered the relevant provisions of other laws and regulations that do not have a direct effect on the financial statements but compliance with which may be fundamental to the company's ability to operate or to avoid a material penalty. These included the regulation and supervisory requirements of the Prudential Regulation Authority and the Financial Conduct Authority.

Audit response to risks identified

As a result of performing the above, we identified the valuation of Level 3 financial instruments is a key audit matter related to the potential risk of fraud. The key audit matters section of our report explains the matter in more detail and also describes the specific procedures we performed in response to that key audit matter.

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

- reviewing the financial statement disclosures and testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the financial statements;
- enquiring of management, the audit committee and in-house and external legal counsel concerning actual and potential litigation and claims;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with HMRC and other regulatory authorities including the PRA and the FCA; and
- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries selected against specific fraud factors, 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.
- assessing accounting estimates and judgements for evidence of management bias.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal specialists and the component audit team, and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Report on other legal and regulatory requirements

Opinions on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic Report and the Directors' Report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Directors' Report have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Group and the parent company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Strategic Report or the Directors' Report.

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INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF MORGAN STANLEY & CO. INTERNATIONAL plc

Opinions on other matters prescribed by the European Single Electronic Format Regulatory Technical Standard

We have checked the compliance with the Group financial statements as at 31 December 2022 with the relevant statutory requirements as set out in the ESEF RTS that are applicable to the Group financial statements.

For the Group it relates to:

- Group financial statements prepared in a valid xHTML format; and
- the XBRL markup of the Group financial statements using the core taxonomy and the common rules on markups specified in the ESEF RTS.

In our opinion, the Group financial statements of Morgan Stanley & Co. International plc as at 31 December 2022, have been prepared, in all material respects, in compliance with the requirements laid down in the ESEF RTS.

Matters on which we are required to report by exception

Adequacy of explanations received and accounting records

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements are not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

Directors' remuneration

Under the Companies Act 2006 we are also required to report if in our opinion certain disclosures of Directors' remuneration have not been made.

We have nothing to report in respect of this matter.

Other matters which we are required to address

Auditor tenure

Following the recommendation of the Group Audit Committee, we were appointed by the Board of Directors on 17 November 1997 to audit the financial statements for the year ended 31 December 1997 and subsequent financial periods. The period of total uninterrupted engagement including previous renewals and reappointments of the firm is 26 years, covering the years ended 30 November 1997 to 31 December 2022.

Consistency of the audit report with the additional report to the Group Audit Committee

Our audit opinion is consistent with the additional report to the Group Audit Committee that we are required to provide in accordance with ISAs (UK).

Use of our report

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

DocuSigned by:

Fiona Walker

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Fiona Walker, FCA (Senior Statutory Auditor)

For and on behalf of Deloitte LLP

Statutory Auditor

London, United Kingdom

21 April 2023

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MORGAN STANLEY & CO. INTERNATIONAL plc

CONSOLIDATED INCOME STATEMENT

Year ended 31 December 2022

in $ millions	Note	2022	2021
Net gains from financial instruments at fair value through profit or loss	4	6,001	4,847
Fee and commission income	5	2,046	3,223
Other revenue		23	27
Interest income	6	2,926	(398)
Interest expense	6	(3,874)	(134)
Net interest expense		(948)	(532)
Net revenue		**7,122**	**7,565**
Net gain on investments in subsidiaries	14	4	—
Non-interest expenses:			
Operating expense	7	(5,261)	(5,627)
Net impairment (loss) / reversal on financial instruments	8	(148)	2
PROFIT BEFORE TAX		**1,717**	**1,940**
Income tax expense	9	(321)	(589)
PROFIT FOR THE YEAR		**1,396**	**1,351**

All operations were continuing in the current and prior year.

The notes on pages 59 to 141 form an integral part of the consolidated financial statements.

As permitted by section 408 of the Companies Act 2006, the Company has elected not to present its own income statement for the year. The Company reported a profit after tax of $1,201 million for the year ended 31 December 2022 (31 December 2021: $1,381 million).

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MORGAN STANLEY & CO. INTERNATIONAL plc

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
Year ended 31 December 2022

in $ millions	Note	2022	2021
PROFIT FOR THE YEAR		1,396	1,351
OTHER COMPREHENSIVE INCOME AFTER INCOME TAX			
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of net defined benefit liability	9	4	(2)
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	9,10	137	73
Items that may be reclassified subsequently to profit or loss:			
Foreign currency translation differences arising on foreign operations	9	(43)	(33)
Net amount reclassified to consolidated income statement upon disposal of subsidiary	14	(4)	—
OTHER COMPREHENSIVE INCOME AFTER INCOME TAX		**94**	**38**
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		**1,490**	**1,389**

The notes on pages 59 to 141 form an integral part of the consolidated financial statements.

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MORGAN STANLEY & CO. INTERNATIONAL plc

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Year ended 31 December 2022

in $ millions	2022	2021
Share capital and other equity instruments – at 1 January	**15,965**	**15,965**
Issuance of AT1 Instrument	800	—
Share capital and other equity instruments – at 31 December	**16,765**	**15,965**
Share premium account – at 1 January and 31 December	**513**	**513**
Currency translation reserve - at 1 January	**107**	**140**
Foreign currency translation differences arising on foreign operations	(43)	(33)
Net amount reclassified to consolidated income statement upon disposal of subsidiary	(4)	—
Currency translation reserve - at 31 December	**60**	**107**
Capital contribution reserve – at 1 January and 31 December	**3**	**3**
Capital redemption reserve – at 1 January and 31 December	**1,400**	**1,400**
Debt valuation reserve - at 1 January	**(259)**	**(339)**
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	137	73
Realised debt valuation losses	—	7
Debt valuation reserve - at 31 December	**(122)**	**(259)**
Retained earnings and pension reserve - at 1 January	**4,446**	**3,339**
Profit for the year	1,396	1,351
Remeasurement of net defined benefit liability	4	(2)
Realised debt valuation losses	—	(7)
Dividends	(236)	(237)
Share based payments	4	2
Retained earnings and pension reserve - at 31 December	**5,614**	**4,446**
Total equity at 31 December	**24,233**	**22,175**

The notes on pages 59 to 141 form an integral part of the consolidated financial statements.

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MORGAN STANLEY & CO. INTERNATIONAL plc

COMPANY STATEMENT OF CHANGES IN EQUITY
Year ended 31 December 2022

in $ millions	2022	2021
Share capital and other equity instruments – at 1 January	**15,965**	**15,965**
Issuance of AT1 Instrument	800	—
Share capital and other equity instruments – at 31 December	**16,765**	**15,965**
Share premium account – at 1 January and 31 December	**513**	**513**
Currency translation reserve - at 1 January	**(62)**	**(23)**
Foreign currency translation differences arising on foreign operations	(26)	(39)
Currency translation reserve - at 31 December	**(88)**	**(62)**
Capital contribution reserve – at 1 January and 31 December	**3**	**3**
Capital redemption reserve – at 1 January and 31 December	**1,400**	**1,400**
Debt valuation reserve - at 1 January	**(259)**	**(339)**
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	137	73
Realised debt valuation losses	—	7
Debt valuation reserve - at 31 December	**(122)**	**(259)**
Retained earnings and pension reserve - at 1 January	**4,770**	**3,633**
Profit for the year	1,201	1,381
Remeasurement of net defined benefit liability	4	(2)
Realised debt valuation losses	—	(7)
Dividends	(236)	(237)
Share based payments	4	2
Retained earnings and pension reserve - at 31 December	**5,743**	**4,770**
Total equity at 31 December	**24,214**	**22,330**

The notes on pages 59 to 141 form an integral part of the financial statements.

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MORGAN STANLEY & CO. INTERNATIONAL plc

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Year ended 31 December 2022

in $ millions

	Note	2022	2021
ASSETS			
Cash and short term deposits	23	18,754	28,532
Trading financial assets (of which $38,522 million (2021: $41,685 million) were pledged to various parties)	11	329,382	332,635
Secured financing	10	129,779	125,895
Loans and advances		63	67
Investment securities		142	165
Trade and other receivables	13	81,780	79,334
Current tax assets		272	272
Deferred tax assets	19	151	213
Property, plant and equipment		33	33
Other assets		35	40
TOTAL ASSETS		**560,391**	**567,186**
LIABILITIES			
Bank loans and overdrafts	23	59	48
Trading financial liabilities	11	298,690	300,325
Secured borrowing	10	93,966	97,262
Trade and other payables	16	97,150	94,052
Debt and other borrowings	17	45,682	52,679
Provisions	18	131	43
Current tax liabilities		125	124
Accruals and deferred income		351	469
Post-employment benefit obligations	33	4	9
TOTAL LIABILITIES		**536,158**	**545,011**
EQUITY			
Share capital	21	12,465	12,465
Other equity instruments	21	4,300	3,500
Share premium account	21	513	513
Currency translation reserve	21	60	107
Capital contribution reserve	21	3	3
Capital redemption reserve	21	1,400	1,400
Pension reserve	21	—	(4)
Debt valuation reserve	21	(122)	(259)
Retained earnings		5,614	4,450
TOTAL EQUITY		**24,233**	**22,175**
TOTAL LIABILITIES AND EQUITY		**560,391**	**567,186**

These consolidated financial statements were approved by the Board and authorised for issue on 20 April 2023.

Signed on behalf of the Board

DocuSigned by:

Anthony Mullineaux

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A Mullineaux

Director

The notes on pages 59 to 141 form an integral part of the consolidated financial statements.

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MORGAN STANLEY & CO. INTERNATIONAL plc

COMPANY STATEMENT OF FINANCIAL POSITION

Year ended 31 December 2022

in $ millions

	Note	2022	2021
ASSETS			
Cash and short term deposits	23	18,449	28,218
Trading financial assets (of which $38,522 million (2021: $ 41,685 million) were pledged to various parties)	11	329,068	332,449
Secured financing	10	129,579	125,695
Loans and advances		29	26
Investment securities		141	165
Trade and other receivables	13	81,868	79,407
Current tax assets		305	305
Deferred tax assets	19	150	212
Investment in subsidiaries	14	132	130
Property, plant and equipment		14	11
Other assets		35	40
TOTAL ASSETS		**559,770**	**566,658**
LIABILITIES			
Bank loans and overdrafts	23	59	48
Trading financial liabilities	11	298,690	300,325
Secured borrowing	10	93,442	96,854
Trade and other payables	16	97,163	94,063
Debt and other borrowings	17	45,647	52,463
Provisions	18	131	43
Current tax liabilities		76	64
Accruals and deferred income		347	462
Post employment benefit obligations	33	1	6
TOTAL LIABILITIES		**535,556**	**544,328**
EQUITY			
Share capital	21	12,465	12,465
Other equity instruments	21	4,300	3,500
Share premium account	21	513	513
Currency translation reserve	21	(88)	(62)
Capital contribution reserve	21	3	3
Capital redemption reserve	21	1,400	1,400
Pension reserve	21	—	(4)
Debt valuation reserve	21	(122)	(259)
Retained earnings		5,743	4,774
TOTAL EQUITY		**24,214**	**22,330**
TOTAL LIABILITIES AND EQUITY		**559,770**	**566,658**

These financial statements were approved by the Board and authorised for issue on 20 April 2023.

Signed on behalf of the Board

DocuSigned by:

Anthony Mullineaux

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A Mullineaux

Director

The notes on pages 59 to 141 form an integral part of the financial statements.

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MORGAN STANLEY & CO. INTERNATIONAL plc

CONSOLIDATED STATEMENT OF CASH FLOWS

Year ended 31 December 2022

in $ millions	Note	2022	2021
NET CASH FLOWS (USED IN)/FROM OPERATING ACTIVITIES	23b	(9,350)	3,846
INVESTING ACTIVITIES			
Purchase of property, plant and equipment		(1)	(13)
Proceeds from sale of property, plant and equipment		1	—
NET CASH FLOWS USED IN INVESTING ACTIVITIES		**—**	**(13)**
FINANCING ACTIVITIES			
Dividends paid	22	(236)	(237)
Issuance of AT1 instrument	21	800	—
Issuance of subordinated loan liabilities	17	2,500	1,400
Issuance of senior subordinated loan liabilities	17	600	—
Repayment of senior subordinated loan liabilities	17	(2,300)	(400)
Interest on subordinated loan liabilities		(196)	(110)
Interest on senior subordinated loan liabilities		(134)	(98)
NET CASH FLOWS FROM/ (USED IN) FINANCING ACTIVITIES		**1,034**	**555**
NET (DECREASE)/INCREASE IN CASH AND CASH EQUIVALENTS		(8,316)	4,388
Currency Translation Differences		(1,473)	(837)
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR	23a	28,484	24,933
CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR	23a	**18,695**	**28,484**

The notes on pages 59 to 141 form an integral part of the consolidated financial statements.

1. CORPORATE INFORMATION

The Company is incorporated and domiciled in England and Wales, at the following address: 25 Cabot Square, Canary Wharf, London, E14 4QA.

The Group's immediate parent undertaking is Morgan Stanley Investments (UK) ("MSIUK") which is registered in England and Wales. Copies of its financial statements can be obtained from the Registrar of Companies for England and Wales, Companies House, Crown Way, Cardiff CF14 3UZ.

The Group's ultimate parent undertaking and controlling entity is Morgan Stanley which, together with the Group and Morgan Stanley's other subsidiary undertakings, form the Morgan Stanley Group. Morgan Stanley is incorporated in the State of Delaware, the United States of America. Copies of its financial statements can be obtained from www.morganstanley.com/investorrelations.

2. BASIS OF PREPARATION

a. Statement of Compliance

These financial statements incorporate the financial statements of the Group and the Company.

The Group has prepared its annual consolidated financial statements in accordance with IFRSs issued by the IASB as adopted by the EU and the UK, Interpretations issued by the IFRS Interpretations Committee ("IFRIC") and the Companies Act 2006. The Group has prepared its annual consolidated financial statements in compliance with the European Single Electronic Format Regulatory Technical Standard ("ESEF RTS"), including the preparation in a valid xHTML format and the application of iXBRL markup using the core taxonomy and the common rules on markups specified in the ESEF RTS.

The Company financial statements have been prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law), including FRS 101, with a departure from the requirement of Schedule 1 paragraph 40 to The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 ("the Regulations") as described in note 3(c) for the overriding purpose of giving a true and fair view.

The Company meets the definition of a qualifying entity and is a Financial Institution as defined in FRS 100 *Application of Financial Reporting Requirements*. The Company has taken advantage of the disclosure exemptions available under FRS 101 in relation to share-based payments, fair value measurements (as applicable to assets and liabilities other than financial instruments), revenue recognition, presentation of comparative information in respect of certain assets and shares outstanding, presentation of a cash flow statement, accounting standards not yet adopted, related party transactions and leases.

Where relevant, equivalent disclosures have been provided in the Group accounts in which the Company is consolidated.

b. New Standards and Interpretations Adopted During the Year

The following standards, amendments to standards and interpretations relevant to the Group and Company's operations were adopted during the year. These did not have a material impact on the Group or Company's financial statements.

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

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

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

c. New Standards and Interpretations Not Yet Adopted

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

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

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

Amendments to IAS 1 '*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. The amendments were adopted by the UK in November 2022 and endorsed by the EU in March 2022.

Amendments to IAS 12 '*Income Taxes'*: Deferred Tax related to Assets and Liabilities arising from a Single Transaction were issued by the IASB in May 2021, for retrospective application in accounting periods beginning on or after 1 January 2023. Early application is permitted. The amendments were adopted by the UK in November 2022 and endorsed by the EU in August 2022.

d. Basis of Measurement

The financial statements of the Company and the consolidated financial statements of the Group are prepared under the historical cost basis, except for certain financial instruments that have been measured at fair value as explained in the accounting policies below.

e. Critical Accounting Judgements and Sources of Estimation Uncertainty

In preparing the financial statements and consolidated financial statements, the Company and Group make judgements and estimates that affect the application of accounting policies and reported amounts.

Critical accounting judgements are key decisions made by management in the application of the Group and Company's accounting policies, other than those involving estimations, which have the most significant effects on the amounts recognised in the financial statements.

Key sources of estimation uncertainty represent assumptions and estimations made by management that have a significant risk of resulting in a material adjustment to the carrying amount of assets and liabilities within the next financial year.

The Group and Company's critical sources of estimation uncertainty are as follows:

- *Valuation of Level 3 financial instruments:* Valuation techniques used to measure the fair value of instruments categorised in Level 3 of the fair value hierarchy are dependent on unobservable parameters, and as such require the application of judgement, involving estimations and assumptions. The fair value for these financial instruments has been determined using parameters appropriate for the valuation methodology based on prevailing market evidence. It is recognised that the unobservable parameters could have a range of reasonable possible alternate values. See accounting policy note 3(d) and note 30(d)(ii) 'Sensitivity of Fair Values to Changing Significant Assumptions to Reasonably Possible Alternatives'.

- *Measurement of litigation and taxation provisions:* Estimates are used in the calculation of provisions, which are initially measured, and subsequently remeasured, at the best estimate of the expenditure required to settle the obligation. With such items there is a possibility that, on conclusion at a future date, the final outcome may differ significantly. Whilst a range of outcomes is reasonably possible, the extent of the reasonably possible range has been assessed as not material. See accounting policy note 3(k) and note 18.

No critical accounting judgements have been made in the process of applying the Group and Company's accounting policies that have had a significant effect on the amounts recognised in the financial statements.

The Group and Company evaluates the critical accounting judgements and accounting estimates on an ongoing basis and believes that these are reasonable.

f. Basis of Consolidation

The consolidated financial statements of the Group comprise the financial statements of the Company and its subsidiaries as at 31 December 2022. Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements for the subsidiaries are prepared for the same reporting year as the Group, using consistent accounting policies. The financial statements for the subsidiaries are translated into US dollars as described in note 3(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, the management 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 financial statements.

Details of the Group's interests in other entities are given in note 14 to these financial statements.

g. The Going Concern Assumption

The Group's and Company's business activities, together with the factors likely to affect its future development, performance and position, and the Group's and Company's objectives, policies and processes for managing its capital; its financial risk management; and its exposures to credit risk and liquidity risk, are reflected in the Strategic Report, and as set out in the Strategic report, retaining sufficient capital and liquidity to withstand market pressures remains central to the Morgan Stanley Group's, the Group's and the Company's strategy.

Taking the above factors into consideration, the Directors believe the Group and Company 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.

h. Change in Presentation

The Group has updated the income statement presentation for gains and losses arising on financial instruments measured at FVPL, such that these are now presented in the 'Net gains from financial instruments at fair value through profit or loss' income statement line. In prior reporting periods, this information was presented across two income statement lines: 'Net gains/ losses from financial instruments measured at fair value' and 'Net trading income', both of which are now included in note 4. This presentation is more closely aligned to the way that the business is managed and therefore provides more relevant information. The comparative period has also been re-presented.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Functional Currency

Items included in the consolidated 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 consolidated financial statements, Strategic Report and Directors' Report are rounded to the nearest million US dollars (unless otherwise stated).

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 investment(s) in the foreign operations are taken to the 'Currency translation reserve'.

The amount of change in the fair value of financial liabilities designated at FVPL that is attributable to changes in the credit risk of these liabilities (Debt Valuation Adjustment ("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 3(c) below.

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 and Company recognises any unrealised fair value in the statement of financial position as 'Trading financial instruments' with corresponding profit or loss recognised within the consolidated income statement in 'Net gains/ (losses) from financial instruments at fair value through profit or loss'. For sales of non-derivative financial instruments, unrealised fair value changes are no longer recognised in the consolidated income statement from trade date. Upon settlement date the resulting financial instrument is recognised or de-recognised from the consolidated statement of financial position.

Derivatives, are initially recorded on trade date at fair value (see note 3(d) below). All subsequent changes in fair value are reflected in the consolidated income statement in 'Net gains/ (losses) from financial instruments at fair value through profit or loss'.

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

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

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

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

Non-trading financial assets at FVPL are principally financial assets where the Group makes decisions based upon the assets' fair values. These assets are generally recognised on settlement date at fair value (see note 3(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 and foreign exchange differences are reflected in the consolidated income statement in 'Net gains/(losses) from financial instruments at fair value through profit or loss'. When interest is included as a component of an instrument's fair value, interest is also reflected in the consolidated income statement in 'Net gains/(losses) from financial instruments at fair value through profit or loss', otherwise it is included within 'Interest income' or 'Interest expense'.

Transaction costs are excluded from the initial fair value measurement of the financial assets and are recognised in the consolidated income statement in 'Operating expense'.

ii) Financial Instruments Designated at Fair Value through Profit or Loss

Financial instruments designated at FVPL include corporate loans, unfunded loan commitments, prepaid OTC contracts, cash collateral on securities loaned and securities sold under agreements to repurchase, issued structured notes and other financial assets and liabilities.

The Group and Company have 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 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 3(d) below).

All subsequent changes in fair value, foreign exchange differences, and dividends are reflected in the consolidated income statement in 'Net gains/(losses) from financial instruments at fair value through profit or loss', other than DVA on financial liabilities designated at FVPL which is recognised in the 'Debt valuation adjustment' reserve where those changes do not create or enlarge an accounting mismatch. When interest is included as a component of an instrument's fair value, interest is also reflected in the consolidated income statement in 'Net gains/(losses) from financial instruments at fair value through profit or loss', otherwise it is included within 'Interest income' or 'Interest expense'. DVA presented within other comprehensive income is not subject to reclassification to the consolidated income statement, but is transferred to 'Retained earnings' when realised.

For the Company, the presentation of 'Debt valuation adjustment' within other comprehensive income represents a departure from Schedule 1 paragraph 40 to the Regulations, which requires that changes in the value of financial instruments be included in the profit and loss account. The Directors consider that this departure is necessary in order that the accounts give a true and fair view of the results of the Company. All other subsequent changes in fair value, foreign exchange differences not relating to changes in the credit risk of those liabilities, interest and dividends are reflected in the income statement.

Transaction costs are excluded from the initial fair value measurement of the financial instrument. These costs are recognised as incurred in the consolidated income statement in 'Operating expense'.

See note 10 for an analysis of financial assets and financial liabilities designated at FVPL.

iii) Investments in Subsidiaries

Subsidiaries are entities over which the Company has control. The Company controls an entity when it 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.

Investments in subsidiaries are stated at cost, less provision for any impairment (see note 3(c)(iv) below). Dividends, impairment losses and reversals of impairment losses are recognised in the income statement.

iv) Impairment of Subsidiaries

Impairment losses on investments in subsidiaries are measured as the difference between cost and the current estimated recoverable amount. When the recoverable amount is less than cost, an impairment is recognised within the income statement and is reflected against the carrying amount of the impaired asset in the statement of financial position. Investments in subsidiaries which have suffered an impairment are reviewed for possible reversal of the impairment.

v) 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 and Company'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 and Company becomes a party to the contractual provisions of the instrument. The instruments are initially measured at fair value (see note 3(d) below) and subsequently measured at amortised cost less ECL allowance. Interest is recognised in the consolidated income statement in 'Interest income', using the effective interest rate ("EIR") method as described below. Transaction costs that are directly attributable to the acquisition of the financial asset are added to the fair value on initial recognition. ECL, and reversals thereof, are recognised in the consolidated income statement in 'Net impairment loss 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 3(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.

vi) Secured Financing and Secured Borrowings

In the course of financing its business and part of its trading activities, the Group and Company enter 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 and Company under resale arrangements and securities borrowing arrangements are generally not recognised on the consolidated statement of financial position, and securities pledged or sold by the Group under sale and repurchase agreements and securities lending arrangements are generally not derecognised from the consolidated statement of financial position.

Securities pledged or sold by the Group and Company under sale and repurchase agreements and securities lending arrangements are generally not derecognised from the statement of financial position. Where cash collateralised, the resulting cash collateral balances repayable and accrued interest are designated at FVPL where the financial liability forms part of a group of financial assets or financial liabilities or both, which is managed, evaluated and reported internally of a fair value basis; or at amortised cost if not so designated.

d. Fair Value

Fair Value Measurement

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e. the "exit price") in an orderly transaction between market participants at the measurement date.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, assumptions are set to reflect those that the Group and Company believes market participants would use in pricing the asset or liability at the measurement date.

Where the Group and Company 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 and Company 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 and Company use various valuation approaches and establish a hierarchy for inputs used in measuring fair value that require 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 and Company. Unobservable inputs are inputs that reflect assumptions the Group and Company believe 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 and Company in determining fair value is greatest for instruments categorised in Level 3 of the fair value hierarchy.

The Group and Company considers prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may be reduced for many instruments. This condition could cause an instrument to be reclassified to a lower Level of the fair value hierarchy.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the total fair value amount is disclosed in the level appropriate for the lowest level input that is significant to the total fair value of the asset or liability.

The Group incorporates Funding Valuation Adjustment ("FVA") into the fair value measurements of 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 and Company'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 and Company carry 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 and Company, option volatility and currency rates.

Where appropriate, valuation adjustments are made to account for various factors such as liquidity risk (bid-ask adjustments), credit quality, model uncertainty and concentration risk in order to arrive at fair value.

Adjustments for liquidity risk adjust model-derived mid-market levels of Level 2 and Level 3 financial instruments for the bid-mid or mid-ask spread required to properly reflect the exit price of a risk position. Bid-mid and mid-ask spreads are marked to levels observed in trade activity, broker quotes or other external third-party data. Where these spreads are unobservable for the particular position in question, spreads are derived from observable levels of similar positions.

The Group and Company apply credit-related valuation adjustments ("CVA") to their Borrowings (primarily structured notes) which are designated at FVPL and to OTC derivatives. The Group and Company consider 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 and Company simulate the distribution of the future exposure to a counterparty, then apply market-based default probabilities to the future exposure, leveraging external third-party 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 its exposure to each counterparty.

Adjustments for model uncertainty are taken for positions whose underlying models are reliant on significant inputs that are neither directly nor indirectly observable, hence requiring reliance on established theoretical concepts in their derivation. These adjustments are derived by making assessments of the possible degree of variability using statistical approaches and market-based information where possible.

The Group and Company may apply a concentration adjustment to certain of their OTC derivative 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

VC within Finance is responsible for ensuring that the inventory carried at fair value in the Group and Company's financial statements and associated disclosures is presented in accordance with applicable accounting standards. VC is independent of the business units and reports to the Chief Financial Officer of the Morgan Stanley Group ("CFO"), who has final authority over the valuation of the Group's inventory. VC implements valuation control processes designed to validate the fair value of the Group's financial instruments measured at fair value including those derived from pricing models.

Model Control: VC, in conjunction with MRM, which reports to the CRO, independently reviews valuation models. VC is responsible for reviewing that the model valuation methodology is appropriate, model inputs and valuations are consistent with accounting standards and an independent price verification can be performed. The Group and Company generally subject valuations and models to a review process initially and on a periodic basis thereafter.

Independent Price Verification: The business units are responsible for determining the fair value of financial instruments using approved valuation models and valuation methodologies. Generally on a monthly basis, VC performs an independent review of the valuation in the books and records by determining the appropriateness of the inputs used by the business units and by testing compliance with the documented valuation methodologies approved in the model review process described above. External pricing data used to validate the valuation must meet minimum quality standards set by VC.

The results of this independent price verification and any adjustments made 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 reviews the models and valuation methodology used to price new material Level 2 and Level 3 transactions and both Finance and MRM must approve the fair value of the trade that is initially recognised.

Gains and Losses on Inception

In the normal course of business, the fair value of a financial instrument on initial recognition is the transaction price (i.e. the fair value of the consideration given or received). In certain circumstances, however, the fair value will be based on other observable current market transactions in the same instrument, without modification or repackaging, or on a valuation technique whose variables include only data from observable markets. When such evidence exists, the Group and Company 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.

For further information, see note 30(e).

Assets and Liabilities Measured at Fair Value on a Non-Recurring Basis

Certain of the Group and Company's assets and liabilities may be measured at fair value on a non-recurring basis. The Group and Company incur 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. Impairment of Financial Instruments

The Group recognises ECL for the following financial instruments that are not measured at FVPL:

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

Measurement of ECL

The Group and Company recognise a loss allowance for expected credit losses on financial assets measured at amortised cost, in-scope loan commitments and financial guarantees and applies a three stage approach to measuring ECLs based on the change in credit risk since initial recognition:

- *Stage 1:* if the credit risk of the financial instrument at the reporting date has not increased significantly since initial recognition, then the loss allowance is calculated as the lifetime cash shortfalls that will result if a default occurs in the next 12 months, weighted by the probability of that default occurring.
- *Stage 2:* if there has been a significant increase in credit risk ("SICR") since initial recognition, the loss allowance is calculated as the ECL over the remaining life of the financial instrument. If it is subsequently determined that there has no longer been a SICR since initial recognition, then the loss allowance reverts to reflecting 12 month expected losses.
- *Stage 3:* if there has been a SICR since initial recognition and the financial instrument is deemed credit-impaired (see below for definition of credit-impaired), the loss allowance is calculated as the ECL over the remaining life of the financial instrument. If it is subsequently determined that there has no longer been a SICR since initial recognition, then the loss allowance reverts to reflecting 12 month expected losses.

Notwithstanding the above, for trade receivables a lifetime ECL is always calculated, without considering whether a SICR has occurred.

Assessment of SICR

When assessing SICR, the Group considers both quantitative and qualitative information and analysis based on the Group and Company's historical experience and expert credit risk assessment, including forward-looking information.

The determination of a SICR is generally based on changes in the probability of default ("PD"), in conjunction with a rebuttable presumption that a SICR has occurred if a financial asset is more than 30 days past due.

Calculation of ECL

ECL is calculated using three main components:

- *PD:* for accounting purposes, the 12 month and lifetime PD represent the expected point-in-time probability of a default over the next 12 months and over the remaining lifetime of the financial instrument respectively, based on conditions existing at the balance sheet date and future economic conditions.
- *Loss given default ("LGD"):* the LGD represents expected loss conditional on default, taking into account the mitigating effect of collateral, including the expected value of the collateral when realised and the time value of money.
- *Exposure at default ("EAD"):* this represents the expected EAD, taking into account the expected repayment of principal and interest from the balance sheet date to the date of default event together with any expected drawdowns of the facility over that period.

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

The 12 month ECL is equal to the sum over the next 12 months of quarterly PD multiplied by LGD and EAD, with such expected losses being discounted at the effective interest rate. Lifetime ECL is calculated using the discounted present value of total quarterly PDs multiplied by LGD and EAD, over the full remaining life of the facility.

When measuring ECLs, the Group and Company consider multiple scenarios, except where practical expedients are used to determine ECL. Practical expedients are used where they are consistent with the principles described above.

ECL on certain trade receivables are calculated using a 'matrix' approach which reflects the previous history of credit losses on these financial assets, applying different provision levels based on the age of the receivable. The simplified ECL approach is applied to Trade receivables where a lifetime ECL is always calculated. Alternatively where there is a history of no credit losses, and where this is expected to persist into the future for structural or other reasons, such as collateral or other credit enhancement, it may be determined that the ECL for a financial instrument is *de minimis* (highly immaterial) and it may not be necessary to recognise the ECL.

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

Presentation of ECL

ECL is recognised in the consolidated income statement within 'Net impairment loss/(reversal) on financial instruments'.

Credit-impaired Financial Instruments

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

Write-offs

Loans and debt securities are written off (either partially or in full) when they are deemed uncollectible. Financial assets that are written off could still be subject to enforcement activities for recoveries of amounts due.

f. Revenue Recognition

Revenues are recognised when the promised goods or services are delivered to the Group's customers, in an amount that is based on the consideration the Group expects to receive in exchange for those goods or services when such amounts are not probable of significant reversal.

Investment Banking

Revenue from investment banking activities consists of revenues earned from underwriting primarily equity and fixed income securities and advisory fees for mergers, acquisitions, restructuring and advisory assignments.

Underwriting revenues are generally recognised on trade date, if there is no uncertainty or contingency related to the amount to be paid. Underwriting costs are deferred and recognised when the related underwriting revenues are recorded.

Advisory fees are recognised over time based on 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.

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.

g. Fees and Commission Expense

Fees and commission expense in the consolidated income statement include transaction and service fees. Amounts are recognised as the related services are received.

h. Disposal of Subsidiaries

When subsidiaries are sold or the Company ceases to control an entity, the difference between the proceeds (plus the fair value of any investment retained), and the total assets less total liabilities disposed of, cumulative translation differences and unamortised goodwill, is recognised in the consolidated income statement within 'Net gain on investments in subsidiaries'. 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 gain on investments in subsidiaries'.

i. Cash and Cash Equivalents

For the purposes of the consolidated statement of cash flows, 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. 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.

j. Income Tax

The tax expense represents the sum of the tax currently payable and deferred tax.

The tax currently payable is calculated based on taxable profit for the year. Taxable profit may differ from profit/(loss) before taxation as reported in the consolidated income statement because it excludes items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. Taxable profit is also adjusted if it is considered that it is not probable that a taxation authority will accept an uncertain tax treatment. The Group and Company'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 probably 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 and Company 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 or Company intends to settle its current tax assets and current tax liabilities on a net basis or to realise the asset and settle the liability simultaneously. Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and current tax liabilities on a net basis.

The income tax effect of distributions are recognised in the consolidated income statement, other comprehensive income or equity dependant on where those past transactions that generated the distributable profits were recognised. The income tax effect of coupons of AT1 instruments accounted for as distributions are recognised in the consolidated income statement.

k. Provisions and Commitments

Provisions are recognised when the Group or Company has an identified present obligation as a result of a past event, when it is probable that an outflow of resources embodying economic benefits will be required to settle that obligation and when a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the year-end date, taking into account the risks and uncertainties surrounding the obligation. A provision is measured using the cash flows estimated to settle the present obligation, with its carrying amount reflecting the present value of those cash flows, where the effect of discounting is material.

The expected credit loss allowance on loan commitments and financial guarantees is presented in the statement of financial position within 'Provisions'.

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

l. Offsetting of Financial Assets and Financial Liabilities

Where there is 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.

m. 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 and Company. 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 the scheduled conversion date.

Awards generally contain clawback and cancellation provisions. Certain awards provide Morgan Stanley the discretion to clawback or cancel all or a portion of the award under specified circumstances. Compensation expense for these awards is adjusted for changes in the fair value of the Morgan Stanley's common stock until conversion.

The Group and Company recognise compensation costs over the relevant vesting period for each separately vesting portion of the award. An estimation of awards that will be forfeited prior to vesting due to the failure to satisfy service conditions is considered in calculating the total compensation cost to be amortised over the relevant vesting period.

Under Morgan Stanley Group chargeback agreements, the Group and Company pay Morgan Stanley for the procurement of shares. Prior to November 2022, the Group and Company paid Morgan Stanley the grant date fair value and any subsequent movement in fair value up to the time of conversion of the award and delivery of shares to the employees. In November 2022, the Company chargeback agreement was amended such that the Company no longer pays Morgan Stanley any subsequent movement in fair value up to the time of conversion. This change applied to all outstanding awards granted to current and former employees of the Company.

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 and Company 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 and Company recognise compensation cost over the relevant vesting period for each separately vesting portion of the award. Forfeitures due to failure to satisfy service conditions are accounted for as they occur.

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

The Group and Company enter 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 consolidated statement of financial position and the related gains and losses are recorded within 'Net gains/(losses) from financial instruments at fair value through profit or loss' in the consolidated income statement.

Although changes in compensation expense resulting from changes in the fair value of the referenced investments will generally be offset by changes in the fair value of derivative transactions entered into by the Group and Company, 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.

n. Post-employment Benefits

The Group and Company operates defined contribution and defined benefit post-employment plans.

Contributions due in relation to defined contribution post-employment plans are recognised in 'Direct staff costs' within 'Operating expense' in the consolidated income statement when payable.

For the Group's and Company's defined benefit post-employment plans, the plan obligations are measured on an actuarial basis in accordance with the advice of an independent qualified actuary using the projected unit credit method and discounted at a rate that reflects the estimated settlement of the post-employment benefit obligations. Plan assets are measured at their fair value at the reporting date. For each defined benefit plan, a surplus or deficit of plan assets over liabilities is recognised in the consolidated statement of financial position as an asset or a liability respectively. If the fair value of the plan assets is higher than the present value of the defined benefit obligation, the measurement of the resulting defined benefit asset is limited to the present value of economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan.

The current service costs and any past service costs together with the net interest on the net defined benefit obligation/asset is charged to 'Direct Staff costs' within 'Operating expense' in the consolidated income statement. Remeasurements that arise in calculating the Group and Company's obligation in respect of a plan are recognised in other comprehensive income, in the period in which they occur.

The Group and Company participate in a defined benefit plan operated by another Morgan Stanley affiliate. The Group and Company recognise recharges for the net defined benefit cost of the plan as a whole under inter-affiliate contractual agreements.

Details of the plans are given in note 33 to the financial statements.

4. NET GAINS FROM FINANCIAL INSTRUMENTS AT FAIR VALUE THROUGH PROFIT OR LOSS

in $ millions	2022	2021
Assets and liabilities held for trading	**4,265**	**4,996**
Non-trading financial assets at FVPL		
Secured financing	23	(28)
Loans and advances - corporate loans	—	(5)
Investment securities	5	30
Trade and other receivables - prepaid OTC contracts	19	(508)
Total non-trading financial assets at FVPL	**47**	**(511)**
Financial liabilities designated at FVPL		
Secured borrowing	(101)	156
Trade and other payables - prepaid OTC contracts	(74)	(66)
Debt and other borrowings - issued structured notes	1,864	272
Total financial liabilities designated at FVPL	**1,689**	**362**
Net gains from financial instruments at fair value through profit or loss	**6,001**	**4,847**

Non-trading financial assets at FVPL and financial liabilities designated at FVPL are frequently economically hedged with trading financial instruments. Accordingly, gains or losses that are reported in net income from other financial instruments held at fair value can be partially offset by gains or losses reported in 'Assets and liabilities held for trading'.

5. FEE AND COMMISSION INCOME

in $ millions	2022	2021
Investment banking[1]	738	1,801
Commission income	777	890
Trust and other fiduciary activities	161	200
Other fee and commission income	370	332
Total fee and commission income	**2,046**	**3,223**
Of which, revenue from contracts with customers	*2,262*	*3,010*

(1) Includes advisory and underwriting revenues

Total fee and commission income is stated after the transfer of revenues totalling $216 million to other Morgan Stanley Group undertakings (2021: $213 million from other Morgan Stanley Group undertakings). These transfers are in accordance with the Morgan Stanley Group Global Transfer Pricing Policy, refer to note 34, and do not relate to revenue from contracts with customers.

6. INTEREST INCOME AND INTEREST EXPENSE

The table below presents interest income and expense by accounting classification. Interest income and expense is calculated using the effective interest rate method for financial assets and financial liabilities measured at amortised cost.

in $ millions	2022	2021
Financial assets measured at amortised cost	**1,608**	**24**
Trading financial assets	223	199
Non-trading financial assets at FVPL	1,095	(621)
Financial assets measured at FVPL	**1,318**	**(422)**
Total interest income	**2,926**	**(398)**
Of which, negative interest income	*(464)*	*(983)*
Financial liabilities measured at amortised cost	2,998	172
Financial liabilities designated at FVPL	876	(38)
Total interest expense	**3,874**	**134**
Of which, positive interest expense	*(404)*	*(880)*

The recognition of negative interest income and positive interest expense may result from transactions in certain currencies which may at times have negative interest rates. In addition, 'Interest income' includes fees paid on securities borrowed transactions. 'Interest expense' includes fees received on securities loaned and fees from prime brokerage customers for stock loan transactions incurred to cover customers' short positions.

7. OPERATING EXPENSE

in $ millions	2022	2021
Direct staff costs	1,274	1,530
Management charges from other Morgan Stanley Group undertakings relating to staff costs	531	624
Staff-related expenses	**1,805**	**2,154**
Management charges from other Morgan Stanley Group undertakings relating to other services	1,279	1,191
Brokerage fees	842	765
Administration and corporate services	99	88
Professional services	240	188
UK Bank Levy	33	74
Other taxes	673	850
Commission and other similar arrangements	245	205
Auditor's remuneration:		
Fees payable to the Company's auditor and its associates for the audit of the Company's annual financial statements	3	3
Fees payable to the Company's auditor and its associates for other services to the Group(1)	1	1
Other	41	108
Non-staff related expenses	**3,456**	**3,473**
Total operating expense	**5,261**	**5,627**

(1) Fees payable to the Company's auditor for other services in 2022 comprise $74 thousand for the audit of the Company's subsidiaries (2021: $110 thousand) and $467 thousand for other assurance services (2021: $953 thousand).

The Group employs staff directly and also uses the services of staff who are employed by other Morgan Stanley Group undertakings.

Further information regarding employee compensation plans is provided in note 32.

Staff-related expenses decreased by 16% mainly driven by lower mark-to-market on deferred equity compensation.

The average number of direct employees of the Group is analysed below:

	Number 2022	2021
Institutional Securities and Investment Management	2,195	2,079
Support services	86	82
	2,281	**2,161**

The cost of the direct employees of the Group, including the Directors, is analysed below:

in $ millions	2022	2021
Wages and salaries	1,098	1,314
Social security costs	147	186
Pension costs	29	30
	1,274	**1,530**

The Group incurs management charges in respect of Directors' qualifying services provided by employees of other Morgan Stanley Group undertakings, included within 'Management charges from other Morgan Stanley Group undertakings relating to staff costs'.

The amount of remuneration received by Directors in respect of their qualifying services to the Group is disclosed in note 34.

8. NET IMPAIRMENT LOSS/(REVERSAL) ON FINANCIAL INSTRUMENTS

in $ millions	2022	2021
Cash and short term deposits	101	—
Trade and other receivables	47	—
Loan commitments	—	(2)
Net Impairment Loss/(Reversal) on Financial Instruments	**148**	**(2)**

All impairment losses were calculated on an individual basis. No collective impairment assessments were made during the current or prior year.

The increase in net impairment loss is driven by ECL related to Russian exposures.

9. INCOME TAX

in $ millions	2022	2021
Current tax		
UK corporation tax charge		
-current year	310	455
-prior year	(38)	(25)
Double taxation relief		
-current year	(101)	(117)
Overseas tax		
-current year	148	163
-prior year	5	161
Total Current tax	**324**	**637**
Deferred tax (benefit)/ expense		
Current year	(11)	(45)
Prior year	—	11
Effect of changes in tax rates	8	(14)
Total Deferred tax	**(3)**	**(48)**
Income tax expense	**321**	**589**

Reconciliation of Effective Tax Rate

The Group's effective tax rate is sensitive to the geographic mix of profits and tax rates in non UK jurisdictions (including the net effect of foreign withholding taxes suffered by the Group), the additional 8% UK banking surcharge, as well as the non-deductibility of certain expenses for tax purposes.

The UK statutory rate, excluding the banking surcharge, is 19% for the year (2021: 19%). Finance Act 2021 raised the UK main rate of corporation tax from 19% to 25% with effect from 1 April 2023. While this change does not affect the current tax charge for the year, it will affect future years.

Finance Act 2022 reduced the corporation tax surcharge rate from 8% to 3% with effect from 1 April 2023 and increased the surcharge allowance to £100 million. While this change does not affect the current tax charge for the year, it will affect future years.

The current year income tax expense is lower (2021: higher) than that resulting from applying the standard rate of corporation tax for banking companies in the UK for the year. The main differences are:

in $ millions	2022	2021
Profit before income tax	1,717	1,940
Income tax expense using the average standard rate of corporation tax for banking companies in the UK of 27% (2021: 27%)	463	524
Impact on tax of:		
Tax-deductible coupons on Additional Tier 1 capital instruments	(64)	(64)
Non-deductible UK Bank Levy	8	20
Other expenses:		
Other permanent differences	34	16
Movement in tax reserve	49	2
Group relief received for no cash consideration	(66)	—
Effect of tax rates different to the consolidation rate	(1)	(12)
Net effect of foreign withholding taxes	(15)	174
Over provided in prior years	(34)	(13)
Tax exempt income	(49)	(44)
Impact of deferred tax rate change and other deferred tax adjustments	(4)	(14)
Total income tax expense in the consolidated income statement	**321**	**589**

The Group has a policy of surrendering tax-deductible losses ('group relief') for no cash consideration to other members of the Morgan Stanley UK tax group, which consists of entities within the Group and the wider Morgan Stanley Group. Within the Group, a number of subsidiary companies generated tax-deductible losses that were surrendered both inside and outside the Group in the current and prior years.

In addition to the amount charged to the consolidated income statement, the aggregate amount of current and deferred tax relating to each component of other comprehensive income was as follows:

	2022		
in $ millions	Before tax	Tax charge(1)	Net of tax
Pension reserve:			
Remeasurement of net defined benefit liability	4	—	4
Foreign currency translation reserve:			
Foreign currency translation differences on foreign operations	(43)	—	(43)
Net amount reclassified to consolidated income statement upon transfer of subsidiary	(4)	—	(4)
Debt valuation reserve:			
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	206	(69)	137
Other comprehensive income	**163**	**(69)**	**94**

(1) The tax charge includes a $14 million charge in relation to the impact of change in deferred tax rate

	2021		
in $ millions	Before tax	Tax charge(1)	Net of tax
Pension reserve:			
Remeasurement of net defined benefit liability	(2)	—	(2)
Foreign currency translation reserve:			
Foreign currency translation differences on foreign operations	(33)	—	(33)
Net amount reclassified to consolidated income statement upon transfer of subsidiary	—	—	—
Debt valuation reserve:			
Changes in fair value attributable to own credit risk on financial liabilities designated at fair value	77	(4)	73
Other comprehensive income	**42**	**(4)**	**38**

(1) The tax charge includes a $14 million credit in relation to the impact of change in deferred tax rate

In addition to the amount charged to the consolidated income statement and the consolidated statement of comprehensive income, a $3 million expense (2021: $nil) in relation to deferred tax on share based payments is recognised directly in the consolidated statement of changes in equity.

10. FINANCIAL ASSETS AND FINANCIAL LIABILITIES BY MEASUREMENT CATEGORY

The following table analyses financial assets and financial liabilities presented in the Group's consolidated statement of financial position and the Company's statement of financial position by the IFRS 9 classifications as at 31 December 2022 and 31 December 2021.

2022	Group				Company			
in $ millions	FVPL	FVPL designated	Amortised cost	Total	FVPL	FVPL designated	Amortised cost	Total
Cash and short term deposits	—	—	18,754	**18,754**	—	—	18,449	**18,449**
Trading financial assets	329,382	—	—	**329,382**	329,068	—	—	**329,068**
Secured financing:								
Cash collateral on securities borrowed	15,569	—	—	**15,569**	15,569	—	—	**15,569**
Securities purchased under agreements to resell	104,167	—	—	**104,167**	103,967	—	—	**103,967**
Other secured financing	10,043	—	—	**10,043**	10,043	—	—	**10,043**
Loans and advances	—	—	63	**63**	—	—	29	**29**
Investment securities	142	—	—	**142**	141	—	—	**141**
Trade and other receivables	1,298	—	80,172	**81,470**	1,298	—	80,261	**81,559**
Total financial assets	**460,601**	**—**	**98,989**	**559,590**	**460,086**	**—**	**98,739**	**558,825**
Bank loans and overdrafts	—	—	59	**59**	—	—	59	**59**
Trading financial liabilities	298,690	—	—	**298,690**	298,690	—	—	**298,690**
Secured borrowings:								
Cash collateral on securities loaned	—	19,766	6,046	**25,812**	—	19,766	6,046	**25,812**
Securities sold under agreements to repurchase	—	26,042	25,854	**51,896**	—	26,042	25,854	**51,896**
Other financial liabilities	—	12,984	3,274	**16,258**	—	12,984	2,750	**15,734**
Trade and other payables	—	718	95,703	**96,421**	—	718	95,717	**96,435**
Debt and other borrowings	—	12,113	33,569	**45,682**	—	12,113	33,534	**45,647**
Total financial liabilities	**298,690**	**71,623**	**164,505**	**534,818**	**298,690**	**71,623**	**163,960**	**534,273**

2021	Group				Company			
in $ millions	FVPL	FVPL designated	Amortised cost	Total	FVPL	FVPL designated	Amortised cost	Total
Cash and short term deposits	—	—	28,532	**28,532**	—	—	28,218	**28,218**
Trading financial assets	332,635	—	—	**332,635**	332,449	—	—	**332,449**
Secured financing:								
Cash collateral on securities borrowed	19,360	—	—	**19,360**	19,360	—	—	**19,360**
Securities purchased under agreements to resell	90,296	—	—	**90,296**	90,096	—	—	**90,096**
Other secured financing	16,239	—	—	**16,239**	16,239	—	—	**16,239**
Loans and advances	—	—	67	**67**	—	—	26	**26**
Investment securities	165	—	—	**165**	165	—	—	**165**
Trade and other receivables	993	—	78,069	**79,062**	993	—	78,144	**79,137**
Total financial assets	**459,688**	**—**	**106,668**	**566,356**	**459,302**	**—**	**106,388**	**565,690**
Bank loans and overdrafts	—	—	48	**48**	—	—	48	**48**
Trading financial liabilities	300,325	—	—	**300,325**	300,325	—	—	**300,325**
Secured borrowings:								
Cash collateral on securities loaned	—	25,141	4,362	**29,503**	—	25,141	4,362	**29,503**
Securities sold under agreements to repurchase	—	19,609	24,939	**44,548**	—	19,609	24,939	**44,548**
Other financial liabilities	—	20,053	3,158	**23,211**	—	20,053	2,750	**22,803**
Trade and other payables	—	748	92,569	**93,317**	—	748	92,582	**93,330**
Debt and other borrowings	—	9,602	43,077	**52,679**	—	9,602	42,861	**52,463**
Total financial liabilities	**300,325**	**75,153**	**168,153**	**543,631**	**300,325**	**75,153**	**167,542**	**543,020**

Financial Liabilities Designated at FVPL

Cash collateral on securities loaned and securities sold under agreements to repurchase: These balances are classified as 'Designated 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; otherwise, they are classified as 'Financial liabilities at amortised cost'.

Other financial liabilities: Liabilities arising as a result of continuing recognition of certain financial assets and the simultaneous recognition of an associated financial liability.

Prepaid OTC contracts: The risk on these financial instruments, is primarily hedged using trading financial instruments including equity securities and interest rate swaps. Prepaid contract liabilities are designated at FVPL as they form part of a group of financial assets and liabilities which are managed, evaluated and reported internally on a fair value basis.

Issued structured notes: These relate to financial liabilities which arise from selling structured products, generally in the form of notes or certificates. The structured notes are designated at FVPL as the risks to which the Group is a contractual party are risk-managed on a fair value basis as part of the Group's trading portfolio and the risk is reported to key management personnel on this basis. Refer to note 17 for more information.

The cumulative change in fair value recognised through other comprehensive income attributable to own credit risk for financial liabilities designated at FVPL at 31 December 2022 is a loss of $183 million (2021: loss of $389 million). During the year, $nil (2021: loss of $7 million) was realised as a result of the derecognition of such financial liabilities and was transferred from the 'Debt valuation adjustment reserve' to 'Retained earnings'.

The Group determines the amount of changes in fair value attributable to changes in counterparty credit risk or own credit risk, as relating to financial liabilities designated at FVPL, by first determining the fair value including the impact of counterparty credit or own credit risk, and then deducting those changes in fair value representing managed market risk. In determining fair value, 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 issued structured notes. The Group considers that this approach most faithfully represents the amount of change in fair value due to both counterparty credit risk and the Group's own credit risk.

The carrying amount of financial liabilities designated at FVPL for which the effect of changes in those liabilities' credit risk is presented within other comprehensive income was $920 million lower than the contractual amount due at maturity (2021: $114 million lower).

11. TRADING FINANCIAL ASSETS AND LIABILITIES

Group	2022		2021	
in $ millions	Assets	Liabilities	Assets	Liabilities
Government debt securities	13,782	17,025	14,097	20,475
Corporate and other debt	11,364	4,739	10,807	3,724
Corporate equities	53,160	24,971	65,299	28,608
Derivatives (see note 12)	251,076	251,955	242,432	247,518
	329,382	**298,690**	**332,635**	**300,325**

Company	2022		2021	
in $ millions	Assets	Liabilities	Assets	Liabilities
Government debt securities	13,780	17,025	14,097	20,475
Corporate and other debt	11,046	4,739	10,608	3,724
Corporate equities	53,160	24,971	65,299	28,608
Derivatives (see note 12)	251,082	251,955	242,445	247,518
	329,068	**298,690**	**332,449**	**300,325**

12. DERIVATIVES

Group	2022			
in $ millions	Bilateral OTC	Cleared OTC	Listed derivative contracts	Total
Derivative assets:				
Interest rate contracts	66,949	9,000	5	**75,954**
Credit contracts	7,116	266	—	**7,382**
Foreign exchange and gold contracts	120,458	2,382	1	**122,841**
Equity contracts	29,774	—	5,754	**35,528**
Commodity contracts	8,505	—	866	**9,371**
	232,802	**11,648**	**6,626**	**251,076**
Derivative liabilities:				
Interest rate contracts	73,308	7,809	12	**81,129**
Credit contracts	6,572	280	—	**6,852**
Foreign exchange and gold contracts	114,830	2,614	9	**117,453**
Equity contracts	31,295	—	5,807	**37,102**
Commodity contracts	8,527	—	892	**9,419**
	234,532	**10,703**	**6,720**	**251,955**

Group	2021			
in $ millions	Bilateral OTC	Cleared OTC	Listed derivative contracts	Total
Derivative assets:				
Interest rate contracts	56,787	3,731	10	**60,528**
Credit contracts	9,745	405	—	**10,150**
Foreign exchange and gold contracts	84,810	1,224	—	**86,034**
Equity contracts	61,052	—	9,853	**70,905**
Commodity contracts	13,983	—	832	**14,815**
	226,377	**5,360**	**10,695**	**242,432**
Derivative liabilities:				
Interest rate contracts	58,118	2,619	13	**60,750**
Credit contracts	8,935	392	—	**9,327**
Foreign exchange and gold contracts	84,080	1,244	5	**85,329**
Equity contracts	68,914	—	8,411	**77,325**
Commodity contracts	14,243	—	544	**14,787**
	234,290	**4,255**	**8,973**	**247,518**

Company	2022			
in $ millions	Bilateral OTC	Cleared OTC	Listed derivative contracts	Total
Derivative assets:				
Interest rate contracts	66,949	9,000	5	**75,954**
Credit contracts	7,116	266	—	**7,382**
Foreign exchange and gold contracts	120,464	2,382	1	**122,847**
Equity contracts	29,774	—	5,754	**35,528**
Commodity contracts	8,505	—	866	**9,371**
	232,808	**11,648**	**6,626**	**251,082**
Derivative liabilities:				
Interest rate contracts	73,308	7,809	12	**81,129**
Credit contracts	6,572	280	—	**6,852**
Foreign exchange and gold contracts	114,830	2,614	9	**117,453**
Equity contracts	31,295	—	5,807	**37,102**
Commodity contracts	8,527	—	892	**9,419**
	234,532	**10,703**	**6,720**	**251,955**

Company	2021			
in $ millions	Bilateral OTC	Cleared OTC	Listed derivative contracts	Total
Derivative assets:				
Interest rate contracts	56,787	3,731	10	**60,528**
Credit contracts	9,745	405	—	**10,150**
Foreign exchange and gold contracts	84,823	1,224	—	**86,047**
Equity contracts	61,052	—	9,853	**70,905**
Commodity contracts	13,983	—	832	**14,815**
	226,390	**5,360**	**10,695**	**242,445**
Derivative liabilities:				
Interest rate contracts	58,118	2,619	13	**60,750**
Credit contracts	8,935	392	—	**9,327**
Foreign exchange and gold contracts	84,080	1,244	5	**85,329**
Equity contracts	68,914	—	8,411	**77,325**
Commodity contracts	14,243	—	544	**14,787**
	234,290	**4,255**	**8,973**	**247,518**

13. TRADE AND OTHER RECEIVABLES

	Group		Company	
in $ millions	2022	2021	2022	2021
Trade and other receivables (amortised cost)				
Trade receivables				
Contracts with customers	245	262	245	262
Due from other Morgan Stanley Group undertakings	35,100	38,420	35,353	38,630
Trading receivables	36,462	36,196	36,412	36,144
Less: ECL	(49)	(5)	(49)	(5)
	71,758	**74,873**	**71,961**	**75,031**
Other receivables[1]				
Held at exchanges	8,274	2,886	8,118	2,768
Due from other Morgan Stanley Group undertakings	141	310	182	343
Other amounts receivable	309	272	309	272
	8,724	**3,468**	**8,609**	**3,383**
	80,482	**78,341**	**80,570**	**78,414**
Trade and other receivables (FVPL)				
Prepaid OTC contracts	562	990	562	990
Held at exchanges	3	3	3	3
Other	733	—	733	—
	1,298	**993**	**1,298**	**993**
Total	**81,780**	**79,334**	**81,868**	**79,407**

(1) There was immaterial ECL on these amounts as at 31 December 2022 or 31 December 2021.

14. INVESTMENT IN SUBSIDIARIES

Composition of the Group

Details of all subsidiary undertakings are provided in the Appendix, including changes in holdings of subsidiaries.

Company

in $ millions	Subsidiary undertakings
Cost	
At 1 January 2022	1,257
Capital Infusion	218
Disposals	(207)
At 31 December 2022	**1,268**
Impairment Provisions	
At 1 January 2022	(1,127)
Provisions made in the year	(215)
Disposals	206
At 31 December 2022	**(1,136)**
Carrying Amounts	
At 31 December 2021	**130**
At 31 December 2022	**132**

On 9 June 2022, the Directors approved a $207 million capital infusion into Morgan Stanley Turnberry Limited, and a $11 million capital infusion into Morgan Stanley Humboldt Investments Limited, both direct subsidiaries of the Company. The Company impaired its investment in each subsidiary by $206 million and $8 million respectively. These changes had no impact to the group.

On 1 December 2022, the Company received $579 thousand from Morgan Stanley International Holdings Inc. in consideration of the purchase of the equity interest in Morgan Stanley Turnberry Limited and of its subsidiaries. The Company recognised a gain/loss of $nil on this disposal.

All subsidiaries are included in the Group's consolidated financial statements.

15. INTERESTS IN STRUCTURED ENTITIES

The Group is involved with various special purpose entities in the normal course of business. In most cases, these entities are deemed to be structured entities. The Group's interests in structured entities include certain debt and equity interests, commitments, guarantees, and derivative instruments.

The Group's involvement with structured entities arises primarily from:

- Loans made to, and investments in, structured entities that hold debt, equity, real estate or other assets;
- Interests purchased in connection with market-making activities and retained interests held as a result of securitisation activities, including re-securitisation transactions;
- Structuring of asset-repackaged notes designed to meet the investment objectives of clients; and
- Certain derivatives entered into with structured entities.

The risks associated with derivatives entered into with structured entities are essentially the same as similar derivatives with non-structured entity counterparties and are managed as part of the Company's overall derivative exposure.

The Group determines whether it controls, and therefore should consolidate, a structured entity upon its initial involvement with the structured entity and reassesses whether it should continue to consolidate on an ongoing basis, as long as it has any continuing involvement with the structured entity. Control is the ability to direct the activities of the entity which most significantly affect the returns of the entity and to determine the parties which benefit from these returns. Control can be exercised by a number of mechanisms, including the ability to direct the activities of the entity at the time of establishment, to manage the assets of the entity and to determine the time and method of its termination. The identification of control is based upon an analysis of the design of the structured entity, including the structured entity's structure and activities; assessment of the significance of the powers to make economic decisions which are held by the Group and its related parties and whether such powers may be used to affect its investor returns; and consideration of the significance of direct and indirect interests in the structured entity which are held by the Group and its related parties.

Consolidated Structured Entities

The table below shows information about the structured entities which the Group consolidated. Consolidated structured entity assets and liabilities are presented after intercompany eliminations and include assets financed on a non-recourse basis.

2022 in $ millions	Client intermedia-tion	Mortgage and asset-backed securitisations	Total
Assets of structured entities	200	606	**806**
Liabilities of structured entities	195	330	**525**
2021			
Assets of structured entities	200	419	**619**
Liabilities of structured entities	188	221	**409**

Unconsolidated Structured Entities

The Group has interests in structured entities that the Group does not control and which are therefore not consolidated.

The table below shows certain non-consolidated structured entities in which the Group has an interest at 31 December 2022 and at 31 December 2021. The table includes all structured entities in which the Group has determined that its maximum exposure to loss is greater than specific thresholds or meets certain other criteria. In addition the table includes structured entities sponsored by unrelated parties, as well as structured entities sponsored by the Group; an example of the Group's involvement with these structured entities is its secondary market-making activities.

The Group's maximum exposure to loss is dependent on the nature of the Group's interest in the structured entity and is limited to notional amounts of certain liquidity facilities, total return swaps, as well as the fair value of certain other derivatives and investments the Group has made in the structured entity. The reported exposure does not include the offsetting benefit of hedges, including total return swaps in relation to fund investments and other entities, or any reductions associated with the collateral held as part of a transaction with the structured entity or with any party to the structured entity. Where notional amounts are used to quantify the maximum exposure related to derivatives, such amounts do not reflect changes in fair value already recorded by the Group. Liabilities issued by structured entities generally are non-recourse to the Group.

in $ millions	Client intermed-iation	Mortgage and asset-backed securitis-ations	Collateral-ised debt obligations	Total
31 December 2022				
Assets of the structured entity	17,096	6,989	327	**24,412**
Maximum exposure to loss:				
Debt and equity interests	837	242	160	**1,239**
Derivative and other contracts	4,836	—	—	**4,836**
Total maximum exposure to loss	**5,673**	**242**	**160**	**6,075**
Carrying value of interests - assets[(1)]:				
Debt and equity interests	837	242	160	**1,239**
Derivative and other contracts	1,319	—	—	**1,319**
Total carrying value of exposure to loss - assets	**2,156**	**242**	**160**	**2,558**
Carrying value of interests - liabilities[(1)]:				
Derivative and other contracts	1,216	—	—	**1,216**
Commitments, guarantees and other	223	—	—	**223**
Total carrying value of exposure to loss - liabilities	**1,439**	**—**	**—**	**1,439**
Additional interests in structured entities[(2)]	**62**	**216**	**303**	**581**

(1) The carrying value of the interests in structured entities are recognised in the consolidated statement of financial position in Trading financial assets or Trading financial liabilities - derivatives or Trading financial liabilities - Corporate and other debt

(2) Primarily as a result of its secondary market-making activities, the Group owned additional securities issued by securitisation structured entities for which the maximum exposure to loss is less than the specific thresholds noted earlier.

in $ millions	Client intermed-iation	Mortgage and asset-backed securitis-ations	Collateral-ised debt obligations	Total
31 December 2021				
Assets of the structured entity	17,150	5,255	193	**22,598**
Maximum exposure to loss:				
Debt and equity interests	846	197	118	**1,161**
Derivative and other contracts	5,201	—	—	**5,201**
Total maximum exposure to loss	**6,047**	**197**	**118**	**6,362**
Carrying value of interests - assets(1):				
Debt and equity interests	846	197	118	**1,161**
Derivative and other contracts	1,969	—	—	**1,969**
Total carrying value of exposure to loss - assets	**2,815**	**197**	**118**	**3,130**
Carrying value of interests - liabilities(1):				
Derivative and other contracts	1,067	—	—	**1,067**
Commitments, guarantees and other	354	—	—	**354**
Total carrying value of exposure to loss - liabilities	**1,421**	**—**	**—**	**1,421**
Additional structured entities owned(2)	**2**	**203**	**129**	**334**

(1) The carrying value of the interests in structured entities are recognised in the consolidated statement of financial position in Trading financial assets or Trading financial liabilities - derivatives or Trading financial liabilities - Corporate and other debt

(2) Primarily as a result of its secondary market-making activities, the Group owned additional securities issued by securitisation structured entities for which the maximum exposure to loss is less than the specific thresholds noted earlier.

Client intermediation transactions represent a range of transactions designed to provide investors with returns based on the returns of underlying securities, referenced assets or indexes. The Group's involvement in these transactions is to act as the intermediary between the Structured Entity and the client, generally either through a derivative or by intermediating financing.

Securitisation transactions generally involve structured entities. Primarily as a result of its secondary market-making activities, the Group owned additional securities issued by securitisation structured entities for which the maximum exposure to loss is less than the specific threshold noted earlier.

Collateralised Debt Obligations ("CDOs") are structured entities that purchase a pool of assets consisting of corporate loans ("collateralised loan obligations"), corporate bonds, ABS or synthetic exposures on similar assets through derivatives, and issue multiple tranches of debt and equity securities to investors. Although not obligated, the Group generally makes a market in the securities issued by structured entities in these transactions and may retain unsold securities. These beneficial interests are included in 'Trading financial assets' and are measured at fair value.

The Group's primary risk exposure is to the securities issued by the structured entity owned by the Group, with the risk highest on the most subordinate class of beneficial interests. These securities generally are included in Trading financial assets – corporate and other debt. The Group does not provide additional support in these transactions through contractual facilities, such as liquidity facilities, guarantees or similar derivatives. The Group's maximum exposure to loss generally equals the fair value of the securities owned.

The Group has not provided financial support to, or otherwise agreed to be responsible for supporting financially, any unconsolidated structured entity.

Sponsored Unconsolidated Structured Entities

The Group considers itself the sponsor of certain non-consolidated structured entities where it was primarily involved in the establishment of a structured entity and where, additionally, the Group has been involved in the transfer of assets; servicer of the assets; ability to access the assets; marketing; managing activities; purchasing protection or providing explicit guarantees; when Morgan Stanley's name is associated with the structured entity or where market participants may generally expect Morgan Stanley to be associated with the structured entity.

In some sponsored entities, the Group has been involved with the structured entity through establishing the structured entity, marketing of products associated with the structured entity in its own name, and/ or through involvement in the design of the structured entity. The Group has no interest in or exposure to loss from these entities as at 31 December 2022 (2021: $nil).

During 2022 $391 million (2021: $1,398 million) of assets were transferred to sponsored structured entities. It is the investors in the structured entity, rather than the Group, that are exposed to the carrying value of assets transferred. The Group's exposure to the sponsored entities is limited to net amounts receivable from swap transactions with the entity and is not directly linked to the transferred assets themselves. The profit that the Group received in relation to transactions with sponsored entities during 2022 was $313 million (2021: loss of $370 million). Gains or losses are reported within 'Net gains from financial instruments at FVPL' in the consolidated income statement. The Group may hedge its exposure to these transactions and the gains or losses of this hedging activity are also presented within 'Net gains from financial instruments at FVPL', offsetting the gains or losses incurred.

16. TRADE AND OTHER PAYABLES

	Group		Company	
in $ millions	2022	2021	2022	2021
Trade and other payables (amortised cost)				
Trade payables	95,047	91,950	95,043	91,948
Other payables				
Due to other Morgan Stanley Group undertakings	985	977	1,013	1,004
Other amounts payable	400	377	389	363
	96,432	**93,304**	**96,445**	**93,315**
Trade and other payables (designated at FVPL)				
Prepaid OTC contracts	718	748	718	748
	718	**748**	**718**	**748**
Total	**97,150**	**94,052**	**97,163**	**94,063**

17. DEBT AND OTHER BORROWINGS

	Group	
in $ millions	2022	2021
Debt and other borrowings (amortised cost)		
Subordinated loan liabilities	8,898	6,400
Senior subordinated loan liabilities	3,900	5,600
Other borrowings(1)	20,771	31,077
	33,569	**43,077**
Debt and other borrowings (designated FVPL)		
Issued structured notes	12,113	9,602
	45,682	**52,679**

	Company	
in $ millions	2022	2021
Debt and other borrowings (amortised cost)		
Subordinated loan liabilities	8,898	6,400
Senior subordinated loan liabilities	3,900	5,600
Other borrowings(1)	20,736	30,861
	33,534	**42,861**
Debt and other borrowings (designated FVPL)		
Issued structured notes	12,113	9,602
	45,647	**52,463**

(1) There is a floating charge over a pool of assets in favour of MSIUK to secure certain intercompany loans which MSIUK has provided to the Company and which are presented within 'Other borrowings'. The value of assets subject to this charge at 31 December 2022 was $21,665 million (2021: $28,518 million). The floating charge is limited to the amount of the funding received from MSIUK of $20,384 million.

The amounts subject to subordinated loan agreements are wholly repayable as shown below:

in $ millions		2022		
Counterparty	Repayment Date	Interest Rate	Accrued Interest	Balance
MSIUK	21 December 2025	OBFR(1) plus 2.3%	54	5,000
MSIUK	11 August 2032	SOFR(2) plus 1.44%	24	1,400
MSIUK	13 June 2033	SOFR(2) plus 2.34%	70	2,500

in $ millions		2021		
Counterparty	Repayment Date	Interest Rate	Accrued Interest	Balance
MSIUK	21 December 2025	OBFR(1) plus 2.3%	21	5,000
MSIUK	11 August 2032	SOFR(2) plus 1.44%	8	1,400

(1) Overnight Bank Funding Rate ("OBFR")
(2) Secured Overnight Financing Rate ("SOFR")

The amounts subject to senior subordinated loan agreements are wholly repayable as shown below:

in $ millions			2022	
Counterparty	Repayment Date	Interest Rate	Accrued Interest	Balance
MSIUK	30 January 2023(1)	MS Proxy(2)	—	3,900

in $ millions			2021	
Counterparty	Repayment Date	Interest Rate	Accrued Interest	Balance
MSIUK	30 January 2023(1)	MS Proxy(2)	—	5,600

(1) The repayment date can be extended for 395 days on each business day but no later than 49 years from utilisation date.
(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.

The senior subordinated loan, including accrued interest, may be bailed in by the Bank of England in certain circumstances.

The Group has not defaulted on principal, interest or breached any terms of its subordinated loans or senior subordinated loans during the year.

All amounts outstanding under subordinated loan agreements are repayable on the repayment date. Any repayment of the $5,000 million instrument prior to contractual maturity of 21 December 2025 would require mutual agreement between the Company and the Lender. Prepayment of the $2,500 million instrument and the $1,400 million instrument is at the Company's discretion from the contractual call option date. PRA consent is required prior to any repayment.

18. PROVISIONS

As at 31 December 2022 and 31 December 2021 amounts reported in the following table were the same for both the Company and the Group.

in $ millions	Property	Litigation	Total
At 1 January 2022	2	41	**43**
Additional provisions	—	91	**91**
Foreign exchange revaluation	—	(3)	**(3)**
At 31 December 2022	**2**	**129**	**131**

Litigation Matters

In addition to the matters described below, in the normal course of business, the Group has been named, from time to time, as a defendant in various legal actions, including arbitrations, class actions and other litigation, arising in connection with its activities as a global diversified financial services institution. Certain of the actual or threatened legal actions include claims for substantial compensatory and/or punitive damages or claims for indeterminate amounts of damages. In some cases, the entities that would otherwise be the primary defendants in such cases are bankrupt or are in financial distress.

The Group is also involved, from time to time, in other reviews, investigations and proceedings (both formal and informal) by governmental and self-regulatory agencies regarding the Group's business, and involving, among other matters, sales and trading activities, financial products or offerings sponsored, underwritten or sold by the Group, and accounting and operational matters, certain of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief.

The Group contests liability and/or the amount of damages as appropriate in each pending matter. Where available information indicates that it is probable a liability had been incurred at the date of the financial statements and the Group can reasonably estimate the amount of that loss, the Group accrues the estimated loss by a charge to income. The Group's future legal expenses may fluctuate from period to period, given the current environment regarding government investigations and private litigation affecting global financial services firms, including the Group.

In many proceedings and investigations, however, it is inherently difficult to determine whether any loss is probable or even possible or to estimate the amount of any loss. The Group cannot predict with certainty if, how or when such proceedings or investigations will be resolved or what the eventual settlement, fine, penalty or other relief, if any, may be, particularly for proceedings and investigations where the factual record is being developed or contested or where plaintiffs or government entities seek substantial or indeterminate damages, restitution, disgorgement or penalties. Numerous issues may need to be resolved before a loss or additional loss or range of loss or additional range of loss can be reasonably estimated for a proceeding or investigation, including through potentially lengthy discovery and determination of important factual matters, determination of issues related to class certification and the calculation of damages or other relief, and consideration of novel or unsettled legal questions relevant to the proceedings or investigations in question. Subject to the foregoing, the Group believes, based on current knowledge and after consultation with counsel, that the outcome of such proceedings and investigations will not have a material adverse effect on the financial condition of the Group, although the outcome of such proceedings or investigations could be material to the Group's operating results and cash flows for a particular period depending on, among other things, the level of the Group's revenues or income for such period.

The litigation provisions recognised in the financial statements primarily relate to the matters outlined below. Significant judgement is required in deciding when and if to recognise these provisions, and the actual cost of a legal claim or regulatory fine/penalty may ultimately be materially different from the recognised provisions.

While the Group has identified below certain proceedings that the Group believes may be material, individually or collectively, there can be no assurance that additional material losses will not be incurred from claims that have not yet been asserted or are not yet determined to be material.

On 5 October 2017, various institutional investors filed a claim against the Group and another bank in a matter now styled *Case number B-803-18 (previously BS 99-6998/2017)*, in the City Court of Copenhagen, Denmark concerning their roles as underwriters of the initial public offering ("IPO") in March 2014 of the Danish company OW Bunker A/S. The claim seeks damages of approximately DKK 529 million (approximately $76 million) plus interest in respect of alleged losses arising from investing in shares in OW Bunker, which entered into bankruptcy in November 2014. Separately, on 29 November 2017, another group of institutional investors joined the Group and another bank as defendants to pending proceedings in the High Court of Eastern Denmark against various other parties involved in the IPO in a matter styled *Case number B-2073-16*. The claim brought against the Group and the other bank has been given its own *Case number B-2564-17*. The investors claim damages of approximately DKK 767 million (approximately $111 million) plus interest from the Group and the other bank on a joint and several basis with the Defendants to these proceedings. Both claims are based on alleged prospectus liability; the second claim also alleges professional liability of banks acting as financial intermediaries. On 8 June 2018, the City Court of Copenhagen, Denmark ordered that the matters now styled *Case number B-803-18, Case number B-2073-16,* and *Case number B-2564-17* be heard together before the High Court of Eastern Denmark. On 29 June 2018, the Group filed its defense to the matter now styled *Case number B-2564-17*. On 4 February 2019, the Group filed its defense to the matter now styled *Case number B-803-18*.

The Group and other financial institutions are responding to a number of governmental investigations and civil litigation matters related to allegations of anticompetitive conduct in various aspects of the financial services industry, including the matters described below.

Beginning in February of 2016, the Group and certain Morgan Stanley Group affiliates were named as a defendant in multiple purported antitrust class actions now consolidated into a single proceeding in the United States District Court for the Southern District of New York ("SDNY") styled *In Re: Interest Rate Swaps Antitrust Litigation*. Plaintiffs allege, inter alia, that the Group and certain Morgan Stanley Group affiliates, together with a number of other financial institution defendants, violated U.S. and New York state antitrust laws from 2008 through December of 2016 in connection with their alleged efforts to prevent the development of electronic exchange-based platforms for interest rate swaps trading. Complaints were filed both on behalf of a purported class of investors who purchased interest rate swaps from defendants, as well as on behalf of two swap execution facilities that allegedly were thwarted by the defendants in their efforts to develop such platforms. The consolidated complaints seek, among other relief, certification of the investor class of plaintiffs and treble damages. On July 28, 2017, the court granted in part and denied in part the defendants' motion to dismiss the complaints. A decision on plaintiffs' motion for class certification is pending.

The Group is engaging with the UK Competition and Markets Authority in connection with its investigation of suspected anti-competitive arrangements in the financial services sector, specifically regarding the Group's activities concerning certain liquid fixed income products between 2009 and 2012.

Tax Matters

The preparation of the Group's consolidated financial statements requires management to make judgements, estimates and assumptions regarding the outcome of matters that are uncertain, including those relating to tax. The Group has provisions arising on a number of uncertain tax matters, for which management has made judgements and interpretations about the application of inherently complex tax laws when determining these provisions. Whilst a range of outcomes is foreseeable, management considers the amount provided to be a reasonable estimate of expected future liabilities after consideration of all pertinent facts. Judgement is required in deciding when and if to recognise these provisions, and the actual tax expense may ultimately be materially different from the recognised provisions.

Refer to accounting policy note 3(k) for more details on the Group's accounting policy on provisions.

The Group and other financial institutions are responding to inquiries from authorities in relation to tax matters in various jurisdictions, including Italy, including requests for information and documents.

The Group is responding to requests for information and documents from authorities in Germany related to the period 2006 to 2022, including from the Federal Tax Office and the Cologne Public Prosecutor, in relation to certain equities transactions over dividend record dates and related tax matters. The Group is cooperating with the relevant authorities.

In matters styled *Case number 15/3637* and *Case number 15/4353*, the Dutch Tax Authority ("Dutch Authority") is challenging in the Dutch courts the prior set-off by a subsidiary undertaking of the Group of approximately €124 million (approximately $133 million) plus accrued interest of withholding tax credits against the subsidiary undertaking of the Group's corporation tax liabilities for the tax years 2007 to 2012. The Dutch Authority alleges that the subsidiary undertaking of the Group was not entitled to receive the withholding tax credits on the basis, inter alia, that the subsidiary undertaking of the Group did not hold legal title to certain securities subject to withholding tax on the relevant dates. The Dutch Authority has also alleged that the subsidiary undertaking of the Group failed to provide certain information to the Dutch Authority and keep adequate books and records. On 26 April 2018, the District Court in Amsterdam issued a decision dismissing the Dutch Authority's claims with respect to certain of the tax years in dispute. On 12 May 2020, the Court of Appeal in Amsterdam granted the Dutch Authority's appeal in matters re-styled *Case number 18/00318* and *Case number 18/00319*. On 22 June 2020, the subsidiary undertaking of the Group filed an appeal against the decision of the Court of Appeal in Amsterdam before the Dutch High Court. On 29 January 2021, the Advocate General of the Dutch High Court issued an advisory opinion on the subsidiary of the Group's appeal, which rejected the subsidiary of the Group's principal grounds of appeal. On 11 February 2021, the subsidiary of the Group and the Dutch Authority each responded to this opinion. On 22 June 2021, Dutch criminal authorities sought various documents in connection with an investigation of the subsidiary undertaking of the Group related to the civil claims asserted by the Dutch Authority, concerning the accuracy of the subsidiary of the Group's tax returns and the maintenance of its books and records for 2007 to 2012. The Dutch criminal authorities have requested additional information, and the Group is continuing to respond to the Dutch criminal authorities in connection with their ongoing investigation.

19. DEFERRED TAX ASSETS AND LIABILITIES

Deferred taxes are calculated on all temporary differences under the liability method. The movement in the deferred tax account is as follows:

in $ millions	Group 2022 Deferred tax asset/ (liability)	Group 2021 Deferred tax asset/ (liability)	Company 2022 Deferred tax asset/ (liability)	Company 2021 Deferred tax asset/ (liability)
At 1 January	213	171	212	170
Adjustment in respect of prior years	—	(12)	—	(12)
Amount recognised in the consolidated income statement	11	45	11	45
Amount recognised in consolidated statement of other comprehensive income	(55)	(22)	(55)	(22)
Amount recognised directly in equity	4	—	4	—
Impact of changes in tax rates recognised in the consolidated income statement	(8)	14	(8)	14
Impact of changes in tax rates recognised in consolidated statement of other comprehensive income	(14)	17	(14)	17
At 31 December	**151**	**213**	**150**	**212**

For the purposes of presentation in the consolidated statement of financial position, certain deferred tax assets and liabilities have been offset in accordance with IAS 12.

The deferred tax included in the consolidated statement of financial position and changes recorded in 'Income tax expense' are detailed below:

in $ millions 2022	Group Deferred tax asset/ (liability)	Consolidated income statement	Other comprehensive income / Equity
Accelerated capital allowances	1	—	—
Deferred compensation	111	18	(4)
Transitional adjustment	(7)	—	(2)
Temporary differences arising in respect of changes in Group's and Company's own credit risk	49	—	71
Unrealised gains/ (losses)	(3)	(21)	—
Other temporary differences	—	—	—
	151	**(3)**	**65**

in $ millions 2021	Group Deferred tax asset/ (liability)	Consolidated income statement	Other comprehensive income / Equity
Accelerated capital allowances	1	—	—
Deferred compensation	125	55	—
Transitional adjustment	(9)	—	—
Temporary differences arising in respect of changes in Group's and Company's own credit risk	120	—	5
Unrealised gains/ (losses)	(24)	(7)	—
	213	**48**	**5**

in $ millions	Company		
2022	Deferred tax asset/ (liability)	Consolidated income statement	Other comprehensive income / Equity
Accelerated capital allowances	1	—	—
Deferred compensation	110	18	(4)
Transitional adjustment	(7)	—	(2)
Temporary differences arising in respect of changes in Group's and Company's own credit risk	49	—	71
Unrealised gains/ (losses)	(3)	(21)	—
Other temporary differences	—	—	—
	150	**(3)**	**65**

in $ millions	Company		
2021	Deferred tax asset/ (liability)	Consolidated income statement	Other comprehensive income / Equity
Accelerated capital allowances	2	—	—
Deferred compensation	124	54	—
Transitional adjustment	(9)	—	—
Temporary differences arising in respect of changes in Group's and Company's own credit risk	120	—	5
Unrealised gains/ (losses)	(25)	(7)	—
	212	**47**	**5**

The UK statutory rate is 27% for the year, including an 8% corporation tax surcharge on the profits of banking companies. The Finance Act 2021 raised the UK main rate of corporation tax from 19% to 25% with effect from 1 April 2023. In addition, the Finance Act 2022 reduced the corporation tax surcharge rate from 8% to 3% with effect from 1 April 2023. These changes affect the deferred tax charge for both the current and future years.

The net deferred tax asset shown above has been recognised based on management's assessment that it is probable that the Group will have taxable profits against which the temporary differences can be utilised.

20. COMMITMENTS

At 31 December 2022 and 2021, the Group and Company had the following outstanding commitments and contingent liabilities arising from off-balance sheet financial instruments:

in $ millions	2022	2021
Commitments[1]		
Loan commitments	15	121
Guarantees	373	348
Unsettled securities purchased under agreements to resell [2]	54,628	34,493
Unsettled securities sold under agreements to repurchase[2]	22,894	13,619
Other commitments	26	37

(1) Certain loan commitments, unsettled securities sold under agreements to repurchase and guarantees are on balance sheet and designated at fair value. (see note 10).
(2) Unsettled securities purchased under agreements to resell and sold under agreements to repurchase have a trade date at or prior to 31 December and settle subsequent to year end.

21. EQUITY INSTRUMENTS

in $ millions	2022	2021
Issued and fully paid:		
Ordinary shares of $1 each[1]	**10,935**	**10,935**
Ordinary shares of £1 each[1]	**30**	**30**
Class A ordinary shares of $1 each[2]	**1,500**	**1,500**
AT1 capital[2]	**4,300**	**3,500**
Total equity instruments at 31 December	**16,765**	**15,965**

(1) Ordinary shares of $1 each carry 99.9% of the voting rights (2021: 99.9%). Ordinary shares of £1 each carry 0.1% of the voting rights (2021: 0.1%). Ordinary shares are pari passu with each other regardless of currency.
(2) Class A ordinary shares and AT1 capital do not carry any voting rights (2021: Non-voting)

The Company issued $800 million of AT1 capital in the year.

Equity Instruments

At 31 December 2022, the total equity instruments which the Company had in issue amounted to $16,765 million (31 December 2021: $15,965 million) comprising 10,935,105,148 ordinary shares of $1 each, 17,615,107 ordinary shares of £1 each, 1,500,000,000 Class A Non-voting ordinary shares of $1 each and Additional Tier 1 capital instruments of $4,300 million (31 December 2021: $3,500 million). All equity instruments are fully paid. There have been no changes to equity instruments for the Company from 1 January 2021.

Ordinary Shares

The holders of the ordinary shares, excluding Class A ordinary shares, are entitled to receive dividends as declared from time to time and are entitled, on a show of hands, to one vote and, on a poll, one vote per share at meetings of the shareholders of the Company. All shares rank equally with regard to the Company's residual net assets. All ordinary shares are recorded at the rates of exchange ruling at the date the shares were paid up.

AT1 Capital

AT1 capital issued by the Company comprises three separate Instruments, with balances of $2,200 million, $1,300 million and $800 million, respectively. The Instruments include a trigger mechanism whereby, if the Common Equity Tier 1 capital ratio of the Company or MSI Group falls below 7%, the BOE as the UK Resolution Authority also has the authority to trigger the write down of the instruments upon the exercise of statutory powers in a resolution scenario. In this situation, Morgan Stanley International Limited, the holder of the AT1, would have no further rights against the Group in respect of the AT1.

The Instruments have no defined maturity and are subordinated to senior creditors and subordinated loan creditors of the Company. The Instruments are not entitled to any participation in the residual net assets of the Company. The Instruments are callable at the Company's discretion, from 30 November 2023 for the $2,200 million instrument, from 30 November 2025 for the $1,300 million instrument and from 30 November 2027 for the $800 million instrument.

Coupons on the Instruments are non-cumulative. Coupons are payable at a fixed rate of 7.5% per annum for the $2,200 million instrument, 5.45% per annum for the $1,300 million instrument and 7.42% per annum for the $800 million instrument. Payment of the coupon is wholly at the discretion of the Company.

Coupon interest on the $2,200 million and $1,300 million instruments was paid on 30 November 2022 (see note 22).

Reserves

Share Premium

The 'Share premium account' comprises the capital raised in an issue of shares that exceeds the nominal value of the shares.

Currency Translation Reserve

The 'Currency translation reserve' comprises all foreign exchange differences arising from the translation of the total assets less total liabilities of foreign operations. The tax effect of these movements is also included in the 'Currency translation reserve'.

Capital Contribution Reserve

The 'Capital contribution reserve' comprises contributions of capital from the Group's parent company to subsidiaries of the Group.

Capital Redemption Reserve

The 'Capital redemption reserve' represents transfers in prior years from retained earnings in accordance with relevant legislation.

Pension Reserve

The 'Pension reserve' comprises cumulative actuarial gains or losses on scheme assets and obligations net of current tax and the impact of the asset surplus ceiling (see note 33).

Debt Valuation Reserve

The 'Debt valuation reserve' includes the cumulative change in fair value of certain financial liabilities designated at fair value through profit or loss that is attributable to changes in the credit risk of those liabilities at the reporting date, together with the tax effect of these movements.

22. DIVIDENDS

On 30 November 2022, a coupon payment on the $1,300 million AT1 capital instrument of $70,850,000 (31 December 2021: $71,838,000) was paid out of reserves available for distribution.

On 30 November 2022, a coupon payment on the $2,200 million AT1 capital instrument of $165,000,000 (31 December 2021: $165,000,000) was paid out of reserves available for distribution.

The Directors have not proposed the payment of a final dividend out of reserves available at 31 December 2022 (2021: $nil).

23. ADDITIONAL CASH FLOW INFORMATION

a. Cash and Cash Equivalents

For the purposes of the consolidated statement of cash flows, cash and cash equivalents comprise the following balances, which have less than three months maturity from the date of acquisition:

in $ millions	2022	2021
Cash and short term deposits	18,754	28,532
Bank loans and overdrafts	(59)	(48)
	18,695	**28,484**

Included within Group and Company 'Cash and short term deposits' is $9,424 million (2021: $10,569 million) of segregated client money, held in accordance with the FCA's Client Money Rules. Additionally, an amount for the Group of $170 million (2021: $168 million) and for the Company of $104 million (2021: $107 million) represents other client money, that is not available for use. The corresponding payable is recognised and included in 'Trade and other payables'.

b. Reconciliation of Cash Flows from Operating Activities

in $ millions	Note	2022	2021
Profit for the year		1,396	1,351
Adjustments for:			
Net impairment loss/(reversal) on financial instruments		148	(2)
Depreciation on property, plant and equipment		7	6
Provisions	18	91	35
Interest income	6	(2,926)	398
Interest expense	6	3,874	134
Income tax expense	9	321	589
Share based payments		4	2
Gain on modification of subordinated loan liabilities		(2)	—
Operating cash flows before changes in operating assets and liabilities		**2,913**	**2,513**
Changes in operating assets			
Net increase in secured financing		(3,884)	(12,098)
Net decrease in loans and advances		4	51
Net (increase)/decrease in trade and other receivables		(2,354)	3,953
Net decrease/(increase) in investment securities		23	(14)
Net decrease in trading financial assets		3,253	42,374
Net increase in other assets		(65)	(104)
		(3,023)	**34,162**
Changes in operating liabilities			
Net (decrease)/increase in secured borrowing		(3,296)	8,912
Net increase in trade and other payables		2,691	1,539
Net decrease in debt and other borrowings		(7,658)	(3,176)
Net decrease in trading financial liabilities		(1,635)	(40,067)
Net decrease in other liabilities		(116)	(43)
Net decrease in provisions		—	(2)
		(10,014)	**(32,837)**
Interest received		2,787	(541)
Interest paid		(3,137)	144
Income taxes paid		(190)	(397)
Effect of foreign exchange movements		1,314	802
Net cash flows used in operating activities		**(9,350)**	**3,846**

c. Reconciliation of Equity and Liabilities arising from Financing Activities

in $ millions	Note	AT1	Senior Subordinated loans	Subordinated Loans	Total equity and liabilities from financing activities
Balance as at 1 January 2021		3,500	6,000	5,000	14,500
Issuance	17	—	—	1,400	1,400
Repayment	17	—	(400)	—	(400)
Balance as at 31 December 2021 and 1 January 2022		**3,500**	**5,600**	**6,400**	**15,500**
Issuance	17	800	600	2,500	3,900
Repayment	17	—	(2,300)	—	(2,300)
Gain on modification of subordinated loan liabilities		—	—	(2)	(2)
Balance as at 31 December 2022		**4,300**	**3,900**	**8,898**	**17,098**

24. EXPECTED MATURITY OF ASSETS AND LIABILITIES

The table below shows an analysis of assets and liabilities analysed according to when they are expected to be recovered, realised or settled.

Group	2022			2021		
in $ millions	Less than or equal to twelve months	More than twelve months	Total	Less than or equal to twelve months	More than twelve months	Total
ASSETS						
Secured financing	129,142	637	**129,779**	125,365	530	**125,895**
Loans and advances	—	63	**63**	—	67	**67**
Investment securities	—	142	**142**	—	165	**165**
Trade and other receivables	80,669	1,111	**81,780**	78,349	985	**79,334**
Deferred tax assets	29	122	**151**	48	165	**213**
Property, plant and equipment	—	33	**33**	—	33	**33**
Other	348,441	2	**348,443**	361,477	2	**361,479**
	558,281	**2,110**	**560,391**	**565,239**	**1,947**	**567,186**
LIABILITIES						
Secured borrowing	91,551	2,415	**93,966**	92,568	4,694	**97,262**
Trade and other payables	96,600	550	**97,150**	93,598	454	**94,052**
Debt and other borrowings	6,814	38,868	**45,682**	4,584	48,095	**52,679**
Post-employment benefit obligations	—	4	**4**	—	9	**9**
Other	299,356	—	**299,356**	301,009	—	**301,009**
	494,321	**41,837**	**536,158**	**491,759**	**53,252**	**545,011**

Company	2022			2021		
in $ millions	Less than or equal to twelve months	More than twelve months	Total	Less than or equal to twelve months	More than twelve months	Total
ASSETS						
Secured financing	129,142	437	**129,579**	125,365	330	**125,695**
Loans and advances	—	29	**29**	—	26	**26**
Investment securities	—	141	**141**	—	165	**165**
Trade and other receivables	80,773	1,095	**81,868**	78,439	968	**79,407**
Deferred tax assets	29	121	**150**	48	164	**212**
Investments in subsidiaries	—	132	**132**	—	130	**130**
Property, plant and equipment	—	14	**14**	—	11	**11**
Other	347,855	2	**347,857**	361,010	2	**361,012**
	557,799	**1,971**	**559,770**	**564,862**	**1,796**	**566,658**
LIABILITIES						
Secured borrowing	91,261	2,181	**93,442**	92,568	4,286	**96,854**
Trade and other payables	96,613	550	**97,163**	93,609	454	**94,063**
Debt and other borrowings	6,814	38,833	**45,647**	4,584	47,879	**52,463**
Post-employment benefit obligations	—	1	**1**	—	6	**6**
Other	299,303	—	**299,303**	300,942	—	**300,942**
	493,991	**41,565**	**535,556**	**491,703**	**52,625**	**544,328**

25. SEGMENT REPORTING

Segment information is presented in respect of the Group's business and geographical segments. The business segments and geographical segments are based on the Group's management and internal reporting structure. Transactions between business segments are on normal commercial terms and conditions.

Business Segment

Morgan Stanley structures its business segments primarily based upon the nature of the financial products and services provided to customers and Morgan Stanley's internal management structure. The Group's own business segments are consistent with those of Morgan Stanley.

The Group has one reportable business segment, Institutional Securities, which includes capital raising and financial advisory services; corporate lending; sales, trading, financing and market-making activities in equity and fixed income securities and related products, including global macro, credit and commodities products and investment activities.

Geographical Segments

The Group operates in three geographic regions, being EMEA, the Americas and Asia.

The following table presents selected consolidated income statement and consolidated statement of financial position information of the Group's operations by geographic area. The external revenues (net of interest expense) and total assets disclosed in the following table reflect the regional view of the Group's operations, on a managed basis. The attribution of external revenues (net of interest expense) and total assets is determined by a combination of client and trading desk location.

	Net Revenue		Profit before Tax	
in $ millions	2022	2021	2022	2021
EMEA	4,645	5,174	700	1,138
Asia	2,012	2,014	820	701
Americas	465	377	197	101
Total	**7,122**	**7,565**	**1,717**	**1,940**

	Total Assets	
in $ millions	2022	2021
EMEA	339,424	337,702
Asia	114,501	99,774
Americas	106,466	129,710
Total	**560,391**	**567,186**

26. FINANCIAL RISK MANAGEMENT

26.1 Risk Management Procedures

Risk is an inherent part of the Group and Company's business activities. The Group seeks to identify, assess, monitor, and manage each of the various types of risks involved in its business activities in accordance with defined policies and procedures. The Group has developed a risk management policy framework, which is consistent with and leverages the risk management policies and procedures of the Morgan Stanley Group and which includes escalation to the Group's Board of Directors and to appropriate senior management personnel of the Group .

Significant risks faced by the Group resulting from trading, financing and investment activities are set out below.

26.2 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.

26.2.1 Primary Market Risk Exposures

During the year, the Group had exposures to a wide range of market risk factors related to the global markets in which it conducts its trading activities. These market risk factors include interest rate and credit spread risk, equity prices, foreign exchange rates and commodity prices and the associated implied volatilities.

The Group is exposed to interest rate and credit spread risk, as well as associated implied volatility risks, as a result of its market making activities in interest rate or credit sensitive financial instruments (e.g. risk arising from changes in the level of interest rates, the shape of the yield curve and credit spreads). The activities from which those exposures arise and the markets in which the Group is active include, but are not limited to: interest rate and credit derivatives, corporate and government debt across both developed and emerging markets and asset-backed debt (including mortgage-related securities).

The Group is exposed to equity price and implied volatility risk as a result of making markets in equity securities and derivatives and maintaining other positions (including positions in non-public entities). Positions in non-public entities may include, but are not limited to, exposures to private equity, venture capital, private partnerships, real estate funds and other funds. Such positions are less liquid, have longer investment horizons and are more difficult to hedge than listed equities.

The Group is exposed to foreign exchange rate and implied volatility risk as a result of making markets in foreign currencies and foreign currency derivatives, from maintaining foreign exchange positions and from holding non-US dollar-denominated financial instruments.

The Group has exposure to commodities. This exposure is due to price and implied volatility risk as a result of market-making activities in crude and refined oil products, natural gas, electricity, and precious and base metals.

26.2.2 Risk Management

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

Aggregate market risk limits have been approved for the Group in line with the risk appetite set by the Board. Additional market risk limits are assigned, as appropriate, to trading desks, products and/ or regions and are commensurate with the aggregate limits. MRD monitors market risk measures against limits in accordance with policies set by the Board and senior management.

26.2.3 Measurement - Value at Risk

The 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.

The Group calculates VaR using a model based on historical simulation for general market risk factors and name specific equity risk, and a Monte Carlo simulation for name-specific risk in corporate bonds, loans and related derivatives. Market risk factors' daily moves are modelled either as difference changes or relative changes, dependent on the most suitable stochastic process (normal or log normal 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.

26.2.4 VaR Methodology, Assumptions and Limitations

The basic methodology for VaR at Morgan Stanley is 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 same valuation approach is used for Stressed VaR. 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 trading positions booked by the Group are being included in VaR. Management VaR is computed at a 95% level of confidence over a one day time horizon, which is a useful indicator of possible trading losses resulting from adverse daily market moves. The 95%/one-day VaR corresponds to the unrealised loss in portfolio value that, based on historically observed market risk factor movements, could have been exceeded with a frequency of five times in every 100 trading days, if the portfolio were held constant for one day.

The 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 95% 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. A small proportion of market risk generated by trading positions is not included in VaR.

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 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, entity and Group levels.

The Group is committed to continuous review and enhancement of VaR methodologies and assumptions to capture evolving risks associated with changes in market structure and dynamics. As part of regular process improvement, additional systematic and name-specific risk factors may be added to improve the VaR model's ability to estimate more accurately 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 Group's future revenues or financial performance or of its ability to manage risk. There can be no assurance that the Group's actual losses on a particular day will not exceed the VaR amounts indicated in the following paragraphs or that such losses will not occur more than five times in 100 trading days for a 95%/one-day VaR. 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.

26.2.5 VaR for the Year Ended 31 December 2022

The table below presents the Management VaR for the Group and Company's trading portfolio on a year-end, average and annual high and low basis for 31 December 2022 and 31 December 2021.

	95%/ one-day VaR for the year ended 95%/one-day Var for the year ended 31 December 2022				95%/ one-day VaR for the year ended 95%/one-day Var for the year ended 31 December 2021			
in $ millions	Period end	Average	High	Low	Period end	Average	High	Low
Market risk category:								
Interest rate and credit spread	19	16	26	11	12	16	26	12
Equity price	11	18	26	11	19	22	31	17
Foreign exchange rate	11	6	14	2	4	6	13	3
Commodity price	5	7	11	2	3	3	7	2
Less diversification benefit (1)(2)	(22)	(22)	N/A	N/A	(15)	(18)	N/A	N/A
Primary Market Risk Categories	24	25	32	19	23	29	37	22
Credit Portfolio (3)	12	8	15	4	6	7	12	5
Less diversification benefit (1)(2)	(6)	(7)	N/A	N/A	(6)	(6)	N/A	N/A
Total Management VaR	**30**	**26**	**35**	**19**	**23**	**30**	**41**	**23**

(1) Diversification benefit equals the difference between total trading VaR and the sum of the VaRs for the four risk categories. This benefit arises because the simulated one-day losses for each of the four primary market risk categories occur on different days; similar diversification benefits also are taken into account within each category.
(2) N/A - Not Applicable. The minimum and maximum VaR values for the total VaR and each of the component VaRs might have occurred on different days during the year and therefore the diversification benefit is not an applicable measure.
(3) The Credit Portfolio VaR is disclosed as a separate category from the Primary Risk Categories and includes loans that are carried at fair value and associated hedges as well as counterparty credit valuation adjustments and related hedges.

26.2.6 Non-trading Risks for the Year Ended 31 December 2022

The Group and Company believes that sensitivity analysis is an appropriate representation of the Group and Company's non-trading risks. Reflected below is this analysis, which covers substantially all of the non-trading risks in the Group and Company's portfolio, with the exception of counterparty credit valuation adjustments, which are covered in the previous section.

26.2.7 Interest Rate Risk

The Group and Company's VaR excludes certain funding liabilities and money market transactions.

The application of a parallel shift in interest rates of 200 basis points increase or decrease to these positions would result in a net loss or gain, respectively, of approximately $60.8 million as at 31 December 2022, compared to a net loss or gain of $39.6 million as at 31 December 2021.

26.2.8 Funding Liabilities

The credit spread risk sensitivity of the Group's mark-to-market funding liabilities corresponds to an increase in value of approximately $5.6 million and $5.4 million for each 1 basis point widening in the Group's credit spread level at 31 December 2022 and 31 December 2021 respectively.

26.2.9 Equity Investments Price Risk

The Group and Company are exposed to equity price risk as a result of changes in the fair value of its investments in listed and private equities classified as FVPL financial assets. These investments are predominantly equity positions with long investment horizons, the majority of which are for business facilitation purposes. The market risk related to these investments is measured by estimating the potential reduction in net revenues associated with a 10% decline in asset values as shown in the table below.

in $ millions	2022 10% sensitivity	2021 10% sensitivity
Investment securities	14	17

26.2.10 Currency Risk

The Group and Company have foreign currency exposure arising from foreign operations. The majority of this foreign currency risk has been hedged by other members of the Morgan Stanley Group, primarily Morgan Stanley, by utilising forward foreign currency exchange contracts.

The Group and Company also have foreign currency exposure arising from its trading activities in currencies other than US dollars. The Group and Company actively manage this exposure by hedging with other Morgan Stanley Group undertakings.

The analysis below details the foreign currency exposure for the Group and Company, by foreign currency, relating to the retranslation of branches and subsidiaries which are not denominated in US dollars. The largest foreign currency exposures for Group and Company are driven by the Company's South Korean branch and Morgan Stanley Taiwan Limited, a direct subsidiary of the Company. The analysis calculates the impact on total comprehensive income of a reasonably possible parallel shift of the foreign currency in relation to the US dollar, with all other variables held constant. This analysis does not take into account the effect of the foreign currency hedges held by other members of the Morgan Stanley Group.

Group	2022			2021		
		Sensitivity to applied percentage change in currency (+/-)			Sensitivity to applied percentage change in currency (+/-)	
in $ millions	Foreign currency exposure	Percentage change applied	Other comprehensive income	Foreign currency exposure	Percentage change applied	Other comprehensive income
Euro	(13)	9%	(1)	2	14%	—
Taiwan New Dollar	186	11%	20	195	8%	16
South Korean Won	420	9%	38	417	11%	46
Swiss Franc	41	8%	3	35	8%	3
	634		**60**	**649**		**65**

Company	2022			2021		
		Sensitivity to applied percentage change in currency (+/-)			Sensitivity to applied percentage change in currency (+/-)	
in $ millions	Foreign currency exposure	Percentage change applied	Other comprehensive income	Foreign currency exposure	Percentage change applied	Other comprehensive income
Euro	54	9%	5	58	14%	8
South Korean Won	420	9%	38	417	11%	46
Swiss Franc	41	8%	3	35	8%	3
	515		**46**	**510**		**57**

The reasonably possible percentage change in the currency rate in relation to US dollars has been calculated based on the greatest annual percentage change over the 5 year period from 1 January 2018 to 31 December 2022 (2021: 1 January 2017 to 31 December 2021).

The Group also has foreign currency exposure arising from its trading activities and assets and liabilities in currencies other than US dollars, which it actively manages by hedging with other Morgan Stanley Group undertakings.

26.3 Credit Risk

Credit risk refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations to the Group. Credit risk includes country risk, which is further described below. Additional information on credit risk monitoring, control and mitigation is presented in the Strategic Report and forms part of the audited financial statements.

26.3.1 Primary Credit Risk Exposure

The Group primarily incurs credit risk to institutions and sophisticated investors, mainly through its Institutional Securities business segment. The risk may be incurred through a variety of activities, including, but not limited to, the following:

- entering into derivative contracts under which counterparties may have obligations to make payments to the Group;
- extending credit to clients through lending commitments;
- providing short- or long-term funding that is secured by physical or financial collateral whose value may at times be insufficient to fully cover the repayment amount;
- posting margin and/ or collateral to clearing houses, clearing agencies, exchanges, banks, securities firms and other financial counterparties;
- placing funds on deposit at other financial institutions to support the Group's clearing and settlement obligations; and
- investing or trading in securities and loan pools, whereby the value of these assets may fluctuate based on realised or expected defaults on the underlying obligations or loans.

26.3.2 Risk Management

26.3.2.1 Stress Testing

Stress testing is one of the Group's principal risk management tools, used to identify and assess the impact of severe stresses on its portfolios. A number of different scenarios are used to measure the impact on the Group's credit risks and market risks stemming from negative economic and political scenarios, including possible contagion effects where appropriate. The results of the stress tests may result in the amendment of limits or exposure mitigation.

26.3.2.2 Monitoring and Control

To help protect the Group from losses, the Credit Risk Management Department establishes Morgan Stanley-wide practices to evaluate, monitor and control credit risk at the transaction, obligor and portfolio levels. The Credit Risk Management Department approves extensions of credit, evaluates the creditworthiness of the Group's counterparties and borrowers on a regular basis, and helps ensure that credit exposure is actively monitored and managed. The evaluation of counterparties and borrowers includes an assessment of the probability that an obligor will default on its financial obligations and any subsequent losses that may occur when an obligor defaults. In addition, credit risk exposure is actively managed by credit professionals and committees within the Credit Risk Management Department and through various risk committees, whose membership includes individuals from the Credit Risk Management Department.

A Credit Limits Framework is utilised to manage credit risk levels across the MSI Group. The Credit Limits Framework is calibrated within the MSI Group's risk tolerance and includes single-name limits and portfolio concentration limits by country and industry. The Credit Risk Management Department helps ensure timely and transparent communication of material credit risks, compliance with established limits and escalation of risk concentrations to appropriate senior management.

The Credit Risk Management Department also works closely with the Market Risk Department and applicable business units to monitor risk exposures and to perform stress tests to identify, analyse and, control credit risk concentrations arising in the Group's lending and trading activities. The stress tests shock market factors (e.g. interest rates, commodity prices, credit spreads), and risk parameters (e.g. default probabilities and loss given default) to assess the impact of stresses on exposures, profit and loss, and the Group's capital position. Stress tests are conducted in accordance with established Group policies and procedures.

26.3.2.3 Credit Evaluation

The evaluation of corporate and institutional counterparties includes assigning obligor credit ratings, which reflect an assessment of an obligor's probability of default and loss given default. Credit evaluations typically involve the assessment of financial statements, leverage, liquidity, capital strength, asset composition and quality, market capitalisation, access to capital markets, the adequacy of collateral, if applicable, and in the case of certain loans, cash flow projections and debt service requirements. The Credit Risk Management Department also evaluates strategy, market position, industry dynamics, management and other factors that could affect the obligor's risk profile. Additionally, the Credit Risk Management Department evaluates the relative position of the Group's exposure in the borrower's capital structure and relative recovery prospects, as well as adequacy of collateral (if applicable) and other structural elements of the particular transaction.

In addition to assessing and monitoring its credit exposure and risk at the individual obligor level, the Group also reviews its credit exposure and risk to geographic regions. As at 31 December 2022, the Group had no significant geographical concentration of risk but had credit exposure to North America, Asia and Western Europe. In addition, the Group pays particular attention to smaller exposures in emerging markets given their unique risk profile. Sovereign ceiling ratings i.e. the maximum credit rating that can be assigned to a counterparty with a designated country of risk, are derived using methodologies generally consistent with those employed by external rating agencies.

The Group also reviews its credit exposure and risk to certain types of customers. At 31 December 2022, the Group's material credit exposure was to central clearing counterparties, corporate entities, financial institutions and sovereign-related entities.

The Group also reviews its credit exposure to industries identified as having high climate transition and physical risk. At 31 December 2022 this risk is not material.

26.3.3 Risk Mitigation

The Credit Risk Management Department may seek to mitigate credit risk from its lending and trading activities in multiple ways, including collateral provisions, guarantees and hedges. At the transaction level, the Credit Risk Management Department seeks to mitigate risk through management of key risk elements such as size, tenor, financial covenants, seniority and collateral. The main types of collateral held are cash or similarly highly-liquid assets. The Group has internal policies on the acceptability of specific classes of collateral or credit risk mitigation. The Group closely monitors collateral held for financial assets considered to be credit-impaired, as in such cases it is considered more likely that the Group will take possession of collateral to mitigate potential credit losses. The Group actively hedges its lending and derivatives exposure through various financial instruments that may include single-name, portfolio and structured credit derivatives. Additionally, the Group may sell, assign or syndicate funded loans and lending commitments in the primary and secondary loan markets. In connection with its derivatives trading activities, the Group generally enters into master netting agreements and collateral arrangements with counterparties. These agreements provide the Group with the ability to demand collateral, to liquidate collateral and to offset receivables and payables covered under the same master agreement in the event of a counterparty default.

26.3.3.1 Securities Purchased Under Agreements to Resell and Securities Borrowed

The Group manages credit exposure arising from securities purchased under agreements to resell and securities borrowed transactions by, in appropriate circumstances, entering into master netting agreements and collateral agreements with counterparties that provide the Group, in the event of a counterparty default, with the right to net a counterparty's rights and obligations under such agreements and to liquidate and set off collateral held by the Group against the net amount owed by the counterparty. Under these securities purchased under agreements to resell and securities borrowed transactions, the Group receives collateral, including United States government and agency securities, other sovereign government obligations, corporate and other debt and corporate equities. The Group also monitors the fair value of the underlying securities as compared with the related receivable or payable, including accrued interest, and, as necessary, requests additional collateral to ensure such transactions are adequately collateralised.

26.3.3.2 Derivatives

The Group may seek to mitigate credit risk from its derivatives transactions in multiple ways, including documentation, collateral provisions, guarantees and hedges. At the transaction level, the Group seeks to mitigate risk through management of key risk elements such as size, tenor, financial covenants, seniority and collateral. The Group actively hedges its derivatives exposure through various financial instruments that may include single-name, portfolio and structured credit derivatives. The Group may enter into master netting agreements and collateral arrangements with counterparties. These master netting agreements and collateral arrangements may provide the Group with the ability to demand collateral, as well as to liquidate collateral and offset receivables and payables covered under the same master netting agreement in the event of counterparty default. The Group monitors the creditworthiness of counterparties to these transactions on an ongoing basis and requests additional collateral in accordance with collateral arrangements when deemed necessary.

26.3.4 Exposure to Credit Risk

The maximum exposure to credit risk ("gross credit exposure") of the Group and Company as at 31 December 2022 is disclosed below, based on the carrying amounts of the financial assets and the maximum amount that the Group and Company could have to pay in relation to unrecognised financial instruments, which the Group and Company believes are subject to credit risk. The table includes financial instruments subject to ECL and not subject to ECL.

Where the Group or Company enters into credit enhancements, including receiving cash and security as collateral and master netting agreements, to manage the credit exposure on these financial instruments the financial effect of the credit enhancements is disclosed below. The net credit exposure represents the credit exposure remaining after the effect of the credit enhancements.

Trading financial assets are subject to traded credit risk through exposure to the issuer of the financial asset; the Group and Company manages this issuer credit risk through its market risk management infrastructure and this traded credit risk is incorporated within the VaR based risk measures included in the market risk disclosure. However, listed derivatives are included below as they are recognised as having credit risk exposure to central counterparties.

Exposure to Credit Risk by Class

Group	2022			2021		
Class **in $ millions**	Gross credit exposure	Credit enhance-ments	Net credit exposure(1)	Gross credit exposure	Credit enhance-ments	Net credit exposure(1)
Subject to ECL:						
Cash and short-term deposits	18,754	—	18,754	28,532	—	28,532
Loans and advances	63	—	63	67	—	67
Trade and other receivables(2)	80,172	—	80,172	78,069	—	78,069
Not subject to ECL:						
Trading financial assets:						
Derivatives	251,076	(240,879)	10,197	242,432	(229,230)	13,202
Secured financing	129,779	(128,908)	871	125,895	(124,594)	1,301
Trade and other receivables(2)	1,298	(319)	979	993	(777)	216
	481,142	**(370,106)**	**111,036**	**475,988**	**(354,601)**	**121,387**
Unrecognised financial instruments						
Not subject to ECL:						
Loan commitments	15	—	15	121	(2)	119
Unsettled securities purchased under agreements to resell(3)	54,628	—	54,628	34,493	—	34,493
Total unrecognised financial instruments	**54,643**	**—**	**54,643**	**34,614**	**(2)**	**34,612**
	535,785	**(370,106)**	**165,679**	**510,602**	**(354,603)**	**155,999**

(1) Of the residual net credit exposure, intercompany cross product netting arrangements are in place which would allow Group an additional $8,756 million of an available $34,119 million (31 December 2021: $7,041 million of an available $31,977 million) to be offset in the event of default by certain Morgan Stanley counterparties.
(2) Trade and other receivables primarily include cash collateral pledged against the payable on OTC derivative positions. These derivative liabilities are included within trading financial liabilities in the consolidated statement of financial position.
(3) For unsettled securities purchased under agreements to resell, collateral in the form of securities will be received at the point of settlement. Since the value of collateral is determined at a future date, it is currently unquantifiable and not included in the table.

Exposure to Credit Risk by Class

Company Class **in $ millions**	2022 Gross credit exposure	Credit enhance-ments	Net credit exposure[1]	2021 Gross credit exposure	Credit enhance-ments	Net credit exposure[1]
Subject to ECL:						
Cash and short-term deposits	18,449	—	18,449	28,218	—	28,218
Loans and advances	29	—	29	26	—	26
Trade and other receivables[2]	80,261	—	80,261	78,144	—	78,144
Not subject to ECL:						
Trading financial assets						
Derivatives	251,082	(240,885)	10,197	242,445	(229,243)	13,202
Secured financing	129,579	(128,712)	867	125,695	(124,394)	1,301
Trade and other receivables[2]	1,298	(319)	979	993	(777)	216
	480,698	**(369,916)**	**110,782**	**475,521**	**(354,414)**	**121,107**
Unrecognised financial instruments						
Not subject to ECL:						
Loan commitments	15	—	15	121	(2)	119
Unsettled securities purchased under agreements to resell[3]	54,628	—	54,628	34,493	—	34,493
Total unrecognised financial instruments	**54,643**	**—**	**54,643**	**34,614**	**(2)**	**34,612**
	535,341	**(369,916)**	**165,425**	**510,135**	**(354,416)**	**155,719**

(1) Of the residual net credit exposure, intercompany cross product netting arrangements are in place which would allow an additional $8,754 million of an available $34,119 million (31 December 2021: $7,039 million of an available $31,956 million) to be offset in the event of default by certain Morgan Stanley counterparties.

(2) Trade and other receivables primarily include cash collateral pledged against the payable on OTC derivative positions. These derivative liabilities are included within trading financial liabilities in the statement of financial position

(3) For unsettled securities purchased under agreements to resell, collateral in the form of securities will be received at the point of settlement. Since the value of collateral is determined at a future date, it is currently unquantifiable and not included in the table

The impact of master netting arrangements and similar agreements on the Group's ability to offset financial assets and financial liabilities is disclosed in note 29.

Exposure to Credit Risk by Internal Rating Grades

Internal credit ratings are derived using methodologies generally consistent with those used by external agencies:

Investment grade: AAA - BBB

Non-investment grade: BB – CCC

Default: D

The table below presents gross carrying/ nominal amount by internal rating grade. All exposures subject to ECL are Stage 1, unless otherwise shown.

	Group							
	Investment Grade							
31 December 2022	AAA	AA	A	BBB	Non-Investment Grade	Unrated[(1)] / Default	Total	Net of ECL
in $ millions								
Subject to ECL:								
Cash and short term deposit								
Stage 1	212	4,869	12,600	1,019	54	—	18,754	18,754
Stage 3	—	—	—	—	—	96	96	—
Loans and advances								
Stage 1	—	—	63	—	—	—	63	63
Trade and other receivables								
Stage 1	1,985	10,523	44,737	13,657	6,943	2,300	80,145	80,145
Stage 3	4	7	4	4	1	56	76	27
	2,201	**15,399**	**57,404**	**14,680**	**6,998**	**2,452**	**99,134**	**98,989**
Not subject to ECL:								
Trading financial assets - derivatives	4,700	18,765	155,134	57,802	14,629	46	251,076	251,076
Secured financing	712	28,513	81,530	15,278	3,732	14	129,779	129,779
Trade and other receivables	733	—	561	—	4	—	1,298	1,298
	6,145	**47,278**	**237,225**	**73,080**	**18,365**	**60**	**382,153**	**382,153**
Unrecognised financial instruments not subject to ECL:								
Unsettled securities purchased under agreements to resell	—	24,849	20,732	7,602	1,382	63	54,628	54,628
Loan commitments	—	1	—	—	14	—	15	15
	—	**24,850**	**20,732**	**7,602**	**1,396**	**63**	**54,643**	**54,643**

(1) For the unrated trade receivables, a lifetime ECL is calculated without considering whether SICR has occurred.

The Cash and short term deposit loss allowance as at 31 December 2022 is $96 million (31 December 2021: $nil) and Trade and other receivables loss allowance as at 31 December 2022 is $49 million (31 December 2021: $5 million). These loss allowances include $144 million of ECL related to cash and margin cash deposited with banks and exchanges in Russia.

	Group							
	Investment Grade							
31 December 2021	AAA	AA	A	BBB	Non-Investment Grade	Unrated[(1)]/ Default	Total	Net of ECL
in $ millions								
Subject to ECL:								
Cash and short term deposit								
Stage 1	6,516	9,272	11,831	852	61	—	28,532	28,532
Stage 3	—	—	—	—	—	—	—	—
Loans and advances								
Stage 1	—	—	67	—	—	—	67	67
Trade and other receivables								
Stage 1	1,544	5,203	47,597	12,139	8,536	3,016	78,035	78,035
Stage 3	2	2	2	7	—	26	39	34
	8,062	**14,477**	**59,497**	**12,998**	**8,597**	**3,042**	**106,673**	**106,668**
Not subject to ECL:								
Trading financial assets - derivatives	2,457	20,476	155,689	52,764	11,016	30	242,432	242,432
Secured financing	2,324	37,965	68,978	11,816	4,765	47	125,895	125,895
Trade and other receivables	—	—	445	—	545	3	993	993
	4,781	**58,441**	**225,112**	**64,580**	**16,326**	**80**	**369,320**	**369,320**
Unrecognised financial instruments not subject to ECL:								
Unsettled securities purchased under agreements to resell	—	26,419	1,374	5,295	1,405	—	34,493	34,493
Loan commitments	—	—	—	—	27	94	121	121
	—	**26,419**	**1,374**	**5,295**	**1,432**	**94**	**34,614**	**34,614**

(1) For the unrated trade receivables, a lifetime ECL is calculated without considering whether SICR has occurred.

	Company							
	Investment grade							
31 December 2022	AAA	AA	A	BBB	Non-Investment Grade	Unrated(1)/ Default	Total	Net of ECL
in $ millions								
Subject to ECL:								
Cash and short term deposit								
Stage 1	212	4,868	12,362	954	53	—	18,449	18,449
Stage 3	—	—	—	—	—	96	96	—
Loans and advances								
Stage 1	—	—	29	—	—	—	29	29
Trade and other receivables								
Stage 1	1,986	10,524	44,795	13,657	6,942	2,330	80,234	80,234
Stage 3	4	7	4	4	1	56	76	27
	2,202	**15,399**	**57,190**	**14,615**	**6,996**	**2,482**	**98,884**	**98,739**
Not subject to ECL:								
Trading financial assets - derivatives	4,700	18,766	155,138	57,803	14,629	46	251,082	251,082
Secured financing	712	28,513	81,330	15,278	3,732	14	129,579	129,579
Trade and other receivables	733	—	561	—	4	—	1,298	1,298
	6,145	**47,279**	**237,029**	**73,081**	**18,365**	**60**	**381,959**	**381,959**
Unrecognised financial instruments not subject to ECL:								
Unsettled securities purchased under agreements to resell	—	24,849	20,732	7,602	1,382	63	54,628	54,628
Loan commitments	—	1	—	—	14	—	15	15
	—	**24,850**	**20,732**	**7,602**	**1,396**	**63**	**54,643**	**54,643**

(1) For the unrated trade receivables, a lifetime ECL is calculated without considering whether SICR has occurred.

The Cash and short term deposit loss allowance as at 31 December 2022 is $96 million (31 December 2021 :$nil) and Trade and other receivables loss allowance as at 31 December 2022 is $49 million (31 December 2021: $5 million). These loss allowances include $144 million of ECL related to cash and margin cash deposited with banks and exchanges in Russia.

	Company							
	Investment grade							
31 December 2021	AAA	AA	A	BBB	Non-Investment Grade	Unrated[(1)]/ Default	Total	Net of ECL
in $ millions								
Subject to ECL:								
Cash and short term deposit								
Stage 1	6,516	9,272	11,577	792	61	—	28,218	28,218
Stage 3	—	—	—	—	—	—	—	—
Loans and advances								
Stage 1	—	—	26	—	—	—	26	26
Trade and other receivables								
Stage 1	1,544	5,203	47,690	12,139	8,536	2,998	78,110	78,110
Stage 3	2	2	2	7	—	26	39	34
Total subject to ECL	**8,062**	**14,477**	**59,295**	**12,938**	**8,597**	**3,024**	**106,393**	**106,388**
Not subject to ECL:								
Trading financial assets - derivatives	2,457	20,477	155,697	52,767	11,017	30	242,445	242,445
Secured financing	2,324	37,965	68,778	11,816	4,765	47	125,695	125,695
Trade and other receivables	—	—	445	—	545	3	993	993
	4,781	**58,442**	**224,920**	**64,583**	**16,327**	**80**	**369,133**	**369,133**
Total unrecognised financial instruments not subject to ECL:								
Unsettled securities purchased under agreements to resell	—	26,419	1,374	5,295	1,405	—	34,493	34,493
Loan commitments	—	—	—	—	27	94	121	121
	—	**26,419**	**1,374**	**5,295**	**1,432**	**94**	**34,614**	**34,614**

(1) For the unrated trade receivables, a lifetime ECL is calculated without considering whether SICR has occurred.

26.4 Liquidity Risk

Liquidity risk refers to the risk that the Group will be unable to finance its operations due to a loss of access to the capital markets or difficulty in liquidating its assets. Liquidity risk also encompasses the Group's ability to meet its financial obligations without experiencing significant business disruption or reputational damage that may threaten its viability as a going concern.

Additional information on liquidity risk management is presented in the Strategic Report and forms part of the audited financial statements.

26.4.1 Required Liquidity Framework

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 core components of the Liquidity Risk Management Framework are the Required Liquidity Framework, which considers Liquidity Stress Tests and Liquidity Resources, and a comprehensive set of Liquidity and Funding limits.

The Required Liquidity Framework establishes the amount of liquidity the Company must hold in both normal and stressed environments to ensure that the entity'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 ensures the entity holds sufficient liquidity to meet both the regulatory and internal stress test requirements at the legal entity level.

The Company's 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 Company 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: maturity profile, balance sheet size and composition; funding needs in a stressed environment, inclusive of contingent cash outflows; funding currency, collateral requirements and regulatory requirements.

26.4.2 Liquidity Limits

The Company has a comprehensive set of limits, Key Risk Indicators ("KRI") and targets to manage liquidity risk within the defined liquidity risk appetite. The Liquidity risk limit and KRI framework is owned by the Liquidity Risk Department ("LRD"), who then recommend and set the Company's liquidity risk limits and KRIs taking into consideration the capital structure, risk profile, complexity, activities and size. LRD maintains limits at various levels of governance structure to support linkages between overall risk tolerance, which is determined by the MSI Board, and more granular risk-taking decisions and activities. Liquidity limits are set to mitigate various risk drivers, e.g. Minimum Liquidity requirements, Minimum Cash requirements, Secured Funding, Unsecured funding, Prime Brokerage, Derivatives, foreign currency and Currency risk.

LRD ensures transparency of material liquidity risks, compliance with established risk limits and KRIs as well as escalation of risk concentrations to appropriate senior management. The liquidity risk metrics and limits are summarised in reports produced by LRD that are circulated to and discussed with the EMEA ALCO, ERC and the MSI Risk Committee as appropriate.

26.4.3 Maturity Analysis

In the following maturity analysis of financial liabilities, derivative contracts and other financial liabilities held as part of the Group and Company's trading activities are presented at fair value, consistent with how these financial liabilities are managed, and disclosed as on demand. Derivatives not held as part of the Group's trading activities and financial liabilities designated at fair value through profit or loss which contain an embedded derivative are disclosed according to their earliest contractual maturity; all such amounts are presented at their fair value, consistent with how these financial liabilities are managed. All other amounts represent undiscounted cash flows payable by the Group or Company arising from its financial liabilities to their earliest contractual maturities as at 31 December 2022 and 31 December 2021. Repayments of financial liabilities that are subject to immediate notice are treated as if notice were given immediately and are classified as on demand. This presentation is considered by the Group and Company to appropriately reflect the liquidity risk arising from those financial liabilities, and is consistent with how the liquidity risk on these financial liabilities is managed by the Group and Company.

in $ millions	Group						
31 December 2022	On demand	Less than 1 month	1 month - 3 months	3 months - 1 year	1 year - 5 years	Greater than 5 years	Total
Financial liabilities							
Bank loans and overdrafts	59	—	—	—	—	—	**59**
Trading financial liabilities:							
Derivatives	251,955	—	—	—	—	—	**251,955**
Other	46,735	—	—	—	—	—	**46,735**
Secured borrowing	61,359	15,794	5,031	9,786	2,480	31	**94,481**
Trade and other payables	95,990	—	—	209	494	57	**96,750**
Debt and other borrowings	1,753	305	3,920	2,496	31,778	9,706	**49,958**
Total financial liabilities	**457,851**	**16,099**	**8,951**	**12,491**	**34,752**	**9,794**	**539,938**
Guarantees	373	—	—	—	—	—	**373**
Loan commitments	15	—	—	—	—	—	**15**
Other commitments	26	—	—	—	—	—	**26**
Unsettled securities purchased under agreements to resell	33,777	19,833	10	1,008	—	—	**54,628**
Total unrecognised financial instruments	**34,191**	**19,833**	**10**	**1,008**	**—**	**—**	**55,042**

31 December 2021							
Financial liabilities							
Bank loans and overdrafts	48	—	—	—	—	—	**48**
Trading financial liabilities:							
Derivatives	247,518	—	—	—	—	—	**247,518**
Other	52,807	—	—	—	—	—	**52,807**
Secured borrowing	67,880	14,392	3,739	6,574	4,492	221	**97,298**
Trade and other payables	92,897	55	10	258	407	47	**93,674**
Debt and other borrowings	1,035	194	2,321	1,747	43,926	5,160	**54,383**
Total financial liabilities	**462,185**	**14,641**	**6,070**	**8,579**	**48,825**	**5,428**	**545,728**
Unrecognised financial instruments							
Guarantees	348	—	—	—	—	—	**348**
Loan commitments	121	—	—	—	—	—	**121**
Other commitments	37	—	—	—	—	—	**37**
Unsettled securities purchased under agreements to resell	32,922	1,227	—	345	—	—	**34,494**
Total unrecognised financial instruments	**33,428**	**1,227**	**—**	**345**	**—**	**—**	**35,000**

in $ millions	Company						
31 December 2022	On demand	Less than 1 month	1 month - 3 months	3 months - 1 year	1 year - 5 years	Greater than 5 years	Total
Financial liabilities							
Bank loans and overdrafts	59	—	—	—	—	—	**59**
Trading financial liabilities:							
Derivatives	251,955	—	—	—	—	—	**251,955**
Other	46,735	—	—	—	—	—	**46,735**
Secured borrowing	61,064	15,794	5,031	9,791	2,277	—	**93,957**
Trade and other payables	96,013	—	—	210	494	57	**96,774**
Debt and other borrowings	1,753	306	3,922	2,502	31,744	9,706	**49,933**
Total financial liabilities	**457,579**	**16,100**	**8,953**	**12,503**	**34,515**	**9,763**	**539,413**
Unrecognised financial instruments							
Guarantees	373	—	—	—	—	—	**373**
Loan commitments	15	—	—	—	—	—	**15**
Other commitments	26	—	—	—	—	—	**26**
Unsettled securities purchased under agreements to resell	33,777	19,833	10	1,008	—	—	**54,628**
Total unrecognised financial instruments	**34,191**	**19,833**	**10**	**1,008**	**—**	**—**	**55,042**

31 December 2021							
Financial liabilities							
Bank loans and overdrafts	48	—	—	—	—	—	**48**
Derivatives	247,518	—	—	—	—	—	**247,518**
Other	52,807	—	—	—	—	—	**52,807**
Secured borrowing	67,880	14,392	3,739	6,574	4,304	—	**96,889**
Trade and other payables	92,923	55	10	258	407	47	**93,700**
Debt and other borrowings	1,035	194	2,321	1,747	43,710	5,160	**54,167**
Total financial liabilities	**462,211**	**14,641**	**6,070**	**8,579**	**48,421**	**5,207**	**545,129**
Unrecognised financial instruments							
Guarantees	348	—	—	—	—	—	**348**
Loan commitments	121	—	—	—	—	—	**121**
Other commitments	37	—	—	—	—	—	**37**
Unsettled securities purchased under agreements to resell	32,922	1,227	—	345	—	—	**34,494**
Total unrecognised financial instruments	**33,428**	**1,227**	**—**	**345**	**—**	**—**	**35,000**

The Group does not expect that all of the cash flows associated with financial guarantees, letters of credits and loan commitments will be required.

26.5 Operational Risk

26.5.1 Risk Management and Measurement

The 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.

26.5.2 Risk Mitigation

The 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. Operational risks and associated risk exposures are assessed relative to the risk appetite established by the Board and are prioritised accordingly.

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

Operational Risk Management Framework requires, among other things, the proper recording and verification of a large number of transactions and events as set out in the policies and procedures. The Group's trading risk management strategies and techniques seek to balance the ability to profit from trading positions with exposure to potential losses.

Primary responsibility for the management of operational risk is with the business segments, the control groups and the business managers therein. The business managers maintain processes and controls designed to identify, assess, manage, mitigate and report operational risk. Each of the business segments has a designated operational risk coordinator. The operational risk coordinator regularly reviews operational risk issues and reports to the Group's senior management within each business. Each control group also has a designated operational risk coordinator and a forum for discussing operational risk matters with the Group's senior management. Oversight of operational risk is provided by the Operational Risk Oversight Committee, regional risk committees and senior management. In the event of a merger; joint venture; divestiture; reorganisation; or creation of a new legal entity, a new product or a business activity, operational risks are considered, and any necessary changes in processes or controls are implemented.

The Operational Risk Department provides independent oversight of operational risk and assesses, measures and monitors operational risk against appetite. The Operational Risk Department works with the business divisions and control groups to help ensure a transparent, consistent and comprehensive framework for managing operational risk within each area and across the Group.

The Operational Risk Department's scope includes oversight of technology risk, cybersecurity risk, information security risk, the fraud risk management and prevention program and the third party risk management (supplier and affiliate risk oversight and assessment) program. Furthermore, the Operational Risk Department supports the collection and reporting of operational risk incidents and the execution of operational risk assessments; provides the infrastructure needed for risk measurement and risk management; and ensures ongoing validation and verification of the Group's advanced measurement approach for operational risk capital.

26.5.3 Business Continuity Management and Disaster Recovery

The Fusion Resilience Centre's mission is to understand, prepare for, respond to, recover and learn from operational threats and incidents that impact the Morgan Stanley Group, from cyber and fraud to technology incidents, climate related events, terror attack, geopolitical unrest and pandemics. The Group's business continuity and disaster recovery programs are designed to provide assurance of business continuity in the event of disruptions impacting people, technology, facilities and third parties, and to comply with regulatory requirements. The key elements of these programs include crisis management, business continuity planning, disaster recovery, testing and verification, and process improvement. Business units within the Morgan Stanley Group maintain business continuity plans, including identifying processes and strategies to continue business critical processes during a business continuity incident. Business units also test the documented plans to provide a reasonable expectation that, during a business continuity incident, the business unit will be able to continue its critical business processes and limit the impact of the incident to the Morgan Stanley Group and its clients. Technical recovery plans are maintained for critical technology assets and detail the steps to be implemented to recover in the event of a disruption impacting the assets' primary location. Disaster recovery testing is performed to validate the recovery capability of these critical technology assets.

26.5.4 Third-party Risk Management

In connection with its ongoing operations, the Group utilises third party suppliers and anticipates that such usage will continue and may increase in the future. These services include, for example, outsourced processing and support functions and consulting and other professional services. The Group's risk-based approach to managing exposure to these services includes the execution of due diligence, implementation of service level and other contractual agreements, consideration of operational risks and ongoing monitoring of 'third party suppliers' performance. The Group maintains a third party risk program which is designed to align with the Group's risk appetite and meet regulatory requirements. The program includes governance, policies, procedures, and enabling technology. The third-party risk program includes the adoption of risk management controls and practices throughout the third-party management lifecycle, to manage risk of service failure, risk of data loss and reputational risk, among others.

26.5.5 Cyber and Information Security Risk Management

The Group maintains a program that oversees its cyber and information security risks leveraging the Morgan Stanley Group wide cybersecurity and information security policies, procedures and technologies are designed to protect the Group's information assets against unauthorised disclosure, modification or misuse. These policies and procedures 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.

A cyber-attack, an information or security breach or a technology failure could adversely affect the Morgan Stanley Group's ability to conduct business, manage exposure to risk or result in disclosure or misuse of confidential or proprietary information and otherwise adversely impact results of operations, liquidity and financial condition, as well as cause reputational harm.

The Group maintains a significant amount of personal information on customers, clients, employees and certain counterparties that it is required to protect under various data protection and privacy laws.

These laws may be in conflict with one another, or courts and regulators may interpret them in ways that the Group had not anticipated or that adversely affects its business.

Cybersecurity risks for financial institutions have significantly increased in recent years in part because of the proliferation of new technologies, the use of the internet, mobile telecommunications and cloud technologies to conduct financial transactions, and the increased sophistication and activities of organised crime, hackers, terrorists and other external extremist parties, including foreign state actors, in some circumstances as a means to promote political ends.

In addition to the growing sophistication of certain parties, the commoditisation of cyber tools which are able to be weaponised by less sophisticated actors has led to an increase in the exploitation of technological vulnerabilities. Further, foreign state actors have become more sophisticated over time, increasing the risk of such an attack. Any of these parties may also attempt to fraudulently induce employees, customers, clients, vendors or other third parties or users of Morgan Stanley Group systems.

Cybersecurity risks may also derive from human error, fraud or malice on the part of employees or third parties, including third party providers, or may result from accidental technological failure. These risks may have been heightened during the COVID-19 pandemic, which caused the majority of employees to work remotely during the pandemic and access Morgan Stanley secure networks through their home networks. As employees have started to return to the office, the reliance on accessing Morgan Stanley secure networks through home connections has reduced.

There is no guarantee that the measures the Morgan Stanley Group takes will provide absolute security or recoverability given the techniques used in cyber-attacks are complex and frequently change, and may not be able to be anticipated.

Like other financial services firms, the Morgan Stanley Group, its third party providers, and its clients continue to be the subject of unauthorised access attacks, mishandling or misuse of information, computer viruses or malware, and cyber-attacks.

Such events could cause interruptions or malfunctions in the Group's, its clients', employees', partners', vendors', counterparties' or third parties' operations, as well as the unauthorised release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information of the Group, its employees, its customers or of other third parties. Any of these events could result in reputational damage with the Group's clients and the market, client dissatisfaction, additional costs to the Group to maintain and update its operational and security systems and infrastructure, regulatory investigations, litigation or enforcement, or regulatory fines or penalties, any of which could adversely affect the Group's business, financial condition or results of operations.

Given the Morgan Stanley Group's global footprint and the high volume of transactions processed, the large number of clients, partners, vendors and counterparties with which it does business, and the increasing sophistication of cyber-attacks, an information or security breach could occur and persist for an extended period of time without detection.

The Group expects that any investigation of a cyber-attack would be inherently unpredictable and that it would take time before the completion of any investigation and before there is availability of full and reliable information. During such time, the Group would not necessarily know the extent of the harm or how best to remediate it, and certain errors or actions could be repeated or compounded before they are discovered and remediated, all or any of which would further increase the costs and consequences of a cyber-attack.

While many of the Morgan Stanley Group's agreements with partners and third party vendors include indemnification provisions, the Group may not be able to recover sufficiently, or at all, under such provisions to adequately offset any losses it may incur. In addition, although the Morgan Stanley Group maintains insurance coverage that may, subject to policy terms and conditions, cover certain aspects of cyber and information security risks, such insurance coverage may be insufficient to cover all losses.

The Morgan Stanley Group continues to make investments with a view toward maintaining and enhancing its cybersecurity posture. The cost of managing cyber and information security risks and attacks along with complying with new, increasingly expansive, and evolving regulatory requirements could adversely affect the results of operations and business.

27. TRANSFERS OF FINANCIAL ASSETS, INCLUDING PLEDGES OF COLLATERAL

Transferred Financial Assets that are not Derecognised in Their Entirety

In the ordinary course of business, the Group and Company enter into various arrangements including selling securities under agreements to repurchase, purchasing securities under agreements to resell, securities borrowed and securities loaned to, amongst other things, acquire securities to cover short positions and settle other securities obligations, to accommodate customers' needs and to finance the Group and Company's inventory positions.

The Group and Company pledges certain financial instruments to collateralise repurchase agreements and other securities financings. Pledged financial instruments that can be sold or repledged by the secured party are identified as trading financial instruments (pledged to various parties) in the statement of financial position. The Group and Company has determined that it retains substantially all the risks and rewards of these financial instruments including credit risk, settlement risk, country risk and market risk, and therefore has not derecognised them. In addition, it recognises a financial liability in respect of the consideration received.

Other financial assets transferred that continue to be recognised for accounting purposes include pledges of securities as collateral for derivative transactions or otherwise, as well as certain sales of securities with related transactions, such as derivatives, that result in the Group and Company retaining substantially all the risks and rewards of the financial assets transferred. In addition, the Group and Company recognise a financial liability in respect of the consideration received.

These transactions are generally conducted under standard agreements used by financial market participants and are undertaken with counterparties subject to the Group and Company's normal credit risk control processes. The resulting credit exposures are controlled by daily monitoring and collateralisation of the positions. The carrying amount of the associated financial liabilities related to financial assets transferred that continue to be recognised is $37,400 million (2021: $43,820 million).

The following table presents those financial assets which have been sold or otherwise transferred, but which for accounting purposes remain recognised in the consolidated statement of financial position.

There was no difference between Company and Group in respect of the assets presented below at 31 December 2022 or 31 December 2021.

in $ millions	2022	2021
Trading financial assets		
Debt securities	18,868	20,438
Equity instruments	35,250	41,407
	54,118	**61,845**

28. FINANCIAL ASSETS ACCEPTED AS COLLATERAL

The Group and Company's policy is generally to take possession of securities received as collateral, securities purchased under agreements to resell and securities borrowed. The Group and Company monitors the fair value of the underlying securities as compared with the related receivable or payable, including accrued interest, and, as necessary, requests additional collateral to ensure such transactions are adequately collateralised. Where deemed appropriate, the Group and Company agreements with third parties specify its rights to request additional collateral. These transactions are generally conducted under standard documentation used by financial market participants.

The fair value of collateral accepted under these arrangements for Group and Company as at 31 December 2022 was $322,418 million (2021: $304,194 million). Of this amount $273,742 million (2021: $261,805 million) has been sold or repledged to third parties in connection with financing activities, or to comply with commitments under short sale transactions.

29. FINANCIAL ASSETS AND FINANCIAL LIABILITIES SUBJECT TO OFFSETTING

In order to manage credit exposure arising from its business activities, the Group and Company applies various credit risk management policies and procedures, see note 26 for further details. Primarily in connection with securities purchased under agreements to resell and securities sold under agreements to repurchase, securities borrowed and securities loaned transactions and derivative transactions, the Group and Company enter into master netting arrangements and collateral arrangements with their counterparties. These agreements provide the Group and Company with the right, in the ordinary course of business and/ or in the event of a counterparty default (such as bankruptcy or a counterparty's failure to pay or perform), to net a counterparty's rights and obligations under such agreement and, in the event of counterparty default, set off collateral held by the Group or Company against the net amount owed by the counterparty.

However, in certain circumstances, the Group and Company may not have such an agreement in place; the relevant insolvency regime (which is based on type of counterparty of the entity and the jurisdiction of organisation of the counterparty) may not support the enforceability of the agreement; or the Group and Company may not have sought legal advice to support the enforceability of the agreement.

In the statement of financial position, financial assets and financial liabilities are only offset and presented on a net basis where there is a current 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. In the absence of such conditions, financial assets and financial liabilities are presented on a gross basis.

The following tables present information about the offsetting of financial instruments and related collateral amounts. The tables do not include information about financial instruments that are subject only to a collateral agreement. The effect of master netting arrangements, collateral agreements and other credit enhancements, on the Group and Company's exposure to credit risk is disclosed in note 26.

Group				Amounts not offset			Not subject to legally enforceable master netting agreement
				Collateralised by:			
in $ millions	Gross amounts	Amounts offset(1)(3)	Net amounts	Financial instruments	Cash collateral (2)	Net exposure(4)	
31 December 2022							
Secured Financing:							
Cash collateral on securities borrowed	22,999	(7,430)	15,569	(15,195)	—	374	39
Securities purchased under agreement to resell	174,929	(70,762)	104,167	(103,670)	—	497	125
Trading financial assets - derivatives	433,717	(182,641)	251,076	(210,029)	(30,850)	10,197	2,074
Total Assets	**631,645**	**(260,833)**	**370,812**	**(328,894)**	**(30,850)**	**11,068**	**2,238**
Secured borrowing:							
Cash collateral on securities loaned	33,242	(7,430)	25,812	(25,804)	—	8	—
Securities sold under agreement to repurchase	122,658	(70,762)	51,896	(51,623)	—	273	76
Trading financial liabilities - derivatives	429,972	(178,017)	251,955	(211,246)	(25,062)	15,647	2,600
Total Liabilities	**585,872**	**(256,209)**	**329,663**	**(288,673)**	**(25,062)**	**15,928**	**2,676**
31 December 2021							
Secured Financing:							
Cash collateral on securities borrowed	27,615	(8,255)	19,360	(18,953)	—	407	95
Securities purchased under agreement to resell	139,115	(48,819)	90,296	(89,402)	—	894	857
Trading financial assets - derivatives	319,019	(76,587)	242,432	(208,784)	(20,446)	13,202	2,398
Total Assets	**485,749**	**(133,661)**	**352,088**	**(317,139)**	**(20,446)**	**14,503**	**3,350**
Secured borrowing:							
Cash collateral on securities loaned	37,758	(8,255)	29,503	(29,492)	—	11	—
Securities sold under agreement to repurchase	93,366	(48,818)	44,548	(43,814)	—	734	641
Trading financial liabilities - derivatives	325,128	(77,610)	247,518	(205,666)	(30,488)	11,364	3,257
Total Liabilities	**456,252**	**(134,683)**	**321,569**	**(278,972)**	**(30,488)**	**12,109**	**3,898**

(1) Includes $11,196 million and $6,572 million (31 December 2021: $6,697 million and $7,720 million) of Trading financial assets – derivatives and Trading financial liabilities – derivatives, respectively, which have been offset against cash collateral received and cash collateral paid, respectively.
(2) Cash collateral not offset is recognised within Trade and other receivables and Trade and other payables.
(3) In addition to the balances disclosed in the table above, legally enforceable master netting agreements are in place for $1,810 million (31 December 2021: $1,170 million) of other secured financing and secured borrowing balances which are presented net in the statement of financial position, and for $0 million (31 December 2021: $197 million) of certain trade and other receivables and trade and other payables which are not presented net.
(4) Intercompany cross-product legally enforceable netting arrangements are in place which would allow for an additional $8,756 million (31 December 2021: $7,041 million) of the statement of financial position, to be offset in the ordinary course of business and/or in the event of default.

Company				Amounts not offset			
				Collateralised by:			Not subject to legally enforceable master netting agreement
in $ millions	Gross amounts	Amounts offset[1][3]	Net amounts	Financial instruments	Cash collateral [2]	Net exposure[4]	
31 December 2022							
Secured Financing:							
Cash collateral on securities borrowed	22,999	(7,430)	15,569	(15,195)	—	374	39
Securities purchased under agreement to resell	174,729	(70,762)	103,967	(103,474)	—	493	125
Trading financial assets - derivatives	433,723	(182,641)	251,082	(210,034)	(30,850)	10,198	2,074
Total Assets	**631,451**	**(260,833)**	**370,618**	**(328,703)**	**(30,850)**	**11,065**	**2,238**
Secured borrowing:							
Cash collateral on securities loaned	33,242	(7,430)	25,812	(25,804)	—	8	—
Securities sold under agreement to repurchase	122,658	(70,762)	51,896	(51,623)	—	273	76
Trading financial liabilities - derivatives	429,972	(178,017)	251,955	(211,246)	(25,062)	15,647	2,600
Total Liabilities	**585,872**	**(256,209)**	**329,663**	**(288,673)**	**(25,062)**	**15,928**	**2,676**
31 December 2021							
Secured Financing:							
Cash collateral on securities borrowed	27,615	(8,255)	19,360	(18,953)	—	407	95
Securities purchased under agreement to resell	138,914	(48,818)	90,096	(89,201)	—	895	857
Trading financial assets - derivatives	319,032	(76,587)	242,445	(208,797)	(20,446)	13,202	2,398
Total Assets	**485,561**	**(133,660)**	**351,901**	**(316,951)**	**(20,446)**	**14,504**	**3,350**
Secured borrowing:							
Cash collateral on securities loaned	37,758	(8,255)	29,503	(29,492)	—	11	—
Securities sold under agreement to repurchase	93,366	(48,818)	44,548	(43,814)	—	734	641
Trading financial liabilities - derivatives	325,128	(77,610)	247,518	(205,666)	(30,488)	11,364	3,257
Total Liabilities	**456,252**	**(134,683)**	**321,569**	**(278,972)**	**(30,488)**	**12,109**	**3,898**

(1) Includes $11,196 million and $6,572 million (31 December 2021: $6,697 million and $7,720 million) of Trading financial assets – derivatives and Trading financial liabilities – derivatives, respectively, which have been offset against cash collateral received and cash collateral paid, respectively.

(2) Cash collateral not offset is recognised within Trade and other receivables and Trade and other payables.

(3) In addition to the balances disclosed in the table above, legally enforceable master netting agreements are in place for $1,810 million (31 December 2021: $1,170 million) of other secured financing and secured borrowing balances which are presented net in the statement of financial position, and for $0 million (31 December 2021: $197 million) of certain trade and other receivables and trade and other payables which are not presented net.

(4) Intercompany cross-product legally enforceable netting arrangements are in place which would allow for an additional $8,754 million (31 December 2021: $7,039 million) of the statement of financial position, to be offset in the ordinary course of business and/or in the event of default.

30. FINANCIAL INSTRUMENTS MEASURED AT FAIR VALUE

a. Financial Assets and Liabilities Recognised at Fair Value on a Recurring Basis

The following tables present the carrying value of the Group's financial assets and financial liabilities recognised at fair value on a recurring basis, classified according to the fair value hierarchy. At 31 December 2022 and 31 December 2021 there were no significant differences between Group and Company in respect of the below table.

Group 2022 **in $ millions**	Quoted prices in active market (Level 1)	Observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Trading financial assets:				
Government debt securities	10,742	2,907	133	13,782
Corporate and other debt	—	10,249	1,115	11,364
Corporate equities	52,139	990	31	53,160
Derivatives:				
Interest rate contracts	247	75,292	415	75,954
Credit contracts	—	6,958	424	7,382
Foreign exchange and gold contracts	—	122,527	314	122,841
Equity contracts	253	34,161	1,114	35,528
Commodity contracts	804	8,540	27	9,371
Total trading financial assets	**64,185**	**261,624**	**3,573**	**329,382**
Secured financing:				
Cash collateral on securities borrowed	—	15,569	—	15,569
Securities purchased under agreements to resell	—	103,205	962	104,167
Other secured financing	—	10,043	—	10,043
Total secured financing	**—**	**128,817**	**962**	**129,779**
Investment securities - corporate equities	**—**	**—**	**142**	**142**
Trade and other receivables:				
Prepaid OTC contracts	—	370	192	562
Other	—	733	3	736
Total trade and other receivables	**—**	**1,103**	**195**	**1,298**
Total financial assets measured at fair value	64,185	391,544	4,872	460,601
Trading financial liabilities:				
Government debt securities	14,660	2,363	2	17,025
Corporate and other debt	—	4,736	3	4,739
Corporate equities	24,687	265	19	24,971
Derivatives:				
Interest rate contracts	260	80,380	489	81,129
Credit contracts	—	6,554	298	6,852
Foreign exchange and gold contracts	6	117,263	184	117,453
Equity contracts	450	35,635	1,017	37,102
Commodity contracts	664	8,713	42	9,419
Total trading financial liabilities	**40,727**	**255,909**	**2,054**	**298,690**
Secured borrowing:				
Cash collateral on securities loaned	—	19,766	—	19,766
Securities sold under agreements to repurchase	—	26,042	—	26,042
Other secured borrowing	—	12,984	—	12,984
Total secured borrowing		**58,792**	**—**	**58,792**
Trade and other payables - prepaid OTC contracts	**—**	**530**	**188**	**718**
Debt and other borrowings - issued structured notes	**—**	**12,036**	**77**	**12,113**
Total financial liabilities measured at fair value	**40,727**	**327,267**	**2,319**	**370,313**

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Company 2022 **in $ millions**	Quoted prices in active market (Level 1)	Observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Trading financial assets:				
Government debt securities	10,740	2,907	133	13,780
Corporate and other debt	—	9,931	1,115	11,046
Corporate equities	52,139	990	31	53,160
Derivatives:				
Interest rate contracts	247	75,292	415	75,954
Credit contracts	—	6,958	424	7,382
Foreign exchange and gold contracts	—	122,533	314	122,847
Equity contracts	253	34,161	1,114	35,528
Commodity contracts	804	8,540	27	9,371
Total trading financial assets	**64,183**	**261,312**	**3,573**	**329,068**
Secured financing:				
Cash collateral on securities borrowed	—	15,569	—	15,569
Securities purchased under agreements to resell	—	103,005	962	103,967
Other secured financing	—	10,043	—	10,043
Total secured financing	**—**	**128,617**	**962**	**129,579**
Investment securities - corporate equities	**—**	**—**	**141**	**141**
Trade and other receivables:				
Prepaid OTC contracts	—	370	192	562
Other	—	733	3	736
Total trade and other receivables	**—**	**1,103**	**195**	**1,298**
Total financial assets measured at fair value	**64,183**	**391,032**	**4,871**	**460,086**
Trading financial liabilities:				
Government debt securities	14,660	2,363	2	17,025
Corporate and other debt	—	4,736	3	4,739
Corporate equities	24,687	265	19	24,971
Derivatives:				
Interest rate contracts	260	80,379	489	81,128
Credit contracts	—	6,555	298	6,853
Foreign exchange and gold contracts	6	117,264	184	117,454
Equity contracts	450	35,634	1,017	37,101
Commodity contracts	664	8,713	42	9,419
Total trading financial liabilities	**40,727**	**255,909**	**2,054**	**298,690**
Secured borrowing:				
Cash collateral on securities loaned	—	19,766	—	19,766
Securities sold under agreements to repurchase	—	26,042	—	26,042
Other secured borrowing	—	12,984	—	12,984
Total secured borrowing	**—**	**58,792**	**—**	**58,792**
Trade and other payables - prepaid OTC contracts	**—**	**530**	**188**	**718**
Debt and other borrowings - issued structured notes	**—**	**12,036**	**77**	**12,113**
Total financial liabilities measured at fair value	**40,727**	**327,267**	**2,319**	**370,313**

Group 2021 in $ millions	Quoted prices in active market (Level 1)	Observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Trading financial assets:				
Government debt securities	11,289	2,599	209	**14,097**
Corporate and other debt	—	9,617	1,190	**10,807**
Corporate equities	64,886	378	35	**65,299**
Derivatives:				
Interest rate contracts	49	59,750	729	**60,528**
Credit contracts	1	9,859	290	**10,150**
Foreign exchange and gold contracts	—	85,816	218	**86,034**
Equity contracts	466	69,657	782	**70,905**
Commodity contracts	1,217	13,583	15	**14,815**
Total trading financial assets	**77,908**	**251,259**	**3,468**	**332,635**
Secured financing:				
Cash collateral on securities borrowed	—	19,360	—	**19,360**
Securities purchased under agreements to resell	—	89,433	863	**90,296**
Other secured financing	—	16,239	—	**16,239**
Total secured financing	**—**	**125,032**	**863**	**125,895**
Investment securities - corporate equities	**—**	**—**	**165**	**165**
Trade and other receivables:				
Prepaid OTC contracts	—	818	172	**990**
Other	—	—	3	**3**
Total trade and other receivables	**—**	**818**	**175**	**993**
Total financial assets measured at fair value	**77,908**	**377,109**	**4,671**	**459,688**
Trading financial liabilities:				
Government debt securities	18,714	1,761	—	**20,475**
Corporate and other debt	—	3,718	6	**3,724**
Corporate equities	28,541	36	31	**28,608**
Derivatives:				
Interest rate contracts	46	60,333	371	**60,750**
Credit contracts	—	9,103	224	**9,327**
Foreign exchange and gold contracts	2	85,120	207	**85,329**
Equity contracts	655	75,428	1,242	**77,325**
Commodity contracts	1,133	13,643	11	**14,787**
Total trading financial liabilities	**49,091**	**249,142**	**2,092**	**300,325**
Secured borrowing:				
Cash collateral on securities loaned	—	25,141	—	**25,141**
Securities sold under agreements to repurchase	—	19,609	—	**19,609**
Other secured borrowing	—	20,053	—	**20,053**
Total secured borrowing	**—**	**64,803**	**—**	**64,803**
Trade and other payables:				
Trade and other payables - prepaid OTC contracts	—	576	172	**748**
Unfunded loan commitments	—	—	—	**—**
Total trade and other payables	**—**	**576**	**172**	**748**
Debt and other borrowings - issued structured notes	**—**	**9,496**	**106**	**9,602**
Total financial liabilities measured at fair value	**49,091**	**324,017**	**2,370**	**375,478**

Company 2021 **in $ millions**	Quoted prices in active market (Level 1)	Observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Trading financial assets:				
Government debt securities	11,289	2,599	209	**14,097**
Corporate and other debt	—	9,418	1,190	**10,608**
Corporate equities	64,886	378	35	**65,299**
Derivatives:				
Interest rate contracts	49	59,750	729	**60,528**
Credit contracts	1	9,859	290	**10,150**
Foreign exchange and gold contracts	—	85,829	218	**86,047**
Equity contracts	466	69,657	782	**70,905**
Commodity contracts	1,217	13,583	15	**14,815**
Total trading financial assets	**77,908**	**251,073**	**3,468**	**332,449**
Secured financing:				
Cash collateral on securities borrowed	—	19,360	—	**19,360**
Securities purchased under agreements to resell	—	89,233	863	**90,096**
Other secured financing	—	16,239	—	**16,239**
Total secured financing	**—**	**124,832**	**863**	**125,695**
Investment securities - corporate equities	**—**	**—**	**165**	**165**
Trade and other receivables:				
Prepaid OTC contracts	—	818	172	**990**
Other	—	—	3	**3**
Total trade and other receivables	**—**	**818**	**175**	**993**
Total financial assets measured at fair value	**77,908**	**376,723**	**4,671**	**459,302**
Trading financial liabilities:				
Government debt securities	18,714	1,761	—	**20,475**
Corporate and other debt	—	3,718	6	**3,724**
Corporate equities	28,541	36	31	**28,608**
Derivatives:				
Interest rate contracts	46	60,333	371	**60,750**
Credit contracts	—	9,103	224	**9,327**
Foreign exchange and gold contracts	2	85,120	207	**85,329**
Equity contracts	655	75,428	1,242	**77,325**
Commodity contracts	1,133	13,643	11	**14,787**
Total trading financial liabilities	**49,091**	**249,142**	**2,092**	**300,325**
Secured borrowing:				
Cash collateral on securities loaned	—	25,141	—	**25,141**
Securities sold under agreements to repurchase	—	19,609	—	**19,609**
Other secured borrowing	—	20,053	—	**20,053**
Total secured borrowing	**—**	**64,803**	**—**	**64,803**
Trade and other payables:				
Trade and other payables - prepaid OTC contracts	—	576	172	**748**
Unfunded loan commitments	—	—	—	**—**
Total trade and other payables	**—**	**576**	**172**	**748**
Debt and other borrowings - issued structured notes	**—**	**9,496**	**106**	**9,602**
Total financial liabilities measured at fair value	**49,091**	**324,017**	**2,370**	**375,478**

The Group's valuation approach and fair value hierarchy categorisation for certain significant classes of financial instruments recognised at fair value on a recurring basis is as follows:

Government Debt Securities

US Treasury Securities

Valuation Technique:

- Fair value is determined using quoted market prices

Valuation Hierarchy Classification:

- Level 1

Non US Government Obligations

Valuation Technique:

- Fair value is determined using quoted prices in active markets when available. When not available, quoted prices in less-active markets are used. In the absence of position-specific quoted prices, fair value may be determined through benchmarking from comparable instruments.

Valuation Hierarchy Classification:

- Level 1 – if actively traded and inputs are observable
- Level 2 – if the market is less active or prices are dispersed
- Level 3 – in instances where the prices are unobservable

Corporate and Other Debt and Corporate Loans

Mortgage- and Asset-backed Securities ("MABS")

Valuation Technique:

- MABS may be valued based on price or spread data obtained from observed transactions or independent external parties such as vendors or brokers.
- When position-specific external price data are not observable, the fair value determination may require benchmarking to comparable instruments, and/or analysing ECL, default and recovery rates, and/or applying discounted cash flow techniques. When evaluating the comparable instruments for use in the valuation of each security, security collateral-specific attributes, including payment priority, credit enhancement levels, type of collateral, delinquency rates and loss severity, are considered. In addition, for RMBS borrowers, Fair Isaac Corporation scores and the level of documentation for the loan are considered.
- Market standard cash flow models may be utilised to model the specific collateral composition and cash flow structure of each transaction. Key inputs to these models are market spreads, forecasted credit losses, and default and prepayment rates for each asset category.
- Valuation levels of RMBS and CMBS indices are used as an additional data point for benchmarking purposes or to price outright index positions.

Valuation Hierarchy Classification:

- Level 2 – if value based on observable market data for comparable instruments
- Level 3 – if external prices or significant spread inputs are unobservable, or if the comparability assessment involves significant subjectivity related to property type differences, cash flows, performance or other inputs

Corporate Bonds

Valuation Techniques:

- Fair value is determined using recently executed transactions, market price quotations, bond spreads and CDS spreads obtained from independent external parties, such as vendors and brokers, adjusted for any basis difference between cash and derivative instruments
- The spread data used are for the same maturity as the bond. If the spread data do not reference the issuer, then data that reference comparable issuers are used. When position-specific external price data are not observable, fair value is determined based on either benchmarking to comparable instruments or cash flow models with yield curves, bond or single-name CDS spreads and recovery rates as significant inputs.

Valuation Hierarchy Classification:

- Level 2 – if value based on observable market data for comparable instruments
- Level 3 – in instances where prices or significant spread inputs are unobservable or

if the comparability assessment involves significant sensitivity

Collateralised Debt Obligations ("CDO")

Valuation Techniques:

- The Group holds cash CDOs that typically reference a tranche of an underlying synthetic portfolio of single name CDS spreads collateralised by corporate bonds ("credit-linked notes") or cash portfolio of asset-backed securities/loans ("asset-backed CDOs")
- Credit correlation, a primary input used to determine the fair value of credit-linked notes, is usually unobservable and derived using a benchmarking technique. Other model inputs such as credit spreads, including collateral spreads, and interest rates are typically observable
- Asset-backed CDOs are valued based on an evaluation of the market and model input parameters sourced from comparable instruments as indicated by market activity. Each asset-backed CDO position is evaluated independently taking into consideration available comparable market levels, underlying collateral performance and pricing, deal structures and liquidity

Valuation Hierarchy Classification:

- Level 2 – when either comparable market transactions are observable, or credit correlation input is insignificant
- Level 3 – when either comparable market transactions are unobservable, or the credit correlation input is significant

Loans and Lending Commitments

Valuation Techniques:

- Fair value of corporate loans is determined using recently executed transactions, market price quotations (where observable), implied yields from comparable debt, market observable CDS spread levels obtained from independent external parties adjusted for any basis difference between cash and derivative instruments, along with proprietary valuation models and default recovery analysis where such transactions and quotations are unobservable
- Fair value of contingent corporate lending commitments is determined by using executed transactions on comparable loans and the anticipated market price based on pricing indications from syndicate banks and customers. The valuation of loans and lending commitments also takes into account fee income that is considered an attribute of the contract

Valuation Hierarchy Classifications:

- Level 2 – if value based on observable market data for comparable instruments
- Level 3 – in instances where significant spread inputs are unobservable or if the comparability assessment involves significant subjectivity

Corporate Equities and Equity Investments

Valuation Techniques:

- Exchange traded equity securities are generally valued based on quoted prices from the exchange. To the extent these securities are actively traded, valuation adjustments are not applied
- Unlisted equity securities are generally valued based on an assessment of each security, considering rounds of financing and third-party transactions, discounted cash flow analyses and market-based information, including comparable transactions, trading multiples and changes in market outlook, among other factors
- Listed fund units are generally marked to the exchange-traded price if actively traded or Net Asset Value ("NAV") if not. Unlisted fund units are generally marked to NAV

Valuation Hierarchy Classification:

- Level 1 – actively traded exchange-traded securities and fund units
- Level 2 – if not actively traded, inputs are observable, or if undergoing a recent mergers and acquisitions event or corporate action;
- Level 3 – if not actively traded, inputs are observable, or if undergoing an aged mergers and acquisitions event or corporate action

Derivatives

Exchange-Traded Derivative Contracts

Valuation Techniques:

- Exchange-Traded derivatives that are actively traded are valued based on quoted prices from the exchange.
- Exchange-Traded derivatives that are not actively traded are valued using the same techniques as those applied to OTC derivatives.

Valuation Hierarchy Classification:

- Level 1 – when actively traded.
- Level 2 – when not actively traded.

OTC Derivative Contracts

Valuation Techniques:

- OTC derivative contracts include forward, swap and option contacts related to interest rates, foreign currencies, credit standing of reference entities, equity prices or commodity prices
- Depending on the product and the terms of the transaction, the fair value of OTC derivative products can be modelled using a series of techniques, including closed-form analytic formulas, such as the Black-Scholes option-pricing model, simulation models or a combination thereof. Many pricing models do not entail material subjectivity as the methodologies employed do not necessitate significant judgement, since model inputs may be observed from actively quoted markets, as is the case for generic interest rate swaps, many equity, commodity and foreign currency option contracts and certain credit default swaps. In the case of more established derivative products, the pricing models used by the Group are widely accepted by the financial services industry.
- More complex OTC derivative products are typically less liquid and require more judgement in the implementation of the valuation technique since direct trading activity or quotes are unobservable. This includes certain types of interest rate derivatives with both volatility and correlation exposure, equity, commodity or foreign currency derivatives that are either longer-dated or include exposure to multiple underlyings and credit derivatives, including credit default swaps on certain mortgage or asset-backed securities, basket CDS. Where required inputs are unobservable, relationships to observable data points, based on historical and/or implied observations, may be employed as a technique to estimate the model input values.

Valuation Hierarchy Classification:

- Level 2 – when valued using observable inputs, or where the unobservable input is not deemed significant
- Level 3 – if the unobservable input is deemed significant

Securities Purchased under Agreements to Resell and Securities Sold under Agreements to Repurchase and Cash Collateral on Securities Borrowed and Securities Loaned and Other Secured Financings and Secured Borrowings

Valuation Techniques:

- Fair value is computed using a standard cash flow discounting methodology
- The inputs to the valuation include contractual cash flows and collateral funding spreads, which are the incremental spread over the overnight indexed swap ("OIS") rate for a specific collateral rate (which refers to the rate applicable to a specific type of security pledged as collateral)

Valuation Hierarchy Classification:

- Level 2 – when the valuation inputs are observable
- Level 3 – in instances where the unobservable inputs are deemed significant

Prepaid OTC Contracts and Issued Structured Notes

Valuation Techniques:

- The Group carries structured notes and prepaid OTC contracts which are primarily composed of instruments whose payments and redemption values are linked to the performance of a specific index, a basket of stocks, a specific security, a commodity, a credit exposure or basket of credit exposures, and instruments with various interest-rate-related features including step-ups, step-downs, and zero coupons

- Fair value is determined using valuation models for the derivative and debt portions of the instruments. These models incorporate observable inputs referencing identical or comparable securities, including prices to which the instruments are linked, interest rate yield curve, option volatility and currency rates, and commodity or equity prices
- Independent, external and traded prices for the instruments are considered as well as the impact of the Company's own credit spreads which are based on observed secondary bond market spreads

Valuation Hierarchy Classification:

- Level 2 – when valued using observable inputs, or where the unobservable input is not deemed significant
- Level 3 – in instances where the unobservable inputs are deemed significant

b. Transfers Between Level 1 and Level 2 of the Fair Value Hierarchy for Financial Assets and Liabilities Recognised at Fair Value on a Recurring Basis

During the year, the Group and Company reclassified approximately $838 million (2021: $773 million) of European government debt securities liabilities from Level 1 to Level 2 due to decrease in market activity. Also, the Group and Company reclassified approximately $506 million of government debt securities assets and approximately $759 million of government debt securities liabilities (31 December 2021: $nil) from Level 2 to Level 1. These reclassifications were due to increased market activity in these instruments. The Group and Company reclassified $nil (2021: $935 million) of European government debt assets from Level 1 to Level 2.

c. Changes in Level 3 Financial Assets and Liabilities Recognised at Fair Value on a Recurring Basis

The following tables present the changes in the fair value of the Group's Level 3 financial assets and financial liabilities for the years ended 31 December 2022 and 31 December 2021. Level 3 instruments may be hedged with instruments classified in Level 1 and Level 2. The realised and unrealised gains/(losses) for assets and liabilities within the Level 3 category presented in the following tables do not reflect the related realised and unrealised gains/ (losses) on hedging instruments that have been classified by the Group within the Level 1 and/or Level 2 categories.

There were no differences at 31 December 2022 or 31 December 2021 between Group and Company in respect of the table below.

Unrealised gains/ (losses) during the year for assets and liabilities within the Level 3 category presented in the following tables herein may include changes in fair value during the period that were attributable to both observable and unobservable inputs.

The Morgan Stanley Group operates a number of intra-group policies to ensure that, where possible, revenues and related costs are matched. Where the trading positions included in the below table are risk managed using financial instruments held by other Morgan Stanley Group undertakings, these policies potentially result in the recognition of offsetting gains or losses in the Group.

in $ millions	2022	2021
TRADING FINANCIAL ASSETS:		
Government debt securities		
Beginning balance	209	266
Total losses recognised in the consolidated income statement[1]	(4)	(1)
Purchases	81	143
Sales	(106)	(189)
Net transfers out of Level 3[2]	(47)	(10)
Ending balance	**133**	**209**
Unrealised losses[3]	(14)	—
Corporate and other debt		
Beginning balance	1,190	822
Total losses recognised in the consolidated income statement[1]	(160)	(157)
Purchases	696	914
Sales	(715)	(308)
Net transfers in and/or (out) of Level 3[2]	104	(81)
Ending balance	**1,115**	**1,190**
Unrealised losses[3]	(33)	(41)
Corporate equities		
Beginning balance	35	8
Total losses recognised in the consolidated income statement[1]	(101)	(7)
Purchases	37	44
Sales	(2)	(9)
Net transfers in and/or (out) of Level 3[2]	62	(1)
Ending balance	**31**	**35**
Unrealised losses[3]	(12)	(5)
Net derivative contracts[4]		
Beginning balance	(21)	269
Total gains recognised in the consolidated income statement[1]	173	221
Purchases	65	303
Issuances	(201)	(626)
Settlements	301	(245)
Net transfers in and/or (out) of Level 3[2]	(53)	57
Ending balance	**264**	**(21)**
Unrealised gains/(losses)[3]	253	(196)
SECURED FINANCING		
Securities purchased under agreements to resell		
Beginning balance	863	778
Purchases	962	863
Sales	(863)	(778)
Ending balance	**962**	**863**

in $ millions	2022	2021
LOANS AND ADVANCES		
Corporate loans		
Beginning balance	—	7
Sales	—	(7)
Ending balance	**—**	**—**
INVESTMENT SECURITIES		
Corporate equities		
Beginning balance	165	151
Total losses recognised in the consolidated income statement[1]	(3)	(6)
Purchases	—	24
Sales	(20)	(4)
Net transfers in and/or (out) of Level 3[2]	—	—
Ending balance	**142**	**165**
Unrealised losses[3]	(3)	(6)
TRADE AND OTHER RECEIVABLES		
Prepaid OTC contracts		
Beginning balance	172	1,291
Purchases	17	171
Sales	(1)	(241)
Net transfers in and/or (out) of Level 3[2]	4	(1,049)
Ending balance	**192**	**172**
Unrealised gains/(losses)[3]	—	—
Other		
Beginning balance	3	12
Settlements	—	(9)
Ending balance	**3**	**3**
TRADING FINANCIAL LIABILITIES		
Government debt securities		
Beginning balance	—	15
Total losses recognised in the consolidated income statement[1]	1	—
Total (gains)/losses recognised in consolidated statement of comprehensive income[1]	—	—
Purchases	(1)	—
Sales	1	—
Net transfers in and/or (out) of Level 3[2]	1	(15)
Ending balance	**2**	**—**
Unrealised losses[3]	2	—

in $ millions	2022	2021
Corporate and other debt		
Beginning balance	6	3
Purchases	(5)	—
Sales	3	3
Net transfers out of Level 3[2]	(1)	—
Ending balance	**3**	**6**
Corporate equities		
Beginning balance	31	1
Total losses recognised in the consolidated income statement[1]	(78)	(15)
Purchases	(13)	(8)
Sales	44	53
Net transfers in Level 3[2]	35	—
Ending balance	**19**	**31**
Unrealised gains/(losses)[3]	10	(15)
TRADE AND OTHER PAYABLES		
Prepaid OTC contracts		
Beginning balance	172	241
Issuances	17	171
Settlements	(1)	(240)
Ending balance	**188**	**172**
DEBT AND OTHER BORROWINGS		
Issued structured notes		
Beginning balance	106	334
Total losses recognised in the consolidated income statement[1]	(17)	(4)
Total (losses)/gains recognised in consolidated statement of comprehensive income[1]	(2)	4
Issuances	84	70
Settlements	(15)	(148)
Net transfers out of Level 3[2]	(79)	(150)
Ending balance	**77**	**106**
Unrealised gains/(losses)	(8)	1

(1) The total gains or losses are recognised in the consolidated income statement as detailed in the financial instruments accounting policy (note 3c).
(2) For financial assets and financial liabilities that were transferred into or out of Level 3 during the year, gains or (losses) are presented as if the assets or liabilities had been transferred into or out of Level 3 as at the beginning of the year.
(3) Amounts represent unrealised gains or (losses) for the year ended 31 December 2022 related to assets and liabilities still outstanding at 31 December 2022. The unrealised gains or (losses) are recognised in the consolidated income statement or consolidated statement of comprehensive income as detailed in the financial instruments accounting policy (note 3c)
(4) Net derivative contracts represent trading financial liabilities derivative contracts net of trading financial assets - derivative contracts.

During the year, there were no material transfers from Level 3 to Level 2 (2021: $1,049 million) and no material transfers from Level 2 to Level 3 (2021: $nil).

d. Valuation of Level 3 Financial Assets and Liabilities Recognised at Fair Value on a Recurring Basis

The following disclosures provide information on the sensitivity of fair value measurements to key inputs and assumptions.

i. Quantitative Information about and Qualitative Sensitivity if Significant Unobservable Inputs

The following table provides information on the valuation techniques, significant unobservable inputs and their ranges and averages for each material category of assets and liabilities measured at fair value on a recurring basis.

The level of aggregation and breadth of products cause the range of inputs to be wide and not evenly distributed across the inventory. Further, the range of unobservable inputs may differ across groups in the financial services industry because of diversity in the types of products included in each group's inventory. The following disclosures also include qualitative information on the sensitivity of the fair value measurements to changes in the significant unobservable inputs. There are no predictable relationships between multiple significant unobservable inputs attributable to a given valuation technique. A single amount is disclosed when there is no significant difference between the minimum, maximum and average (weighted average or similar average/median).

31 December 2022	Fair value $ millions	Predominant valuation techniques/ Significant unobservable inputs	Range (Average)[1]
ASSETS			
Trading financial assets:			
Government debt securities	133	Comparable pricing	
		Comparable bond price	39 to 189 pts (82 pts)
Corporate and other debt:			
Mortgage and asset-backed securities	269	Comparable pricing	
		Comparable bond price	44 to 133 pts (91 pts)
Corporate bonds	741	Comparable pricing	
		Comparable bond price	37 to 132 pts (77 pts)
Loans and lending commitments	92	Comparable pricing	
		Comparable loan price	20 to 100 pts (73 pts)
Corporate equities	31	Comparable pricing	
		Comparable equity price	100% (100%)
Investment securities:			
Corporate equities	142	Comparable pricing	
		Comparable equity price	95% to 100% (91.6%)
		Discounted Cash Flow	
		Implied Weighted Average Cost of Capital	15.3% to 15.3% (15.3%)
Secured financing			
Securities purchased under agreements to resell	962	Discounted cash flows	
		Funding spread	31bps to 113bps (72bps)
Trade and other receivables:			
Prepaid OTC contracts	192	Discounted cash flows	
		Loss Given Default	54% to 84% (62%/54%)

31 December 2022	Fair value $ millions	Predominant valuation techniques/ Significant unobservable inputs	Range (Average)[1]
LIABILITIES			
Trading financial liabilities			
Net derivatives contracts:[2]			
Interest rate	(74)	Option Model	
		Inflation Volatility	22% to 65% (43%/38%)
		Interest rate - Foreign exchange correlation	54% to 63% (58%/57%)
		Interest Rate Curve Correlation	47% to 95% (78%/82%)
		Inflation Curve	3.8% to 4% (3.9%/3.9%)
		Interest rate Volatility Skew	130% to 169% (142%/128%)
		Interest rate - Inflation correlation	n/m (n/m)
		Bond Volatility	9% to 53% (17%/20%)
Credit	126	Credit default swap model	
		Credit spread	1 bps to 320 bps (112 bps)
		Comparable pricing	
		Comparable bond price	8 to 97 pts (55 pts)
		Discounted Cashflow	
		Funding spread	82 bps to 127 bps (108 bps)
Foreign exchange and gold[3]	129	Option model	
		Interest rate - Foreign exchange correlation	54%-63% (58%/57%)
		Interest rate volatility skew	129% to 169% (142%/165%)
		Deal execution probability	90%-95% (95%/95%)
		Foreign exchange volatility skew	9.6% to 10.4% (10%/10%)
		Currency basis	-2% to 7% (4%/5%)
Equity	96	Option model	
		Equity volatility	5% to 85% (22%)
		Equity volatility skew	-5% to 0% (-1%)
		Equity correlation	10% to 99% (77%)
		Equity FX correlation	-79% to 65% (-26%)
Debt and other borrowings:			
Issued structured notes	77	Option model	
		Equity volatility	17% to 58% (20%)
		Equity volatility skew	-1.2% to -0.7% (-0.7%)
		Equity correlation	50% to 93% (60%)
		Equity FX correlation	-53% to -16% (-34%)
Trade and other payables:			
Prepaid OTC contracts	188	Discounted cash flow	
		Loss Given Default	54% to 84% (62%/54%)

(1) A single amount is disclosed for range and average when there is no significant difference between the minimum, maximum and average. Amounts represent weighted averages, except where simple averages and the median of the inputs, respectively, are provided when more relevant.
(2) Net derivative contracts represent trading financial liabilities – derivative contracts net of trading financial assets – derivative contracts
(3) Includes derivative contracts with multiple risks (i.e. hybrid products)

31 December 2021	Fair value $ millions	Predominant valuation techniques/ Significant unobservable inputs	Range (Average)[1]
ASSETS			
Trading financial assets:			
Government debt securities	209	Comparable pricing	
		Comparable bond pricing	100 to 140pts (120pts)
Corporate and other debt:			
Mortgage and asset-backed securities	219	Comparable pricing	
		Comparable bond price	40 to 101pts (75 pts)
Corporate bonds	787	Comparable pricing	
		Comparable bond price	50 to 162pts (104.31pts)
Loans and lending commitments	177	Comparable pricing	
		Comparable loan price	18.0 to 100.0pts (81.95pts)
Corporate equities	35	Comparable pricing	
		Comparable equity price	1pts (1pts)
Investment securities:			
Corporate equities	165	Comparable pricing	
		Comparable equity price	80% to 100% (98%)
Secured financing			
Securities purchased under agreements to resell	863	Consensus data on underlying curves	
		Funding spread	23bps to 98bps (60bps)
Trade and other receivables:			
Prepaid OTC contracts	172	Discounted cash flow	
		Recovery rate	54% to 84% (62%/54%)
LIABILITIES			
Net derivatives contracts:[2]			
Interest rate	358	Option model	
		Inflation volatility	24% to 65% (44%/40%)
		Interest rate-foreign exchange correlation	53% to 56% (55%/54%)
		Interest rate curve correlation	62% to 98% (84%/83%)
		Inflation curve	2.1% to 2.2% (2.1%/2.1%)
		Interest rate volatility skew	44% to 80% (65%/64%)
		Interest rate – inflation correlation	-80%to-5%(-42%/-48%)
		Bond volatility	5% to 32% (14%/11%)
Credit	66	Credit Default Swap Model	
		Credit spread	2bps to 341bps (96.36bps)
		Comparable Pricing	
		Comparable bond price	8 to 101pts (53 pts)
		Funding spread	52.8bps to 79.7bps (64 bps)
Foreign exchange and gold[3]	11	Option model	
		Interest rate-foreign exchange correlation	53% to 56% (55%/54%)
		Interest rate volatility skew	44% to 80% (65%/64%)
		Deal execution probability	90% to 95% (94%/95%)
		Foreign exchange volatility skew	0.4% to 0.5% (0.4%/0.4%)
		Currency basis	0.6% to 7% (0.03%/0.02%)

31 December 2021	Fair value $ millions	Predominant valuation techniques/ Significant unobservable inputs	Range (Average)[1]
Equity	(460)	Option model	
		Equity volatility	5% to 62% (19%)
		Equity volatility skew	-5% to 0% (-1%)
		Equity correlation	5% to 99% (77%)
		Equity FX correlation	-80% to 37% (-36%)
Corporate equities	(31)	Comparable pricing	
		Comparable equity price	100% (100%)
Debt and other borrowings:			
Issued structured notes	(106)	Option model	
		Equity volatility	17% to 69% (17%)
		Equity volatility skew	-1% to 0% (-1%)
		Equity correlation	43% to 76% (56%)
		Equity FX correlation	-45% to 10% (-24%)
Trade and other payables:			
Prepaid OTC contracts	(172)	Discounted cash flow	
		Recovery rate	54% to 84% (62%/54%)

(1) A single amount is disclosed for range and average when there is no significant difference between the minimum, maximum and average. Amounts represent weighted averages, except where simple averages and the median of the inputs, respectively, are provided when more relevant.
(2) Net derivative contracts represent trading financial liabilities – derivative contracts net of trading financial assets – derivative contracts
(3) Includes derivative contracts with multiple risks (i.e. hybrid products)

Significant Unobservable Inputs – Description and Sensitivity

During 2022, there were no significant revisions made to the descriptions of the significant unobservable inputs.

An increase/(decrease) to the following inputs would generally result in a higher/(lower) fair value:

- *Comparable bond price:* A pricing input used when prices for the identical instrument are not available for comparable instruments. Significant subjectivity may be involved when fair value is determined using pricing data available for comparable instruments. Valuation using comparable instruments can be done by calculating an implied yield (or spread over a liquid benchmark) from the price of a comparable bond or loan, then adjusting that yield (or spread) to derive a value for the bond or loan. The adjustment to yield (or spread) should account for the relevant differences in the bonds or loans such as maturity or credit quality. Alternatively, a price-to-price basis can be assumed between the comparable instrument and the bond being valued in order to establish the value of the bond.
- *Comparable equity price:* A price derived from equity raises, share buybacks and external bid levels, etc. A discount or premium may be included in the fair value estimate.
- Recovery rate: Amount expressed as a percentage of par that is expected to be received when a credit event occurs.

An increase/(decrease) to the following inputs would generally result in a lower/(higher) fair value:

- *Credit spread:* The credit spread reflects the additional net yield an investor can earn from a security with more credit risk relative to one with less credit risk. The credit spread of a particular security is often quoted in relation to the yield on a credit risk-free benchmark security or reference rate, typically either US Treasury or LIBOR.
- *Funding spread:* The cost of borrowing defined as the incremental spread over the OIS rate for a specific collateral rate (which refers to the rate applicable to a specific type of security pledged as collateral).

An increase/(decrease) to the following inputs would generally result in an impact to the fair value, but the magnitude and direction of the impact would depend on whether the Group is long or short the exposure:

- *Correlation:* A pricing input where the payoff is driven by more than one underlying risk. Correlation is a measure of the relationship between the movements of two variables (i.e. how the change in one variable influences a change in the other variable).
- *Interest rate curve:* The term structure of interest rates (relationship between interest rates and the time to maturity) and a market's measure of future interest rates at the time of observation. An interest rate curve is used to set interest rate and foreign exchange derivative cash flows and is a pricing input used in the discounting of any OTC derivative cash flow.
- *Volatility*: The measure of the variability in possible returns for an instrument given how much that instrument changes in value over time. Volatility is a pricing input for options, and, generally, the lower the volatility, the less risky the option. The level of volatility used in the valuation of a particular option depends on a number of factors, including the nature of the risk underlying that option, the tenor and the strike price of the option.
- *Volatility skew*: The measure of the difference in implied volatility for options with identical underliers and expiry dates but with different strikes.

ii. Sensitivity of Fair Values to Changing Significant Assumptions to Reasonably Possible Alternatives

As detailed in note 3, the valuation of Level 3 financial instruments requires the application of critical accounting judgement, involving estimations and assumptions and it is recognised that there could be a range of reasonably-possible alternative values.

The Group has reviewed the unobservable parameters to identify those which would change the fair value measurement significantly if replaced by a reasonably possible alternative assumption.

In estimating the potential variability, the unobservable parameters were varied individually using statistical techniques and historic data. The potential variability estimated is likely to be greater than the actual uncertainty relating to the financial instruments, as any diversification effect has been excluded.

The following table presents the potential impact of both favourable and unfavourable changes, both of which would be reflected in the income statement.

	31 December 2022		31 December 2021	
in $ millions	Favourable changes	Unfavourable changes	Favourable changes	Unfavourable changes
Trading financial assets:				
Government debt securities	1	(1)	—	—
Corporate and other debt	19	(21)	15	(18)
Corporate equities	7	(10)	2	(8)
Net derivative contracts[(1)(2)]	168	(168)	88	(100)
Secured Financing:				
Securities purchased under agreements to sell	1	(1)	1	(1)
Investment securities:				
Corporate equities	26	(13)	24	(15)
Trading financial liabilities:				
Corporate equities	—	—	9	(2)
Debt and other borrowings:				
Issued structured notes	1	(2)	1	(7)
	223	**(216)**	**140**	**(151)**

(1) Net derivative contracts represent trading financial assets – derivative contracts net of trading financial liabilities – derivative contracts.
(2) CVA and FVA are included in the fair value, but excluded from the effect of reasonably possible alternative assumptions in the table above. CVA is deemed to be a Level 3 input when the underlying counterparty credit curve is unobservable. FVA is deemed to be Level 3 input in its entirety given the lack of observability of funding spreads in the principle market.

e. Financial Instruments Valued using Unobservable Market Data

The amounts not recognised in the consolidated income statement relating to the difference between the fair value at initial recognition (the transaction price) and the amounts determined at initial recognition using valuation techniques are as follows:

$ millions	2022	2021
At 1 January	369	409
New transactions	285	142
Amounts recognised in the consolidated income statement during the year	(181)	(182)
At 31 December	**473**	**369**

The balance above predominately relates to derivatives.

f. Assets and Liabilities Measured at Fair Value on a Non-recurring Basis

Non-recurring fair value measurements of assets and liabilities are those which are required or permitted in the consolidated statement of financial position in particular circumstances.

There were no assets or liabilities measured at fair value on a non-recurring basis during the current or prior year.

31. ASSETS AND LIABILITIES NOT MEASURED AT FAIR VALUE

As at 31 December 2022, all financial instruments not measured at fair value, the carrying amount is considered reasonable approximation of fair value. As at 31 December 2021, the carrying value for subordinated loan liabilities was $6,400 million while fair value based on observable inputs (Level 2) was $6,842 million.

32. EMPLOYEE COMPENSATION PLANS

Morgan Stanley maintains various equity-settled share-based and cash-based deferred compensation plans for the benefit of employees. Awards under these plans are generally granted in January following the performance year.

Equity-settled Share-based Compensation Plans

Morgan Stanley has granted RSU awards pursuant to several equity-based compensation plans. The plans provide for the deferral of a portion of certain employees' incentive compensation, with awards made in the form of restricted common stock. Awards under these plans are subject to vesting over time, generally six months to seven years, and are generally contingent upon continued employment and subject to restrictions on sale, transfer or assignment until conversion to common stock. All, or a portion of, an award may be forfeited if employment is terminated before the end of the relevant vesting period or cancelled after the vesting period in certain situations. Recipients of equity-based awards may have voting rights, at Morgan Stanley's discretion, and generally receive dividend equivalents if the award vests, unless this is prohibited by regulation.

Group:

During the year, Morgan Stanley granted 3,314,576 RSUs (2021: 4,184,369 RSUs) to employees of the Group with a weighted average fair value per unit of $94.10 (2021: $73.60), based on the market value of Morgan Stanley common stock at grant date. The equity-based compensation expense recognised in the year is $242 million (2021: $357 million). As a result of the chargeback agreement described in accounting policy 3m(i), the total amount of equity-based compensation expense recognised within 'Direct staff costs' and 'Management charges from other Morgan Stanley Group undertakings relating to staff costs' within 'Operating expense' was $227 million (2021: $392 million).

The related liability due to Morgan Stanley at the end of the year, reported within 'Accruals and deferred income' in the statement of financial position, is $360 million (2021: $400 million) of which $162 million (2021: $199 million) is expected to be settled wholly within one year and $198 million (2021: $201 million) thereafter.

The unrecognised compensation cost related to unvested equity-based awards is shown in the table below:

in $ millions	Unvested awards granted:		
	To 31 December 2022	In January 2023	Total
Expense expected to be recognised in:			
2023	73	150	223
2024	29	36	65
2025	9	19	28
Thereafter	2	7	9
	113	**212**	**325**

Amounts above do not reflect forfeitures, cancellations, accelerations or future adjustments to fair value for certain awards.

Company:

During the year, Morgan Stanley granted 3,307,052 RSUs (2021: 4,177,776 RSUs) to employees of the Company with a weighted average fair value per unit of $94.10 (2021: $73.60), based on the market value of Morgan Stanley common stock at grant date. The equity-based compensation expense recognised in the year is $241 million (2021: $356 million).

The related liability due to Morgan Stanley at the end of the year, reported within 'Accruals and deferred income' in the statement of financial position, is $360 million (2021: $398 million) of which $162 million (2021: $198 million) is expected to be settled wholly within one year and $198 million (2021: $200 million) thereafter.

Deferred Cash-based Compensation Plans

Morgan Stanley has granted deferred cash-based compensation awards to certain employees which defer a portion of the employees' discretionary compensation. The plans generally provide a return based upon the performance of various referenced investments. Awards under these plans are generally subject to a sole vesting condition of service over time, which normally ranges from one to seven years from the date of grant. All, or a portion of an award may be forfeited if employment is terminated before the end of the relevant vesting period or cancelled after the vesting period in certain situations. The awards are settled in cash at the end of the relevant vesting period.

Group and Company:

Awards with a value of $1 million (2021: $2 million) were granted to employees of the Group during the year.

The deferred cash-based compensation expenses recognised in the year is shown in the table below:

in $ millions	2022	2021
Deferred cash-based awards	10	32
Return on referenced investments	(2)	4
	8	**36**

The liability to employees at the end of the year, which is reported within 'Accruals and deferred income' in the consolidated statement of financial position, is $45 million (2021: $97 million) of which $27 million (2021: $61 million) is expected to be settled wholly within one year and $18 million (2021: $36 million) thereafter.

As at 31 December 2022, the unrecognised expense related to deferred cash-based compensation awards is $5 million of which $3 million is expected to be recognised in 2023, $1 million in 2024 and $1 million thereafter. Amounts do not include unrecognised expense for forfeitures, cancellations, accelerations or assumptions about future market conditions.

The Group economically hedges the exposure created by certain of these deferred compensation plans by entering into derivative transactions with other Morgan Stanley Group undertakings. The derivative balance at the end of the year, recognised within 'Trading financial assets' is $1 million (2021: $1 million). The related loss recorded within 'Net gains from financial instruments at FVPL' for the year is $7 million (2021: $1 million profit).

Management Charges from Fellow Morgan Stanley Undertakings

As described in note 7, the Group and Company utilise the services of staff who are employed by other Morgan Stanley Group undertakings. Management charges are incurred in respect of these employee services which include the cost of equity-settled share-based and deferred cash-based compensation plans.

33. POST EMPLOYMENT BENEFITS

Defined Contribution Plans

The Group operates several Morgan Stanley defined contribution plans, which require contributions to be made to funds held in trust, separate from the assets of the Group.

The defined contribution plans are as follows:

- MSII Offshore Retirement Benefit Plan IV, Dubai Section;
- Morgan Stanley DIFC Workplace Savings Scheme (Dubai)
- Morgan Stanley Asia Limited Retirement Benefit Plan (Taiwan);
- Morgan Stanley & Co. International plc, Seoul Branch Defined Contribution Plan; and
- Morgan Stanley & Co. International plc Zurich Branch Top-up Plan

The Group pays fixed contributions to the plans, with no legal or constructive obligation to pay further contributions.

The defined contribution pension charge in relation to the above plans recognised within 'Direct staff costs' in 'Operating expense' in the consolidated income statement was $3.7 million for the year (2021: $3.6 million) of which $nil was accrued at 31 December 2022 (2021: $nil).

Defined Benefit Plans

The Group also operates several Morgan Stanley defined benefit plans, which provide post-employment benefits that are based on length of service and salary.

The defined benefits plans are as follows:

- Morgan Stanley Asia (Taiwan) Limited Retirement Scheme;
- Morgan Stanley Asia (Taiwan) Limited Book Reserve Plan;
- Morgan Stanley Asia (Taiwan) Limited Grandfather Plan
- Morgan Stanley & Co. International plc Zurich Branch Base Plan; and
- Morgan Stanley & Co. International plc Dubai Branch End of Service Gratuity

The Group's cumulative amount of actuarial gains and losses recognised in the consolidated statement of comprehensive income is a $1.9 million gain (2021: $1.1 million loss). An asset of $0.5 million and liability of $5.1 million (2021: $7.8 million liability) is recognised in the Group's consolidated statement of financial position in respect of these plans.

Plans Operated by Fellow Morgan Stanley Undertakings

In addition to the above, the Group incurs direct expenses and management charges from fellow Morgan Stanley undertakings for post-employment benefit costs related to the Morgan Stanley UK Group Pension Plan ('the Plan') operated by Morgan Stanley UK Limited ("MSUKL"). The Plan is a defined contribution scheme with a closed defined benefit section.

Defined Contribution Section of the Plan

MSUKL pays fixed contributions to the plan, with no legal or constructive obligation to pay further contributions.

The defined contribution pension charge recognised within 'Direct Staff costs' in 'Operating expense' in the income statement was $24.5 million for the year (2021: $23.7 million) of which $nil was accrued at 31 December 2022 (2021: $nil).

As described in note 7, the Group utilises the services of staff who are employed by other Morgan Stanley Group undertakings. Management charges are incurred in respect of the services of these employees which include the cost of the Plan.

Defined Benefit Section of the Plan ("DB Plan")

Under contractual group recharging arrangements, a material proportion of the net defined benefit cost for the DB Plan as a whole, whether recognised in the profit for the year or other comprehensive income, is recharged to the Group. Information on the DB plan is provided below.

The DB Plan has been closed to new members and future accrual since 1996. The DB Plan was previously open to permanent employees of the Morgan Stanley Group employed in the UK, and with the consent of the Trustees, other Morgan Stanley employees located outside of the UK who had previously been employed in the UK and who at some point had been members of the DB Plan.

The DB Plan provides post-employment benefits to members on retirement which are dependent on years of service and salary at the time of closure of the DB Plan in 1996. Additionally, the DB Plan also includes a Guaranteed Minimum Pension ("GMP") underpin in respect of certain defined contribution members who transferred their benefits from the defined benefit section in the past. Under the GMP underpin, if the value of each member's investment at retirement is less than the amount needed to secure the GMP benefits that accrued under the defined benefit section, the shortfall must be covered by the DB Plan.

The DB Plan is administered by the Trustees and the assets are held in a fund which is legally separate from MSUKL. The Trustees of the fund are required by law to act in the interest of the fund and of all relevant stakeholders in the scheme. The Trustees of the scheme are responsible for the investment policy with regards to the scheme assets.

The DB Plan exposes MSUKL to actuarial risks such as: investment risk, interest rate risk, inflation risk, longevity risk, liquidity risk and credit risk. As a result of the DB Plan's investment strategy (outlined on the following page) the interest rate and inflation risks are largely hedged for the majority of the defined benefit liabilities on a funding basis. The GMP underpin liabilities are volatile because they represent the difference between a defined benefit liability and the value of members' defined contribution assets (which depends on how the individual invests) and are only approximately hedged.

As required by the UK regulatory framework, a full actuarial valuation of the DB Plan is conducted at least every three years and updated annually between full triennial valuations to determine the position of the DB Plan on a funding basis. The funding basis uses assumptions reflective of the cost of securing the benefits built up in the DB Plan with an insurance company and is reviewed each year as part of the annual funding update.

The most recent full actuarial valuation of the DB Plan, carried out at 31 December 2021, showed a surplus of scheme assets over liabilities. Accordingly, no new schedule of contributions was agreed and there were no contributions payable to the DB Plan during 2022 (2021: $nil).

In addition, an actuarial valuation of the DB Plan is carried out annually on an accounting basis by a qualified actuary. Under the accounting basis, the obligations are measured by discounting the best estimate of future cash flows to be paid out by the DB Plan using the projected unit credit method. As accrual of future benefits ceased in 1996, no benefit has been attributed to service during subsequent reporting periods and the accumulated benefit obligation is an actuarial measure of the present value of benefits for service already rendered.

On an accounting basis, the DB Plan has a surplus of scheme assets over liabilities.

The following table provides a summary of the present value of the defined benefit obligation and fair value of DB Plan assets included in the statement of financial position of MSUKL:

in $ millions	2022	2021
Present value of the funded defined benefit obligation	(142)	(315)
Fair value of plan assets	215	418
Plan surplus	73	103
Impact of asset ceiling	(61)	(80)
Net DB Plan Asset	**12**	**23**

The surplus recognised in the MSUKL statement of financial position is limited to the amount of future economic benefits available to the entity in the form of reduced contributions.

Of the defined benefit obligation, $134 million (2021: $304 million) relates to deferred members and $9 million (2021: $11 million) relates to retired members. Upon reaching retirement, up until 31 December 2018, most retiring members were settled through the purchase of an annuity contract in the name of the member, with MSUKL having no further obligation. Following a High Court ruling on 26 October 2018 confirmed that pensions schemes are required to equalise male and female members' GMP benefits ("GMP equalisation"). The Trustee has temporarily suspended the practice of individually buying out members' benefits until the legal position and benefit entitlements with respect to GMP equalisation are clearer. Since the end of 2018, individuals who have reached benefit age have been retained as members in the DB Plan.

The weighted average duration of the defined benefit obligation at 31 December 2022 is 22 years (2021: 28 years).

Movement in the Net Defined Benefit Asset and Impact of Asset Ceiling

The following tables provide a summary of the present value of the obligation, the fair value of the DB Plan assets and the impact of the asset ceiling recognised by MSUKL:

2022 in $ millions	Present value of obligation	Fair value of plan assets	Total	Impact of asset ceiling	Total
At 1 January 2022	(315)	418	103	(80)	23
Past service costs	—	—	—	—	—
Net interest (expense)/income	(5)	7	2	(1)	1
Amounts recognised in the income statement	**(5)**	**7**	**2**	**(1)**	**1**
Remeasurements:					
The return on scheme assets (excluding amounts included in net interest expense)	—	(163)	(163)	—	(163)
Actuarial gain arising from changes in demographic assumptions	4	—	4	—	4
Actuarial gain arising from changes in financial assumptions	152	—	152	—	152
Actuarial gain arising from experience adjustments	(14)	—	(14)	—	(14)
Adjustments for restrictions on the defined benefit asset	—	—	—	12	12
Amounts recognised in the statement of comprehensive income	**142**	**(163)**	**(21)**	**12**	**(9)**
Foreign exchange rate changes	30	(41)	(11)	8	(3)
Benefit payments	6	(6)	—	—	—
At 31 December 2022	**(142)**	**215**	**73**	**(61)**	**12**

2021 **in $ millions**	Present value of obligation	Fair value of plan assets	Total	Impact of asset ceiling	Total
At 1 January 2021	(354)	453	99	(79)	20
Past service costs	(1)	—	(1)	—	(1)
Net interest (expense)/income	(4)	5	1	(1)	—
Amounts recognised in the income statement	**(5)**	**5**	**—**	**(1)**	**(1)**
Remeasurements:					
The return on scheme assets (excluding amounts included in net interest expense)	—	(28)	(28)	—	(28)
Actuarial gain arising from changes in demographic assumptions	1	—	1	—	1
Actuarial (loss) arising from changes in financial assumptions	26	—	26	—	26
Actuarial gain arising from experience adjustments	6	—	6	—	6
Adjustments for restrictions on the defined benefit asset	—	—	—	(1)	(1)
Amounts recognised in the statement of comprehensive income	**33**	**(28)**	**5**	**(1)**	**4**
Foreign exchange rate changes	3	(4)	(1)	1	—
Benefit payments	8	(8)	—	—	—
At 31 December 2021	**(315)**	**418**	**103**	**(80)**	**23**

A further High Court ruling on 20 November 2020 confirmed that pension schemes are required to equalise male and female members' GMP benefits in respect of historic statutory transfers paid out, since 17 May 1990. An additional liability has been estimated to incorporate the impact which is treated as a plan amendment.

An estimate of $1 million was recognised as a past service cost in 2021. This estimate may be revised as the Trustee works with the plan actuary and administrator to review historical data and fully assess the impact of the ruling on the plan.

Actuarial Assumptions

The following table presents the principal actuarial assumptions used in the valuation of the DB Plan:

	2022 %	2021 %
Pre-retirement discount rate	5.0%	1.8%
Post-retirement discount rate (RPI)	4.2%	1.3%
Inflation (RPI)	3.3%	3.5%
Revaluation in deferment - inflation(CPI)	2.7%	2.9%

The mortality assumptions used give the following life expectancy:

	Life expectancy at age 65 for a male member currently:		Life expectancy at age 65 for a female member currently:	
	Aged 65	Aged 45	Aged 65	Aged 45
At 31 December 2022				
UK	88.1	90.6	89.5	91.5
At 31 December 2021				
UK	89.4	90.6	90.9	92.3

The sensitivities regarding the principal assumptions used to measure the defined benefit obligation are as follows:

2022 Assumption	Change in assumption	Impact on scheme liabilities
Discount rate	Increase/decrease by 0.25%	Decrease/increase by 5.26%/5.59%
Inflation assumption	Increase/decrease by 0.25%	Increase/decrease by 0.83%/0.83%
Life expectancy	Increase/decrease by 1 year	Increase/decrease by 3.27%/3.32%

2021 Assumption	Change in assumption	Impact on scheme liabilities
Discount rate	Increase/decrease by 0.25%	Decrease/increase by 6.5%/ 7.0%
Inflation assumption	Increase/decrease by 0.25%	Increase/decrease by 1.1%/ 1.1%
Life expectancy	Increase/decrease by 1 year	Increase/decrease by 4.3%/4.3%

The sensitivity analysis presented above has been determined based on reasonably possible changes of the assumptions occurring at 31 December 2022 and 31 December 2021, assuming that all other assumptions are held constant. The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the prior year.

DB Plan Assets

MSUKL and the Trustees, in consultation with their independent investment consultants and actuaries, determine the asset allocation targets based on their assessment of business and financial conditions, demographic and actuarial data, funding characteristics and related risk factors. Other relevant factors, including industry practices and long-term historical and prospective capital market returns, are also considered. The overall investment objective is expected to minimise the volatility of the Plan's surplus or deficit through asset liability matching. The investment strategy is considered to be low risk.

Specific risks which are managed through the asset allocation targets include:

- *Interest rate and inflation risk* – Plan liabilities will change in response to changes in interest rates and inflation. The investment strategy is to hedge this risk as far as possible;
- *Asset volatility* – investment in asset classes such as equities gives rise to volatility in the value of the assets. The investment strategy is to invest in asset classes which closely match the Plan's liabilities;
- *Credit risk* – any default or downgrade in instruments such as corporate bonds and money market instruments may result in losses. The investment strategy is to partially mitigate this risk by investment in a range of different credit instruments via pooled funds;
- *Liquidity risk* – the liquidity of investments may change over time which may have an impact on the expected transaction costs. The Trustees and MSUKL have reviewed the likely cash requirements of the Plan and are satisfied that the investment arrangements provide sufficient liquidity;
- *Longevity risk* – the longevity experience may differ from expectations and expectations may change over time. The purchase of annuities for pensioners mitigates a substantial portion of this risk.

In line with the above investment objectives, the DB Plan holds investments in a range of pooled investment vehicles of varying maturities intended to broadly reflect the expected liability profile of the Plan. The major categories and fair values of scheme assets at the end of the reporting period are set out below.

	Fair value of Plan assets					
	2022			2021		
in $ millions	Quoted in an active market	Other	Total	Quoted in an active market	Other	Total
Cash and cash equivalents	—	4	**4**	—	53	**53**
Corporate bonds	40	—	**40**	103	—	**103**
Government bonds	171	—	**171**	262	—	**262**
	211	**4**	**215**	**365**	**53**	**418**

MSUKL and the Trustees conducted a full asset-liability review for the DB plan during 2022 with underlying investments updated in December 2022. Overall investment strategies remain unchanged with the primary objective being to invest the DB Plan's assets to minimise the volatility of the DB Plan's net surplus or deficit. The trustee also removed all exposure to swaps within the plan's hedging portfolio. The asset-liability review occurs every three years with the next scheduled review due to take place in 2025. These studies are used to assist the Trustees and the Company in determining the optimal long-term asset allocation with regard to the structure of liabilities within the scheme.

The main strategic choices formulated in the actuarial and technical policy documents of the scheme are:

a) Interest rate sensitivity impacting the actuarial value of the defined benefit obligation should be reduced by the use of debt instruments such as gilts

b) In respect of GMP underpin liabilities, investment in long-dated corporate bonds to approximately hedge annuity prices, provide a degree of liquidity and generate modest degree of excess investment return.

34. RELATED PARTY DISCLOSURES

Parent and Subsidiary Relationships

Parent and ultimate controlling entity

For information on the Group's parent and ultimate controlling entity, refer to note 1.

Key Management Compensation

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of the Group.

The Morgan Stanley Group's corporate governance framework gives consideration to legal, geographical and business lines through a combination of boards of directors, and regional and global management committees. Accordingly, in addition to the Directors of the Company, key management personnel of the Group is considered to include: the boards of Directors of certain parent companies, including that of Morgan Stanley, certain members of key Morgan Stanley Group management committees, those designated as senior managers under the UK's Senior Manager regime and certain executive officers of Morgan Stanley.

The boards of the Group's parent companies, the management committees and the executive officers cover the full range of the Morgan Stanley Group's business activities. Only those members with responsibility for the Institutional Securities business, being the reportable business segment of the Group, are considered to be key management personnel of the Group. The aggregate compensation below represents the proportion of compensation paid to these key management personnel, including the Directors of the Company, in respect of their services to the Group.

Key management personnel compensation in respect of their services rendered to the Group comprised the following:

in $ millions	2022	2021
Short-term employee benefits	79	85
Share-based payments	46	115
Other long-term employee benefits	—	5
	125	**205**

The share-based payment costs disclosed above reflect the amortisation of equity-based awards granted to key management personnel and are therefore not directly aligned with other staff costs in the current year.

Key management personnel compensation is borne directly by the Group as well as other Morgan Stanley Group undertakings in the current year. Management recharges in respect of key management personnel compensation borne by other Morgan Stanley Group undertakings are included in 'Management charges from other Morgan Stanley Group undertakings relating to staff costs within 'Operating expense', as disclosed in note 7.

Directors' Remuneration

in $ millions	2022	2021
Total remuneration of all Directors:		
Aggregate remuneration	18	16
Long term incentive schemes	—	1
	18	**17**
Disclosures in respect of the highest paid Director:		
Aggregate remuneration	5	7
Long term incentive schemes	—	1
	5	**8**

Directors' remuneration has been calculated as the sum of cash, bonuses and benefits in kind.

All Directors who are employees of the Morgan Stanley Group are eligible for shares of the parent company, Morgan Stanley, awarded under the Morgan Stanley Group's equity-based long term incentive schemes. In accordance with Schedule 5 paragraph 1(3)(a) of The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008, the above disclosures do not include the value of shares awarded. During the year, eight Directors received restricted stock unit awards in respect of qualifying services (2021: seven).

The value of assets (other than shares) awarded under other long term incentive schemes has been included in the above disclosures when the awards vest, which is generally within three years from the date of the award.

There are two Directors to whom retirement benefits are accruing under a non-UK defined benefits scheme (2021: two). In addition, one Director has benefits accruing under the Alternative Retirement Plan, a defined benefit scheme, operated by MSUKL (2021: one).

The Morgan Stanley Group operates a defined contribution pension scheme, the Morgan Stanley UK Group Pension Plan. There are eight Directors to whom retirement benefits are accruing under this scheme (2021: six). One Director has benefits accruing under a non-UK defined contribution scheme (2021: one).

The Group has not provided any loans or other credit advances to its Directors during the year (2021: nil).

Transactions with Related Parties

The Morgan Stanley Group conducts business for clients globally through a combination of both functional and legal entity organisational structures. Accordingly, the Group is closely integrated with the operations of the Morgan Stanley Group and enters into transactions with other Morgan Stanley Group undertakings on an arm's length basis for the purposes of utilising financing, trading and risk management, and infrastructure services. The nature of these relationships along with information about the transactions and outstanding balances is given below. The Group has not recognised any expense and has made no provision for impairment relating to the amount of outstanding balances from related parties (2021: $nil).

Cash

The Group places cash with other Morgan Stanley Group undertakings. All such transactions are entered into on an arm's length basis.

	2022		2021	
in $ millions	Interest	Balance	Interest	Balance
Amounts due from other Morgan Stanley Group undertakings	—	1,103	2	100

Funding

The Group receives funding from and provides funding to other Morgan Stanley Group undertakings in the following forms:

General Funding

General funding is undated, unsecured, floating-rate lending, other than certain funding which is dated on a rolling 60, 190 or 395 day term. Funding may be received or provided for specific transaction related funding requirements, or for general operational purposes. The interest rates are established by the Morgan Stanley Group Treasury function for all entities within the Morgan Stanley Group and approximate the market rate of interest that the Morgan Stanley Group incurs in funding its business.

Details of the outstanding balances on these funding arrangements and the related interest income or expense recognised in the consolidated income statement during the year are shown in the table below:

	2022		2021	
in $ millions	Interest	Balance	Interest	Balance
Undated				
Amounts due from the Group's direct and indirect parent undertakings	—	15	—	156
Amounts due from other Morgan Stanley Group undertakings	1	126	1	155
	1	**141**	**1**	**311**
Rolling 395 day term				
Amounts due from the Group's direct and indirect parent undertakings	1	—	1	32
Amounts due from other Morgan Stanley Group undertakings	1	62	—	38
	2	**62**	**1**	**70**

	2022		2021	
in $ millions	Interest	Balance	Interest	Balance
Undated				
Amounts due to the Group's direct and indirect parent undertakings	1	383	—	410
Amounts due to other Morgan Stanley Group undertakings	8	613	10	537
	9	**996**	**10**	**947**
40 day termed				
Amounts due to other Morgan Stanley Group undertakings	—	—	4	303
60 day termed				
Amounts due to the Group's direct and indirect parent undertakings	210	3,264	39	1,431
190 day termed				
Amounts due to the Group's direct and indirect parent undertakings	17	1	76	—
Rolling 395 day term				
Amounts due to the Group's direct and indirect parent undertakings	567	17,119	347	28,938
Amounts due to other Morgan Stanley Group undertakings	—	227	7	405
	567	**17,346**	**354**	**29,343**

Subordinated Loans

The Group received a subordinated loan and a senior subordinated loan from another Morgan Stanley Group undertaking. Details of the terms of these loans, including the contractual maturity and the interest rate are shown in note 17.

Trading and Risk Management

In the course of funding its business, the Group enters into collateralised financing transactions with other Morgan Stanley Group undertakings. All such transactions are entered into on an arm's length basis.

Details of the outstanding on such transactions and the related interest income/expense recognised in the consolidated income statement during the year are shown in the table below:

	2022		2021	
in $ millions	Interest	Balance	Interest	Balance
Financial assets measured at fair value				
Amounts due to the Group's direct and indirect parent undertakings	1	1,300	—	285
Amounts due from other Morgan Stanley Group undertakings	708	66,587	(212)	49,016
	709	**67,887**	**(212)**	**49,301**
Financial assets measured at amortised cost				
Amounts due to other Morgan Stanley Group undertakings	84	4,848	(28)	7,112
Financial liabilities measured at fair value				
Amounts due to the Group's direct and indirect parent undertakings	23	1,581	1	—
Amounts due to other Morgan Stanley Group undertakings	309	28,117	(112)	28,532
	332	**29,698**	**(111)**	**28,532**

The Group enters into purchases and sales of securities and derivative transactions with other Morgan Stanley Group undertakings to facilitate the provision of financial services to clients on a global basis and to manage the market risks associated with such business. The Group also enters into derivative transactions with other Morgan Stanley Group undertakings to manage the market risks associated with certain of its compensation plans. All such transactions are entered into on an arm's length basis. The total amounts receivable and payable from such transactions not yet settled and the fair value of such derivatives contracts outstanding at the year end were as follows:

in $ millions	2022	2021
Amounts due from the Group's direct and indirect parent undertakings on securities and derivative transactions	1,981	812
Amounts due from other Morgan Stanley Group undertakings on securities and derivative transactions	116,725	125,582
	118,706	**126,394**
Amounts due to the Group's direct and indirect parent undertakings on securities and derivative transactions	1,636	731
Amounts due to other Morgan Stanley Group undertakings on securities and derivative transactions	120,534	124,463
	122,170	**125,194**

The Group has received collateral of $996 million (2021: $11 million) from the Group's direct and indirect parent undertaking and $8,817 million (2021: $6,862 million) from other Morgan Stanley Group undertakings. The Group has pledged collateral of $nil (2021: $446 million) to the Group's direct and indirect parent undertakings and $30,736 million (2021: $33,464 million) to other Morgan Stanley Group undertakings. The Group has received and pledged collateral to mitigate credit risk on exposures arising under derivatives contracts between the Group and other Morgan Stanley Group undertakings.

In addition, the management and execution of business strategies on a global basis results in many Morgan Stanley transactions impacting a number of Morgan Stanley Group entities. The Morgan Stanley Group has Global Transfer Pricing Policies in place among the Ultimate Parent and its consolidated subsidiaries to ensure arm's length pricing. These policies are consistent with 2017 OECD transfer pricing guidelines for multinational enterprises and tax administrations. The Firm has also engaged in negotiations of Advanced Pricing Agreements with selected tax authorities in respect of its key transfer pricing methodologies. Negotiations may result in changes to methodologies or inputs that could have an impact on the Group's revenues in the future.

For the year ended 31 December 2022, a net amount of $1,339 million was transferred to other Morgan Stanley Group undertakings relating to such revenue transfer pricing policies and recognised in the consolidated income statement arising from such policies (2021: net transfer to other Morgan Stanley Group undertakings of $921 million).

Infrastructure Services

The Group receives and incurs management charges to and from other Morgan Stanley Group undertakings for infrastructure services, including the provision of staff and office facilities. Management recharges received and incurred during the year are as follows:

	2022		2021	
in $ millions	Staff costs	Other services	Staff costs	Other services
Amounts recharged from the Group's direct and indirect parent undertakings	6	—	11	—
Amounts recharged from other Morgan Stanley Group undertakings(1)	525	1,523	613	1,396
	531	**1,523**	**624**	**1,396**

(1) Amounts related to Other services include expenses reported as 'Commission and other similar arrangements' of $245 million (2021: $205 million).

APPENDIX TO THE FINANCIAL STATEMENTS
Year ended 31 December 2022

List of subsidiaries, including indirect subsidiaries, as at 31 December 2022 and 31 December 2021:

Name of Company	Address of undertaking's registered office/ principal place of business [2]	Proportion of shares held by the Group [1][3] 2022	2021	Nature of Business
Morgan Stanley Taiwan Limited	14th & 22nd Floors, Taipei Metro, 207 Tun Hwa South Road, Sec. 2, Taipei, 106, Taiwan	100%	100%	Financial Services
Morgan Stanley Strategic Investments Limited		100%	100%	Financial Services
Morgan Stanley Turnberry Limited		N/A[4]	100%	Holding company
Morgan Stanley Mallard Investments Limited		N/A[4]	100%	Holding company
Morgan Stanley Montgomerie Investments Limited		N/A[4]	100%	Holding company
Morgan Stanley Northcote Investments Limited (In Liquidation 30 December 2020)	25 Farringdon Street, London EC4A 4AB, United Kingdom	N/A[5]	100%	Holding company
Morgan Stanley Silvermere Limited (In Liquidation 30 December 2020)	25 Farringdon Street, London EC4A 4AB, United Kingdom	N/A[5]	100%	Holding company
Morgan Stanley Humboldt Investments Limited		100%	100%	Financial Services
Morgan Stanley Rivelino Investments Limited		N/A[5]	100%	Holding company
Morgan Stanley Havel GmbH	Grosse Gallusstrasse 18, 60312, Frankfurt am Main, Germany	100%	100%	Holding company
Morgan Stanley Langtree Investments B.V.		N/A[4]	100%	Financial Services
Morgan Stanley Equity Investments (UK) Limited	Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands	100%	100%	Financial Services
Clearcreek, S.L.U.	Travessera de Gracia, No. 11, 5th floor, 08021, Barcelona, Spain	N/A[6]	100%	Financial Services
Morgan Stanley Millbrae Investments B.V. (3)		N/A[4]	100%	Financial Services
Morgan Stanley Derivative Products (Netherlands) B.V.	Luna Arena, Herikerbergweg 238, 1101 CM, Amsterdam , Netherlands	100%	100%	Financial Services
Morgan Stanley Longcross Limited		100%	100%	Holding company
Morgan Stanley Derivative Products Spain S.L.	Serrano 55, 28006, Madrid, Spain	100%	100%	Financial Services
Morgan Stanley Equity Investments Unlimited Company	Custom House, Plaza Block 6, , International Financial Services Centre, Dublin, DUBLIN 1, Ireland	100%	100%	Holding company
Morgan Stanley Langton Limited		100%	100%	Holding company
Morgan Stanley Equity Finance (Malta) Limited	SmartCity Malta, SCM 01 TMF Group (Malta) 401, Ricasoli, Kalkara SCM 1001, Malta	100%	100%	Financial Services
Morgan Stanley Equity Derivative Services (Luxembourg) S.a r.l	Citco Luxembourg, 20, rue de la Poste, L-2346, Luxembourg	N/A[4]	100%	Financial Services
Morgan Stanley Equity Financing Limited (In Liquidation 30 December 2020)	25 Farringdon Street, London EC4A 4AB, United Kingdom	N/A[5]	100%	Financial Services
Drake II Investments Limited	Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands	100%	100%	Financial Services
Morgan Stanley Grund S.a.r.L	46A, Avenue J.F. Kennedy, L-1855, Luxembourg	100%	100%	Financial Services
Morgan Stanley Corporate Holdings Unlimited Company	Custom House, Plaza Block 6, International Financial Services Centre, Dublin, DUBLIN 1, Ireland	100%	100%	Holding company
Morgan Stanley Heythorp Investments Unlimited Company	Custom House, Plaza Block 6, International Financial Services Centre, Dublin, DUBLIN 1, Ireland	100%	100%	Holding company

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		Proportion of shares held by the Group [(1)(3)]		
Name of Company	Address of undertaking's registered office/ principal place of business [(2)]	2022	2021	Nature of Business
Morgan Stanley Equity Holding (Netherlands) B.V.	Luna Arena, Herikerbergweg 238, 1101 CM, Amsterdam, Netherlands	100%	100%	Financial Services
Morstan Nominees Limited	25 Cabot Square, Canary Wharf, London, E14 4QA, United Kingdom	100%	100%	Nominee company
Global Equity High Yield Fund B.V.	Coolsingel 63, 7th Floor (Right), 3012 AB, Rotterdam, Netherlands	100%	100%	Financial Services
Morgan Stanley Client Securities Nominees Limited	25 Cabot Square, Canary Wharf, London, E14 4QA, United Kingdom	100%	100%	Nominee company
Morgan Stanley Euro Financing Unlimited Company	Custom House, Plaza Block 6, International Financial Services Centre, Dublin, DUBLIN 1, Ireland	100%	100%	Holding company

(1) The proportion of voting rights held by the Group is the same as the proportion of shares held by the Group unless otherwise stated.
(2) All entities have a registered address of 20 Bank Street, Canary Wharf, London, E14 4AD, United Kingdom, unless otherwise stated.
(3) All shares held in each Company are ordinary shares with the exception of Morgan Stanley Millbrae Investments B.V. where ordinary and preference shares were held.
(4) During 2022, Morgan Stanley Turnberry Limited, Morgan Stanley Mallard Investments Limited, Morgan Stanley Montgomerie Investments Limited, Morgan Stanley Langtree Investments B.V., Morgan Stanley Millbrae Investments B.V. and Morgan Stanley Equity Derivative Services (Luxembourg) S.a r.l were transferred to Morgan Stanley International Holdings Inc.
(5) During 2022, Morgan Stanley Rivelino Investments Limited, Morgan Stanley Northcote Investments Limited, Morgan Stanley Silvermere Limited and Morgan Stanley Equity Financing Limited were dissolved.
(6) During 2022, Clearcreek, S.L.U. was sold.