MORGAN STANLEY INTERNATIONAL LIMITED

# Morgan Stanley

Pillar 3 Regulatory Disclosure (UK)

As at 31 December 2011

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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.

# 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 Accord 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.

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 Financial Services Authority ("FSA"), 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 2011. 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 FSA'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 FSA. 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 2011 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 2011 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 FSA 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 2011 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 2011, the following entities within the MSI Group were regulated by the FSA:

- 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

During 2011, Morgan Stanley Capital Group Limited ceased to be authorised by the FSA. Prior to that, the entity was dormant and not undertaking any activity.

The FSA-regulated 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 2011, 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 FSA and, in turn, with guidelines described under the Basel II Accord.

#### 5. CAPITAL RESOURCES

Under FSA supervision, the MSI Group is required to maintain a minimum ratio of total capital resources to capital requirements. As at 31 December 2011, the MSI Group was in compliance with the FSA capital requirements as defined by BIPRU. The FSA handbook can be found at http://fsahandbook.info/FSA/html/handbook/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 2011 audited financial statements. See note 19 for subordinated debt disclosures and notes 23, 24 and 34 for share capital disclosures.

The table below shows the financial resources that the MSI Group had, as at 31 December 2011, based upon the MSI Group 2011 audited financial statements:

**Table 1: Capital Resources** 

As at end of December	2011 \$millions	2010 \$millions
Permanent Share Capital	1,614	1,614
Profit and loss account and other reserves	15,867	11,906
Less: Intangible assets	(39)	(55)
Less: Net losses on equities held in the available-for-sale financial assets category	0	(21)
Tier 1 common capital resources	17,442	13,444
Tier 1 capital resources	17,442	13,444
Tier 2 capital resources	8,749	6,722
Less: Expected losses and other negative amounts	(773)	(311)
Tier 1 plus tier 2 capital after deductions	25,418	19,855
Tier 3 capital resources	1,848	3,849
Less: Deductions from total capital	(59)	(62)
Total Capital Resources, Net of Deductions	27,207	23,642

Note: MSIP's Tier 1 common capital resources and total capital resources as at end of December 2011 were \$11,629 million and \$20,244 million, respectively.

Permanent share capital and subordinated loans included in financial resources are consistent with MSI Group 2011 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 from the MSI Group 2011 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 2011 was 15% higher than 2010, 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.

#### 6. REGULATORY CAPITAL REQUIREMENTS

The MSI Group calculates Pillar 1 capital requirements in accordance with the regulatory capital requirements of the FSA. As at 31 December 2011 and 31 December 2010, the MSI Group had the following capital requirements:

**Table 2: Regulatory Capital Requirements** 

As at end of December	2011 \$millions	2010 \$millions
Credit risk capital component	721	660
Counterparty credit risk capital component	3,970	4,004
Market risk capital component	5,840	4,317
Concentration risk capital component	840	2,766
Operational risk—Basic Indicator Approach	842	780
Total Capital Requirements	12,213	12,527

Note: MSIP's capital requirement as at end of December 2011 was \$10,035 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 ("IRB") approach, 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 utilise 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 FSA's approved models-based approach and 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 the risk of losses due to inadequate or failed internal processes, people and systems, or external events, and takes into account legal 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 FSA 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 FSA 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 100 to 124 of Morgan Stanley's Form 10-K for the year ended 31 December 2011 ("the 2011 Form 10-K").

#### 9. VALUATION AND ACCOUNTING POLICIES

The MSI Group 2011 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 2011 audited financial statements.

#### 10. OPERATIONAL RISK

Operational risk refers to the risk of financial or other loss, or potential damage to a firm's reputation, resulting from inadequate or failed internal processes, people, resources, systems, or from external events (e.g., fraud, legal and compliance risks, damage to physical assets). 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 Units, Control Group and Legal Entity levels.

#### 11. CREDIT RISK

### 11.1 Credit Exposure

The Morgan Stanley Group manages credit risk exposure on a global basis, and in consideration of each individual legal entity, including those of MSI Group. The credit risk management 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. Credit risk management 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. Credit risk management 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.

Credit risk exposure is managed by credit risk management together with various risk committees. 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. Credit risk management 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.

# 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 creditworthiness, or the standardised approach.

The MSI Group received approval from the FSA in 2011 to utilise 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 or more of historical data.

The table below shows the counterparty and credit risk capital component for the MSI Group as at 31 December 2011, for each exposure class, as per the classifications set out in BIPRU:

Table 3: Counterparty and Credit Risk Capital Component

As at 31/12/2011	IRB approach \$millions	Standardised approach \$millions	Total CRCC \$millions
Sovereigns	254	61	315
Institutions	960	14	974
Corporates	3,051	178	3,229
Other	82	91	173
Total	4,347	344	4,691

#### 11.3 Internal Ratings-Based Approach

The MSI Group has been granted a waiver by the FSA 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 credit department (the "Credit Department") 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.

The Credit Department 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.

The Credit Department 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 ("SPVs") reflect the Credit Department'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, the Credit Department maps PDs to S&P's 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 2011 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 2010. This historical period covers at least three major credit downturn periods (1990 to 1991, 2001 to 2002, 2007 to 2009).

Morgan Stanley's use of the S&P default history is appropriate given that a) internal ratings compare well with S&P's 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 2011 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 2011, for each credit quality step as defined in BIPRU 3:

Table 4: IRB EAD

Table 4: IND EAD		Exposure value		Evnosuro	
PD Band As at 31/12/2011	Total Gross Exposure \$millions	after credit risk mitigation \$millions	Outstanding Loans \$millions	Exposure value of undrawn commitments \$millions	Exposure weighted average risk weight
Central Governments or C	Central Banks				
1 0.00%-0.08%	10,985	2,938	0	0	0.11
2 0.09%-0.17%	10,734	6,918	0	0	0.32
3 0.21%-0.40%	346	162	0	0	0.43
4 0.53%-1.65%	1,992	290	0	0	0.95
5 1.92%-100%	123	115	0	0	1.84
Institutions					
1 0.00%-0.08%	68,107	18,281	165	220	0.12
2 0.09%-0.17%	124,509	26,154	0	0	0.23
3 0.21%-0.40%	2,844	1,618	257	0	0.50
4 0.53%-1.65%	2,066	1,437	204	0	0.76
5 1.92%-100%	2,034	579	61	30	1.69
Corporates					
1 0.00%-0.08%	19,639	10,413	752	1,147	0.23
2 0.09%-0.17%	76,971	22,697	626	743	0.27
3 0.21%-0.40%	10,930	6,512	601	571	0.53
4 0.53%-1.65%	25,149	2,845	460	256	0.80
5 1.92%-100%	31,409	9,075	961	684	1.83
Other	331	331	0	0	3.08
Total	388,169	110,365	4,087	3,651	

## **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 (0.4% 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 2011, calculated using the standardised approach for each exposure class as per the classifications set out in BIPRU:

Table 5: Standardised Approach EAD

Table 3. Standardised Approach LAD		Exposure value after credit	
As at 31/12/2011	Total gross exposure \$millions	risk mitigation \$millions	
Central Governments or Central Banks	757	757	
Institutions	283	283	
Corporates	2,586	2,586	
Other	699	699	
Total	4,325	4,325	

# 11.5 Credit Exposure Breakdown Tables

The table below shows the gross and net credit exposures for the MSI Group as at 31 December 2011:

Table 6: Credit EAD

	Gross credit exposure prior to credit mitigation	Total exposure value covered by eligible financial collateral	Total exposure value covered by guarantees	Net credit exposure
As at 31/12/2011	\$millions	\$millions	\$millions	\$millions
Central Governments or Central Banks	24,937	13,629	1,043	11,180
Institutions	199,843	185,086	2,393	48,352
Corporates	166,684	119,862	3,296	54,128
Other	1,030	0	0	1,030
Total	392,494	318,577	6,732	114,690

<sup>&</sup>quot;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 2011:

Table 7: EAD Broken Down by Industry Type

As at 31/12/2011	EAD \$millions
Banks and Securities Firms	59,867
Energy and Utilities	3,541
Exchanges and Clearing houses	1,113
Insurance	4,234
Leverage and Other Funds	4,946
Mutual and Pension Funds	13,006
Other Corporates	12,565
Real Estate	474
Sovereign	12,695
Special Purpose Vehicles	2,249
Total	114,690

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 2011:

Table 8: Geographical Breakdown of EAD

As at 31/12/2011	Americas \$millions	EMEA \$millions	Asia \$millions	Total \$millions
Central Governments				
or Central Banks	411	9,212	1,557	11,180
Institutions	18,176	19,615	10,561	48,352
Corporates	17,282	33,725	3,121	54,128
Other	17	1,013	0	1,030
Total	35,886	63,565	15,239	114,690

As at 31 December 2011, 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 2011, 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 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 2011:

Table 9: Residual Maturity Breakdown of EAD

As at 31/12/2011	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	3,384	7,325	471	0	11,180
Institutions	34,171	11,674	2,507	0	48,352
Corporates	29,452	15,014	9,655	7	54,128
Other	0	0	0	1,030	1,030
Total	67,007	34,013	12,633	1,037	114,690

## **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 2011, for the MSI Group:

**Table 10: Derivative Credit Exposures** 

As at 31/12/2011	Market Value \$millions
Gross positive fair value of contracts	311,363
Netting Benefits	251,498
Gross positive fair value after netting	59,865
Collateral held	41,349
Net derivatives credit exposure (after netting and collateral)	26.976

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.

The table below shows the Derivative Contracts EAD by calculation method and exposure class for the MSI Group as at 31 December 2011:

Table 11: Derivative Contracts EAD by Calculation Method

As at 31/12/2011	IMM \$millions	MTM¹ \$millions	Total \$millions
Central Governments or Central Banks	8,300	97	8,397
Institutions	9,195	10,237	19,432
Corporates	18,620	10,901	29,521
Total	36,115	21,235	57,350

<sup>&</sup>lt;sup>1</sup> Mark-to-market method.

#### 11.7 Collateral Downgrades

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 2011:

- \$261 million (A3 Moody's/A- S&P)
- \$1,700 million (Baa1 Moody's/BBB+ S&P)

See pages 92 and 204 of the 2011 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 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 probability of default 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 summarised 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 MSI Group estimates VaR using a model based on historical simulation for major market risk factors and Monte Carlo simulation for name-specific risk in corporate shares, bonds, loans and related derivatives.

Historical simulation involves constructing a distribution of hypothetical daily changes in the value of trading portfolios based on two sets of inputs: historical observation of daily changes in key market indices or other market factors, and information on the sensitivity of the portfolio values to these market risk factor changes. The MSI Group's VaR model uses four years of historical data to characterise potential changes in market risk factors. The MSI Group's 99%/one-day VaR corresponds to the unrealised loss in portfolio value that, based on historically observed market risk factor movements, would have been exceeded with a frequency of 1%, or once every 100 trading days, if the portfolio were held constant for one day.

The 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).

Among 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 methodology's limitations, 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, extensive risk monitoring,

analysis, and control at the trading desk, division and 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.

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 103 to 110 of the 2011 Form 10-K.

#### 12.2 VaR for the Year Ended 31 December 2011

The MSI Group's VaR at 31 December 2011 incorporates substantially all financial instruments generating market risk that are managed by the MSI Group's trading businesses. This measure of VaR incorporates most of the MSI Group's trading-related market risks. However, a small proportion of trading positions generating market risk is not included in VaR, and the modeling of the risk characteristics of some positions relies upon approximations that, under certain circumstances, could produce different VaR results from those produced using more precise measures.

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 MSI Group views average trading VaR over the fiscal year as more representative of trends in the business than VaR at any single point in time.

The table below shows the maximum, minimum and average VaR values for the year ending 31 December 2011

and the Stressed VaR, Incremental Risk Charge and All Price Risk measures as at 31 December 2011 for the MSI Group:

Table 12: VaR, Stressed VaR, IRC and APR1

For the financial		Stressed		
year ended	VaR <sup>2</sup>	VaR <sup>2</sup>	IRC	APR
31 December 2011	\$millions	\$millions	\$millions	\$millions
Average	303			
Minimum	178			
Maximum	389			
Period End	181	217	394	11

<sup>1</sup>Stressed VaR, Incremental Risk Charge and All Price Risk Measure are for 31 Dec 2011 only, following the introduction of new requirements under CRDIII.

 $^2\mathrm{VaR}$  and Stressed VaR are at a 99% confidence interval, 10-day holding period.

#### 12.3 Market Risk Capital Component

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

The MSI Group's VaR model permission covers Category 1, 2 and 3 products for general and specific market risks. The VaR-based capital is determined by the higher of the average of the 60-day VaR number multiplied by the multiplication factor, and the VaR for the relevant day.

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 FSA'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 2011, 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 31/12/2011	\$millions
Interest Rate PRR <sup>3</sup>	1,015
Equity PRR	120
Commodity PRR	4
Foreign Currency PRR	577
Total	1,716

<sup>&</sup>lt;sup>3</sup> Of which: Specific Interest Rate Risk of Securitisation Positions \$616 million.

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.

#### 12.4 Stressed VaR

Stressed VaR uses the same underlying models as VaR to produce a one-day 99% VaR constructed over a one year period of continuous stress. The one year stressed window is chosen for each of the UK-Regulated legal entities which have VaR model approval. Stressed 10-day VaR is constructed by scaling the Stressed one day VaR. The MSI Group's Stressed VaR charge was \$1,569 million as at 31 December 2011.<sup>4</sup>

## 12.5 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 4.9 months. The MSI Group's charge relating to IRC was \$496 million as at 31 December 2011.<sup>4</sup>

#### 12.6 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 FSA. 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 six 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 \$12 million as at 31 December 2011.4

#### 12.7 Stress Testing

During 2011, the MSI Group continued to enhance its market and credit risk management framework to address the severe stresses observed in global markets during the economic downturn.

The Morgan Stanley Group expanded and improved its risk measurement processes, including stress tests and scenario analysis, and further refined its market and credit risk limit framework. "S-VaR," a proprietary methodology

<sup>&</sup>lt;sup>4</sup> Stressed VaR, IRC and APR charges became effective on 31 December 2011, following the introduction of new requirements under CRDIII, therefore, the numbers are only representative of one business day.

that comprehensively measures the Morgan Stanley Group's market and credit risks, was further refined and is now an important metric used in establishing the Morgan Stanley Group's risk appetite and its capital allocation framework. S-VaR simulates many stress scenarios based on more than 25 years of historical data and attempts to capture the different liquidities of various types of general and specific risks. Additionally, S-VaR captures event and default risks that are particularly relevant for credit portfolios.

# 12.8 Interest Rate Risk in the Non-Trading Book

Morgan Stanley Group activities are split into trading book and non-trading book, by legal entity, for the purpose of defining Pillar 1 capital adequacy requirements. The guidelines defining the non-trading book population are reviewed on an annual basis.

Interest rate risk refers to the risk that a change in interest rates will result in losses for a position or portfolio. The assessment of the impact of interest rate risk in the non-trading book is carried out at the MSI Group level.

Non-trading book transactions fall within three broad categories: corporate treasury-related activities, business unit-related activities and other.

Corporate treasury-related activities include funding transactions, such as external money market loans, inter-company short-term and long-term loans, and intercompany subordinated debt borrowings and investments, such as external money market deposits, deposits with clearing organisations and cash held at banks.

Business unit-related activities include investments, distressed loans/debt for which a two-way market does not exist, fees due from advising, and arranging and other non-trading exposures.

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, including corporate treasury and business-unit related activities for the MSI Group as at 31 December 2011:

Table 14: Interest Rate Risk in Non-Trading Book

As at 31/12/2011	Profit (loss) of a +1bp parallel shift in interest rates \$millions	Profit (loss) of a -1bp parallel shift in interest rates \$millions
USD	(0.59)	0.59
EUR	0.73	(0.73)
GBP	0.35	(0.35)
JPY	(0.57)	0.57
Other	0.02	(0.02)
Total	(0.06)	0.06

# 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 2011. The MSI Group did not originate or sponsor any new securitisations in 2011.

### 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 2011:

**Table 15: Securitisation Capital Requirement** 

As at 31/12/2011	Market Risk \$millions	Credit Risk \$millions
Capital Requirement	616	55

The table below shows securitisation positions broken down by Credit Quality Steps ("CQS") within the MSI Group as at 31 December 2011:

Table 16: Securitisation Exposures by Risk Weightings

As at 31/12/2011	Market Risk \$millions	Credit Risk \$millions
CQS 1-3	115	877
CQS 4-6	135	429
CQS 7-11	538	321
CQS unrated-1250%	564	11
Total	1,352	1,638

# 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

recognised through profit and loss in the MSI Group 2011 audited financial statements.

For further information on the MSI Group's valuation techniques related to securitisation, please refer to notes 1f and 32 in the MSI Group 2011 audited financial statements, and pages 136 to 139 of the 2011 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.