Morgan Stanley International Limited Group

Pillar 3 Regulatory Disclosures Report

As at 30 June 2019

Table of Contents

Table of Figures

Tables

1. Overview and Key Metrics

Overview

The principal activity of Morgan Stanley International Limited ("MSI") together with its subsidiaries (the "MSI Group") is the provision of financial services to corporations, governments and financial institutions. There have not been any significant changes in the MSI Group's principal activities during the second quarter of 2019.

As at 30 June 2019, the following entities within the MSI Group were authorised by the Prudential Regulation Authority ("PRA") and regulated by the PRA and Financial Conduct Authority ("FCA"):

- Morgan Stanley & Co. International plc ("MSIP")
- Morgan Stanley Bank International Limited ("MSBIL")

The following entities within the MSI Group form the MSIM sub-consolidated group ("MSIM Group") and were authorised and regulated by the FCA:

- Morgan Stanley Investment Management Limited ("MSIM")
- Morgan Stanley Investment Management (ACD) Limited ("MSIM ACD")

For further information on the MSIM Group, please refer to the annual MSI Group disclosure which is located at https://www.morganstanley.com/about-us-ir/pillar-uk.html

Key Metrics

Table 1: Key metrics
$MM

MSI Group[1]	Q2'19	Q1'19	Q4'18
Common Equity Tier 1 Capital	19,072	18,898	18,667
Additional Tier 1 Capital	3,500	3,500	3,500
Tier 1 Capital	**22,572**	**22,398**	**22,167**
Tier 2 Capital	**5,369**	**5,376**	**5,370**
Total Own Funds	**27,941**	**27,774**	**27,537**
Risk Weighted Assets	132,222	130,495	130,963
Common Equity Tier 1 Ratio	14.4%	14.5%	14.3%
Tier 1 Capital Ratio	17.1%	17.2%	16.9%
Total Capital Ratio	21.1%	21.3%	21.0%
Leverage Exposure	455,281	440,401	421,386
Leverage Ratio	5.0%	5.1%	5.3%
Liquidity Coverage Ratio	232%	227%	223%

MSIP[1]	Q2'19	Q1'19	Q4'18
Common Equity Tier 1 Capital	15,113	15,112	15,648
Additional Tier 1 Capital	3,500	3,500	3,500
Tier 1 Capital	**18,613**	**18,612**	**19,148**
Tier 2 Capital	**5,000**	**5,000**	**5,000**
Total Own Funds	**23,613**	**23,612**	**24,148**
Risk Weighted Assets	126,670	120,789	124,950
Common Equity Tier 1 Ratio	11.9%	12.5%	12.5%
Tier 1 Capital Ratio	14.7%	15.4%	15.3%
Total Capital Ratio	18.6%	19.5%	19.3%
Leverage Exposure	445,514	428,313	417,315
Leverage Ratio	4.2%	4.3%	4.6%

1. The MSI Group and MSIP are required to maintain a minimum ratio of Own Funds to Risk Weighted Assets ("RWAs"). As at 30 June 2019, the MSI Group and MSIP are in compliance with the PRA capital requirements.

Basis of Consolidation

The MSI Group completes its prudential consolidation in compliance with Capital Requirements Regulation ("CRR") Part One, Title II Chapter 2, with all entities fully consolidated. The basis of consolidation for prudential purposes is the same as consolidation for accounting purposes. This disclosure is prepared for the MSI Group, rather than on an individual basis for each regulated entity, as permissible by CRD IV. The most significant subsidiary of the MSI Group is MSIP, the results of which are material to the MSI Group. The risk profile of MSIP is materially the same as the MSI Group and risk management policies and procedures are applied consistently. This disclosure comprehensively conveys the risk profile of the MSI Group and MSIP.

Morgan Stanley Group

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

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

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

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

2. Regulatory Frameworks

2.1 Regulatory Overview

The Basel Capital Accord provides a global regulatory framework for capital and liquidity. This was revised in 2010 following the financial crisis, through a number of reforms collectively known as Basel III. The revised Basel Capital Accord has been implemented in the European Union ("EU") via the Capital Requirements Directive ("CRD") and the CRR (collectively known as "CRD IV"). These requirements took effect from 1 January 2014.

The framework consists of three "Pillars":

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

Pillar 3 Disclosure

MSI Group Pillar 3 disclosures are prepared in accordance with the requirements of Part Eight of the CRR. For certain disclosures, these requirements are further detailed through the European Banking Authority ("EBA") Regulatory Technical Standards ("RTS") and Implementing Technical Standards ("ITS") which include a number of common templates. Where applicable, these templates are used within this disclosure.

The MSI Group has policies and procedures in place to assess the appropriateness of its Pillar 3 disclosure. One or more members of the management body are required to confirm that the disclosure has been prepared in accordance with internal control processes agreed upon at the management body level. The MSI Group's Pillar 3 disclosure is not required to be, and has not been, audited by the MSI Group's auditor and as at 30 June 2019 is based on its current understanding of CRD IV and related legislation, which may be subject to change as the MSI Group receives additional clarification and implementation guidance from regulators relating to CRD IV and as the interpretation of the final rules evolves over time.

2.2 Regulatory Development

Amendments to the Capital Requirements Regulation

In June 2019, the European Commission published the final rules, known as CRD V and CRR II that amend the existing prudential regime (CRD IV and CRR), the Bank Recovery and Resolution Directive ("BRRD") and the Single Resolution Mechanism ("SRM").

The CRD V / CRR II package includes: Total Loss-Absorbing Capacity ("TLAC"), Fundamental Review of the Trading Book ("FRTB"), standardised approach for the calculation of counterparty credit exposures for derivatives ("SA-CCR"), Net Stable Funding Ratio ("NSFR"), revised Leverage Ratio, revised Large Exposures framework, Intermediate Parent Undertaking ("IPU") requirement, and revised Pillar 3 disclosure requirements.

Final rules are effective 27 June 2019; however, implementation dates are staggered over a four year period, with the majority of new requirements applying from 28 June 2021.

Minimum Requirements for Own Funds and Eligible Liabilities and TLAC

In June 2018, the Bank of England, as the United Kingdom ("UK") resolution authority, set Minimum Requirements for Own Funds and Eligible Liabilities ("MREL") for all institutions on both an individual and group consolidated basis, in line with the BRRD. MREL serves to ensure that the MSI Group has sufficient eligible liabilities in a bail-in scenario to absorb losses and in the event of failure, that there can be an orderly resolution that minimises any adverse impact on financial stability whilst preventing public funds being exposed to loss. Interim MREL requirements are applicable from 1 January 2019 and end state MREL requirements from 1 January 2022.

In June 2019, the European Commission published final rules for TLAC requirements as part of their amendments to the CRR that apply at the Group level only, effective from 27 June 2019.

Basel Committee on Banking Supervision ("BCBS") - finalising Basel III reforms

On 7 December 2017, the Basel Committee released the final part of its Basel III reform package. The key amendments provide updates to the standardised measures for calculating capital requirements and include a RWA floor, calculated at 72.5% of total standardised RWA.

In January 2019, the BCBS published its revised final standard on the minimum capital requirements for market risk, also known as the FRTB. The new regime:

- Clarifies the boundary between the banking book and trading book;
- Provides capital requirements for non-modellable risk factors;
- Introduces an internal models approach that uses expected shortfall models; and
- Establishes a more risk-sensitive standardised approach that acts as a fallback for the internal models method.

Given that the above proposals will need to be transposed into national/EU law, i.e. CRR III, the timing and impact of the final outcome remains uncertain.

UK withdrawal from the EU

On 23 June 2016, the UK electorate voted to leave the European Union (the "EU"). On 29 March 2017, the UK invoked Article 50 of the Lisbon Treaty which triggered a two-year period, subject to extension (which would need the unanimous approval of the EU Member States), during which the UK government negotiated a form of withdrawal agreement with the EU.

On 22 March 2019, the UK and the other EU Member States agreed to an extension of the two-year period to 22 May, 2019, (if the UK Parliament approved the withdrawal agreement by 29 March 2019) or 12 April 2019 (if it did not). On 11 April 2019, the UK and the other EU Member States agreed to a further extension to 31 October 2019. Absent any further changes to this time schedule, the UK is expected to leave the EU on 31 October 2019.

The proposed withdrawal agreement includes a transition period until December 2020 and provides that the UK will leave the EU single market and will seek a phased period of implementation for a new UK-EU relationship that may include the legal and regulatory framework applicable to financial institutions with significant operations in Europe, such as Morgan Stanley.

The Group is currently subject to EU regulatory requirements based on the implementation of EU directives by the UK and through EU regulations that apply directly. There is uncertainty around what regulatory requirements will continue to apply in the UK after leaving the EU. Dependant on the terms of any withdrawal agreement, EU regulatory requirements in effect at the withdrawal date may continue to apply to the Group directly. Alternatively, the UK may implement equivalent standards for a period of time, including introducing equivalent standards for evolving regulation being introduced by the EU that would apply to the Group. This may include additional proposals made by the Basel Committee in its Basel III reform package.

The MSI Group is continuing to prepare its European operations to be able to serve clients regardless of whether or not a withdrawal or transition agreement is reached. Changes have been made to European operations in an effort to ensure that the MSI Group can continue to provide banking and investment and other services in EU member states from within the EU where necessary.

These changes include use of a new licenced investment firm, Morgan Stanley Europe S.E ("MSESE"), based in Germany, which is passported throughout the EU and will serve EU-based clients where required; and the existing German licensed bank Morgan Stanley Bank AG ("MSBAG"), which will provide licensable banking activities where required. In addition, a new holding company for this structure has been incorporated, Morgan Stanley Europe Holding SE ("MSEHSE"). The MSI Group will also serve EU clients out of branches of these entities in the EU and existing regulated entities in France and Spain as necessary.

These entities are now operational and the MSI Group is continuing to build out their capabilities, including onboarding clients and further engagement with clients and local regulators. The MSI Group also expects to continue to add personnel to offices in the EU as required to support the evolving business model, including, from its London operations and its EU branches.

Certain activities currently transacted by the MSI Group, including cash and derivatives trading with certain EU clients have moved, or may in future move, to these additional entities, including cash and derivatives trading and capital markets activities moving from MSIP to MSESE. The extent and timing of these moves will depend on client preferences and on licencing rules, which in turn will depend on the form of any withdrawal or transition agreement.

As part of the MSI Group's Brexit planning to achieve the strategy mentioned above, the MSI Group has made certain entity structural changes. On 1 November 2018, the Company transferred its investment in MS France Holdings I S.A.S and its subsidiaries ("MS France Group") to MSIUK, the Company's parent undertaking. On 1 March 2019, MSIP transferred its investments in MSEHSE and MSESE to MSIUK.

As a result of the political uncertainty described above, the proposed post-Brexit structure of European operations for the Morgan Stanley Group may need to continue to adapt and change. Given the potential negative disruption to regional and global financial markets, and depending on the extent to which Morgan Stanley may be required to make material changes to European operations beyond those currently planned or executed, results of Morgan Stanley's operations and business prospects could be negatively affected. However, following the reorganisations and changes effected to date, the MSI Group's principal activity and risks remain unchanged and while some business and client activity has or will be transferred from the Group to other Morgan Stanley Group entities that operate within the EU, the impact of its profitability and balance sheet is not expected to be material in the short to medium term.

3. Capital Management

The MSI Group views capital as an important source of financial strength. It manages and monitors its capital in line with established policies and procedures and in compliance with local regulatory requirements.

The MSI Group conducts an ICAAP at least annually in order to meet its obligations under CRD IV.

The PRA reviews the MSI Group ICAAP through its Supervisory Review and Evaluation Process ("SREP") and sets a Total Capital Requirement ("TCR"), comprising Pillar 1 and Pillar 2A, which establishes the minimum level of regulatory capital for the MSI Group and MSIP. Certain elements of the Pillar 2A requirement are a fixed quantum whilst others are a proportion of RWAs and are based on a point in time assessment. As of 30 June 2019 the MSI Group TCR was 11.4%. In addition, the PRA sets a buffer if required in addition to the Basel Combined Buffers, which is available to support the MSI Group in a stressed market environment.

The Countercyclical Capital Buffer ("CCyB") was introduced to ensure that excess growth in specific countries is accounted for and increases the minimum capital ratios by between 0% and 2.5% and must be met with Common Equity Tier 1 ("CET1") Capital. As of 30 June 2019, the CCyB for the MSI Group stood at 0.3%.

The Capital Conservation Buffer ("CCB") of 2.5% requires banks to build up a capital buffer that can be utilised to absorb losses during periods of stress, whilst remaining compliant with minimum requirements and must be met with CET1 capital.

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

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

4. Capital Resources

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

Table 2: Own funds

$MM	MSI Group	MSIP
Capital instruments eligible as CET1 capital	1,939	12,978
Retained earnings	12,781	2,590
Accumulated other comprehensive income	(667)	(115)
Other reserves	7,461	1,403
Adjustments to CET1 due to prudential filters	(1,594)	(1,552)
Other intangible assets	(653)	(2)
Internal Ratings Based shortfall of credit risk adjustments to expected losses	(195)	(189)
CET1 capital	**19,072**	**15,113**
Additional Tier 1 capital	3,500	3,500
Tier 1 capital	**22,572**	**18,613**
Capital instruments and subordinated loans eligible as Tier 2 capital	5,369	5,000
Instruments issued by subsidiaries that are given recognition in Tier 2 capital	-	-
Tier 2 capital	**5,369**	**5,000**
Total own funds	**27,941**	**23,613**

Over the second quarter, the MSI Group own funds has increased, due to an increase in retained earnings.

The MSI Group relies on its policies, procedures and systems to determine the adequacy of valuation for financial assets and compliance with accounting standards. To comply with the requirements of CRD IV, additional valuation adjustments are applied to capital over and above those that are taken in order to comply with the accounting requirements. The regulatory adjustments are referred to in the above table as prudential filters.

The capital resources of the MSI Group and MSIP are based on unaudited financial information. Table 3 provides a reconciliation of shareholders' equity to regulatory capital.

Table 3: Reconciliation of balance sheet total equity to regulatory capital

$MM	MSI Group				MSIP			
		CET1 capital	AT1 capital	Tier 2 capital		CET1 capital	AT1 capital	Tier 2 capital
Equity instruments	5,439	1,939	3,500	-	15,965	12,465	3,500	-
Share premium	0	0	-	-	513	513	-	-
Other reserves	7,461	7,461	-	-	1,403	1,403	-	-
Other comprehensive income	(667)	(667)	-	-	(115)	(115)	-	-
Retained earnings	13,228	13,228	-	-	2,961	2,961	-	-
Non-controlling interest	104	104	-	-	-	-	-	-
Balance sheet total equity	**25,565**	**22,065**	**3,500**	**-**	**20,727**	**17,227**	**3,500**	**-**
Add:								
Tier 2 instruments classified as debt and other borrowings	**5,369**	**-**	**-**	**5,369**	**5,000**	**-**	**-**	**5,000**
Less:								
Qualifying own funds subordinated debt instruments not included in consolidated Tier capital	-	-	-	-	-	-	-	-
Part of interim or year-end profit not eligible	(447)	(447)	-	-	(371)	(371)	-	-
Minority interests (amount not allowed in consolidated CET1)	(104)	(104)	-	-	-	-	-	-
Additional value adjustments (negative amount)	(1,552)	(1,552)	-	-	(1,513)	(1,513)	-	-
Negative amounts resulting from the calculation of expected loss amounts	(195)	(195)	-	-	(189)	(189)	-	-
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(42)	(42)	-	-	(39)	(39)	-	-
Intangible assets (net of related tax liability) (negative amount)	(653)	(653)	-	-	(2)	(2)	-	-
Total own funds	**27,941**	**19,072**	**3,500**	**5,369**	**23,613**	**15,113**	**3,500**	**5,000**

5. Total Loss-Absorbing Capacity

MSI Group is subject to internal TLAC requirements via CRR II, which came into force in June 2019. These requirements are designed to enhance the resilience of the financial system by ensuring firms have sufficient capital to absorb losses and recapitalise under resolution. The minimum capacity requirements are initially set at 16% of risk weighted assets and 6% of leverage exposure, scaled at 90% for MSI Group as the subsidiary of a non-EU G-SII. The eligibility criteria for internal TLAC only takes into account instruments owned by the ultimate parent undertaking and issued directly or indirectly through other entities within the same group.

Morgan Stanley's preferred resolution strategy, is a Single Point of Entry ("SPOE") strategy. Further information on resolution strategy can be found in Morgan Stanley Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q.

The MSI Group TLAC key metrics are provided in Table 4.

Table 4: TLAC key metrics

$MM MSI Group	Q2'19
Total loss absorbing capacity (TLAC) available	**30,441**
Total RWA at the level of the resolution group	**132,222**
TLAC as a percentage of RWA (row 1/row2) (%)[1]	23.0%
Leverage ratio exposure measure at the level of the resolution group	455,281
TLAC at a percentage of leverage ratio exposures measure (row1/row4) (%)[1]	6.7%

1. As at 30 June 2019, the MSI Group is in compliance with the TLAC requirements.

Table 5 provides details of the composition of the MSI Group's TLAC.

Table 5: TLAC composition

$MM MSI Group	Q2'19
Common Equity Tier 1 Capital (CET1)	19,072
Additional Tier 1 Capital (AT1) before TLAC adjustments	3,500
AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
Other adjustments[1]	(3,500)
AT1 instruments eligible under the TLAC framework	0
Tier 2 Capital (T2) before TLAC adjustments	5,369
Amortised portion of T2 instruments where remaining maturity >1 year	-
T2 Capital ineligible as TLAC as issued out of subsidiaries to third parties	-
Other adjustments	-
T2 instruments eligible under the TLAC framework	5,369
TLAC arising from regulatory capital	**24,441**
TLAC instruments subordinated to excluded liabilities	6,000
TLAC arising from non-regulatory capital instruments before adjustments	**6,000**
TLAC before deductions	**30,441**
Deduction of investments in own other TLAC liabilities	-
Other adjustments to TLAC	-
TLAC after deductions	**30,441**
Total risk-weighted assets adjusted as permitted under the TLAC regime	132,222
Leverage exposure measure	455,281
TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	23.0%
TLAC (as a percentage of leverage exposure)	6.7%
Institution-specific buffer requirement	**2.78%**
Of which: capital conservation buffer requirement	2.5%
Of which: bank specific countercyclical buffer requirement	0.3%

1. MSI Groups AT1 instruments are not eligible as TLAC as they are not issued directly or indirectly to the resolution entity.

Table 6 provides a breakdown of eligible instruments in the creditor hierarchy of the MSI Group.

Table 6: TLAC creditor ranking

	Creditor ranking				
$MM	1	2	3	4	
MSI Group	(most junior)			(most senior)	Total
Description of creditor ranking	Ordinary Shares[1]	AT1 instruments	Subordinated loans	Senior Subordinated loans	
Total capital and liabilities	**1,921**	**3,500**	**5,369**	**6,000**	**16,790**
Excluded liabilities [2]	-	-	-	-	-
Total capital and liabilities less excluded liabilities	1,921	3,500	5,369	6,000	16,790
Eligible as TLAC	1,921	-	5,369	6,000	13,290
with 1 year ≤ residual maturity < 2 years	-	-		6,000	6,000
with 2 years ≤ residual maturity < 5 years	-	-	-	-	-
with 5 years ≤ residual maturity < 10 years	-	-	5,369	-	5,369
with residual maturity ≥ 10 years	-	-	-	-	-
perpetual securities	1,921	-	-	-	1,921

1. Ordinary Shares excludes the value of share premium and reserves.
2. As at 30 June 2019 MSI Group has no excluded liabilities as defined in CRR II Article 72a (2).

6. Leverage

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

Although there is no current binding leverage requirement under CRD IV, the MSI Group manages its risk of excessive leverage through the application of business unit leverage exposure limits and leverage ratio early warning trigger levels. Limits are calibrated in line with legal entity capacity and ensure that leverage exposure remains within the MSI Board's risk appetite. MSI Group and MSIP's leverage exposures are calculated monthly and weekly, respectively, and reported to EMEA ALCO who monitor this, as well as maturity mismatches and asset encumbrance metrics, to ensure that any excessive risk is highlighted, assessed and mitigated appropriately. The MSI Group leverage ratio and the MSIP leverage ratio have decreased 0.1% and 0.2% respectively from 31 March 2019 to 30 June 2019, due to an increase in on-balance sheet exposure and derivatives exposure.

The disclosures in the tables below have been made in accordance with the EU Delegated Act and are disclosed on a fully phased in basis. Table 7 provides a reconciliation between total assets in the financial statements and the leverage exposure measure for MSI Group and MSIP as at 30 June 2019.

Table 7: Reconciliation of accounting assets and leverage ratio exposures

$MM	MSI Group	MSIP
Total assets as per balance sheet[1]	**498,065**	**488,516**
Adjustments for derivative financial instruments	(67,590)	(67,298)
Adjustments for securities financing transactions	16,695	16,702
Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	10,430	9,720
(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-	(503)
Other adjustments	(2,319)	(1,623)
Total leverage ratio exposure	**455,281**	**445,514**

1. MSI Groups does not publish financial statements and the reported balances are reconciled to unaudited financial information.

Table 8 provides a detailed breakdown of the components of the leverage ratio exposure for MSI Group and MSIP as at 30 June 2019.

Table 8: Leverage ratio common disclosure

$MM	MSI Group	MSIP
On-balance sheet exposures (excluding derivatives and SFTs[1])		
On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	216,064	203,000
(Asset amounts deducted in determining Tier 1 capital)	(2,400)	(1,704)
Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)	**213,664**	**201,296**
Derivative exposures		
Replacement cost associated with *all* derivatives transactions (i.e. net of eligible cash variation margin)	19,746	19,184
Add-on amounts for PFE associated with *all* derivatives transactions (mark-to-market method)	142,356	137,762
Gross-up for derivatives collateral provided where deducted from the balance sheet pursuant to the applicable accounting framework	4,480	4,223
(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(23,932)	(23,385)
(Exempted CCP leg of client-cleared trade exposures)	(11,907)	(8,360)
Adjusted effective notional amount of written credit derivatives	163,726	161,744
(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(157,467)	(155,320)
Total derivative exposures	**137,002**	**135,848**
Securities financing transaction exposures		
Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	199,289	204,250
(Netted amounts of cash payables and cash receivables of gross SFT assets)	(113,100)	(113,100)
Counterparty credit risk exposure for SFT assets	7,996	8,003
Total securities financing transaction exposures	**94,185**	**99,153**
Other off-balance sheet exposures		
Off-balance sheet exposures at gross notional amount	26,076	24,688
(Adjustments for conversion to credit equivalent amounts)	(15,646)	(14,968)
Total other off-balance sheet exposures	**10,430**	**9,720**
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)		
(Intragroup exposures (solo basis) exempted in accordance with Article 429(7) and (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	-	(503)
Capital and total exposure measure		
Tier 1 capital	**22,572**	**18,613**
Total leverage ratio exposures	**455,281**	**445,514**
Leverage ratio	**5.0%**	**4.2%**
Choice on transitional arrangements for the definition of the capital measure	**Fully Phased-in**	**Fully Phased-in**

1. Securities Financing Transactions ("SFTs")

Table 9 provides a breakdown of the on-balance sheet exposures into trading and non-trading book exposures for MSI Group and MSIP as at 30 June 2019.

Table 9: Split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

$MM	MSI Group	MSIP
Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	**216,064**	**203,000**
Trading Book exposures	169,062	166,266
Non-Trading Book exposures, of which:	47,002	36,734
Exposures treated as sovereigns	23,500	17,201
Institutions	16,855	15,526
Corporate	3,524	2,895
Exposures in default	65	64
Other exposures (e.g. equity, securitisations, and other non-credit obligation assets)	3,058	1,048

7. Capital Requirements and RWAs

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

Credit and Counterparty Credit Risk (“CCR”) refers to the risk of loss arising when a borrower, counterparty or issuer does not meet its financial obligations. Credit and Counterparty Credit capital requirements are derived from RWAs, determined using approved internal modelling approaches – the Foundation Internal Ratings Based approach (“IRB”) for credit risk and the Internal Models Method (“IMM”) for counterparty risk – as well as the Standardised Approach (“SA”) and Mark-to-Market Method (“MTMM”) for exposures not covered by internal models.

Credit Valuation Adjustment (“CVA”) is the capital requirement that covers the risk of mark-to-market losses on the counterparty risk of Over-the-Counter (“OTC”) and Listed derivatives. It is calculated using a combination of advanced internal modelling and standardised approaches.

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

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

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

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

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

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

Table 10 summarises RWAs and minimum capital requirements ("MCR") for MSI Group and MSIP by risk type. MSI Group and MSIP calculate Pillar 1 capital requirements as 8% of RWAs in accordance with CRD IV.

Table 10: Overview of RWAs (EU OV1)

$MM MSI Group	RWAs Q2'19	RWAs Q1'19	MCR Q2'19
Credit risk (excluding CCR)	**12,960**	**12,750**	**1,037**
Of which standardised approach	4,006	4,870	320
Of which foundation IRB (FIRB) approach	5,897	5,172	472
Of which advanced IRB (AIRB) approach	-	-	-
Of which equity IRB under the simple risk-weighted approach or the IMA	3,057	2,708	245
CCR	**51,209**	**49,677**	**4,097**
Of which mark-to-market	10,263	9,726	821
Of which original exposure	-	-	-
Of which standardised approach	219	528	18
Of which internal model method	19,313	19,051	1,545
Of which Financial collateral comprehensive method (for SFTs)	7,537	8,293	603
Of which risk exposure amount for contributions to the default fund of a CCP	1,117	881	89
Of which CVA	12,760	11,198	1,021
Settlement risk	**78**	**47**	**6**
Securitisation exposures in banking book (after cap)	**178**	**181**	**14**
Of which IRB	118	121	9
Of which IRB supervisory formula approach (SFA)	-	-	-
Of which internal assessment approach (IAA)	-	-	-
Of which standardised approach	60	60	5
Market risk	**48,055**	**49,881**	**3,845**
Of which standardised approach	12,935	12,814	1,035
Of which IMA	35,120	37,067	2,810
Large exposures	**8,365**	**6,673**	**669**
Operational risk	**11,037**	**11,037**	**883**
Of which basic indicator approach	11,037	11,037	883
Of which standardised approach	-	-	-
Of which advanced measurement approach	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	**340**	**249**	**27**
Floor adjustment	**-**	**-**	**-**
Total	**132,222**	**130,495**	**10,578**
MSIP			
Credit risk (excluding CCR)	**10,313**	**9,820**	**825**
Of which standardised approach	2,621	3,287	210
Of which foundation IRB (FIRB) approach	4,760	3,947	380
Of which advanced IRB (AIRB) approach	-	-	-
Of which equity IRB under the simple risk-weighted approach or the IMA	2,932	2,586	235
CCR	**50,255**	**49,033**	**4,020**
Of which mark-to-market	10,326	9,210	826
Of which original exposure	-	-	-
Of which standardised approach	212	528	17
Of which internal model method	18,980	18,724	1,518
Of which Financial collateral comprehensive method (for SFTs)	7,922	8,738	634
Of which risk exposure amount for contributions to the default fund of a CCP	692	563	55
Of which CVA	12,123	11,270	970
Settlement risk	**68**	**47**	**5**
Securitisation exposures in banking book (after cap)	**178**	**181**	**14**
Of which IRB	118	121	9
Of which IRB supervisory formula approach (SFA)	-	-	-
Of which internal assessment approach (IAA)	-	-	-
Of which standardised approach	60	60	5
Market risk	**42,526**	**44,349**	**3,403**
Of which standardised approach	7,448	7,300	597
Of which IMA	35,078	37,049	2,806
Large exposures	**14,620**	**8,701**	**1,170**
Operational risk	**8,361**	**8,361**	**669**
Of which basic indicator approach	8,361	8,361	669
Of which standardised approach	-	-	-
Of which advanced measurement approach	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	**349**	**297**	**28**
Floor adjustment	**-**	**-**	**-**
Total	**126,670**	**120,789**	**10,134**

Over the second quarter, RWAs increased, primarily driven by Counterparty Credit Risk and Large exposures, partially offset by Market Risk.

8. Credit Risk

8.1 Credit and Counterparty Credit Risk Management

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

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

8.2 Counterparty and Credit Risk Capital Requirements

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

RWAs are determined using the IRB approach which reflects the MSI Group's internal estimate of a borrower or counterparty's creditworthiness. For exposures not covered by the IRB approach, the standardised approach is applied, typically for certain business units which are non-significant and certain exposure classes or types of exposures which are immaterial in terms of size and perceived risk profile.

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

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

Table 11 shows Credit Risk and Counterparty Credit Risk for MSI Group and MSIP as at 30 June 2019.

Table 11: Credit and counterparty risk RWA summary

$MM	MSI Group			MSIP		
	RWAs Q2'19	RWAs Q1'19	MCR Q2'19	RWAs Q2'19	RWAs Q1'19	MCR Q2'19
Credit risk	12,960	12,750	1,037	10,313	9,820	825
Of which FIRB	5,897	5,172	472	4,760	3,947	380
Counterparty credit risk (excluding CVA)	38,449	38,479	3,076	38,132	37,763	3,050
Of which IMM	19,313	19,051	1,545	18,980	18,724	1,518
Securitisation	178	181	14	178	181	14
Amounts below the thresholds for deduction	340	249	27	349	297	28
Total (excluding CVA)	**51,927**	**51,659**	**4,154**	**48,972**	**48,061**	**3,917**
CVA	12,760	11,198	1,021	12,123	11,270	970
Total	**64,687**	**62,857**	**5,175**	**61,095**	**59,331**	**4,887**

Table 12 shows the Credit Risk and Counterparty Credit Risk for MSI Group and MSIP as at 30 June 2019, for each exposure class as per the classification set out in the CRR.

Table 12: Credit and counterparty credit risk summary

$MM	MSI Group			MSIP		
	EAD[1]	RWAs	MCR	EAD	RWAs	MCR
IRB						
Central governments or central banks	31,301	2,136	171	24,945	1,709	137
Corporates	54,559	26,366	2,109	54,400	25,653	2,052
Equity	1,026	3,057	245	1,100	3,221	258
Institutions	53,202	13,387	1,071	54,021	13,666	1,093
Securitisation	138	118	9	138	118	9
Total (IRB)	**140,226**	**45,064**	**3,605**	**134,604**	**44,367**	**3,549**
Standardised						
Central governments or central banks	477	139	11	515	147	12
Corporates	2,667	2,397	192	2,331	2,147	172
High Risk	-	-	-	-	-	-
Institutions	17,525	1,447	116	16,709	1,465	117
Multilateral development banks	5	-	-	5	-	-
International organisations	1	-	-	1	-	-
Public sector entities	-	-	-	-	-	-
Regional government or local authorities	7	5	-	7	5	-
Securitisation	215	60	5	215	60	5
Other items	1,493	1,697	136	52	89	7
Total (standardised)	**22,390**	**5,745**	**460**	**19,835**	**3,913**	**313**
Total (CCP default fund)[2]	**1,094**	**1,118**	**89**	**771**	**692**	**55**
Total[3]	**163,710**	**51,927**	**4,154**	**155,210**	**48,972**	**3,917**

1. Exposure at Default ("EAD") figures are post credit risk mitigation ("CRM") and post Credit Conversion Factor ("CCF")
2. Central Counterparty ("CCP") Default Fund requirements have been included in the table to reflect the full population of Credit and Counterparty Credit Risk. CCP Default Fund exposures are shown in Table CCR8.
3. Exposures calculated under the FIRB approach account for 84% and the Standardised Approach account for 16%.

Credit Risk RWA flow statements

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

Table 13: RWA flow statements of credit risk exposures under the IRB approach (EU CR8)

$MM	MSI Group		MSIP	
	RWAs	MCR	RWAs	MCR
RWAs at the end of the previous reporting period[1]	**5,172**	**414**	**3,947**	**316**
Asset size	626	50	684	54
Asset quality	99	8	129	10
Model updates	-	-	-	-
Methodology and policy	-	-	-	-
Acquisitions and disposals	-	-	-	-
Foreign exchange movements	-	-	-	-
Other	-	-	-	-
RWAs at the end of the reporting period	**5,897**	**472**	**4,760**	**380**

1. Previous reporting period was Q1'19.

Over the second quarter, MSI Group and MSIP asset size changes were primarily due to new off-balance sheet loans.

8.3 Non-Trading Book Equity Exposure and Specialised Lending

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

Table 14 shows the MSI Group's specialised lending and equity exposures using the simple risk-weighted approach.

Table 14: IRB (specialised lending and equities) (EU CR10)

	Equities under the simple risk-weight approach					
MSI Group[1]	**On-balance sheet amount $MM**	**Off-balance sheet amount $MM**	**Risk weight %**	**Exposure amount $MM**	**RWAs $MM**	**Capital requirements $MM**
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	549	373	290%	923	2,676	214
Other equity exposures	103	-	370%	103	381	30
Total	**652**	**373**		**1,026**	**3,057**	**244**
MSIP[1]						
Private equity exposures	-	-	190%	-	-	-
Exchange-traded equity exposures	546	341	290%	887	2,572	206
Other equity exposures	97	-	370%	97	360	29
Total	**643**	**341**		**984**	**2,932**	**235**

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

Over the first half of 2019, there have been no material movements.

8.4 Credit Risk Mitigation

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

9. Counterparty Credit Risk

9.1 Counterparty Credit exposures

The MSI Group uses the IMM and the MTMM for calculating its Counterparty Credit Risk exposure. The majority of OTC derivatives within the MSI Group are in scope of the IMM permission. The IMM approach uses a Monte Carlo simulation technique to measure and monitor potential future exposures of derivative portfolios. The models used simulate risk factors and replicate the risk mitigation techniques such as netting and collateral. The most material risk factors are calibrated daily to market implied data, while other risk factors are calibrated based on three years or more of historical data.

Table 15 shows a comprehensive view of the methods used to calculate CCR regulatory requirements and the main parameters used within each method for the MSI Group as at 30 June 2019.

Table 15: Analysis of the CCR exposure by approach (EU CCR1)

$MM MSI Group	Notional	Replacement cost/ current market value	Potential future exposure	Effective expected positive exposure	Multiplier	EAD post CRM	RWAs
Mark-to-market		2,584	26,008			21,871	9,961
Original exposure	-					-	-
Standardised approach		1,007			1.4	733	219
IMM (for derivatives and SFTs)				26,060	1.4	38,002	19,313
Of which securities financing transactions				-	-	-	-
Of which derivatives & long settlement transactions				26,060	1.4	38,002	19,313
Of which from contractual cross product netting				-	-	-	-
Financial collateral simple method (for SFTs)						-	-
Financial collateral comprehensive method (for SFTs)						43,185	7,481
VaR for SFTs[1]						-	-
Total							**36,974**

1. Value at Risk ("VaR")

Table 16 summarises the movements of RWAs and MCR for the MSI Group and MSIP's CCR exposures under the IMM Model as at 30 June 2019.

Table 16: RWA flow statements of CCR exposures under the IMM (EU CCR7)

$MM	MSI Group		MSIP	
	RWAs	MCR	RWAs	MCR
RWAs at the end of the previous reporting period[1]	**19,051**	**1,524**	**18,724**	**1,498**
Asset size	466	38	453	36
Credit quality of counterparties	(434)	(35)	(416)	(33)
Model updates (IMM only)	230	18	219	17
Methodology and policy (IMM only)	-	-	-	-
Acquisitions and disposals	-	-	-	-
Foreign exchange movements	-	-	-	-
Other	-	-	-	-
RWAs at the end of the reporting period	**19,313**	**1,545**	**18,980**	**1,518**

1. Previous reporting period was Q1'19.

Over the second quarter, the increase is mainly due to portfolio and market movements, as well as interest rate derivatives model enhancement.

9.2 Credit Valuation Adjustment

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

Table 17 shows CVA by approach for the MSI Group as at 30 June 2019.

Table 17: CVA capital charge (EU CCR2)

$MM MSI Group	Exposure value	RWAs
Total portfolios subject to the advanced method	23,258	6,927
(i) VaR component (including the 3× multiplier)		1,056
(ii) Stressed VaR (SVaR) component (including the 3× multiplier)		5,871
All portfolios subject to the standardised method	21,472	5,833
Based on the original exposure method	-	-
Total subject to the CVA capital charge	**44,730**	**12,760**

Over the first half of 2019, the increase is mainly from market and portfolio movements.

9.3 Derivatives and SFTs credit exposure

Table 18 shows the impact of netting and collateral held on exposures on derivative and SFTs held as at 30 June 2019 for the MSI Group.

Table 18: Impact of netting and collateral held on exposure values (EU CCR5-A)

$MM MSI Group	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives[1]	276,043	231,663	44,380	34,644	9,736
SFTs[2]	645,451	-	645,451	578,161	67,290
Total	**921,494**	**231,663**	**689,831**	**612,805**	**77,026**

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

Over the first half of 2019, there have been no material movements.

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

Net derivatives credit exposure represents the net exposure after collateral received has been applied.

Table 19 shows the breakdown of all types of collateral posted or received by banks to support or reduce CCR exposures related to derivative transactions or to SFTs, including transactions cleared through a CCP as at 30 June 2019 for the MSI Group.

Table 19: Composition of collateral for exposures to CCR (EU CCR5-B)

$MM	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of collateral posted		Fair value of collateral received	Fair value of collateral posted
MSI Group	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	644	64,550	2,643	38,037	394,926	376,867
Corporate bonds	1,168	2,360	817	556	8,452	7,442
Equity securities	683	3,754	1,985	30	92,873	100,713
Government agency debt	990	1,392	-	18	13,994	16,995
Other collateral	-	-	-	-	-	-
Sovereign debt	2,518	5,420	1,222	5,451	163,460	180,011
Total	**6,003**	**77,476**	**6,667**	**44,092**	**673,705**	**682,028**

Over the first half of 2019, there have been no material movements.

9.4 Exposures to CCPs

Table 20 shows the breakdown of the exposures by qualifying and non-qualifying CCPs as at 30 June 2019 for the MSI Group.

Table 20: Exposures to CCPs (EU CCR8)

$MM MSI Group	EAD post CRM	RWAs
Exposures to Qualifying CCPs ("QCCP") (total)		**1,611**
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	15,133	303
(i) OTC derivatives	2,425	48
(ii) Exchange-traded derivatives	9,929	199
(iii) SFTs	2,779	56
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	
Non-segregated initial margin	9,510	190
Prefunded default fund contributions	827	213
Alternative calculation of own funds requirements for exposures		905
Exposures to non-QCCPs (total)		**37**
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	140	37
(i) OTC derivatives	-	-
(ii) Exchange-traded derivatives	140	37
(iii) SFTs	-	-
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	
Non-segregated initial margin	-	-
Pre-funded default fund contributions	-	-
Unfunded default fund contributions	-	-

Over the first half of 2019, movements are driven by increased derivatives activity.

Credit Derivative Transactions

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

Table 21: Credit derivatives exposures (EU CCR6)

$MM	Credit derivative hedges		
MSI Group[1]	Protection bought	Protection sold	Other credit derivatives
Notionals			
Credit Derivative Products used for own credit portfolio			
Single-name credit default swaps	-	-	1,984
Index credit default swaps	-	-	-
Total return swaps	-	-	1,518
Credit options	-	-	-
Other credit derivatives	-	-	304
Total Notionals used for own credit portfolio	**-**	**-**	**3,806**
Credit Derivative Products used for intermediation			
Single-name credit default swaps	-	-	182,915
Index credit default swaps	-	-	105,399
Total return swaps	-	-	21,820
Credit options	-	-	24,533
Other credit derivatives	-	-	25,505
Total Notionals used for intermediation	**-**	**-**	**360,172**
Total credit derivative notionals	**-**	**-**	**363,978**
Fair values			
Positive fair value (asset)	-	-	5,649
Negative fair value (liability)	-	-	(5,939)

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

Over the first half of 2019, there have been no material movements.

10. Market Risk

Market risk refers to the risk that a change in the level of one or more market prices, rates, indices, implied volatilities (the price volatility of the underlying instrument imputed from option prices), correlations or other market factors, such as market liquidity, will result in losses for a position or portfolio.

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

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

To execute these responsibilities, MRD monitors the market risk against limits on aggregate risk exposures. This includes monitoring key risk metrics such as VaR, stress testing, risk reporting, and maintenance of the VaR and scenario analysis methodologies. The material risks identified by these processes are summarised and reported to senior management.

An IMA permission has been granted to MSIP on an individual basis and on the consolidated situation of MSI Group, in relation to exposures incurred by MSIP.

IMA Models are applied consistently across all sub-portfolios; with the population in scope defined according to permission criteria. Models are independently validated on an annual basis by Model Risk Management, and changes to methodologies are approved by the Model Oversight Committee ("MOC"). The model validation process is independent of the internal models' development, implementation and operation. The validation process includes tests of the model's sensitivity to key inputs and assumptions and evaluation of conceptual soundness.

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

9.1 Market Risk Capital Requirements

The market risk capital requirements of the MSI Group comprises of capital which is calculated using IMA in accordance with regulatory approved models, and of capital which is calculated under the Standardised approach. Table 22 summarises the capital requirements under the respective approaches for the MSI Group. Testing to ensure that the capital assessment meets the required soundness standard is carried out on a quarterly basis with the results reported to the PRA.

Table 22: Market risk RWAs and MCR

$MM MSI Group	RWAs Q2'19	RWAs Q1'19	MCR Q2'19
Standardised approach	12,935	12,814	1,035
Internal models approach	35,120	37,067	2,810
Total	**48,055**	**49,881**	**3,845**

Standardised Approach

Table 23 shows the market risk capital requirements for the MSI Group as at 30 June 2019, calculated in accordance with the standardised approach and categorised by component type.

Table 23: Market risk under the standardised approach (EU MR1)

$MM MSI Group	RWAs	MCR
Outright products		
Interest rate risk (general and specific)	3,074	245
Equity risk (general and specific)	82	7
Foreign exchange risk	3,898	312
Commodity risk	482	39
Securitisation (specific risk)	4,446	356
Options		
Simplified approach	-	-
Delta-plus method	953	76
Scenario approach	-	-
Total	**12,935**	**1,035**

Over the first half of 2019, Market Risk under the standardised approach increased, predominantly due to FX Risk.

IMA Approach

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

Table 24 shows the VaR and SVaR, as well as the IRC and CRM measures for the MSI Group, for the quarter ending 30 June 2019. The VaR, SVaR and IRC capital measures presented in Table 24 were based on the 60 day averages, as they were higher than the daily measures as at 30 June 2019.

Table 24: Market risk under internal models approach (EU MR2-A)

$MM MSI Group		RWAs	MCR
VaR (higher of values a and b)		**3,754**	**300**
(a)	Previous day's VaR (Article 365(1) (VaRt-1))	1,554	124
(b)	Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR	3,754	300
SVaR (higher of values a and b)		**8,589**	**687**
(a)	Latest SVaR (Article 365(2) (sVaRt-1))	4,248	340
(b)	Average of the SVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)	8,589	687
IRC (higher of values a and b)		**5,009**	**401**
(a)	Most recent IRC value (incremental default and migration risks calculated in accordance with Article 370 and Article 371 of the CRR)	4,046	324
(b)	Average of the IRC number over the preceding 12 weeks	5,009	401
Comprehensive risk measure (higher of values a, b and c)		**1**	**0**
(a)	Most recent risk number for the correlation trading portfolio (Article 377 of the CRR)	1	0
(b)	Average of the risk number for the correlation trading portfolio over the preceding 12 weeks	0	0
(c)	8% of the own funds requirement in the standardised approach on the most recent risk number for the correlation trading portfolio (Article 338(4) of the CRR)	-	-
Other		**17,767**	**1,422**
Total		**35,120**	**2,810**

Table 25 summarises the key drivers of RWAs and MCR for MSI Groups and MSIP's market risk exposures under the Internal IMA Model.

Table 25: RWA flow statements of market risk exposures under the IMA (EU MR2-B)

$MM	VAR	Stressed VAR	IRC	Comprehensive risk measure	Other[4]	RWAs	MCR
MSI Group							
RWAs at previous quarter end[1]	**4,412**	**8,846**	**5,639**	**7**	**18,163**	**37,067**	**2,965**
Regulatory adjustment[2]	(3,205)	(5,950)	-	-	(5,853)	(15,008)	(1,200)
RWAs at end of day previous quarter end	1,207	2,896	5,639	7	12,310	22,059	1,765
Movement in risk levels	378	1,474	(1,624)	(6)	583	805	64
Model updates/changes	(28)	(109)	-	-	-	(137)	(11)
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign exchange movements	-	-	-	-	-	-	-
Other[3]	(3)	(12)	31	-	-	16	1
RWAs at end of day current quarter end	1,554	4,249	4,046	1	12,893	22,743	1,819
Regulatory adjustment[2]	2,200	4,340	963	-	4,874	12,377	991
RWAs at end of reporting period	**3,754**	**8,589**	**5,009**	**1**	**17,767**	**35,120**	**2,810**
MSIP							
RWAs at previous quarter end[1]	**4,409**	**8,839**	**5,639**	**7**	**18,155**	**37,049**	**2,964**
Regulatory adjustment[2]	(3,202)	(5,943)	-	-	(5,847)	(14,992)	(1,199)
RWAs at end of day previous quarter end	1,207	2,896	5,639	7	12,308	22,057	1,765
Movement in risk levels	377	1,471	(1,624)	(6)	570	788	63
Model updates/changes	(28)	(109)	-	-	-	(137)	(11)
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign exchange movements	-	-	-	-	-	-	-
Other[3]	(3)	(12)	31	-	-	16	1
RWAs at end of day current quarter end	1,553	4,246	4,046	1	12,878	22,724	1,818
Regulatory adjustment[2]	2,197	4,330	963	-	4,864	12,354	988
RWAs at end of reporting period	**3,750**	**8,576**	**5,009**	**1**	**17,742**	**35,078**	**2,806**

1. Previous reporting period was Q1'19.
2. Regulatory adjustment accounts for the difference between the RWA calculated based on the end-of-day position, compared with the RWA calculated based on the 60-day average position in the case of VaR/SVaR, and 12-week average position in the case of IRC and CRM. The regulatory adjustments also account for the multiplication factors mc and ms, per Article 366 of the CRR, for the VaR, SVaR and Other respectively.
3. Other (flow driver) represents low impact data and implementation changes including time series updates and periodic parameter updates to the respective models.
4. Other (risk measure) represents Risks not in VaR.

Over the second quarter, the primary driver has been changes in risk levels. This was predominantly attributable to VaR and Stressed VaR due to higher equity delta risk in Institutional Equity Division and increased interest rate risk in Fixed Income Division. Decrease in risk level associated with IRC was mainly driven by reduction of high yield exposures and composition changes of sovereign positions. Model change movements in VaR and Stressed VaR were due to the improvement of VaR methodology for equity risk.

Table 26 provides a summary of the maximum, minimum, average and period-end values over the six months to 30 June 2019, for the MSI Group, resulting from the different types of models approved to be used for computing the regulatory capital charge.

Table 26: IMA values for trading portfolios (EU MR3)	
MSI Group	$MM
VaR (10 day 99%)	
Maximum value	170
Average value	95
Minimum value	78
Period end	124
SVaR (10 day 99%)	
Maximum value	976
Average value	205
Minimum value	126
Period end	340
IRC (99.9%)	
Maximum value	575
Average value	390
Minimum value	259
Period end	324
Comprehensive Risk capital charge (99.9%)	
Maximum value	1
Average value	0
Minimum value	0
Period end	0

Over the first half of 2019, VaR and Stressed VaR experienced elevated levels, due to increases in risk levels in the Equities and Fixed Income business.

9.2 Backtesting

Morgan Stanley performs regulatory backtesting for MSIP on a daily basis at various levels of the business hierarchy to validate the accuracy of the VaR models.

Backtesting is performed on the firm's Regulatory Trading Book population and compares the profit and loss (for the MSIP Group) for trade date N against the 99%/one-day Regulatory Trading VaR for N-1. As per the requirements of the CRR rules, backtesting uses 'Actual' and 'Hypothetical' definitions of the profit and loss. Backtesting on Hypothetical changes in the portfolio's value refers to a comparison between the portfolio's end-of-day value and, assuming unchanged positions, its value at the end of the subsequent day. Backtesting on Actual changes in the portfolio's value refers to a comparison between the portfolio's end-of-day value and its actual value at the end of the subsequent day (i.e. inclusive of intra-day trading/new activity). Both measures of the backtesting profit and loss also exclude non risk based fees (i.e. service fees), commissions, and net interest income. For the purposes of the Regulatory backtest, Actual profit and loss incorporates liquidity and model-driven fair value adjustments whist Hypothetical profit and loss retains only the latter. The backtesting methodology is documented within the Firm's Backtesting Policy and Procedures. As of 30 June 2019, 73% of total MSIP Market Risk Capital requirements are covered by the internal models. Backtesting is performed against the VaR model in accordance with requirements under the regulation. VaR represents a subset of total model based Market Risk capital requirements for MSIP.

Performance is measured across a (rolling) 250 business day period and is expressed by the number of MSIP-level exceptions (instances where MSIP Actual or Hypothetical profit and loss losses exceed 99% VaR) observed within the 250 business day period. Firms observing five or more exceptions within the measurement period are required to set aside additional Market Risk Capital based on a sliding scale.

On days where losses (on either an Actual and/or Hypothetical profit and loss basis) exceed the prior day's VaR, an exception is recorded and is reported by close of business N+2 to the PRA.

Any adverse results at the MSI Group or sub-portfolio level, that may point to weaknesses in model performance or data inaccuracies, are reported, analysed and discussed by the firm's MSI Group Market Risk

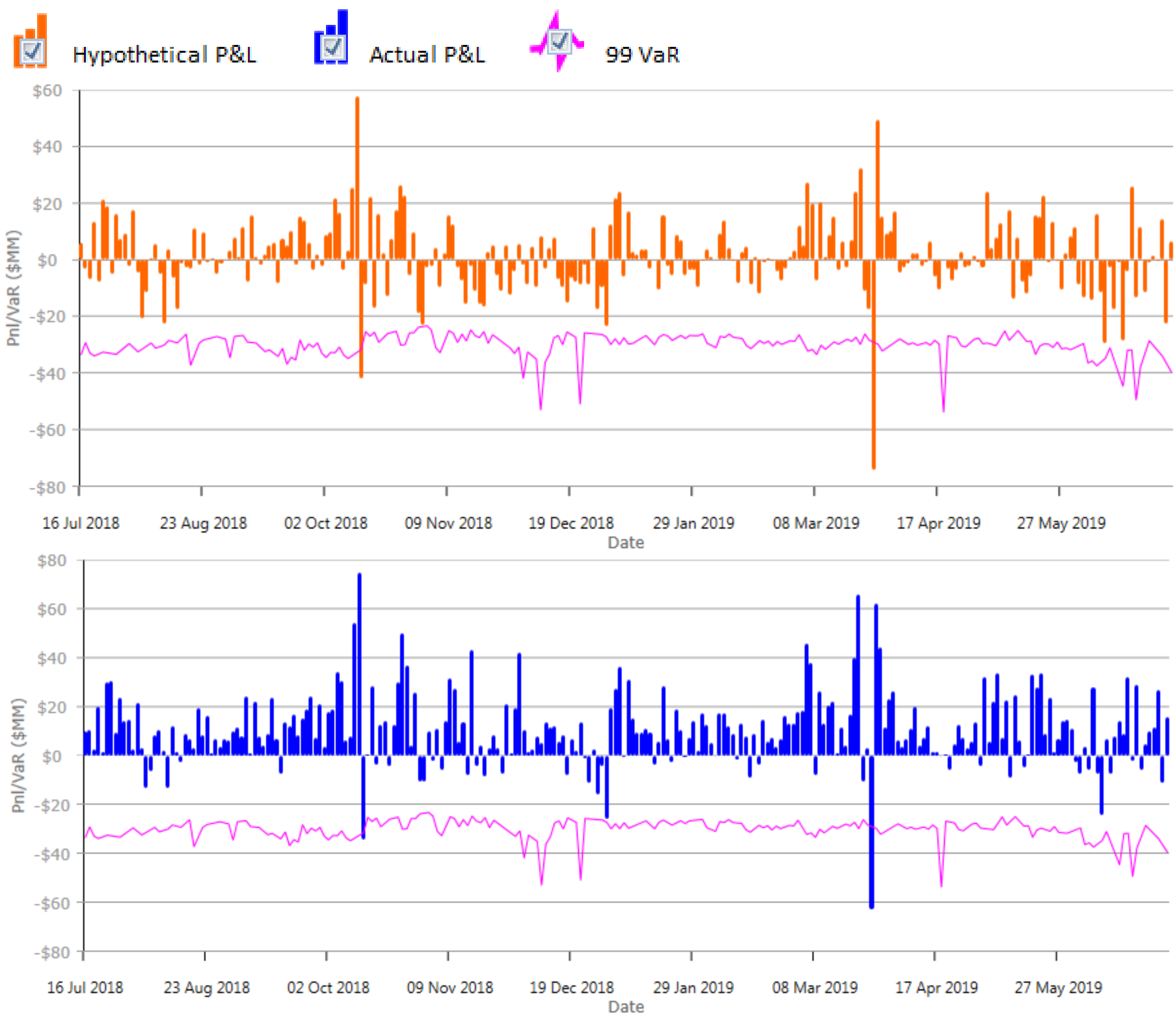
Backtesting Review Forum. Findings or recommendations from this forum are escalated to UK firm management who are responsible for authorising any further model analysis or model remediation efforts.

Additionally, MRD has a data quality control process to monitor, validate, remediate, escalate and report data quality issues that impact market risk and capital reporting. The market risk middle office team is responsible for coordinating data quality control with the aim of providing MRD with high quality data that is accurate, complete and delivered in a timely manner. Threshold based checks are performed on input data for VaR / SVaR. Large moves are validated and data adjustments are made where necessary, along with the appropriate escalation to ensure ongoing remediation. Completeness, accuracy and timeliness key performance indicators ("KPIs") for market risk metrics are reported to the Senior Management risk committees.

The results of backtesting and model performance monitoring are reported to the PRA on a periodic basis. For the measurement period ended 30 June 2019, two Hypothetical profit and loss exceptions and two Actual profit and loss exceptions were observed for MSIP. Exception counts of this order equate to the PRA Green zone (fewer than five exceptions). The Actual and Hypothetical profit and loss exceptions occurred on the same day in October and March. The October exceptions were driven by outsized equity market movements whilst the March exceptions were driven by country specific interest rate volatility.

The plots of Actual and Hypothetical profit and loss covering a 250 business days of backtesting monitoring period to 30 June 2019 are displayed below.

Figure 1: Comparison of VaR Estimates with Gains/Losses (EU MR4)
The graphs below show the 1 day Regulatory Trading VaR against Actual and Hypothetical profit and loss for MSIP, values in millions of dollars:



11. Liquidity Coverage Ratio

The Liquidity Coverage Ratio (“LCR”), as per the Commission Delegated Regulation (EU) 2015/61, requires credit institutions to maintain an amount of unencumbered high quality liquid assets that is sufficient to meet their estimated total net cash outflows over a prospective 30 calendar-day period of significant stress. MSI Group is compliant with the minimum required LCR of 100%.

Table 27: Liquidity coverage ratio

MSI Group	Q2’19	Q1’19
Number of data points used in the calculation of averages	12	12
	Total weighted adjusted value (12 month average)	
	$MM	$MM
Liquidity buffer	46,846	45,280
Total net cash outflows	20,173	19,949
Liquidity Coverage Ratio	232%	227%

The weighted adjusted value of the liquidity buffer is the value of the total high quality liquid assets after the application of both haircuts and any applicable cap. The weighted adjusted value of net cash outflows is calculated after the inflows and outflows rates are applied and after any applicable cap on inflows.

The liquidity buffer disclosed covers both Pillar I and Pillar II liquidity risk.

12. Appendix I: MSI Group and MSIP Capital Instruments and Eligible Liabilities

Table 28: MSI Group and MSIP capital instruments and eligible liabilities

	Common Equity Tier 1		Additional Tier 1		Subordinated Debt			Senior Subordinated Debt	
MSI Group	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Issuer	Morgan Stanley International Limited								
Unique Identifier	N/A								
Governing law(s) of the instrument	Companies Act 2006		English Law						
Transitional CRR rules	CET1		AT1		Tier 2			Eligible Liability	
Post-transitional CRR rules	CET1		AT1		Tier 2			Eligible Liability	
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	(Sub-) Consolidated								
Instrument type	Ordinary Shares		Perpetual Unsecured Fixed Rate Securities		Long-term subordinated multicurrency loan facility			Subordinated non-T2 Loan	
Amount recognised in regulatory capital $MM	USD 1,921MM	USD 0MM	USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	USD 319MM	USD 5,000MM	USD 1,000MM
Currency of issuance and Nominal amount of instrument	USD 1,921MM	GBP 2	USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	GBP 250MM	USD 5,000MM	USD 1,000MM
Reporting Currency and Nominal amount of instrument	USD 1,921MM	USD 3	USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	USD 319MM	USD 5,000MM	USD 1,000MM
Issue Price	USD 1,939MM	GBP 2	USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	GBP 250MM	USD 5,000MM	USD 1,000MM
Redemption Price	N/A		USD 1,300MM	USD 2,200MM	USD 5,000MM	USD 51MM	GBP 250MM	USD 5,000MM	USD 1,000MM
Accounting Classification	Shareholders' Equity				Liability - amortised cost				
Original date of issuance	13/11/98	18/06/98	15/12/14	23/08/18	08/02/17	21/12/15	21/12/15	19/12/18	27/11/18
Perpetual or dated	Perpetual				Dated				
Original maturity date	No Maturity				21/12/25	21/12/25	21/12/25	30/01/20	30/01/20
Issuer call subject to prior supervisory approval	N/A		Yes		N/A				
Option call date, contingent call dates	N/A		15/12/19	30/11/23	N/A				
Redemption amount			100% plus tax and regulatory calls at 100%		N/A				
Subsequent call dates, if applicable	N/A		Daily thereafter		N/A				
Fixed or floating dividend / coupon	Floating		Fixed		Floating				
Coupon rate and any related index[4]	N/A		9.0%	7.5%	OBFR + 2.300%	OBFR + 2.086%	SONIA + 2.121%	Proxy	
Existence of a dividend stopper	No								
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary				Mandatory				
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary				Mandatory				
Existence of step up or other incentive to redeem	No								
Noncumulative or cumulative	Noncumulative				Cumulative				
Convertible or non-convertible	Non-convertible								
If convertible,									
conversion trigger(s)	N/A								
fully or partially	N/A								
conversion rate	N/A								
mandatory or optional conversion	N/A								
specify instrument type convertible into	N/A								
specify issuer of instrument it converts into	N/A								
Write-down features	No		Yes		No			Yes	
If write-down, write-down trigger(s)	N/A		Contractual write down if CET1 Capital Ratio of MSI Group falls below 7%. BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers		BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers			BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument under the contractual terms if they deem the entity is failing or likely to fail, or if the MS resolution entity enters a resolution	
If write-down, full or partial	N/A		Full		N/A			Partial	
If write-down, permanent or temporary	N/A		Permanent		N/A			Permanent	
If temporary write-down, description of write-up mechanism	N/A								
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Perpetual Unsecured Fixed Rate Securities [column C, D]		Long-term subordinated loan facility [columns E, F, G]		Senior Subordinated Facility [columns H and I]			Other Liabilities	
Non-compliant transitioned features	No								
If yes, specify non-compliant features	N/A								

1. All capital instruments issued by the MSI Group are issued within Morgan Stanley and are not marketable instruments.
2. Interest rate at which Morgan Stanley is offering loans, in the relevant currency, to members of the Morgan Stanley Group on such day, which counterparties have acknowledged and agreed to apply to any loan, acting on an arm's length basis.
3. The repayment date can be extended by 395 days on each business day but no later than 49 years from utilisation date, and unless a term-out notice is sent.

Description	Common Equity Tier 1			Additional Tier 1		Subordinated Debt
MSIP	A	B	C	D	E	F
Issuer	Morgan Stanley & Co. International plc					
Unique Identifier	N/A					
Governing law(s) of the instrument	Companies Act 2006			English Law		
Transitional CRR rules	CET1			AT1		Tier 2
Post-transitional CRR rules	CET1			AT1		Tier 2
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	Solo and (Sub-) Consolidated					
Instrument type	Ordinary Shares			Perpetual Unsecured Fixed Rate Securities		Long-term subordinated multicurrency loan facility
Amount recognised in regulatory capital $MM	USD 10,935MM	USD 30MM	USD 1,500MM	USD 1,300MM	USD 2,200MM	USD 5,000MM
Currency of issuance and Nominal amount of instrument	USD 10,935MM	GBP 18MM	USD 1,500MM	USD 1,300MM	USD 2,200MM	USD 5,000MM
Reporting Currency and Nominal amount of instrument	USD 10,935MM	USD 29MM	USD 1,500MM	USD 1,300MM	USD 2,200MM	USD 5,000MM
Issue Price	USD 10,935MM	GBP 18MM	USD 1,500MM	USD 1,300MM	USD 2,200MM	USD 5,000MM
Redemption Price	N/A			USD 1,300MM	USD 2,200MM	USD 5,000MM
Accounting Classification	Shareholders' Equity					Liability - amortised cost
Original date of issuance	01/02/94	28/10/86	22/12/11	15/12/14	23/08/18	08/02/17
Perpetual or dated	Perpetual					Dated
Original maturity date	No maturity					21/12/25
Issuer call subject to prior supervisory approval	N/A			Yes		N/A
Option call date, contingent call dates	N/A			15/12/19	30/11/23	N/A
Redemption amount	N/A			100% plus tax and regulatory calls at 100%		N/A
Subsequent call dates, if applicable	N/A			Daily thereafter		N/A
Fixed or floating dividend / coupon	Floating			Fixed		Floating
Coupon rate and any related index	N/A			9.0%	7.5%	OBFR + 2.300%
Existence of a dividend stopper	No					
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary					Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary					Mandatory
Existence of step up or other incentive to redeem	No					
Noncumulative or cumulative	Noncumulative					Cumulative
Convertible or non-convertible	Nonconvertible					
If convertible						
conversion trigger(s)	N/A					
fully or partially	N/A					
conversion rate	N/A					
mandatory or optional conversion	N/A					
specify instrument type convertible into	N/A					
specify issuer of instrument it converts into	N/A					
Write-down features	No			Yes		No
If write-down, write-down trigger(s)	N/A			Contractual write down if CET1 Capital Ratio of MSIP or MSI Group falls below 7%. BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers		BoE as the UK Resolution Authority has the authority to trigger the write down of the instrument upon the exercise of statutory powers
If write-down, full or partial	N/A			Full		N/A
If write-down, permanent or temporary	N/A			Permanent		N/A
If temporary write-down, description of write-up mechanism	N/A					
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Perpetual Unsecured Fixed Rate Securities			Long-term subordinated loan facility		Senior Subordinated Facility
Non-compliant transitioned features	No					
If yes, specify non-compliant features	N/A					

1. All capital instruments issued by the MSI Group are issued within Morgan Stanley and are not marketable instruments
2. Interest rate at which Morgan Stanley is offering loans, in the relevant currency, to members of the Morgan Stanley Group on such day, which counterparties have acknowledged and agreed to apply to any loan, acting on an arm's length basis
3. The repayment date can be extended by 395 days on each business day but no later than 49 years from utilisation date, and unless a term-out notice is sent

13. Appendix II: MSI Group and MSIP Own Funds Disclosure Template

Table 29: MSI Group and MSIP own funds disclosure template

$MM	MSI Group[1]	MSIP
Capital instruments and the related share premium accounts	1,939	12,978
Paid up capital instruments	1,921	12,465
Of which: Ordinary shares	1,921	10,965
Of which: Class A Ordinary shares (non-voting)	-	1,500
Share premium	18	513
Retained earnings	12,781	2,590
Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	6,794	1,288
Independently reviewed interim profits net of any foreseeable charge or dividend	-	-
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**21,514**	**16,856**
Additional value adjustments (negative amount)	(1,552)	(1,513)
Intangible assets (net of related tax liability) (negative amount)	(653)	(2)
Negative amounts resulting from the calculation of expected loss amounts	(195)	(189)
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(42)	(39)
Total regulatory adjustments to Common equity Tier 1 (CET1)	**(2,442)**	**(1,743)**
Common Equity Tier 1 (CET1) capital	**19,072**	**15,113**
Capital instruments and the related share premium accounts	3,500	3,500
Of which: classified as equity under applicable accounting standards	3,500	3,500
Additional Tier 1 (AT1) capital	**3,500**	**3,500**
Tier 1 capital (T1 = CET1 + AT1)	**22,572**	**18,613**
Capital instruments and the related share premium accounts	5,369	5,000
Qualifying own funds instruments included in consolidated Tier 2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-	-
Of which: Instruments issued by subsidiaries subject to phase out	-	-
Tier 2 capital before regulatory adjustments	**5,369**	**5,000**
Tier 2 capital	**5,369**	**5,000**
Total capital (TC = T1 + T2)	**27,941**	**23,613**
Total risk weighted assets	**132,222**	**126,670**
Common Equity Tier 1 (as a percentage of risk exposure amount)	14.4%	11.9%
Tier 1 (as a percentage of risk exposure amount)	17.1%	14.7%
Total capital (as a percentage of risk exposure amount)	21.1%	18.6%
Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	7.28%	7.28%
Of which: Capital conservation buffer requirement	2.50%	2.50%
Of which: Countercyclical buffer requirement	0.28%	0.28%
Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	9.9%	7.4%
Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	809	816
Direct and indirect holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	-	115
Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	133	24

1. Under PRA supervision, the MSI Group is required to maintain a minimum ratio of Own Funds to RWAs. As at 30 June 2019, the MSI Group is in compliance with the PRA capital requirements as defined by the CRR.

14. Appendix III: Additional Credit and Counterparty Credit Risk Tables

Table 30 shows the credit quality of exposures by exposure class and instruments as at 30 June 2019 for the MSI Group and MSIP.

Table 30: Credit quality of exposures by exposure class and instrument (EU CR1-A)

$MM	Gross carrying values of						
MSI Group	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
Central governments or central banks	-	23,135	-	-	-	-	23,135
Institutions	-	9,582	-	-	-	-	9,582
Corporates	60	6,527	-	-	-	-	6,587
Of which: Specialised lending	-	-	-	-	-	-	-
Equity	-	1,025	-	-	-	-	1,025
Total IRB approach	**60**	**40,269**	**-**	**-**	**-**	**-**	**40,329**
Central governments or central banks	-	413	-	-	-	-	413
Regional governments or local authorities	-	2	-	-	-	-	2
Public sector entities	-	-	-	-	-	-	-
Multilateral development banks	-	5	-	-	-	-	5
International organisations	-	1	-	-	-	-	1
Institutions	15	1,161	15	-	2	3	1,161
Corporates	28	1,585	28	-	4	10	1,585
Secured by mortgages on immovable property	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short- term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-
Other exposures	-	1,493	-	-	-	-	1,493
Total standardised approach	**43**	**4,660**	**43**	**-**	**6**	**13**	**4,660**
Total	**103**	**44,929**	**43**	**-**	**6**	**13**	**44,989**
Of which: Loans and advances	103	36,707	43	-	6	13	36,767
Of which: Off-balance sheet	-	7,072	-	-	-	-	7,072
Of which: Equity	-	1,025	-	-	-	-	1,025
Of which: Debt securities	-	125	-	-	-	-	125
MSIP							
Central governments or central banks	-	16,921	-	-	-	-	16,921
Institutions	-	8,857	-	-	-	-	8,857
Corporates	58	5,094	-	-	-	-	5,152
Of which: Specialised lending	-	-	-	-	-	-	-
Equity	-	984	-	-	-	-	984
Total IRB approach	**58**	**31,856**	**-**	**-**	**-**	**-**	**31,914**
Central governments or central banks	-	451	-	-	-	-	451
Regional governments or local authorities	-	2	-	-	-	-	2
Public sector entities	-	-	-	-	-	-	-
Multilateral development banks	-	5	-	-	-	-	5
International organisations	-	1	-	-	-	-	1
Institutions	15	1,240	15	-	2	2	1,240
Corporates	27	1,420	27	-	4	11	1,420
Secured by mortgages on immovable property	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short- term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-
Other exposures	-	52	-	-	-	-	52
Total standardised approach	**42**	**3,171**	**42**	**-**	**6**	**13**	**3,171**
Total	**100**	**35,027**	**42**	**-**	**6**	**13**	**35,085**
Of which: Loans and advances	100	28,202	42	-	6	13	28,260
Of which: Off-balance sheet	-	5,716	-	-	-	-	5,716
Of which: Equity	-	984	-	-	-	-	984
Of which: Debt securities	-	125	-	-	-	-	125

Over the first half of 2019, IRB exposures to Central Government and Central Banks increased due to liquidity management.

Table 31 shows the credit quality of on-balance-sheet and off-balance-sheet by industry as at 30 June 2019 for MSI Group and MSIP.

Table 31: Credit quality of exposures by industry or counterparty types (EU CR1-B)

$MM	Gross carrying values of						
MSI Group	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-Offs	Credit risk adjustment charge	Net values[1]
Mining and quarrying	-	-	-	-	-	-	-
Manufacturing	17	882	16	-	1	5	883
Electricity, gas, steam and air conditioning supply	1	697	1	-	-	-	697
Transport and storage	-	-	-	-	-	-	-
Information and communication	14	701	5	-	2	4	710
Financial and insurance activities	46	14,793	15	-	2	2	14,824
Real estate activities	-	-	-	-	-	-	-
Professional, Scientific and Technical	-	716	-	-	-	-	716
Public administration and defence, compulsory social security	-	23,336	-	-	-	-	23,336
Other services	-	-	-	-	-	-	-
Other	25	3,804	6		1	2	3,823
Total	**103**	**44,929**	**43**	**-**	**6**	**13**	**44,989**
MSIP							
Mining and quarrying	-	-	-	-	-	-	**-**
Manufacturing	16	666	16	-	1	5	**666**
Electricity, gas, steam and air conditioning supply	1	350	1	-	-	-	**350**
Transport and storage	-	-	-	-	-	-	**-**
Information and communication	14	549	5	-	2	4	**558**
Financial and insurance activities	46	13,733	15	-	2	2	**13,764**
Real estate activities	-	-	-	-	-	-	**-**
Professional, Scientific and Technical	-	714	-	-	-	-	**714**
Public administration and defence, compulsory social security	-	17,113	-	-	-	-	**17,113**
Other services	-	-	-	-	-	-	**-**
Other	23	1,902	5	-	1	2	**1,920**
Total	**100**	**35,027**	**42**	**-**	**6**	**13**	**35,085**

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

Over the first half of 2019, exposures to Public Administration and Defence, Compulsory Social Security increased due to liquidity management.

Table 32 shows the credit quality of on-balance-sheet and off-balance-sheet by geography as at 30 June 2019 for the MSI Group and MSIP.

Table 32: Credit quality of exposures by geography (EU CR1-C)

$MM	Gross carrying values of		Specific	General		Credit risk	
MSI Group[1]	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
EMEA	**52**	**33,499**	**33**	**-**	**4**	**13**	**33,518**
France	3	17,886	3	-	-	-	17,886
United Kingdom	8	6,797	8	-	2	3	6,797
Germany	17	5,015	6	-	-	-	5,026
Switzerland	1	724	1	-	-	-	724
Italy	13	478	1	-	-	-	490
Other countries	10	2,599	14	-	2	10	2,595
Asia	**44**	**3,685**	**7**	**-**	**1**	**-**	**3,722**
Japan	-	1,509	-	-	-	-	1,509
China	5	685	5	-	-	-	685
Hong Kong	-	604	-	-	-	-	604
Taiwan	-	404	-	-	-	-	404
Other Countries	39	483	2	-	1	-	520
Americas	**7**	**7,739**	**3**	**-**	**1**	**-**	**7,743**
United States	5	7,178	1	-	1	-	7,182
Other countries	2	561	2	-	-	-	561
Other geographical areas	**-**	**6**	**-**	**-**	**-**	**-**	**6**
Total	**103**	**44,929**	**43**	**-**	**6**	**13**	**44,989**
MSIP[1]							
EMEA	**50**	**24,733**	**33**	**-**	**4**	**12**	**24,750**
France	3	16,067	3	-	-	1	16,067
United Kingdom	8	5,468	8	-	2	3	5,468
Germany	17	390	6	-	-	-	401
Italy	13	239	1	-	-	-	251
Switzerland	1	531	1	-	-	-	531
Other countries	8	2,038	14	-	2	8	2,032
Asia	**44**	**3,117**	**7**	**-**	**1**	**1**	**3,154**
Japan	-	1,499	-	-	-	-	1,499
Hong Kong	-	588	-	-	-	-	588
China	5	343	5	-	-	-	343
Other Countries	39	687	2	-	1	1	724
Americas	**6**	**7,171**	**2**	**-**	**1**	**-**	**7,175**
United States	5	6,625	1	-	1	-	6,629
Other countries	1	546	1	-	-	-	546
Other geographical areas	**-**	**6**	**-**	**-**	**-**	**-**	**6**
Total	**100**	**35,027**	**42**	**-**	**6**	**13**	**35,085**

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

Over the first half of 2019, IRB exposures to EMEA Central Government and Central Banks increased due to liquidity management.

Table 33 shows an ageing analysis of on-balance-sheet past-due exposures regardless of their impairment status as at 30 June 2019 for the MSI Group and MSIP.

Table 33: Ageing of past-due exposures (EU CR1-D)

$MM	Gross carrying values					
MSI Group	≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
Loans and advances	3,601	-	149	22	23	54
Debt securities	125	-	-	-	-	-
Total exposures	**3,726**	**-**	**149**	**22**	**23**	**54**
MSIP						
Loans and advances	2,813	-	143	21	22	54
Debt securities	125	-	-	-	-	-
Total exposures	**2,938**	**-**	**143**	**21**	**22**	**54**

Over the first half of 2019, there have been no material movements.

Table 34 shows an overview of non-performing and forborne exposures as at 30 June 2019 for the MSI Group and MSIP.

Table 34: Non-performing and forborne exposures (EU CR1-E)

$MM	Gross carrying amount of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
		Of which performing but past due >30 days and <=90 days	Of which performing forborne	Of which non-performing				On performing exposures		On non-performing exposures		On non-performing exposures	Of which forborne exposures
MSI Group					Of which defaulted	Of which impaired	Of which forborne		Of which forborne		Of which forborne		
Debt securities	125	-	-	-	-	-	-	-	-	-	-	-	-
Loans and advances	37,835	146	-	103	103	56	-	2	-	41	-	-	-
Off-balance sheet exposures	7,072	-	-	-	-	-	-	-	-	-	-	-	-
MSIP													
Debt securities	125	-	-	-	-	-	-	-	-	-	-	-	-
Loans and advances	29,286	140	-	100	100	54	-	2	-	40	-	-	-
Off-balance sheet exposures	5,716	-	-	-	-	-	-	-	-	-	-	-	-

Over the first half of 2019, IRB exposures to Central Government and Central Banks increased due to liquidity management.

Table 35 shows the changes in stock of general and specific credit risk adjustments held against loans and debt securities that are defaulted or impaired as at 30 June 2019 for the MSI Group and MSIP.

Table 35: Changes in stock of general and specific credit risk adjustments (EU CR2-A)

$MM	MSI Group		MSIP	
	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
Opening balance	**37**	**-**	**37**	**-**
Increases due to amounts set aside for estimated loan losses during the period	12	-	11	-
Decreases due to amounts reversed for estimated loan losses during the period	(2)	-	(2)	-
Decreases due to amounts taken against accumulated credit risk adjustments	2	-	2	-
Transfers between credit risk adjustments	(6)	-	(6)	-
Impact of exchange rate differences	-	-	-	-
Business combinations, including acquisitions and disposals of subsidiaries	-	-	-	-
Other adjustments	-	-	-	-
Closing balance	**43**	**-**	**42**	**-**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	-	-	-	-
Specific credit risk adjustments recorded directly to the statement of profit or loss	-	-	-	-

Over the first half of 2019, there have been no material movements.

Table 36 shows the changes in stock of defaulted loans and debt securities as at 30 June 2019 for the MSI Group and MSIP.

Table 36: Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B)

$MM	MSI Group	MSIP
	Gross carrying value defaulted exposures	Gross carrying value defaulted exposures
Opening balance	**150**	**147**
Loans and debt securities that have defaulted or impaired since the last reporting period	-	-
Returned to non-defaulted status	(42)	(42)
Amounts written off	(6)	(6)
Other changes	1	1
Closing balance	**103**	**100**

Over the first half of 2019, there have been no material movements.

Table 37 shows the extent of the use of CRM techniques as at 30 June 2019 for the MSI Group and MSIP.

Table 37: Credit risk mitigation techniques – overview (EU CR3)

$MM MSI Group	Exposures unsecured: carrying amount	Exposures secured: carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
Total loans	35,987	785	785	-	-
Total debt securities	125	-	-	-	-
Equity exposures	652	-	-	-	-
Total exposures	**36,764**	**785**	**785**	**-**	**-**
Of which defaulted	103	-	-	-	-
MSIP					
Total loans	27,472	794	794	-	-
Total debt securities	125	-	-	-	-
Equity exposures	643	-	-	-	-
Total exposures	**28,240**	**794**	**794**	**-**	**-**
Of which defaulted	100	-	-	-	-

Over the first half of 2019, total loans increased due to liquidity management.

Table 38 shows the effect of all CRM techniques as at 30 June 2019 for the MSI Group and MSIP.

Table 38: Standardised approach – Credit risk exposure and credit risk mitigation (CRM) effects (EU CR4)

	Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
MSI Group	On-balance sheet amount $MM	Off-balance sheet amount $MM	On-balance sheet amount $MM	Off-balance sheet amount $MM	RWAs $MM	RWA density %
Central governments or central banks	413	-	413	-	103	25%
Regional government or local authorities	2	-	2	-	-	0%
Public sector entities	-	-	-	-	-	0%
Multilateral development banks	5	-	5	-	-	0%
International organisations	1	-	1	-	-	0%
Institutions	609	552	609	110	733	102%
Corporates	1,586	-	1,586	-	1,813	114%
Retail	-	-	-	-	-	0%
Secured by mortgages on immovable property	-	-	-	-	-	0%
Exposures in default	-	-	-	-	-	0%
Higher-risk categories	-	-	-	-	-	0%
Covered bonds	-	-	-	-	-	0%
Institutions and corporates with a short term credit assessment	-	-	-	-	-	0%
Equity	-	-	-	-	-	0%
Other items	1,493	-	1,493	-	1,697	114%
Total	**4,109**	**552**	**4,109**	**110**	**4,346**	**103%**
MSIP						
Central governments or central banks	451	-	451	-	111	25%
Regional government or local authorities	2	-	2	-	-	0%
Public sector entities	-	-	-	-	-	0%
Multilateral development banks	5	-	5	-	-	0%
International organisations	1	-	1	-	-	0%
Institutions	689	552	689	110	836	105%
Corporates	1,420	-	1,420	-	1,646	116%
Retail	-	-	-	-	-	0%
Secured by mortgages on immovable property	-	-	-	-	-	0%
Exposures in default	-	-	-	-	-	0%
Higher-risk categories	-	-	-	-	-	0%
Covered bonds	-	-	-	-	-	0%
Institutions and corporates with a short term credit assessment	-	-	-	-	-	0%
Equity	-	-	-	-	-	0%
Other items	52	-	52	-	89	171%
Total	**2,620**	**552**	**2,620**	**110**	**2,682**	**98%**

Over the first half of 2019, there have been no material movements.

Table 39 shows the breakdown of exposures under the standardised approach by asset class and risk weight as at 30 June 2019 for the MSI Group.

Table 39: Standardised approach (EU CR5)

$MM **MSI Group**	Risk Weight 0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Deducted	Total	Of which unrated
Central governments or central banks	88	-	-	-	235	-	71	-	-	16	3	-	-	-	-	-	**413**	-
Regional government or local authorities	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	**2**	-
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Multilateral development banks	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5**	-
International organisations	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	-
Institutions	-	110	-	-	33		199	-	-	355	1	-	-	21	-	-	**719**	-
Corporates	49	-	-	-	9		52	-	-	1,301	154	-	-	21	-	-	**1,586**	-
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Higher-risk categories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Collective investment undertakings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Other items	-	-	-	-	-	-	-	-	-	1,357	-	136	-	-	-	-	**1,493**	422
Total	**144**	**110**	**-**	**-**	**277**	**-**	**323**	**-**	**-**	**3,029**	**158**	**136**	**-**	**42**	**-**	**-**	**4,219**	**422**

Over the first half of 2019, there have been no material movements.

Table 40 shows the exposures for the MSI Group, calculated using the Standardised approach for each exposure class and broken down by CQS.

Table 40: Standardised approach EAD by credit quality step

$MM **MSI Group**[1]		CQS1	CQS2	CQS3	CQS4	CQS5	CQS6	Other[2]	Unrated	Total
Central Governments or Central Banks	GROSS EAD	31	-	-	-	-	-	-	446	**477**
	EAD	31	-	-	-	-	-	-	446	**477**
Corporates	GROSS EAD	22	209	57	-	24	-	-	2,355	**2,667**
	EAD	22	209	57	-	24	-	-	2,355	**2,667**
High risk	GROSS EAD	-	-	-	-	-	-	-	-	**-**
	EAD	-	-	-	-	-	-	-	-	**-**
Institutions	GROSS EAD	4,527	405	123	106	394	7	13,233	833	**19,628**
	EAD	3,941	405	123	106	394	7	11,717	833	**17,526**
Multilateral developments banks	GROSS EAD	-	-	-	-	-	-	-	5	**5**
	EAD	-	-	-	-	-	-	-	5	**5**
Public sector entities	GROSS EAD	-	-	-	-	-	-	-	-	**-**
	EAD	-	-	-	-	-	-	-	-	**-**
Regional governments or Local Authorities	GROSS EAD	-	-	-	-	-	-	-	7	**7**
	EAD	-	-	-	-	-	-	-	7	**7**
International Organisations	GROSS EAD	-	-	-	-	-	-	-	1	**1**
	EAD	-	-	-	-	-	-	-	1	**1**
Securitisation	GROSS EAD	204	-	7	3	-	-	-	-	**214**
	EAD	204	-	7	3	-	-	-	-	**214**
Other Items	GROSS EAD	34	-	-	-	-	-	-	1,459	**1,493**
	EAD	34	-	-	-	-	-	-	1,459	**1,493**
Total	**GROSS EAD**	**4,818**	**614**	**187**	**109**	**418**	**7**	**13,233**	**5,106**	**24,492**
	EAD	**4,232**	**614**	**187**	**109**	**418**	**7**	**11,717**	**5,106**	**22,390**

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

Table 41 shows the breakdown of exposures under the IRB approach by asset class and risk weight as at 30 June 2019 for the MSI Group and MSIP. Credit Derivatives are not used as a CRM technique for RWA benefits.

Table 41: IRB approach – Effect on the RWAs of credit derivatives used as CRM techniques (EU CR7)

$MM	MSI Group		MSIP	
	Pre-credit derivatives RWAs	Actual RWAs	Pre-credit derivatives RWAs	Actual RWAs
Exposures under Foundation IRB	**5,897**	**5,897**	**4,760**	**4,760**
Central governments and central banks	1,357	1,357	971	971
Institutions	1,603	1,603	1,399	1,399
Corporates – SME	-	-	-	-
Corporates - specialised lending	-	-	-	-
Corporates – other	2,937	2,937	2,390	2,390
Exposures under Advanced IRB	**-**	**-**	**-**	**-**
Total	**5,897**	**5,897**	**4,760**	**4,760**

Over the first half of 2019, there have been no material movements.

Table 42 shows the parameters used for the calculation of capital requirements for IRB models as at 30 June 2019 for the MSI Group.

Table 42: IRB approach – Credit risk exposures by exposure class and PD range (EU CR6)

MSI Group	Original on-balance sheet gross exposure $MM	Off-balance sheet exposures pre-CCF $MM	Average CCF %	EAD post-CRM and post-CCF $MM	Average PD[1] %	Number of obligors #	Average LGD[2] %	Average maturity Years	RWAs $MM	RWA density %	EL[3] $MM	Value adjustments and provisions $MM
0.00 to <0.15	23,078	13	20.00%	23,080	0.02%	10	45%	1	1,335	6%	2	
0.15 to <0.25	-	-	0.00%	-	-	-	-	-	-	-	-	
0.25 to <0.50	44	-	0.00%	44	0.42%	2	45%	1	22	50%	-	
0.50 to <0.75	-	-	0.00%	-	-	-	-	-	-	-	-	
0.75 to <2.50	-	-	0.00%	-	-	-	-	-	-	-	-	
2.50 to <10.00	-	-	0.00%	-	-	-	-	-	-	-	-	
10.00 to <100.00	-	-	0.00%	-	-	-	-	-	-	-	-	
100.00 (Default)	-	-	0.00%	-	-	-	-	-	-	-	-	
Central governments or central banks	**23,122**	**13**	**20.00%**	**23,124**	**0.02%**	**12**	**45%**	**1**	**1,357**	**6%**	**2**	**-**
0.00 to <0.15	7,110	2,068	75.30%	8,070	0.06%	95	45%	1	1,280	16%	2	
0.15 to <0.25	214	1	20.00%	214	0.20%	14	45%	1	90	42%	-	
0.25 to <0.50	75	6	75.00%	79	0.39%	25	45%	1	51	65%	-	
0.50 to <0.75	5	10	75.00%	13	0.71%	4	45%	5	19	146%	-	
0.75 to <2.50	36	-	0.00%	36	1.23%	6	45%	1	39	108%	-	
2.50 to <10.00	56	1	75.00%	57	8.20%	38	45%	2	125	219%	3	
10.00 to <100.00	-	-	0.00%	-	-	-	-	-	-	-	-	
100.00 (Default)	-	-	0.00%	-	-	-	-	-	-	-	-	
Institutions	**7,496**	**2,086**	**75.30%**	**8,469**	**0.12%**	**182**	**45%**	**1**	**1,604**	**19%**	**5**	**15**
0.00 to <0.15	1,535	3,014	77.00%	3,855	0.08%	59	45%	2	1,342	35%	1	
0.15 to <0.25	116	999	74.00%	856	0.20%	37	45%	2	427	50%	1	
0.25 to <0.50	157	140	53.70%	232	0.37%	59	45%	2	166	72%	-	
0.50 to <0.75	3	11	20.00%	5	0.71%	8	45%	3	6	120%	-	
0.75 to <2.50	23	46	75.00%	57	1.37%	11	45%	3	67	118%	-	
2.50 to <10.00	180	211	70.70%	330	6.46%	111	45%	3	647	196%	9	
10.00 to <100.00	91	-	0.00%	91	27.91%	13	45%	4	281	309%	11	
100.00 (Default)	65	-	0.00%	65	100.00%	8	45%	4	-	0%	31	
Corporates	**2,170**	**4,421**	**75.20%**	**5,491**	**2.14%**	**306**	**45%**	**3**	**2,936**	**53%**	**53**	**28**
Total	**32,788**	**6,520**	**75.10%**	**37,084**	**0.36%**	**500**	**45%**	**1**	**5,897**	**16%**	**60**	**43**

1. Probability at Default ("PD")
2. Loss-Given Default ("LGD")
3. Expected Loss ("EL")

Over the first half of 2019, movements driven by an increase in exposures to Central Governments and Central Banks due to liquidity management.

Table 43 shows the all relevant parameters used for the calculation of CCR and risk-weighting under the standardised approach as at 30 June 2019 for the MSI Group.

Table 43: Standardised approach – CCR exposures by regulatory portfolio and risk weight (EU CCR3)

$MM	Risk weight													
MSI Group	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	1250%	Others	Total	Of which unrated
Central governments or central banks	29	-	-	-	-	-	-	-	35	-	-	-	**64**	1
Regional governments or local authorities	-	-	-	-	-	-	-	-	6	-	-	-	**6**	-
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions	192	16,003	-	-	321	2	-	-	282	-	3	2	**16,805**	12
Corporates	418	-	-	-	129	140	-	-	360	24	5	5	**1,081**	243
Retail	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Other Items	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Total standardised approach	**639**	**16,003**	**-**	**-**	**450**	**142**	**-**	**-**	**683**	**24**	**8**	**7**	**17,956**	**256**

Table 44 shows the all relevant parameters used for the calculation of CCR capital requirements for IRB models as at 30 June 2019 for the MSI Group.

Table 44: IRB approach – CCR exposures by portfolio and PD scale (EU CCR4)

MSI Group	EAD post-CRM $MM	Average PD %	Number of obligors #	Average LGD %	Average maturity Years	RWAs $MM	RWA density %
Central governments and central banks	**8,176**	**0.06%**	**153**	**45%**	**1**	**779**	**10%**
0.00 to <0.15	7,928	0.03%	127	45%	1	606	8%
0.15 to <0.25	88	0.20%	11	45%	3	52	59%
0.25 to <0.50	137	0.29%	6	45%	2	76	55%
0.50 to <0.75	-	0.71%	1	45%	1	-	0%
0.75 to <2.50	-	-	-	-	-	-	0%
2.50 to <10.00	23	8.11%	8	45%	3	45	196%
10.00 to <100.00	-	-	-	-	-	-	0%
100.00 (Default)	-	-	-	-	-	-	0%
Corporates	**49,069**	**0.65%**	**9,810**	**46%**	**2**	**23,430**	**48%**
0.00 to <0.15	30,496	0.08%	4,195	46%	2	8,783	29%
0.15 to <0.25	4,604	0.20%	641	45%	2	2,477	54%
0.25 to <0.50	8,527	0.34%	2,229	45%	1	4,978	58%
0.50 to <0.75	2,204	0.71%	292	45%	2	1,990	90%
0.75 to <2.50	1,029	1.60%	227	45%	2	1,178	114%
2.50 to <10.00	1,811	5.85%	1,516	45%	2	3,051	168%
10.00 to <100.00	385	27.91%	707	45%	1	973	253%
100.00 (Default)	13	100.00%	3	45%	1	-	0%
Institutions	**44,733**	**0.15%**	**549**	**45%**	**1**	**11,783**	**26%**
0.00 to <0.15	42,361	0.08%	236	45%	1	9,149	22%
0.15 to <0.25	908	0.20%	52	45%	2	573	63%
0.25 to <0.50	624	0.35%	112	45%	3	505	81%
0.50 to <0.75	116	0.71%	27	45%	2	112	97%
0.75 to <2.50	133	1.36%	50	45%	2	151	114%
2.50 to <10.00	591	4.82%	70	54%	2	1,293	219%
10.00 to <100.00	-	27.91%	2	45%	1	-	0%
100.00 (Default	-	-	-	-	-	-	0%
Total (all portfolios)	**101,978**	**0.39%**	**10,512**	**46%**	**1**	**35,992**	**35%**

Over the first half of 2019, there has been an Increase in IMM exposures due to portfolio and market movements offset by decreases to financial collateral comprehensive method (for SFTs) where lending to Institutions.

15. Appendix IV: Abbreviations

Term	Definition
AT1	Additional Tier 1 Capital
BCBS	Basel Committee on Banking Supervision
BIA	Basic Indicator Approach
BRRD	Bank Recovery and Resolution Directive
CCB	Capital Conservation Buffer
CCF	Credit Conversion Factor
CCP	Central Counterparty
CCR	Counterparty Credit Risk
CCyB	Countercyclical Capital Buffer
CET1	Common Equity Tier 1 Capital
CQS	Credit Quality Step
CRD	Capital Requirements Directive
CRM	Credit Risk Mitigation
CRR	Capital Requirements Regulation
CVA	Credit Valuation Adjustment
DA	Delegated Act
EAD	Exposure at Default
EBA	European Banking Authority
ECAI	External Credit Assessment Institutions
EL	Expected Loss
FCA	Financial Conduct Authority
FRTB	Fundamental Review of the Trading Book
G-SIIs	Global Systematically Important Institutions
HQLA	High Quality Liquid Assets
ICAAP	Internal Capital Adequacy Assessment Process
ILAAP	Internal Liquidity Adequacy Assessment Process
IRB	Foundation Internal Ratings Based
IRC	Incremental Risk Charge
IMA	Internal Modelling Approach
IMM	Internal Models Method
ITS	Implementing Technical Standards
LCR	Liquidity Coverage Ratio
LGD	Loss-Given Default
MCR	Minimum Capital Requirements
MM	Millions
MOC	Model Oversight Committee
MRD	Market Risk Department
MREL	Minimum Requirements for Own Funds and Eligible Liabilities
MSBAG	Morgan Stanley Bank AG
MSBIL	Morgan Stanley Bank International Limited
MSEHSE	Morgan Stanley Europe Holding SE
MSESE	Morgan Stanley Europe S.E
MSI	Morgan Stanley International Limited
MSI Group	Morgan Stanley International Limited (and its subsidiaries)
MSIM	Morgan Stanley Investment Management Limited
MSIM ACD	Morgan Stanley Investment Management (ACD) Limited
MSIM Group	MSIM sub-consolidated Group
MSIP	Morgan Stanley & Co. International plc
MSIP Group	Morgan Stanley & Co. International plc and its subsidiaries
MTMM	Mark-to-Market Method
NSFR	Net Stable Funding Ratio
O-SII	Other Systematically Important Institutions
OTC	Over-the-counter
PD	Probability of Default
QCCP	Qualifying Central Counterparty
PRA	Prudential Regulation Authority
RTS	Regulatory Technical Standards
RWAs	Risk Weighted Assets
SA	Standardised Approach
SFTs	Securities Financing Transactions
SRM	Single Resolution Mechanism
SREP	Supervisory Review and Evaluation Process
SVaR	Stressed Value at Risk
T1	Tier 1
TCR	Total Capital Requirement
TLAC	Total Loss-Absorbing Capacity
VaR	Value at Risk