Morgan Stanley

# Pillar 3 *Disclosure (UK)*

*As at 31 December 2009*

## 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 of the new standards sets out the minimum capital requirements firms will be required to meet for credit, market and operational risk. Under Pillar 2, firms and supervisors are required to assess the appropriateness of the Pillar 1 level of capital that Morgan Stanley International Limited and its subsidiaries (the "MSI Group") require, taking into account risks not covered in Pillar 1, and must take action accordingly. The aim of Pillar 3 is to encourage market discipline by developing a set of disclosure requirements which will allow market participants to assess certain specified information in relation to capital adequacy, particular risk exposures and risk management processes.

## 2. BACKGROUND TO PILLAR 3 DISCLOSURES

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.

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 both by the Federal Reserve and 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 2009. 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 for risk exposure and are not necessarily the primary exposure measures used by internal management.

This document does not constitute a set of financial statements. The MSI Group financial statements are prepared in accordance with applicable United Kingdom ("UK") company law and accounting standards ("UK GAAP"). Information disclosed in the MSI Group 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 annual financial statements of the MSI Group, 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. Therefore separate disclosure for MSIP individually is not provided.

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. As part of the transaction to combine Morgan Stanley's Global Wealth Management Group ("GWM") and the businesses of Citigroup Inc.'s Smith Barney operations, the Group's European, Middle East and Africa ("EMEA") GWM introducing broker activities were reorganised and transferred to a consolidated joint venture, Morgan Stanley Smith Barney LLC ("MSSB"). Other than this, 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 2009 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 Capital Group Limited (Dormant)
- Morgan Stanley Investment Management Limited
- Morgan Stanley Investment Management (ACD) Limited

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. Eight entities are included in the prudential group but not included in the accounting consolidation group because, for regulatory purposes, we are required to include a proportion of an entity in which we have a participation. These entities are not consolidated for accounting purposes under UK GAAP and therefore are not included in the MSI Group financial statements.

As at 31 December 2009, 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 2009, the MSI Group was in full 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 financial statements, see note 23 for subordinated debt disclosures and note 27 for share capital disclosures.

The table below shows the financial resources that the MSI Group had as at 31 December 2009 based upon the audited financial statements:

| As at 31/12/2009 | $millions |
|---|---|
| Permanent share capital | 1,614 |
| Profit and loss account and other reserves | 10,795 |
| Less: Intangible assets | (64) |
| Less: Net losses on equities held in the available-for-sale financial asset category | (32) |
| **Tier 1 capital resources** | **12,313** |
| **Tier 2 capital resources** | **6,156** |
| Less: Expected losses and other negative amounts | (135) |
| **Tier 1 plus tier 2 capital after deductions** | **18,334** |
| **Tier 3 capital resources** | **4,435** |
| Less: Deductions from total capital | (45) |
| **TOTAL CAPITAL RESOURCES, NET OF DEDUCTIONS** | **22,724** |

Permanent share capital and subordinated loans included in financial resources are consistent with MSI Group 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 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 business needs and the external environment. The level of capital as at 31 December 2009 was higher than historical levels. 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. CAPITAL REQUIREMENTS

The MSI Group calculates Pillar 1 capital requirements in accordance with the regulatory capital requirements of the FSA. As at 31 December 2009, the MSI Group had the following capital requirements:

| As at 31/12/2009 | $millions |
|---|---|
| Credit risk capital component | 1,036 |
| Counterparty risk capital component | 2,969 |
| Market risk capital component | 4,286 |
| Concentration risk capital component | 1,554 |
| Operational risk—Basic Indicator Approach | 1,098 |
| **TOTAL CAPITAL REQUIREMENTS** | 10,943 |

Credit and counterparty risk capital components reflect capital charges attributable to the risk of loss arising from a borrower or counterparty failing to meet its financial obligations. Risk weighted exposures are 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. For a further discussion see Section 10 Credit Risk.

The market risk capital component reflects capital charges attributable to 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 FSA's approved models based approach and that associated with the standardised approach. For a further discussion see Section 11 Market Risk.

Operational risk capital charges are designed to account for the risk of losses due to inadequate or failed internal processes, people and systems, or external events and take into account legal risk. Capital requirements for operational risk are currently calculated under the Basic Indicator Approach.

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 employs an Economic Capital framework in order to meet its obligations under BIPRU 2.2 "Internal capital adequacy standards," whereby additional capital for stress losses is calculated and held.

The Economic Capital framework 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, by providing a "cross check" on UK regulatory capital and is based on regional management's own risk assessment. The MSI Group's UK economic capital framework has been reviewed by the FSA.

## 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 filings with the SEC. For further discussion of Morgan Stanley's risk management objectives, policies and procedures, see pages 89–111 of 31 December 2009 Form 10-K.

## 9. VALUATION AND ACCOUNTING POLICIES

The MSI Group's financial statements are prepared in accordance with applicable UK company law and accounting standards ("UK GAAP"). Further information regarding the accounting policies of the MSI Group including measurement considerations, can be found in note 1 of the financial statements.

## 10. CREDIT RISK

### 10.1 Credit Exposure

The Morgan Stanley Group manages credit risk exposure on a global basis, but 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 all 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 guidelines that limit 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 management personnel.

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.

## 10.2 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.

| As at 31/12/2009 | IRB approach $millions | Standardised approach $millions | Total CRCC $millions |
|---|---|---|---|
| Sovereigns | 195 | 145 | 340 |
| Institutions | 1,039 | 37 | 1,076 |
| Corporates | 2,377 | 142 | 2,519 |
| Other | 0 | 70 | 70 |
| **TOTAL** | 3,611 | 394 | 4,005 |

The FSA industry type is aligned with the classifications set out in BIPRU. The classification of Institutions has been widened to include all financial institutions not only credit institutions. This is a change in our classification methodology between current year and prior year Pillar 3 disclosures.

## 10.3 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 its own internal economic capital assessment and for internal risk management processes. Counterparty credit risk regulatory capital requirements at the Morgan Stanley Group level however are calculated using the Basel I methodology.

**Rating Process**

As a core part of its responsibility for the independent management of credit risk arising from transactions in the Institutional Securities businesses, the credit department evaluates the risk of counterparties and the structure of credit facilities, both at inception and periodically thereafter.

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.

Credit professionals rate counterparties based on analysis of all 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 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.

Guaranteed counterparties are assigned the rating of the guarantor, unless the guarantee limitations make this inadvisable in the view of the credit professional and FSA rules. All guarantors must be rated according to standard credit department policies.

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).

The credit department will not approve exposure to a counterparty if the analyst has inadequate information to set a rating. If counterparty information is adequate but incomplete, the credit professional will apply a conservative rating to reflect uncertainty arising from the missing information. The credit department will not approve transactions with undisclosed principals.

**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.

For credit risk capital and risk management purposes, the credit department maps PDs to Standard and Poor's ("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 percent. The use of external data in the Morgan Stanley Group's PD quantification approach is a conservative alternative to the use of internally sourced data given the statistical insignificance of internal losses.

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.

**IRB Exposure Table**

The table below shows a breakdown of the IRB related exposure amounts for the MSI Group as at 31 December 2009, for each credit quality step as defined in BIPRU 3:

| As at 31/12/2009 | PD Band | 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 |
|---|---|---|---|---|---|---|
| Sovereigns | | | | | | |
| | 1. 0.03%–0.08% | 17,056 | 5,287 | 0 | 0 | 0.26 |
| | 2. 0.06%–0.17% | 1,884 | 910 | 0 | 0 | 0.35 |
| | 3. 0.15%–0.400% | 1,863 | 1,392 | 0 | 0 | 0.43 |
| | 4. 0.53%–8.84% | 851 | 122 | 0 | 0 | 1.12 |
| | 5. 1.92%–25.59% | 0 | 0 | 0 | 0 | 0.00 |
| Institutions | | | | | | |
| | 1. 0.03%–0.08% | 85,893 | 16,010 | 0 | 0 | 0.13 |
| | 2. 0.06%–0.17% | 171,052 | 33,793 | 0 | 0 | 0.24 |
| | 3. 0.15%–0.400% | 22,415 | 4,454 | 0 | 0 | 0.35 |
| | 4. 0.53%–8.84% | 4,599 | 809 | 0 | 0 | 1.29 |
| | 5. 1.92%–25.59% | 1 | 1 | 0 | 0 | 1.00 |
| Corporates | | | | | | |
| | 1. 0.03%–0.08% | 31,527 | 6,268 | 0 | 150 | 0.23 |
| | 2. 0.06%–0.17% | 160,740 | 33,149 | 0 | 332 | 0.25 |
| | 3. 0.15%–0.400% | 33,186 | 6,630 | 15 | 0 | 0.58 |
| | 4. 0.53%–8.84% | 89,413 | 10,232 | 172 | 42 | 1.22 |
| | 5. 1.92%–25.59% | 9,259 | 1,618 | 103 | 40 | 2.31 |
| **TOTAL** | | 629,739 | 120,675 | 290 | 564 | |

The MSI Group applies conversion factors for undrawn commitments as stated in BIPRU 4.4.37 Gross credit exposure reported above is based upon the regulatory definition as agreed with the FSA on a product by product basis, prior to netting and collateral being applied, but after regulatory eliminations and exemptions are applied. Where appropriate, this also includes regulatory haircuts. These numbers are therefore different from those in the financial statements.

### 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 ($40 millions).

### Retail Exposures

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

## 10.4 Securitisation

MSI Group's securitised IRB risk weighted exposures calculated in accordance with BIPRU 9 represents 0.9% of total Exposure At Default ("EAD"). No further disclosure has been made as these positions are considered immaterial for the Group.

## 10.5 Standardised Approach

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

### Standardised Approach Exposure Table

| As at 31/12/2009 | Total Gross Exposure $millions | Exposure value after credit risk mitigation $millions |
|---|---|---|
| Sovereigns | 1,809 | 1,809 |
| Institutions | 562 | 562 |
| Corporates | 1,777 | 1,777 |
| Other | 870 | 870 |
| **TOTAL** | 5,018 | 5,018 |

## 10.6 Credit Exposure Breakdown Tables

Total gross credit exposures

| As at 31/12/2009 | 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 |
|---|---|---|---|---|
| Sovereigns | 23,463 | 8,439 | 0 | 9,520 |
| Institutions | 284,521 | 182,642 | 0 | 55,629 |
| Corporates | 325,903 | 275,819 | 2,487 | 59,674 |
| Other | 870 | 0 | 0 | 870 |
| **TOTAL CREDIT EXPOSURE** | 634,757 | 466,900 | 2,487 | 125,693 |

Gross credit exposure reported above is based upon the regulatory definition as agreed with the FSA on a product by product basis, prior to netting and collateral being applied, but after regulatory eliminations and exemptions are applied. Where appropriate, this also includes regulatory haircuts. These numbers are therefore different from those presented in MSI Group's financial statements.

"Exposure value covered by eligible financial collateral," represents the positive market value against which collateral has been received and for which the required legal netting agreements exist 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.

### Geographical breakdown of EAD

| As at 31/12/2009 | Americas $millions | EMEA $millions | Asia $millions | Total $millions |
|---|---|---|---|---|
| Sovereigns | 246 | 8,797 | 477 | 9,520 |
| Institutions | 19,844 | 29,302 | 6,483 | 55,629 |
| Corporates | 26,457 | 30,380 | 2,837 | 59,674 |
| Other | 0 | 870 | 0 | 870 |
| **TOTAL CREDIT EXPOSURE** | 46,547 | 69,349 | 9,797 | 125,693 |

As well as 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. As at 31 December 2009, 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 2009, the Morgan Stanley Group's material credit exposure was to corporate entities, sovereign-related entities and financial institutions. As at 31 December 2009, the MSI Group's material credit exposure by customer type was to corporate entities, financial institutions and sovereign entities.

## 10.7 Credit Risk Mitigation

The MSI Group applies a number of credit risk mitigation techniques, including netting, collateral and hedging of risk through use of credit derivatives.

### 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 there is doubt over the legal enforceability of an agreement, the benefit of netting is not applied. See IRB exposure table (10.3) and gross credit exposure table (10.6) for the impact of netting and collateral.

### Collateral

The amount and type of collateral required by 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 market value of securities received as collateral is monitored on a daily basis.

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.

Residual Maturity Breakdown by EAD

**Collateralised business (comprising: PWM, PB, stockloan/repo)**

| As at 31/12/2009<br>All numbers in $millions | less than 1 yr (incl. 1 yr) | over 1 yr to less than 5 yrs | 5 yrs and above | No Maturity | Total |
|---|---|---|---|---|---|
| Sovereigns | 781 | 0 | 0 | 0 | 781 |
| Institutions | 19,394 | 0 | 0 | 0 | 19,394 |
| Corporates | 11,786 | 0 | 0 | 0 | 11,786 |
| Other | 0 | 0 | 0 | 0 | 0 |
| **TOTAL CREDIT EXPOSURE** | 31,961 | 0 | 0 | 0 | 31,961 |

**Partially collateralised (comprising mainly OTC)**

| As at 31/12/2009<br>All numbers in $millions | less than 1 yr (incl. 1 yr) | over 1 yr to less than 5 yrs | 5 yrs and above | No Maturity | Total |
|---|---|---|---|---|---|
| Sovereigns | 23 | 232 | 203 | 0 | 458 |
| Institutions | 3,493 | 13,256 | 3,002 | 0 | 19,751 |
| Corporates | 2,468 | 7,389 | 3,364 | 0 | 13,221 |
| Other | 0 | 0 | 0 | 0 | 0 |
| **TOTAL CREDIT EXPOSURE** | 5,984 | 20,877 | 6,569 | 0 | 33,430 |

**Unsecured (Comprising mainly OTC and loans)**

| As at 31/12/2009<br>All numbers in $millions | less than 1 yr (incl. 1 yr) | over 1 yr to less than 5 yrs | 5 yrs and above | No Maturity | Total |
|---|---|---|---|---|---|
| Sovereigns | 2,391 | 1,188 | 4,697 | 5 | 8,281 |
| Institutions | 13,825 | 1,369 | 1,290 | 0 | 16,484 |
| Corporates | 8,999 | 21,079 | 4,459 | 130 | 34,667 |
| Other | 0 | 0 | 0 | 870 | 870 |
| **TOTAL CREDIT EXPOSURE** | 25,215 | 23,636 | 10,446 | 1,005 | 60,302 |
| **TOTAL** | 63,160 | 44,513 | 17,015 | 1,005 | 125,693 |

**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 2009 for the MSI Group. Management of MSI Group's own credit portfolio is centralised through a global risk management function.

The MSI Group makes limited use of third-party guarantees or credit derivative transactions to mitigate credit risk in the banking book.

| As at 31/12/2009 | Market Value $millions |
|---|---|
| Gross positive fair value of contracts | 167,958 |
| Netting benefits | 139,605 |
| Gross positive fair value after netting | 28,353 |
| Collateral held | 26,674 |
| Net derivatives credit exposure (after netting and collateral) | 13,601 |

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 utilization after regulatory eliminations and exemptions are applied.

The table below shows the EAD calculated on derivative contracts as at 31 December 2009.

| As at 31/12/2009 | EAD $millions |
|---|---|
| Sovereigns | 6,760 |
| Institutions | 25,519 |
| Corporates | 43,155 |
| **TOTAL** | 75,434 |

**Derivative contracts**

**Notional values of derivative contracts for the MSI Group**

| As at 31/12/2009 | Notional amounts $millions |
|---|---|
| Foreign exchange | 1,192,648 |
| Interest rate | 7,803,731 |
| Credit Derivatives | 821,479 |
| Equity and Stock Index | 1,295,505 |
| Commodities | 316,787 |
| **TOTAL** | 11,430,150 |

The notional values above are reported based on the regulatory reporting data and are before netting and regulatory exemptions and eliminations as defined in BIPRU 3 and 4.

Where a market in credit derivatives exists, the MSI Group may choose to purchase default protection in the form of a credit derivative from a third party. The counterparty exposure to the name referenced in the credit derivative is reduced. The counterparty risk to the third-party protection provider is monitored and managed by the credit department.

### 10.8 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. As at 31 December 2009, a downgrade would have resulted in additional collateral requirements for MSI Group.

- One notch downgrade—$334 million
- Two notch downgrade—$608 million

See page 82 of 31 December 2009 Form 10-K for details of Morgan Stanley Group collateral downgrade information.

### 10.9 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. 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.

## 11. MARKET RISK

The Morgan Stanley Group has a global VaR model and has regulatory permission to use it for the Morgan Stanley Group's consolidated market risk capital calculations.

### 11.1 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 VaR-based capital is determined on a 60-day average of 99% ten-day VaR. The table below shows the total market risk capital charge categorised by component type.

| | Market risk | | |
|---|---|---|---|
| | Market risk capital component calculated in accordance with the VaR methodology[(1)] | Market risk capital component calculated in accordance with the standardised approach | Total Capital Component |
| **Risk portfolio** | **$Millions** | **$Millions** | **$Millions** |
| Interest rate and credit spread | 1,577 | 1,307 | 2,884 |
| Equity price | 844 | 105 | 949 |
| Foreign exchange rate | 254 | 619 | 873 |
| Commodity price | 46 | 34 | 80 |
| Less: Diversification benefits[(2)] | (500) | | (500) |
| **TOTAL MARKET RISK CAPITAL COMPONENT** | 2,221 | 2,065 | 4,286 |

[(1)] Other related regulatory buffers are included.

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

## 11.2 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 certain equity and fixed income exposures. 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 ("market risk factors"); and information on the current sensitivity of the portfolio values to these market risk factor changes. The MSI Group's VaR model uses approximately four years of historical data to characterise potential changes in market risk factors. The MSI Group's 95%/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 5%, or five times in 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 price risk and interest rate risk, and linear exposures to implied volatility risks. Market risks that are incorporated in the VaR model include equity and commodity prices, interest rates, foreign exchange rates and associated implied volatilities. As a supplement to the use of historical simulation for major market risk factors, the MSI Group's VaR model uses Monte Carlo simulation to capture name-specific risk in equities and credit products (i.e. corporate bonds and credit derivatives).

The MSI Group's VaR models evolve over time in response to changes in the composition of trading portfolios and to improvements in modelling 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.

Among their benefits, VaR models permit estimation of a portfolio's aggregate market risk exposure, incorporating a range of varied market risks; reflect risk reduction due to portfolio diversification or hedging activities; and can cover a wide range of portfolio assets. 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 may 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. 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, entity and group levels.

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 91 to 99 of 31 December 2009 Form 10-K.

### 11.3 VaR for the Year Ended 31 December 2009

The table below presents the MSI Group's Trading, Non-trading and Aggregate VaR for each of the MSI Group's primary market risk exposures at 31 December 2009, incorporating 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 modelling 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. Also, the non-trading VaR excludes the MSI Group's own credit risk generated through counterparty trades and through primary issuance.

Since the VaR statistics reported below 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 five times 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 table below presents 95%/one day VaR for each of the MSI Group's primary market risk categories and on an aggregate basis.

**As at 31 December 2009**

| 95% Total VaR Primary Market Risk Category | Aggregate $millions | Trading $millions | Non-Trading $millions |
|---|---|---|---|
| Interest rate and credit spread | 58 | 48 | 19 |
| Equity price | 13 | 13 | 2 |
| Foreign exchange rate | 8 | 8 | 2 |
| Commodity price | 3 | 3 | 0 |
| Subtotal | 82 | 72 | 23 |
| Less: diversification benefits[1] | (17) | (17) | (4) |
| **TOTAL VaR** | 65 | 55 | 19 |

[1] Diversification benefit equals the difference between Total VaR and the sum of the VaRs for the four risk categories. This benefit arises because the simulated one-day losses for each of the four primary market risk categories occur on different days; similar diversification benefits also are taken into account within each category.

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, which presents the high, low and average 95%/one-day trading VaR during the year to 31 December 2009, represents substantially all of the MSI Group's trading activities. Certain market risks included in the aggregate VaR discussed above are excluded from these measures.

**As at 31/12/2009**
**95% One day high/low/average trading VaR**

| Primary market risk category | High $millions | Low $millions | Average $millions |
|---|---|---|---|
| Interest rate and credit spread | 72 | 39 | 51 |
| Equity price | 22 | 11 | 14 |
| Foreign exchange rate | 19 | 4 | 9 |
| Commodity price | 4 | 1 | 2 |
| Trading VaR | 87 | 36 | 53 |

### 11.4 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 parallel shift in interest rates on the value of interest rate positions in the non-trading book including those captured in VaR and those that form part of Corporate treasury activities.

| As at 31 December 2009 Interest rate risk in non-trading book | Profit or loss of a +1bp parallel shift in interest rates $'000 | Profit or loss of a -1bp parallel shift in interest rates $'000 |
|---|---|---|
| USD | (152) | 152 |
| EUR | (298) | 298 |
| GBP | 195 | (195) |
| JPY | (132) | 132 |
| Other | (341) | 341 |
| **TOTAL** | (728) | 728 |

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