

**Pillar 3** *Regulatory Disclosure (UK)*

*As at 31 December 2012*

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## 1. BASEL II ACCORD

The Basel II Accord as detailed in “International Convergence of Capital Measurement and Capital Standards: A Revised Framework—Comprehensive Version” June 2006, has been implemented in the European Union via the Banking Consolidation Directive and the Capital Adequacy Directive collectively known as the Capital Requirements Directive (“CRD”).

The framework consists of three ‘pillars’:

- Pillar 1—Minimum capital requirements: defines rules for the calculation of credit, market and operational risk;
- Pillar 2—Supervisory review process: requires firms to assess the appropriateness of the Pillar 1 level of capital required, by undertaking an Internal Capital Adequacy Assessment Process (“ICAAP”) for other risks; and
- Pillar 3—Market discipline: requires expanded disclosures to allow investors and other market participants to understand capital adequacy, particular risk exposures and risk management processes of individual firms.

The Basel II Accord was updated in 2010 to strengthen the global capital and liquidity rules following the financial crisis through a number of reforms collectively known as Basel III. This has been implemented in the European Union through a new Directive and Regulation collectively known as the Capital Requirements Directive IV (“CRDIV”). These new requirements take effect from 1st January 2014.

## 2. BACKGROUND TO PILLAR 3 DISCLOSURES

This disclosure covers Morgan Stanley International Limited and its subsidiaries (the “MSI Group”) as discussed further in Sections 3 and 4 below. 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 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 by the Board of Governors of the Federal Reserve System (the “Federal Reserve”).

Morgan Stanley currently calculates its capital ratios and risk-weighted assets in accordance with the capital adequacy standards for financial holding companies adopted by the Federal Reserve, which are based upon a framework described in the “International Convergence of Capital Measurement and Capital Standards,” July 1988, as amended, also referred to as “Basel I.” U.S. banking regulators are in the process of incorporating the Basel II and Basel III Accords into the existing risk-based capital requirements and Morgan Stanley is working with its regulators accordingly to transition to these requirements.

Morgan Stanley is listed on the New York Stock Exchange and is required, by the U.S. Securities and Exchange Commission (“SEC”), to file public disclosures, including Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K.

These disclosures can be found at [http://www.morganstanley.com/about/ir/sec\\_filings.html](http://www.morganstanley.com/about/ir/sec_filings.html).

*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, risk exposure and risk management policies should consult the public disclosures of Morgan Stanley Group, as this will provide a more comprehensive view.*

Public disclosures, including those required under Pillar 3 by the Prudential Regulation Authority (“PRA”) and the Financial Conduct Authority (“FCA”), will continue to evolve over time. The qualitative and quantitative information contained in this document represents the position of the MSI Group as at 31 December 2012. Amendments to the MSI Group’s operating model and risk management procedures that have occurred following this date are not discussed in this document.

The majority of the numerical disclosures in this document are calculated by reference to PRA / FCA’s methodology and are not necessarily the primary exposure measures used by internal management. The calculation of exposure in this document is based on the calculation methodology for regulatory risk exposure prescribed by the PRA / FCA. These exposures include intra-group exposures that form a sizeable proportion of the total exposure.

This document does not constitute a set of financial statements. The MSI Group 2012 audited financial statements are prepared in accordance with applicable United Kingdom (“UK”) company law and accounting standards (“UK GAAP”). Information disclosed in the MSI Group 2012 audited financial statements will not necessarily be consistent with information disclosed in this document. Trading Book and Non-Trading Book definitions used in this document refer to the regulatory view and may differ from the accounting definitions.

## 3. APPLICATION OF THE PILLAR 3 FRAMEWORK

This document represents the annual public Pillar 3 qualitative and quantitative disclosures required by the

PRA and FCA prudential sourcebook rules for Banks, Building Societies and Investment Firms (“BIPRU”) in relation to the MSI Group.

The basis of consolidation for prudential purposes is materially the same as consolidation for accounting purposes. The MSI Group completes its prudential consolidation in compliance with BIPRU, Section 8. The principal subsidiary undertakings of the MSI Group are listed in the MSI Group 2012 audited financial statements, Company disclosures note 3. The most significant of these subsidiaries is Morgan Stanley & Co. International plc (“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.

The MSI Group has a policy in place to assess the appropriateness of its Pillar 3 disclosures, including their verification and frequency.

#### 4. MORGAN STANLEY INTERNATIONAL LIMITED

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

The principal activity of 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 activity in the period under review and no other significant changes in the MSI Group’s principal activity is expected.

As at 31 December 2012, the following entities within the MSI Group were authorised and regulated by the PRA and/or FCA:

- Morgan Stanley & Co. International plc
- Morgan Stanley Bank International Limited
- Morgan Stanley Securities Limited
- Morgan Stanley & Co. Limited
- Morgan Stanley Investment Management Limited
- Morgan Stanley Investment Management (ACD) Limited

In addition, the MSI Group is regulated by the PRA.

The MSI Group includes all the entities that form part of the accounting consolidation group with the exception of two entities which do not meet the requirements under BIPRU, Section 8, for inclusion in the prudential consolidation group. As at 31 December 2012, there were no entities which were deducted from the MSI Group’s capital resources.

The MSI Group calculates capital requirements in accordance with the regulatory capital requirements of the PRA and, in turn, with guidelines described under the Basel II Accord.

#### 5. CAPITAL RESOURCES

Under PRA supervision, the MSI Group is required to maintain a minimum ratio of total capital resources to capital requirements. As at 31 December 2012, the MSI Group was in compliance with the PRA capital requirements as defined by BIPRU. The PRA handbook can be found at <http://fshandbook.info/FS/html/PRA/BIPRU>. All capital resources included in Tiers 1, 2 or 3 are of standard form and the main terms and conditions of the capital instruments disclosed below are disclosed in the MSI Group 2012 audited financial statements, see note 19 for subordinated debt disclosures and note 23, 24 and 34 for share capital disclosures.

The table below shows the financial resources that the MSI Group had as at 31 December 2012 based upon the MSI Group 2012 audited financial statements:

Table 1: Capital Resources	MSI	
	2012 \$millions	2011 \$millions
<b>As at end of December</b>		
Permanent Share Capital	1,614	1,614
Profit and loss account and other reserves	16,919	15,867
Less: Intangible assets	(48)	(39)
Less: Net losses on equities held in the available-for-sale financial assets category	0	0
<b>Tier 1 capital resources</b>	<b>18,485</b>	<b>17,442</b>
<b>Tier 2 capital resources</b>	<b>9,263</b>	<b>8,749</b>
Less: Expected losses and other negative amounts	(682)	(772)
<b>Tier 1 plus tier 2 capital after deductions</b>	<b>27,066</b>	<b>25,419</b>
<b>Tier 3 capital resources</b>	<b>1,352</b>	<b>1,848</b>
Less: Deductions from total capital	(70)	(59)
<b>Total Capital Resources, Net of Deductions</b>	<b>28,349</b>	<b>27,208</b>

Note: MSIP’s Tier 1 common capital and total capital as at end of December 2012 were \$12,159 million and \$20,768 million respectively.

Permanent share capital and subordinated loans included in financial resources are consistent with MSI Group 2012 audited financial statements. The General Prudential sourcebook (“GENPRU”) sections 1 and 2 define the items that are included or deducted from the profit and loss account and other reserves to arrive at total financial resources. As a result the profit and loss account and other reserves balance noted above will differ to the MSI Group 2012 audited financial statements.

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 subsidiary undertakings.

Management reviews capital levels on an ongoing basis in light of changing risk appetite, business needs and the external environment. The level of capital as at 31 December 2012 was 4% higher than 2011 principally as a result of anticipating capital requirements from forthcoming regulatory changes, in particular Basel III implementation.

Management ensures that appropriate levels of capital are maintained to support business needs whilst remaining in compliance with the target operating range established by the relevant governing bodies and applicable regulatory requirements.

At the time of publication work is well underway to implement the requirements of Basel III and projections show that the MSI Group and its regulated subsidiaries will continue to be adequately capitalised for Basel III. Also, a significant amount of work has been done to reduce exposures (as seen in Table 2 below) through improved collateralisation, process improvement and risk reduction.

## 6. REGULATORY CAPITAL REQUIREMENTS

The MSI Group calculates Pillar 1 capital requirements in accordance with the regulatory capital requirements of the PRA. As at 31 December 2012 and 31 December 2011, the MSI Group had the following capital requirements:

**Table 2: Regulatory Capital Requirements**

As at end of December	2012 \$millions	2011 \$millions
Credit risk capital component	794	721
Counterparty risk capital component	3,022	3,970
Market risk capital component	3,837	5,840
Concentration risk capital component	459	840
Operational risk — Basic Indicator Approach	830	842
<b>Total Capital Requirements</b>	<b>8,942</b>	<b>12,213</b>

Note: MSIP's capital requirement as at end of December 2012 was \$7,282 million.

Credit and counterparty risk is the risk of loss arising from a borrower or counterparty failing to meet its financial obligations. Credit and counterparty capital requirements are devised from risk weighted exposures, determined using either an Internal Ratings Based Approach ("IRB"), which reflects the MSI Group's internal estimate of a borrower or counterparty's credit worthiness, or a standardised approach. The MSI Group received approval from the FSA in 2011 to

utilize the Internal Model Method ("IMM") for calculating its Counterparty Risk exposure, in accordance with BIPRU 13.6. For a further discussion see section 11 Credit Risk.

Market risk is the risk of loss resulting from adverse changes in market prices and other factors. The market risk capital of the MSI Group comprises capital associated with the PRA's approved models based approach and that associated with the standardised approach. Regulatory changes to the market risk capital requirements were introduced from 31 December 2011 under CRDIII and include Stressed VaR, Incremental Risk Charge and the All Price Risk measure. For a further discussion see section 12 Market Risk.

Operational Risk is defined as the risk of loss, or damage to Morgan Stanley's reputation, resulting from inadequate or failed processes, people and systems or from external events. This definition includes legal risk, but excludes strategic risk. Capital requirements for operational risk are currently calculated under the Basic Indicator Approach. For a further discussion see section 10 Operational Risk.

The risk capital calculations will evolve over time as the MSI Group enhances its risk management strategy and incorporates improvements in modeling techniques while maintaining compliance with the regulatory requirements.

## 7. APPLICATION OF THE PILLAR 2 FRAMEWORK

The MSI Group prepares an ICAAP document in order to meet its obligations under BIPRU 2.2 "Internal Capital Adequacy Standards." The MSI Group's Required Capital Framework captures risks not adequately covered under Pillar 1 and calculates an additional capital buffer required to absorb stress losses. The framework is based on regional management's own risk assessment and is broadly consistent with the Morgan Stanley Group's Required Capital framework. It is used to ensure that the MSI Group carries, or has access to, sufficient capital to support all material risks residing within the MSI Group.

The UK Group ICAAP:

- Identifies and measures material risks;
- Sets and assesses internal capital adequacy operating targets and limits that relate directly to risk through the Required Capital framework and the risk appetite defined by UK Group Governing Bodies;
- Assesses current and future capital adequacy under normal and stressed operating environments over the capital planning horizon.

The PRA reviews the ICAAP document through its Supervisory Review Process ("SREP") and sets an Individual Capital Guidance ("ICG") which sets the minimum level of regulatory capital for the MSI Group. In addition, the PRA



sets a capital planning buffer which is available to support the MSI Group in a stressed market environment.

## 8. RISK MANAGEMENT OBJECTIVES AND POLICIES

Risk is an inherent part of MSI Group's business activity and is managed by the MSI Group within the context of the Morgan Stanley Group global framework. The Morgan Stanley Group seeks to identify, assess, monitor and manage each of the various types of risk involved in its business activities in accordance with defined policies and procedures. The MSI Group's own risk management objectives, policies and procedures are consistent with those of the Morgan Stanley Group.

As noted previously, Morgan Stanley is required to make quarterly and annual filings with the SEC. For further discussion of Morgan Stanley's risk management objectives, policies and procedures, see pages 111-136 of Morgan Stanley's Form 10-K for the year ended 31 December 2012 ("the 2012 Form 10-K").

## 9. VALUATION AND ACCOUNTING POLICIES

The MSI Group 2012 audited financial statements are prepared in accordance with UK GAAP. The MSI Group relies on its policies, procedures and systems to determine adequacy of valuation and compliance to accounting standards and GENPRU 1.3. To comply with the requirements of GENPRU 1.3 additional valuation adjustments are applied to capital over and above those that are taken in order to comply with UK GAAP. Further information regarding the accounting policies of the MSI Group, including measurement considerations, can be found in note 1 of the MSI Group 2012 audited financial statements.

## 10. OPERATIONAL RISK

Operational Risk is defined as the risk of loss, or damage to Morgan Stanley's reputation, resulting from inadequate or failed processes, people and systems or from external events. This definition includes legal risk, but excludes strategic risk. Effective operational risk management reduces the likelihood or impact of operational incidents and mitigates legal, compliance, regulatory, franchise and reputational risks.

The Morgan Stanley Group may incur operational risk across its full scope of business activities, including revenue-generating activities (e.g., sales and trading) and support functions (e.g., IT and facilities management). The Operational Risk Department works with Business Units and Control Groups to ensure a transparent, consistent, and comprehensive framework for managing operational risk within each area and across the Morgan Stanley Group globally.

Given the nature and breadth of operational risk, operational risks are managed at the Morgan Stanley Group level, as well as the Regional, Business Unit, Control Group and Legal Entity levels.

During 2012, and on an ongoing basis, the MSI Group continues to enhance its operational risk management framework and its operational risk capital models.

## 11. CREDIT RISK

### 11.1 Credit Exposure

Credit risk exposure is managed by Credit Risk Management ("CRM") under limits delegated by the MSI Board of directors. The Credit Limits Framework is one of the primary tools used to evaluate and manage credit risk levels and is calibrated within the Morgan Stanley Group's risk tolerance. The Credit Limits Framework includes single name limits and portfolio concentration limits by country, industry and product type. CRM is responsible for ensuring transparency of material credit risks, ensuring compliance with established limits, approving material extensions of credit, and escalating risk concentrations to appropriate senior management.

CRM manages credit risk exposure on a global basis, and in consideration of each individual legal entity, including those of MSI Group. The CRM policies and procedures of the Morgan Stanley Group include ensuring transparency of material credit risks, ensuring compliance with established limits, approving material extensions of credit and escalating risk concentrations to appropriate senior management. CRM policies and procedures for the MSI Group are consistent with those of the Morgan Stanley Group and include escalation to appropriate key management personnel of the MSI Group.

The MSI Group is exposed primarily to single-name credit risk, requiring credit analysis of specific counterparties, both initially and on an ongoing basis. CRM takes place at the transaction, counterparty and portfolio levels. In order to help protect the MSI Group from losses resulting from its business activities, the MSI Group 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. For lending transactions, the MSI Group evaluates the relative position of its particular exposure in the borrower's capital structure and relative recovery prospects. The MSI Group also considers collateral arrangements and other structural elements of the particular transaction. The MSI Group has credit limits that restrict potential credit exposure to any one borrower or counterparty and to groups of connected borrowers

or counterparties; these limits are monitored and credit exposures relative to these limits are reported to key MSI Group management.

## 11.2 Counterparty and Credit Risk Capital Component (“CRCC”)

The credit risk capital component reflects capital requirements attributable to the risk of loss arising from a borrower or counterparty failing to meet its obligations. Risk weighted exposures are determined using either an IRB Approach, which reflects the MSI Group’s internal estimate of a borrower or counterparty’s credit-worthiness, or the standardised approach.

The MSI Group received approval from the FSA in 2011 to utilize the IMM for calculating its Counterparty Risk exposure, in accordance with BIPRU 13.6. The majority of over-the-counter (“OTC”) derivatives within the MSI Group are in scope of the IMM waiver.

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 of more of historical data.

The table below shows the counterparty and credit risk capital component (“CRCC”) for the MSI Group as at 31 December 2012, for each exposure class, as per the classifications set out in BIPRU:

**Table 3: CRCC**

As at 31/12/2012	IRB approach \$millions	Standardised approach \$millions	Total CRCC \$millions
Central Governments or Central Banks	91	41	132
Institutions	1,273	28	1,301
Corporates	2,035	193	2,228
Other	74	81	156
<b>Total</b>	<b>3,473</b>	<b>343</b>	<b>3,816</b>

## 11.3 Internal Ratings-Based Approach

The MSI Group has been granted a waiver by the PRA to use the Foundation Internal Rating Based (“FIRB”) approach for the calculation of counterparty credit risk capital requirements. The permission covers exposures generated by the Institutional Securities business which includes all material portfolios and is applicable to all exposures to central governments, central banks, institutions and corporates.

The Morgan Stanley Group leverages the IRB process for internal risk management processes.

## Rating Process

Morgan Stanley’s CRM expresses the creditworthiness of each counterparty by assigning it a rating; on a scale from AAA to D. Counterparty ratings establish the probability of default (“PD”) “through the cycle.” Each rating is linked to an exposure limit. To monitor the credit risk of the portfolio, the MSI Group uses quantitative models to estimate various risk parameters related to each counterparty and/or facility.

CRM rates counterparties based on analysis of qualitative and quantitative factors relevant to credit standing in that industry or sector. The rating process typically includes analysis of the counterparty’s financial statements, evaluation of its market position, strategy, management, legal, and environmental issues, and consideration of industry dynamics affecting its performance. Credit professionals also consider security prices and other financial data reflecting a market view of the counterparty, and carry out due diligence with the counterparty’s management as needed.

CRM assigns counterparty ratings at the highest level in the counterparty’s corporate structure. Subsidiaries of the counterparty’s holding company will often carry the same rating as the holding company, but a subsidiary’s rating may vary based on a variety of factors considered and documented during the rating process.

Where a parent guarantee has been received for a counterparty and the guarantee meets Morgan Stanley’s internal requirements for PD substitution, then the rating of the guarantor is assigned to the counterparty.

Ratings for Special Purpose Vehicles (“SPV’s”) reflect CRM’s assessment of the risk that the SPV will default. The rating therefore incorporates the Morgan Stanley Group’s relative position in the counterparty’s payment structure as well as the default risk associated with the underlying assets. Ratings are often ‘tranche specific’ (e.g., the AAA rated senior tranche or the BBB subordinated tranche).

## Control Mechanisms for the Rating System

The performance of the rating system is validated on a quarterly basis. This includes a review of key performance measures including comparison of internal ratings versus agency ratings, ratings of defaulted parties, transitions across grades and comparisons versus credit spreads.

Morgan Stanley’s internal rating process and philosophy are very similar to Standard and Poor’s (“S&P”). For credit risk

capital and risk management purposes, CRM maps PDs to S&P PDs and makes minor adjustments, such as preserving the monotonic relationship among rating grade PDs and maintaining the Basel II regulatory floor of 0.03%.

The present method of using S&P's extensive default history reflects a long-run view. The 2012 PDs are long-run averages of one-year default rates and are grounded on historical experience and empirical evidence. They are based on S&P's annual default rates from 1981 to 2011. This historical period covers at least three major credit downturn periods (1990-91, 2001-02, 2007-09).

Morgan Stanley's use of the S&P default history is appropriate given that a) internal ratings compare well

with S&P ratings, with a high rank-order correlation of approximately 92%, and b) the PDs are conservative, as historical default rates for Morgan Stanley from 2002 to 2012 are much lower than the 2011 MS PDs, even at high confidence levels.

The Morgan Stanley Group confirms through an internal validation process that the PD values it uses are prudent when compared to actual Morgan Stanley Group default experience.

The table below shows a breakdown of the IRB related exposure amounts for the MSI Group as at 31 December 2012, for each credit quality step as defined in BIPRU 3:

**Table 4: IRB EAD**

CQS	PD Band As at 31/12/2012	Total Gross Exposure \$millions	Exposure value after credit risk mitigation \$millions	Outstanding Loans \$millions	Exposure value of undrawn commitments \$millions	Exposure weighted average risk weight
Central Governments or Central Banks						
1	0.00%–0.08%	18,949	5,435	82	109	0.10
2	0.09%–0.17%	1,518	468	0	0	0.15
3	0.21%–0.40%	579	557	0	0	0.61
4	0.51%–1.65%	767	98	0	0	1.07
5	1.92%–100%	31	31	0	0	1.95
Institutions						
1	0.00%–0.08%	69,870	17,001	168	224	0.28
2	0.09%–0.17%	142,676	25,079	51	68	0.28
3	0.21%–0.40%	6,427	2,141	60	0	0.46
4	0.51%–1.65%	2,003	838	78	2	1.03
5	1.92%–100%	10,884	1,025	39	0	1.08
Corporates						
1	0.00%–0.08%	29,629	12,418	649	901	0.26
2	0.09%–0.17%	53,895	23,961	652	869	0.27
3	0.21%–0.40%	10,679	6,610	1,279	1,237	0.53
4	0.51%–1.65%	41,553	4,152	377	215	1.14
5	1.92%–100%	27,771	3,563	672	378	1.66
Other		319	319	0	0	2.90
<b>Total</b>		<b>417,550</b>	<b>103,694</b>	<b>4,107</b>	<b>4,003</b>	

### Equity Exposure Outside the Trading Book

The approach assigned for equity exposures falling outside of the trading book is as defined in the IRB section of BIPRU. For the purposes of risk weighting these equity exposures, the MSI Group applies the simple risk weight approach.

Non-trading book exposure in equities excludes any investments MSI Group holds in other Morgan Stanley Group undertakings. Total non trading book equity exposure is immaterial (0.21% of total Exposure at Default ("EAD")).

### Retail Exposures

The MSI Group does not have IRB exposure to retail clients.



## 11.4 Standardised Approach

A standardised approach is used for certain asset categories, including receivables (e.g., fees and interest), unsettled trades and other assets.

The table below shows the exposures for the MSI Group as at 31 December 2012, calculated using the standardised approach for each exposure class as per the classifications set out in BIPRU:

**Table 5: Standardised Approach EAD**

As at 31/12/2012	Total gross exposure \$millions	Exposure value after credit risk mitigation \$millions
Central Governments or Central Banks	513	513
Institutions	558	558
Corporates	9,016	9,016
Other	1,019	1,019
<b>Total</b>	<b>11,106</b>	<b>11,106</b>

## 11.5 Credit Exposure Breakdown tables

The table below shows the gross and net credit exposures for the MSI Group as at 31 December 2012:

**Table 6: Credit EAD**

As at 31/12/2012	Gross credit exposure prior to credit mitigation \$millions	Total exposure value covered by eligible financial collateral \$millions	Total exposure value covered by guarantees \$millions	Net credit exposure \$millions
Central Governments or Central Banks	22,356	15,503	–	7,101
Institutions	232,418	166,516	652	46,641
Corporates	172,544	87,342	1,458	59,720
Other	1,338	0	0	1,338
<b>Total</b>	<b>428,656</b>	<b>269,361</b>	<b>2,109</b>	<b>114,800</b>

“Exposure value covered by eligible financial collateral” represents the positive market value against which collateral has been received and for which an enforceable legal netting agreement exists in order to enable collateral to be applied. Net credit exposure is the EAD calculated under the rules prescribed in BIPRU upon which regulatory capital charges are calculated.

The table below shows the EAD by industry type for the MSI Group as at 31 December 2012:

**Table 7: EAD broken down by Industry Type**

As at 31/12/2012	EAD \$millions
Banks and Securities Firms	58,977
Energy and Utilities	3,767
Exchanges and Clearing houses	1,336
Insurance	3,053
Leverage and Other Funds	7,014
Mutual and Pension Funds	14,987
Other Corporates	15,601
Real Estate	570
Sovereign	7,179
Special Purpose Vehicles	2,316
<b>Total</b>	<b>114,800</b>

In addition to assessing and monitoring its credit exposure and risk at the individual counterparty level, the MSI Group also reviews its credit exposure and risk to geographic regions.

The table below shows the geographical distribution of credit exposures for the MSI Group as at 31 December 2012:

**Table 8: Geographical Breakdown of EAD**

As at 31/12/2012	Americas \$millions	EMEA \$millions	Asia \$millions	Total \$millions
Central Governments or Central Banks	972	5,287	842	7,101
Institutions	15,897	18,267	12,477	46,641
Corporates	20,449	36,174	3,097	59,720
Other	0	1,338	0	1,338
<b>Total</b>	<b>37,318</b>	<b>61,066</b>	<b>16,416</b>	<b>114,800</b>

As at 31 December 2012, credit exposure was concentrated in North America and Western Europe. In addition, the MSI Group pays particular attention to smaller exposures in emerging markets given their higher risk profile. Country ceiling ratings are derived using methodologies generally consistent with those employed by external rating agencies.

MSI Group also reviews its credit exposure and risk to industry categories. At 31 December 2012, the Morgan Stanley Group's material credit exposure was to corporate entities and institutions.

### 11.6 Credit Risk Mitigation

The MSI Group applies a number of credit risk mitigation techniques, including netting and collateral. Management of MSI Group's credit portfolio is centralised through a global risk management function.

#### Netting

The Morgan Stanley Group has policies and procedures in place for recording netting agreements with clients, including the review of the legal enforceability of these agreements. In instances where the legal enforceability of an agreement cannot be confirmed, the benefit of netting is not applied. See Table 4: IRB EAD and Table 6: Gross Credit EAD for the impact of netting and collateral.

#### Collateral

The amount and type of collateral required by the MSI Group depends on an assessment of the credit

risk of the counterparty. Collateral held is managed, in accordance with MSI Group's guidelines and the relevant underlying agreements.

The Morgan Stanley Group actively manages its credit exposure through the application of collateral arrangements and readily available market instruments such as credit derivatives. The use of collateral in managing OTC derivative risk is standard in the market place, and is governed by appropriate documentation, for example, the Credit Support Annex to the International Swaps and Derivatives Association ("ISDA") documentation. In line with these standards, the Morgan Stanley Group generally accepts only cash and G7 government bonds, corporate debt and main index equities as eligible collateral. Other securities may be accepted in securities lending, repo and prime brokerage, subject to conservative haircuts based on assessments of collateral volatility and liquidity. There is an established and robust infrastructure to manage, maintain and value collateral on a daily basis.

For specific transactions or counterparties, the MSI Group will accept letters of credit and guarantees following an appropriate level of due diligence. In such instances, the exposure is assumed to be to the provider of the letter of credit or guarantee.

The table below shows residual maturity breakdown of exposures by exposure class for the MSI Group as at 31 December 2012:

**Table 9: Residual Maturity Breakdown of EAD**

As at 31/12/2012	Less than 1 yr (incl. 1 yr) \$millions	Over 1 yr to less than 5 yrs \$millions	5 yrs and above \$millions	No Maturity \$millions	Total \$millions
Central Governments or Central Banks	4,326	1,470	792	512	7,101
Institutions	34,987	8,033	3,620	0	46,641
Corporates	39,489	12,501	7,522	208	59,720
Other	395	0	0	943	1,338
<b>Total</b>	<b>79,198</b>	<b>22,004</b>	<b>11,935</b>	<b>1,663</b>	<b>114,800</b>

### Derivative credit exposure

The table below shows the trading book gross positive fair value of derivative contracts, netting benefits, netted current credit exposure and collateral held as at 31 December 2012 for the MSI Group:

**Table 10: Derivative Credit Exposures**

As at 31/12/2012	Market Value \$millions
Gross positive fair value of contracts	289,755
Netting Benefits	234,702
Gross positive fair value after netting	55,053
Collateral held	53,522
Net derivatives credit exposure (after netting and collateral)	18,255

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 collateral received, irrespective of enforceability or utilisation after regulatory eliminations and exemptions are applied.

Net derivatives credit exposure represents the net exposure after collateral, that meets regulatory and legal requirements, has been applied. It is therefore higher than the difference between ‘Gross positive fair value after netting’ and ‘Collateral held’.

The table below shows the Derivative Contracts EAD by calculation method and exposure class for the MSI Group as at 31 December 2012:

**Table 11: Derivative Contracts EAD by calculation method**

As at 31/12/2012	IMM \$millions	MTM <sup>(1)</sup> \$millions	Total \$millions
Central Governments or Central Banks	2,327	31	2,358
Institutions	6,949	12,654	19,603
Corporates	14,129	11,839	25,968
<b>Total</b>	<b>23,404</b>	<b>24,525</b>	<b>47,929</b>

<sup>(1)</sup> Mark to market method.

### 11.7 Collateral Impact of a Downgrade

The level of incremental collateral which would be required by derivative counterparties in the event of a Morgan Stanley ratings downgrade is monitored daily. Collateral triggers are maintained by the collateral management department and vary by counterparty.

The long-term credit ratings on the Morgan Stanley Group by Moody’s and S&P are currently at different levels (commonly referred to as “split ratings”). The following are the amounts of additional collateral or termination payments, relevant to the MSI Group, that could be called by counterparties under the terms of such agreements in the event of a downgrade of the Morgan Stanley Group’s long-term credit rating under various scenarios at December 31, 2012:

- \$285 million (Baa1 Moody’s/BBB+ S&P)
- \$859 million (Baa2 Moody’s/BBB S&P)

See pages 100 and 223 of the 2012 Form 10-K for details of Morgan Stanley Group collateral downgrade information.

### 11.8 Wrong Way Risk

Specific wrong-way risk arises when a transaction is structured in such a way that the exposure to the counterparty is positively correlated with the probability of default (“PD”) of the counterparty. For example, a

counterparty writing put options on its own stock or a counterparty collateralised by its own or related party stocks. The Morgan Stanley Group considers these matters when approving transactions. General wrong way risk arises when the counterparty PD is correlated, for non-specific reasons, with the market or macroeconomic factors that affect the value of the counterparty’s trades. The credit assessment process looks to identify these correlations and monitor accordingly.

## 12. 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 liquidity, will result in losses for a position or portfolio.

Sound market risk management is an integral part of the Morgan Stanley Group culture. The various business units and trading desks are responsible for ensuring that market risk exposures are well-managed and prudent. The control groups help ensure that these risks are measured and closely monitored and are made transparent to senior management. The Market Risk Department is responsible for ensuring transparency of material market risks, monitoring compliance with established limits, and escalating risk concentrations to appropriate senior management. To execute these responsibilities, the Market Risk Department monitors the Morgan Stanley Group’s risk against limits on aggregate risk exposures, performs a variety of risk analyses, routinely reports risk summaries, and maintains the Morgan Stanley Group’s VaR and scenario analysis systems. These limits are designed to control price and market liquidity risk. Market risk is also monitored through various measures: statistically (using VaR and related analytical measures); by measures of position sensitivity; and through routine stress testing, which measures the impact on the value of existing portfolios of specified changes in market factors, and scenario analyses conducted by the Market Risk Department in collaboration with the business units. The material risks identified by these processes are summarized in reports produced by the Market Risk Department that are circulated to and discussed with senior management.

### 12.1 Value-At-Risk (VaR)

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

#### VaR Methodology, Assumptions and Limitations

The Group has enhanced its VaR model during 2012 to make it more responsive to current market conditions while maintaining a longer-term perspective. This enhancement

is consistent with regulatory requirements. The current VaR model has been approved by the Group's regulators for use in regulatory capital calculations.

The Group estimates VaR using a model based on volatility adjusted historical simulation for general market risk factors and Monte Carlo simulation for name-specific risk in corporate shares, bonds, loans and related derivatives. The model constructs a distribution of hypothetical daily changes in the value of trading portfolios based on the following: historical observation of daily changes in key market indices or other market risk factors; and information on the sensitivity of the portfolio values to these market risk factor changes. The Group's current VaR model uses four years of historical data with a volatility adjustment to reflect current market conditions. The Group's prior VaR model also uses four years of historical data, but does not make any volatility adjustments and is therefore less responsive to current market conditions. The Group's 99%/one-day VaR corresponds to the unrealised loss in portfolio value that, based on historically observed market risk factor movements, would have been exceeded with a frequency of 1%, or once every 100 trading days, if the portfolio were held constant for one day.

The MSI Group's VaR model generally takes into account linear and non-linear exposures to equity and commodity price risk, interest rate risk, credit spread risk and foreign exchange rates as well as linear exposures to implied volatility risks. The VaR model also captures certain implied correlation risks associated with portfolio credit derivatives as well as certain basis risks (e.g., corporate debt and related credit derivatives).

Amongst their benefits, VaR models permit estimation of a portfolio's aggregate market risk exposure, incorporating a range of varied market risks and portfolio assets. One key element of the VaR model is that it reflects risk reduction due to portfolio diversification or hedging activities. However, VaR risk measures should be interpreted carefully in light of the limitations of the methodology, which include the following: past changes in market risk factors may not always yield accurate predictions of the distributions and correlations of future market movements; changes in portfolio value in response to market movements (especially for complex derivative portfolios) may differ from the responses calculated by a VaR model; VaR using a one-day time horizon does not fully capture the market risk of positions that cannot be liquidated or hedged within one day; the historical market risk factor data used for VaR estimation may provide only limited insight into losses that could be incurred under market conditions that are unusual relative to the historical period used in estimating the VaR;

and published VaR results reflect past trading positions while future risk depends on future positions. VaR is most appropriate as a risk measure for trading positions in liquid financial markets and will understate the risk associated with severe events, such as periods of extreme illiquidity. The MSI Group is aware of these and other limitations and, therefore, uses VaR as only one component in its risk management oversight process. As explained above, this process also incorporates stress testing and scenario analyses and extensive risk monitoring, analysis, and control at the trading desk, division and the MSI Group levels.

The MSI Group's VaR models evolve over time in response to changes in the composition of trading portfolios and to improvements in modeling techniques and systems capabilities. The MSI Group is committed to continuous review and enhancement of VaR methodologies and assumptions in order to capture evolving risks associated with changes in market structure and dynamics. As part of regular process improvement, additional systematic and name-specific risk factors may be added to improve the VaR model's ability to more accurately estimate risks to specific asset classes or industry sectors. Additionally, the MSI Group continues to evaluate enhancements to the VaR model to make it more responsive to more recent market conditions while maintaining a longer-term perspective.

Since the VaR statistics reported in table 12 are estimates based on historical position and market data, VaR should not be viewed as predictive of the MSI Group's future revenues or financial performance or of its ability to monitor and manage risk. There can be no assurance that the MSI Group's actual losses on a particular day will not exceed the VaR amounts indicated below or that such losses will not occur more than once in 100 trading days. VaR does not predict the magnitude of losses which, should they occur, may be significantly greater than the VaR amount.

The methodology, assumptions and limitations of the MSI Group's VaR model are consistent with those of the Morgan Stanley Group. For a further discussion see pages 115 to 122 of the 2012 Form 10-K.

## 12.2 Market Risk Capital Component

The market risk capital component of the MSI Group comprises capital associated with the VaR methodology in accordance with PRA's approved models and that associated with the standardised approach.

The VaR-based capital and the Stressed VaR based capital are determined by the higher of the average of the 60 day 10-day VaR and 10-day Stressed VaR numbers multiplied by the multiplication factor, and the 10-day VaR and 10-day Stressed VaR for the relevant day. The Incremental



Risk Charge (IRC) and All Price Risk (APR) charges are determined by the higher of the average of the 12 weeks IRC/APR and the IRC/APR charge for the relevant day.

The table below shows the maximum, minimum, and average VaR and Stressed VaR, as well as the Incremental Risk Charge and All Price Risk measures for the year ending 31 December 2012 and as at 31 December 2012 for the MSI Group:

**Table 12: Market Risk Component calculated in accordance with the PRA's approved models used for the Capital charge**

For the financial year ended	VaR <sup>(1)</sup>	Stressed VaR <sup>(1)</sup>	IRC	APR
31 December 2012	\$millions	\$millions	\$millions	\$millions
Average	159	193	405	9
Minimum	97	110	240	6
Maximum	256	499	808	25
Period End	97	204	511	6

<sup>(1)</sup> VaR and Stressed VaR are at a 99% confidence interval, 10 day holding period

The MSI Group performs daily backtesting analysis at a granular level as part of a range of tools used to validate the accuracy of its VaR models. The MSI Group's regulatory VaR models meet the PRA's 'Green Zone' standards for model accuracy based on backtesting exceptions.

The table below shows the market risk capital charge for the MSI Group as at 31 December 2012, calculated in accordance with the standardised approach and categorised by component type:

**Table 13: Market Risk Capital Component calculated in accordance with the Standardised Approach**

As at 31/12/2012	\$millions
Interest Rate PRR <sup>(1)</sup>	685
Equity PRR	78
Commodity PRR	2
Foreign Currency PRR	649
<b>Totals</b>	<b>1,414</b>

<sup>(1)</sup> Of which: Specific Interest Rate Risk of Securitisation Positions 427

Regulatory changes to the market risk capital requirements were introduced from 31 December 2011 under CRDIII and include Stressed VaR, Incremental Risk Charge and the All Price Risk measure.

### 12.3 Stressed VaR

Stressed VaR uses the same underlying models as VaR to produce a 1-day 99% VaR constructed over a 1 year period of continuous stress. The data set Stressed VaR uses is based on historical and non volatility adjusted simulations for the general market risk factors and Monte

Carlo simulation for name specific risk in corporate shares, bonds, loans and related derivatives. The 1 year stressed window is chosen for each of the UK Regulated legal entities which have VaR model approval. The Stressed VaR model is agreed and approved by the Group's regulator for use in regulatory calculations. Stressed 10-day VaR is constructed by scaling the Stressed 1 day VaR. The Stressed 10-day VaR as of period end was \$204 million. The MSI Group's Stressed VaR capital charge was \$770 million as at 31 December 2012, based upon the higher of the average of the 60 day Stressed 10-day VaR number multiplied by the multiplication factor, and the Stressed 10-day VaR for the relevant day.

### 12.4 Incremental Risk Charge

The Incremental Risk Charge ("IRC") measures the migration and default risk of traded instruments by issuers in a single integrated framework. The model assumes a constant level of risk and is calculated over a one year horizon at a confidence level of 99.9% using Monte-Carlo simulations. The chief risk factors modeled are defaults, credit migrations, recovery risk, and liquidity risk. The model differentiates the underlying traded instruments by liquidity horizon, with the minimum liquidity horizon set at three months. Concentrated positions are assigned higher liquidity horizons. The weighted liquidity horizon for IRC is 4.5 months. The MSI Group's charge relating to IRC was \$511 million as at 31 December 2012.

### 12.5 All Price Risk

The All Price Risk ("APR") is a measure used to calculate all risks within designated credit correlation trading portfolios, as pre-approved by the PRA. Calculated as the 99.9% percentile simulated loss, the APR covers the major risk types associated within the credit correlation trading portfolio, including credit migrations, defaults, recoveries, credit spread and correlation movements and liquidity risk. APR is calculated over a one year horizon assuming a constant level of risk. The constant liquidity horizon for APR is 6 months. The overall APR is floored at 8% of the corresponding standardised rules for the same portfolio. The MSI Group's charge relating to APR was \$6 million as at 31 December 2012.

### 12.6 Stress Testing

During 2012, the MSI Group continued to enhance its market and CRM framework to address the severe stresses observed in global markets during the economic downturn.

The MSI Group uses its tail loss measure "S-VaR" as a key metric in setting the Group's risk appetite, with limits to tail loss set by the MSI Board and considered for capital adequacy. S-VaR is a proprietary forward looking methodology that comprehensively measures the Morgan Stanley Group's market and credit risks. S-VaR simulates many stress scenarios based on more than



25 years of historical data and differentiates liquidities of various types of general and specific risks. Additionally, S-VaR captures event and default risks that are particularly relevant for credit portfolios.

### 12.7 Interest Rate Risk In The Banking Book

Interest rate risk refers to the risk of losses arising from an adverse change in the interest rates curve within the defined Banking book population.

The Interest rate risk in the Banking book is primarily from Corporate Treasury activities, with subordinated debt liabilities and Treasury's Liquidity Reserve investments the material contributors. The risk is typically short dated or has a frequent re-setting feature which lowers the quantum of outright risk. The interest rate risk arising from CVA is not included due to it having been capitalised through the reserving process.

MS UK Group is exposed to interest rate risk primarily through the Trading book. This is well understood and is capitalised within VaR as per required by the Market Risk Waiver. Due to the nature of the business activities of the MS UK group contained within the Banking book, the interest rate exposure is materially smaller in nature than the trading.

The Interest Rate Risk in the Banking Book is not material in the context of the MS UK Group. The amount is +\$120K per basis point as at 30th Dec 2012 and the MS UK Group risk is exposed to the yield curve lowering.

The table below shows the impact of a 1 basis point ("1bp") parallel shift in interest rates on the value of interest rate positions in the non-trading book for the MSI Group as at 31 December 2012:

**Table 14: Interest Rate Risk in Non-Trading Book**

As at 31/12/2012	Profit or loss of a +1bp parallel shift in interest rates \$millions	Profit or loss of a -1bp parallel shift in interest rates \$millions
USD	0.11	(0.11)
EUR	(0.05)	0.05
GBP	0.01	(0.01)
JPY	0.02	(0.02)
Other	0.02	(0.02)
<b>Total</b>	<b>0.12</b>	<b>(0.12)</b>

## 13 SECURITISATION

### 13.1 Securitisation Activities

The MSI Group acts, or has historically acted, as originator, sponsor, liquidity provider, servicer and derivative counterparty to its own originated and sponsored securitisations, as well as those of third party securitisations. The MSI Group's strategy is to use securitisations for customer facilitation. The MSI Group engages in securitisation activities related to commercial and residential mortgage loans, corporate bonds and loans, and other types of financial instruments. The derivatives are generally interest rate swaps and usually with senior payment priority.

The MSI Group participated as a bookrunner or lead manager in a number of new securitisations during 2012. The MSI Group did not originate or sponsor any new securitisations in 2012.

### 13.2 Regulatory Capital Treatment

The FSA updated BIPRU Chapter 9 which covers the regulatory capital treatment of securitisations as at 31 December 2011 to reflect updates made to the Capital Requirements Directive incorporating the Basel 2.5 July 2009 amendments. The update materially changed the scope of the Pillar 3 securitisation disclosures to include Trading Book positions.

The MSI Group employs the IRB Approach and the Standardised Approach to calculate the capital on its securitisation positions. The IRB and standardised approaches use rating agency credit ratings to determine risk weights. The MSI Group uses ratings from three External Credit Assessment Institutions, Moody's, S&P, and Fitch.

### 13.3 Securitisation Exposures

The table below shows the capital requirements of securitisation positions within the MSI Group as at 31 December 2012:

**Table 15: Securitisation Capital Requirement**

As at 31/12/2012	Market Risk \$millions	Credit Risk \$millions
Capital Requirement	427	398

The table below shows securitisation positions broken down by Credit Quality Steps ("CQS") within the MSI Group as at 31 December 2012:

**Table 16: Securitisation Exposures by risk weightings**

As at 31/12/2012	Market Risk \$millions	Credit Risk \$millions
CQS 1–3	339	683
CQS 4–6	282	297
CQS 7–11	138	469
CQS unrated–1250%	436	339
<b>Total</b>	<b>1,196</b>	<b>1,788</b>
of which: resecuritisation	39	11

### 13.4 Accounting

Transfers of financial assets in securitisation transactions are generally accounted for as sales when the MSI Group has relinquished control over the transferred assets and met BIPRU 9 requirements for significant risk transfer. The gain or loss on sale of such financial assets depends, in part, on the previous carrying amount of the assets involved in the transfer (generally at fair value) and the sum of the proceeds and the fair value of the retained interests at the date of sale. Transfers that are not accounted for as sales are treated as secured financings.

### 13.5 Valuation

The MSI Group may retain interests in the securitised financial assets of one or more tranches of the securitisation. These retained interests are included in the consolidated statements of the MSI Group at fair value. Any changes

in the fair value of such retained interests are recognized through profit and loss in the MSI Group 2012 audited financial statements.

For further information on the MSI Group's valuation techniques related to securitisation, please refer to the Notes 1f and 32 in the MSI Group 2012 audited financial statements, and pages 148 to 152 of the 2012 Form 10-K.

### 13.6 Risk Monitoring

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

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

- The MSI Group conducts an assessment of risk limits at least once a year, and more often if required. Collateral quality, liquidity and downside risk are important factors for setting market risk limits.
- The MSI Group measures downside risk using various metrics such as VaR, S-VaR and Scenarios, differentiating products based on collateral, seniority, and liquidity.