Goldman Sachs Group UK Limited

Pillar 3 Disclosures

For the period ended November 30, 2018

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Introduction

Overview

The Goldman Sachs Group, Inc. (Group Inc. or parent company), a Delaware corporation, together with its consolidated subsidiaries (collectively, the firm), is a leading global investment banking, securities and investment management firm that provides a wide range of financial services to a substantial and diversified client base that includes corporations, financial institutions, governments and individuals. Goldman Sachs Group UK Limited (GSGUKL) is a wholly owned subsidiary of Group Inc.. When we use the terms "Goldman Sachs" and "the firm", we mean Group Inc. and its consolidated subsidiaries and when we use the terms "GSGUK", "we", "us" and "our", we mean GSGUKL and its consolidated subsidiaries.

The Board of Governors of the Federal Reserve System (FRB) is the primary regulator of Group Inc., a bank holding company (BHC) under the Bank Holding Company Act of 1956 and a financial holding company under amendments to this Act. As a BHC, the firm is subject to consolidated regulatory capital requirements which are calculated in accordance with the regulations of the FRB (Capital Framework).

GSGUK is supervised on a consolidated basis by the Prudential Regulation Authority (PRA) and as such is subject to minimum capital adequacy standards. Certain subsidiaries of GSGUK are regulated by the Financial Conduct Authority (FCA) and the PRA and are subject to minimum capital adequacy standards also on a standalone basis.

The capital requirements are expressed as risk-based capital and leverage ratios that compare measures of regulatory capital to risk-weighted assets (RWAs), average assets and off-balance-sheet exposures. Failure to comply with these capital requirements could result in restrictions being imposed by our regulators and could limit our ability to distribute capital, including share repurchases and dividend payments, and to make certain discretionary compensation payments. GSGUK's capital levels are also subject to qualitative judgements by our regulators about components of capital, risk weightings and other factors.

For information on Group Inc.'s financial statements and regulatory capital ratios, please refer to the firm's most recent Quarterly Pillar 3 Disclosures and Annual Report on Form 10-K. References to the "2018 Form 10-K" are to the firm's Annual Report on Form 10-K for the year ended December 31, 2018.

https://www.goldmansachs.com/investor-relations/financials/current/other-information/4q-2018-pillar-3.pdf

https://www.goldmansachs.com/investor-relations/financials/current/10k/2018-10-k.pdf

The GSGUK consolidated regulatory capital requirement has been calculated in accordance with the E.U. Capital Requirements Directive (CRD) and the E.U. Capital Requirements Regulation (CRR), collectively known as CRD IV, which came into effect on January 1, 2014. These regulations are largely based on the Basel Committee's final capital framework for strengthening international capital standards (Basel III), which is structured around three pillars: Pillar 1 "minimum capital requirements", Pillar 2 "supervisory review process" and Pillar 3 "market discipline". Certain provisions of CRD IV are directly applicable in the UK and certain provisions have been implemented in the PRA and FCA Rulebooks.

During 2018, GSGUK changed its accounting reference date from December 31 to November 30 to conform to the period used by it for U.S. tax reporting purposes. As such, its financial statements have been prepared for the eleven months ended November 30, 2018. All references to November 2018 refer to the eleven months period ended, or the date, as the context requires, November 30, 2018.

The Pillar 3 disclosures have been published in conjunction with consolidated financial information for GSGUK for November 2018, and have been prepared in accordance with CRD IV. The qualitative and quantitative disclosures have been prepared in accordance with the European Banking Authority (EBA) Guidelines on disclosure requirements under Part 8 of the CRR, and other relevant policy statements and guidance as supplemented by the PRA and FCA Rulebooks.

The annual consolidated financial information for GSGUK can be accessed via the following link:

http://www.goldmansachs.com/disclosures/index.html

Measures of exposures and other metrics disclosed in this report may not be based on U.K. Generally Accepted Accounting Practices (U.K. GAAP), may not be directly comparable to measures reported in financial statements, and may not be comparable to similar measures used by other companies. These disclosures are not required to be, and have not been, audited by our independent auditors.

Basis of Consolidation

GSGUKL is the holding company for a group that provides a wide range of financial services to clients located worldwide. The company's functional currency is US dollars and these disclosures are prepared in that currency.

The following UK-regulated subsidiaries are included in the regulatory consolidation:

- Goldman Sachs International (GSI)
- Goldman Sachs International Bank (GSIB)
- Goldman Sachs Asset Management International (GSAMI)
- Goldman Sachs Asset Management Global Services Limited (GSAMGSL)
- Goldman Sachs MB Services Limited (GSMBSL)

The scope of consolidation for regulatory capital purposes is consistent with the U.K. GAAP consolidation.

CRD IV requires significant subsidiaries to make certain capital disclosures on an individual or subconsolidated basis. The significant subsidiaries of GSGUK are GSI and GSIB. GSI is the firm's broker dealer in the Europe, Middle East and Africa (EMEA) region and its risk profile is materially the same as GSGUK. GSIB is GSGUK's deposit-taking subsidiary. Risk management policies and procedures are applied consistently to GSI, GSIB and to GSGUK as a whole. The remaining entities have minimal balance sheet activity and have not been determined material subsidiaries for the purposes of these disclosures.

Restrictions on the Transfer of Funds or Regulatory Capital within the Firm

Group Inc. is a holding company and, therefore, utilises dividends, distributions and other payments from its subsidiaries to fund dividend payments and other payments on its obligations, including debt obligations. Regulatory capital requirements, as well as other provisions of applicable law and regulations restrict Group Inc.'s ability to withdraw capital from its regulated subsidiaries. Within GSGUK, capital is provided by GSGUKL to subsidiary entities. Capital is considered transferable to other entities within the GSGUK Group without any significant restriction except to the extent it is required for regulatory purposes.

For information about restrictions on the transfer of funds within Group Inc. and its subsidiaries, see "Note 20. Regulation and Capital Adequacy" in Part II, Item 8 "Financial Statements and Supplementary Data" and "Risk Management - Liquidity Risk Management" and "Equity Capital Management and Regulatory Capital" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 Form 10-K.

Definition of Risk-Weighted Assets

The risk weights that are used in the calculation of RWAs reflect an assessment of the riskiness of our assets and exposures. These risk weights are based on either predetermined levels set by regulators or on internal models which are subject to various qualitative and quantitative parameters that are subject to approval by our regulators. The relationship between available capital and capital requirements can be expressed in the form of a ratio, and capital requirements are arrived at by dividing RWAs by 12.5. In this document, minimum capital ratios set out in Table 1 are expressed including the impact of additional buffers.

Fair Value

The inventory included in our consolidated statements of financial condition as "financial instruments owned" and "financial instruments sold, but not yet purchased" as well as certain other financial assets and financial liabilities, are accounted for at fair value (i.e., marked-to-market), with related gains or losses generally recognised in our consolidated statement of earnings and, therefore, in capital. The fair value of a financial instrument is the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The use of fair value to measure financial instruments is fundamental to risk management practices and is our most critical accounting policy. The daily discipline of marking substantially all of our inventory to current market levels is an effective tool for assessing and managing risk and provides transparent and realistic insight into our financial exposures. The use of fair value is an important aspect to consider when evaluating our capital base and our capital ratios as changes in the fair value of our positions are reflected in the current period's shareholders' equity, and accordingly, regulatory capital; it is also a factor used to determine the classification of positions into the banking book and trading book.

For additional information regarding the determination of fair value under accounting principles generally accepted in the United States (U.S. GAAP) and controls over valuation of inventory, see "Note 3. Significant Accounting Policies" in Part II, Item 8 "Financial Statements and Supplementary Data" and "Critical Accounting Policies – Fair Value" in

Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the firm’s 2018 Form 10-K.

For additional information regarding the determination of fair value under U.K. GAAP and controls over valuation of inventory, please refer to “Note 1. Summary of Significant Accounting Policies” in GSGUK’s consolidated financial information.

The firm has documented policies and maintains systems and controls for the calculation of Prudent Valuation Adjustment (“PVA”) as required by the Commission Delegated Regulation (EU) No. 2016/101. PVA represents the excess of valuation adjustments required to achieve prudent value, over any adjustment applied in the firm’s fair value that addresses the same source of valuation uncertainty. For a valuation input where the range of plausible values is created from mid prices, Prudent Value represents the point within the range where the firm is 90% confident that the mid value which could be achieved in exiting the valuation exposure would be at that price or better. The Firm’s methodology addresses fair value uncertainties arising from a number of sources; market price uncertainty, close-out costs, model risk, unearned credit spreads, investing and funding cost, concentrated positions, future administrative costs, early termination, operational risk. Methodologies utilised by our independent control functions to calculate PVA are aligned with, and use the same external data sources as, those used when carrying out price verification of fair value.

Banking Book / Trading Book Classification

The firm has a comprehensive framework of policies, controls and reporting to meet the requirements of the CRR for inclusion of positions in the banking book and trading book. In order to determine the appropriate regulatory capital treatment for our exposures, positions must first be classified into either “banking book” or “trading book”. Positions are classified as banking book unless they qualify to be classified as trading book.

Trading book positions generally meet the following criteria: they are assets or liabilities that are accounted for at fair value; they are risk managed using a Value-at-Risk (VaR) internal model; they are held as part of our market-making and underwriting businesses and are intended to be resold in the short term, or positions intended to benefit from actual or expected short-term price differences between buying and selling prices or from other price or interest rate variations[1]. Trading book positions are subject to market risk regulatory capital requirements, as are foreign exchange and commodity positions, whether or not they meet the other criteria for classification as trading book positions. Market risk is the risk of loss in value of these positions due to changes in market conditions. Some trading book positions, such as derivatives, are also subject to counterparty credit risk regulatory capital requirements.

Banking book positions may be accounted for at amortised cost, fair value or in accordance with the equity method. Banking book positions are subject to credit risk regulatory capital requirements. Credit risk represents the potential for loss due to the default or deterioration in credit quality of a counterparty (e.g., an Over-The-Counter (OTC) derivatives counterparty or a borrower) or an issuer of securities or other instruments we hold.

Regulatory Developments

The company’s businesses are subject to significant and evolving regulation. Reforms have been adopted or are being considered by regulators and policy-makers worldwide. The expectation is that the principal areas of impact from regulatory reform for the company will be increased regulatory capital requirements and increased regulation and restriction on certain activities. However, given that many of the new and proposed rules are highly complex, the full impact of regulatory reform will not be known until the rules are implemented and market practices develop under the final E.U. and/or U.K. regulations.

Risk-Based Capital Ratios. In January 2019, the Basel Committee finalised revisions to the framework for calculating capital requirements for market risk (known as the “Fundamental Review of the Trading Book” or “FRTB”), which is expected to increase market risk capital requirements for most banking organisations, although to a lesser degree than the version of the framework issued in January 2016. The revised framework, among other things, revises the standardised approach and internal models to calculate market risk requirements and clarifies the scope of positions subject to market risk capital requirements. The Basel Committee has proposed that national regulators implement the revised framework beginning January 1, 2022. The European Commission in June 2019 finalised rules amending CRR as the first step in implementing the revisions to the market risk framework with additional legislation required to bring the rules in line with the 2019 version of the revised framework and to set the start dates for E.U. financial institutions.

[1] As defined in point (85) of Article 4(1) in CRD IV.

In December 2017, the Basel Committee published standards that it described as the finalisation of the Basel III post-crisis regulatory reforms. These standards set a floor on internally developed capital requirements at a percentage of the capital requirements under the standardised approach. It also revised the standardised and model-based approaches for credit risk, provided a new standardised approach for operational risk capital and revised the framework for credit valuation adjustment risk. The Basel Committee requires national regulators implement the standards beginning January 1, 2022, and that the floor be phased in through January 1, 2027.

The Basel Committee's standards are not effective in any jurisdiction until rules implementing such standards have been implemented by the relevant regulators in such jurisdiction.

The impact of the latest Basel Committee developments on the company (including its RWAs and regulatory capital ratios) is subject to uncertainty until corresponding legislation is implemented.

Bank Capital Requirements for Securitisations. The new European Securitisation rules are comprised of updates to CRR and a new Securitisation Regulation. The updates to CRR implement the Basel Committee's securitisation framework which is intended to simplify the hierarchy of approaches and introduces Simple, Transparent and Standardised (STS) securitisations. The securitisation regulation standardises rules across banking, insurance and asset management sectors. Securitisations issued on or after 1 January 2019 are subject to the new rules. All outstanding securitisations held on 1 January 2019 may be grandfathered for 1 year until 31 December 2019, during which time CRD IV rules will apply.

Minimum Requirements for Own Funds and Eligible Liabilities. In June 2018, the Bank of England published a statement of policy on internal minimum requirement for own funds and eligible liabilities (MREL), which requires a material U.K. subsidiary of an overseas banking group, such as the company, to meet a minimum internal MREL requirement to facilitate the transfer of losses to its resolution entity, which for the company is Group Inc. The transitional minimum internal MREL requirement began to phase in from January 1, 2019, and will become fully effective on January 1, 2022.

Risk Management

Overview

The firm believes that effective risk management is critical to the overall success of the firm and of GSGUK. Accordingly, the firm has established an Enterprise Risk Management (ERM) framework that employs a comprehensive, integrated approach to risk management, and is designed to enable comprehensive risk management processes through which the firm identifies, assesses, monitors and manages the risks associated with its business activities. These risks include liquidity, market, credit, operational, model, legal, compliance, conduct, regulatory and reputational risk exposures. The following section covers the risk management structure which is built around three core components: governance, processes and people.

Governance

Risk management governance starts with the Board of Directors of the firm (Board), which both directly and through its committees, including its Risk Committee, oversees the risk management policies and practices implemented through the ERM framework. The Board is also responsible for the annual review and approval of the firm's risk appetite statement. The risk appetite statement describes the levels and types of risk the firm is willing to accept or to avoid, in order to achieve strategic business objectives, while remaining in compliance with regulatory requirements.

The ERM department, which reports to the chief risk officer, oversees the implementation of the firm's risk governance structure and core risk management processes and is responsible for ensuring that the ERM framework provides the Board, the risk committees and senior management with a consistent and integrated approach to managing the various risks in a manner consistent with the firm's risk appetite.

The firm's revenue-producing units, as well as Treasury, Operations and Technology, are the first line of defence and are accountable for the outcomes of the risk-generating activities, as well as for assessing and managing those risks within the firm's risk appetite.

The independent risk oversight and control functions are considered the second line of defence and provide independent assessment, oversight and challenge of the risks taken by the first line of defence, as well as lead and participate in risk-oriented committees. Independent risk oversight and control functions include Compliance, Conflicts Resolution, Controllers, Credit Risk Management, Enterprise Risk Management, Human Capital Management, Legal, Liquidity Risk Management, Market Risk Management, Model Risk Management, Operational Risk Management and Tax.

Internal Audit is considered the third line of defence and reports to the chief executive officer and the Audit Committee of the Board. Internal Audit includes professionals with a broad range of audit and industry experience, including risk management expertise. Internal Audit is responsible for independently assessing and validating the effectiveness of key controls, including those within the risk management framework, and providing timely reporting to the Audit Committee of the Board, senior management and regulators.

The three lines of defence structure promotes the accountability of first line risk takers, provides a framework for effective challenge by the second line and empowers independent review from the third line.

The firm maintains strong communication about risk and it has a culture of collaboration in decision-making among the first and second lines of defence, committees and senior management. While the first line of defence is responsible for management of their risk, the firm dedicates extensive resources to the second line of defence in order to ensure a strong oversight structure and an appropriate segregation of duties. The firm regularly reinforces its strong culture of escalation and accountability across all functions.

Processes

The firm maintains various processes that are critical components of its risk management framework, including identifying, assessing, monitoring and limiting its risks.

To effectively assess and monitor risks, the firm maintains a daily discipline of marking substantially all of its inventory to current market levels. The firm does so because of its belief that this discipline is one of the most effective tools for assessing and managing risk and that it provides transparent and realistic insight into our inventory exposures. The firm also applies a rigorous framework of limits and thresholds to control and monitor risk across transactions, products, businesses and markets. See "Credit Risk Management", "Market Risk Management" and "Liquidity Risk Management" for further information.

People

Even the best technology serves only as a tool for helping to make informed decisions in real time about the risks the firm is taking. Ultimately, effective risk management requires people to interpret risk data on an ongoing and timely basis and adjust risk positions accordingly. The experience of the company's professionals, and their understanding of the nuances and limitations of each risk measure, guides the company in assessing exposures and maintaining them within prudent levels.

The firm reinforces a culture of effective risk management, consistent with its risk appetite, in its training and development programmes, as well as in the way it evaluates performance, and recognises and rewards people. The firm's training and development programmes, including certain sessions led by the most senior leaders, are focused on the importance of risk management, client relationships and reputational excellence. As part of the firm's annual performance review process, the firm assesses reputational excellence, including how an employee exercises good risk management and reputational judgement, and adheres to the firm's code of conduct and compliance policies. The firm's review and reward processes are designed to communicate and reinforce to its professionals the link between behaviour and how people are recognised, the need to focus on clients and reputation, and the need to always act in accordance with the highest standards of the firm.

Structure

Oversight of risk in the firm is ultimately the responsibility of the Boards of Directors, who oversee risk both directly and through delegation to various committees. A series of committees within the significant subsidiaries with specific risk management mandates covering important aspects of each entity's businesses also have oversight or decision-making responsibilities. The key committees with oversight of our activities are described below.

European Management Committee. The European Management Committee (EMC) oversees all of our activities in the region. It is chaired by the chief executive officer of GSI and its membership includes senior managers from the revenue-producing divisions and independent control and support functions. The EMC reports to GSI's Board of Directors.

GSI and GSIB Board Audit Committees. The GSI and GSIB Board Audit Committees assist the Boards of Directors in the review of processes for ensuring the suitability and effectiveness of the systems and controls in the region. The committees also have responsibility for overseeing the external audit arrangements and review of internal audit activities. Their membership includes non-executive directors of GSI and GSIB. The Board Audit Committees report to the GSI and GSIB Boards.

GSI and GSIB Board Risk Committees. The GSI and GSIB Board Risk Committees are responsible for providing advice to the Boards on the overall current and future risk appetite and assisting the Boards in overseeing the implementation of that risk appetite and strategy by senior management. This includes reviewing and advising on each company's risk strategy and oversight of the capital, liquidity and funding position. Their membership includes non-executive directors of GSI and GSIB. The Board Risk Committees report to the GSI and GSIB Boards.

GSI and GSIB Risk Committees. The GSI and GSIB Risk Committees are management committees, which are responsible for the ongoing monitoring and control of all financial and non-financial risks associated with each entity's activities. This includes reviewing key financial and risk metrics, including but not limited to profit and loss, capital (including the Internal Capital Adequacy Assessment Process (ICAAP)), funding, liquidity, credit risk, market risk, operational risk, price verification and stress tests. The GSI and GSIB Risk Committees approve market risk, credit risk, liquidity and regulatory capital limits. Their membership includes senior managers from the revenue-producing divisions and independent control and support functions. The Risk Committees report to the GSI and GSIB Boards.

EMEA Culture and Conduct Risk Committee. The EMEA Culture and Conduct Risk Committee has oversight responsibility for culture and conduct risk, business standards and practices. Its membership includes senior managers from the revenue-producing divisions and independent control and support functions. The EMEA Culture and Conduct Risk Committee reports to the EMC, to GS Group's Firmwide Client and Business Standards Committee, and to the GSI and GSIB Boards and their committees as appropriate.

Risk Profile and Strategy

In the normal course of activities in serving clients, we commit capital, engage in derivative transactions, and otherwise incur risk as an inherent part of our business. However, we endeavour not to undertake risk in form or amount that could potentially and materially impair our capital and liquidity position or the ability to generate revenues, even in a stressed environment. Where possible we employ mitigants and hedges, such as collateral, netting derivatives and other controls, in order to manage such risks within our risk appetite levels.

GSGUKL's principal subsidiaries, GSI and GSIB, have their own Boards of Directors and their own Board Risk Committees, with the responsibility of assisting each Board in overseeing the implementation of the companies' risk appetite and strategy. Board Risk Committees held five scheduled meetings in 2018.

The companies' overall risk appetite is established through an assessment of opportunities relative to potential loss, and is calibrated to GSI and GSIB's respective capital, liquidity and earnings capability. The primary means of evaluating loss-taking capacity is through the ICAAP. The key aspects of risk management documented through the ICAAP process also form part of GSGUK's day-to-day decision making culture.

The Risk Appetite Statement (RAS) of GSI and GSIB complements the firm's RAS, and articulates the risk philosophy, the identification of risks generated by its business activities, as well as the tolerance and limits set in order to manage effectively those risks. Consistent with this objective, we pay particular attention to evaluating risks that are concentrated, correlated, illiquid, or have other adverse characteristics. The intention is to mitigate or eliminate these risks, limiting them to such an extent that they could not, individually or collectively, materially and adversely affect the companies. GSI and GSIB, regularly review risk exposure and risk appetite, and take into consideration the key external constituencies, in particular their clients, shareholders, creditors, rating agencies, and regulators. The long-term success of our business model is directly linked to the preservation of strong relationships with each of these key constituents.

The Boards of Directors of both GSI and GSIB, as well as their respective Board Risk Committees, are actively engaged in reviewing and approving our overall risk appetite, as well as in reviewing the risk profile. Risk appetite statements are reviewed in the first instance by the respective Board Risk Committees and finally, are endorsed by the Boards annually. The Board Risk Committees also approve any amendment to the risk appetite statements outside of the annual approval process. The Boards of Directors receive quarterly updates on risk as well as ad-hoc updates, as appropriate.

The consideration of risk appetite and the underlying risk management framework ensures that GSGUK's businesses are congruent with our strategy under both normal and stressed environments. We believe that the risk management framework and the associated risk policies, procedures and systems in place are comprehensive and effective with regard to our profile and strategy. The framework is evaluated on an ongoing basis and subject to independent internal audit assessments to ensure our risk management arrangements remain effective.

Risk Measurement

On a day-to-day basis risk measurement plays an important role in articulating the risk appetite of the firm and GSGUK and in managing the risk profile as expressed in the risk appetite statements. Risk may be monitored against firmwide, product, divisional or business level thresholds or against a combination of such attributes. We measure risk using a suite of metrics, as relevant to each type of risk, including stress metrics to calculate the potential loss from a wide range of scenarios and sensitivity analysis. These risks are tracked systematically and they are monitored and reported to the relevant senior management Committees and Board on a regular basis.

A number of specialist committees and governance bodies sit within the broader risk management framework with responsibilities for the monitoring of specific risks against limits or tolerances and the escalation of any breaches. Specific governance bodies are in place for the management of credit, market, liquidity, model and operational risk.

The firm's risk management framework, which relies on oversight from the Board of Directors, operates independently of revenue producing divisions and other non-revenue producing units such as compliance, finance, legal, internal audit and operations.

For an overview of the firm's risk management framework, including Board governance, processes and committee structure, see "Risk Management – Overview and Structure of Risk Management" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 Form 10-K.

Adequacy of Risk Management Arrangements

The Firm is satisfied that the risk management arrangements and systems, as described above, are appropriate given the strategy and risk profile of GSGUK. These elements are reviewed at least annually and, where appropriate, updated to reflect best practice, evolving market conditions and changing regulatory requirements.

Capital Framework

Capital Structure

For CRD IV regulatory capital purposes, a company's total available capital has the following components:

- Common Equity Tier 1 capital (CET1), which is comprised of common shareholders' equity, after giving effect to deductions for disallowed items and other adjustments;
- Tier 1 capital which is comprised of CET1 capital and other qualifying capital instruments; and
- Tier 2 capital which is comprised of long term qualifying subordinated debt and preference shares.

Certain components of our regulatory capital are subject to regulatory limits and restrictions under CRD IV. In general, to qualify as Tier 1 or Tier 2 capital, an instrument must be fully paid and unsecured. A qualifying Tier 1 or Tier 2 capital instrument must also be subordinated to all senior indebtedness of the organisation.

Under CRD IV, the minimum CET1, Tier 1 capital and Total capital ratios (collectively the Pillar 1 capital requirements) are supplemented by:

- A capital conservation buffer, consisting entirely of capital that qualifies as CET1, that phases in beginning on January 1, 2016, in increments of 0.625% per year until it reaches 2.5% of RWAs on January 1, 2019.
- A countercyclical capital buffer of up to 2.5% (consisting entirely of CET1) in order to counteract excessive credit growth. The buffer only applies to GSGUK's exposures to certain types of counterparties and exposures based in jurisdictions which have announced and implemented a countercyclical buffer. As of November 2018, these are the following jurisdictions: Norway, Sweden, Hong Kong, Czech Republic, Iceland, Slovakia, and United Kingdom. The buffer currently increases the minimum CET1 ratio by 0.28%.
- Individual capital requirement under Pillar 2A (an additional amount to cover risks not adequately captured in Pillar 1). The PRA performs a periodic supervisory review of GSI's and GSIB's Internal Capital Adequacy Assessment Process (ICAAP), which leads to a final determination by the PRA of individual capital requirement under Pillar 2A. This is a point in time assessment of the minimum amount of capital the PRA considers that a firm should hold.

Minimum Regulatory Capital Ratios

The risk-based capital requirements are expressed as capital ratios that compare measures of regulatory capital to RWAs. The CET1 ratio is calculated as CET1 divided by RWAs. The Tier 1 capital ratio is defined as Tier 1 capital divided by RWAs. The total capital ratio is defined as total capital divided by RWAs.

The following table presents GSGUK's minimum required ratios as of November 2018.

Table 1: Minimum Regulatory Capital Ratios

	November 2018 Minimum ratio[1, 2]		
	GSGUK	**GSI**	**GSIB**
CET1 ratio	**8.1%**	**8.1%**	**8.2%**
Tier 1 capital ratio	**10.1%**	**10.1%**	**10.2%**
Total capital ratio	**12.7%**	**12.7%**	**12.9%**

1. Includes the phase-in of the capital conservation buffer, and countercyclical capital buffer described above.
2. These minimum ratios also incorporate the Pillar 2A capital requirement received from the PRA (2.35% for GSGUK and GSI, and 2.85% for GSIB for Total Capital at November 30, 2018) and could change in the future.

In addition to the Pillar 2A capital requirement, the PRA also defines forward looking capital requirement which represents the PRA's view of the capital that GSGUK would require to absorb losses in stressed market conditions. This is known as Pillar 2B or the "PRA buffer" and is not reflected in the minimum ratios shown in Table 1 above. As the capital conservation buffer phases in, as described above, it will fully or partially replace the PRA buffer.

Compliance with Capital Requirements

As of November 30, 2018, all of GSGUK's regulated subsidiaries had capital levels in excess of their minimum regulatory capital requirements.

Regulatory Capital

Overview

The following table presents a breakdown of GSGUK's capital ratios under CRD IV as of November 30, 2018, including those for our significant subsidiaries GSI and GSIB.

Table 2: Regulatory Capital Ratios

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
CET1 Capital	$ 28,836	$ 23,899	$ 3,039
Tier 1 Capital	37,136	32,199	3,039
Tier 2 Capital	6,503	5,377	826
Total Capital	**$ 43,639**	**$ 37,576**	**$ 3,865**
RWAs	**$ 221,378**	**$ 206,007**	**$ 9,496**
CET1 Ratio	**13.0%**	**11.6%**	**32.0%**
Tier 1 Capital Ratio	**16.8%**	**15.6%**	**32.0%**
Total Capital Ratio	**19.7%**	**18.2%**	**40.7%**

Transitional Impact of IFRS 9

IFRS9 addresses the classification, measurement and recognition of financial assets and financial liabilities. It replaces the guidance in IAS 39 – Financial Instruments: Recognition and Measurement that relates to the classification and measurement of financial instruments. Based on materiality no further disclosures for the transitional impact of IFRS9 are made in this document.

Capital Structure

Certain CRD IV rules are subject to final technical standards and clarifications, which will be issued by the EBA and adopted by the European Commission. All capital, RWAs and estimated ratios are based on current interpretation, expectations and understanding of CRD IV and may evolve as its interpretation and application is discussed with our regulators.

Assets that are deducted from capital in computing the numerator of the capital ratios are excluded from the computation of RWAs in the denominator of the ratios. The following tables contain information on the components of our regulatory capital structure. The capital resources of GSGUK are based on audited, consolidated non-statutory financial information and those of GSI and GSIB are based on audited statutory financial statements.

Table 3: Regulatory Capital Resources

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
Ordinary Share Capital	$ 2,135	$ 582	$ 63
Share Premium Account Including Reserves	695	4,864	2,094
Retained Earnings	27,851	20,171	958
CET1 Capital Before Deductions	**$ 30,681**	**$ 25,617**	**$ 3,115**
Net Pension Assets	(406)	(406)	-
CVA and DVA	(156)	(157)	1
Prudent Valuation Adjustments	(334)	(285)	(2)
Expected Loss Deduction and Loan Loss Provision	(598)	(568)	(30)
Other Adjustments[1]	(57)	(12)	(45)
Intangibles	(294)	(290)	-
CET1 Capital After Deductions	**$ 28,836**	**$ 23,899**	**$ 3,039**
Additional Tier 1 capital	**8,300**	**8,300**	**-**
Tier 1 Capital After Deductions	**$ 37,136**	**$ 32,199**	**$ 3,039**
Tier 2 Capital Before Deductions[2s]	6,503	5,377	826
Other Adjustments	-	-	-
Tier 2 Capital After Deductions	**$ 6,503**	**$ 5,377**	**$ 826**
Total Capital Resources	**$ 43,639**	**$ 37,576**	**$ 3,865**

1. Other Adjustments within CET1 capital of GSI primarily represents regulatory adjustments for foreseeable charges. Other Adjustments within CET1 capital of GSIB primarily represent a deduction for deferred tax assets.
2. Tier 2 Capital represents subordinated debt with an original term to maturity of five years or greater, and preference shares.

A further breakdown of the deductions from regulatory capital can be found in Table 27. We set out below a reconciliation between the capital resources of each entity and their respective balance sheets.

Table 4: Reconciliation to Balance Sheet

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
Total Shareholders' Funds per Balance Sheet	$ 30,681	$ 25,617	$ 3,115
Regulatory deductions	(1,845)	(1,718)	(76)
Additional Tier 1 Capital	8,300	8,300	-
Tier 2 Capital After Deductions	6,503	5,377	826
Total Capital Resources	**$ 43,639**	**$ 37,576**	**$ 3,865**

Risk-Weighted Assets

RWAs are calculated based on measures of credit risk, market risk and operational risk. The tables below represent a summary of the RWAs and capital requirements for GSGUK, GSI and GSIB by type as at November 30, 2018 and September 30, 2018.

Table 5: Overview of RWAs

GSGUK

$ in millions

		RWAs		
		November 2018	September 2018	Minimum capital requirements
1	Credit risk (excluding CCR)	**$ 25,278**	**$ 29,082**	**$ 2,022**
2	Of which the standardised approach	5,674	6,430	454
4	Of which the advanced IRB (AIRB) approach	18,138	21,053	1,451
5	Of which equity IRB under the simple risk-weighted approach or the IMA	1,466	1,599	117
6	CCR	**$ 93,496**	**$ 86,758**	**$ 7,480**
7	Of which mark to market	7,417	7,507	593
9	Of which the standardised approach	50	30	4
10	Of which internal model method (IMM)	63,867	57,992	5,109
11	Of which risk exposure amount for contributions to the default fund of a CCP	799	752	65
12	Of which CVA VaR	21,363	20,477	1,709
13	Settlement risk	**$ 1,028**	**$ 938**	**$ 82**
14	Securitisation exposures in the banking book (after the cap)	**$ 645**	**$ 656**	**$ 52**
15	Of which IRB approach	402	416	32
18	Of which standardised approach	243	240	20
19	Market risk	**$ 85,215**	**$ 90,316**	**$ 6,818**
20	Of which the standardised approach	39,629	43,389	3,171
21	Of which IMA	45,586	46,927	3,647
22	Large exposures	-	-	-
23	Operational risk	**$ 15,716**	**$ 15,716**	**$ 1,257**
24	Of which basic indicator approach	-	-	-
25	Of which standardised approach	15,716	15,716	1,257
29	**Total**	**$ 221,378**	**$ 223,467**	**$ 17,711**

GSI

$ in millions

		RWAs		
		November 2018	September 2018	Minimum capital requirements
1	Credit risk (excluding CCR)	**$ 13,536**	**$ 18,162**	**$ 1,083**
2	Of which the standardised approach	1,411	1,861	113
4	Of which the advanced IRB (AIRB) approach	10,659	14,702	853
5	Of which equity IRB under the simple risk-weighted approach or the IMA	1,466	1,599	117
6	CCR	**$ 93,002**	**$ 86,327**	**$ 7,440**
7	Of which mark to market	7,292	7,380	583
9	Of which the standardised approach	-	-	-
10	Of which internal model method (IMM)	63,661	57,804	5,093
11	Of which risk exposure amount for contributions to the default fund of a CCP	799	752	64
12	Of which CVA VaR	21,250	20,391	1,700
13	Settlement risk	**$ 1,016**	**$ 938**	**$ 82**
14	Securitisation exposures in the banking book (after the cap)	**-**	**-**	**-**
15	Of which IRB approach	-	-	-
18	Of which standardised approach	-	-	-
19	Market risk	**$ 84,349**	**$ 89,538**	**$ 6,748**
20	Of which the standardised approach	39,125	42,988	3,130
21	Of which IMA	45,224	46,551	3,618
22	Large exposures	-	-	-
23	Operational risk	**$ 14,104**	**$ 14,104**	**$ 1,128**
24	Of which basic indicator approach	-	-	-
25	Of which standardised approach	14,104	14,104	1,128
29	**Total**	**$ 206,007**	**$ 209,070**	**$ 16,481**

GSIB

$ in millions

		RWAs		
		November 2018	**September 2018**	**Minimum capital requirements**
1	Credit risk (excluding CCR)	**$ 7,501**	**$ 6,353**	**$ 600**
2	Of which the standardised approach	22	3	2
4	Of which the advanced IRB (AIRB) approach	7,479	6,351	598
5	Of which equity IRB under the simple risk-weighted approach or the IMA	0	-	0
6	CCR	**$ 444**	**$ 402**	**$ 36**
7	Of which mark to market	125	127	10
9	Of which the standardised approach	-	-	-
10	Of which internal model method (IMM)	206	189	16
11	Of which risk exposure amount for contributions to the default fund of a CCP	-	-	-
12	Of which CVA VaR	113	86	10
13	Settlement risk	**$ 12**	**-**	**$ 1**
14	Securitisation exposures in the banking book (after the cap)	**$ 645**	**$ 656**	**$ 52**
15	Of which IRB approach	402	416	32
18	Of which standardised approach	243	240	20
19	Market risk	**$ 430**	**$ 459**	**$ 34**
20	Of which the standardised approach	68	82	5
21	Of which IMA	362	378	29
22	Large exposures	-	-	-
23	Operational risk	**$ 464**	**$ 464**	**$ 37**
24	Of which basic indicator approach	464	464	37
25	Of which standardised approach	-	-	-
29	**Total**	**$ 9,496**	**$ 8,334**	**$ 760**

GSGUK total capital ratio increased from 19.5% in September 2018 to 19.7% in November 2018 primarily due to the following movements:

- GSI Credit RWAs as of November 2018 increased by $2.1 billion compared with September 2018, primarily reflecting higher counterparty credit risk and increased exposures.
- GSI Market RWAs as of November 2018 decreased by $5.2 billion compared with September 2018, primarily reflecting a decrease in standardised market risk and modelled market risk both as a result of changes in risk exposures.

Credit Risk Management

Overview

Credit risk represents the potential for loss due to the default or deterioration in credit quality of a counterparty (e.g. an OTC derivatives counterparty or a borrower) or an issuer of securities or other instruments we hold. Our exposure to credit risk comes mostly from client transactions in OTC derivatives and loans and lending commitments. Credit risk also comes from cash placed with banks, securities financing transactions (i.e., resale and repurchase agreements and securities borrowing and lending activities) and customer and other receivables.

Credit Risk Management, which is independent of the revenue-producing units and reports to the firm's chief risk officer, has primary responsibility for assessing, monitoring and managing credit risk. The Risk Governance Committee reviews and approves credit policies and parameters. In addition, we hold other positions that give rise to credit risk (e.g., bonds held in our inventory and secondary bank loans). These credit risks are captured as a component of market risk measures, which are monitored and managed by Market Risk Management, consistent with other inventory positions. We also enter into derivatives to manage market risk exposures. Such derivatives also give rise to credit risk which is monitored and managed by Credit Risk Management.

Credit Risk Management Process

The firm's process for managing credit risk includes:

- Collecting complete, accurate and timely information;
- Approving transactions and setting and communicating credit exposure limits;
- Monitoring compliance with established credit risk limits and reporting our exposure;
- Establishing or approving underwriting standards;
- Assessing the likelihood that a counterparty will default on its payment obligations;
- Measuring our current and potential credit exposure and losses resulting from counterparty default;
- Using credit risk mitigants, including collateral and hedging;
- Maximizing recovery through active workout and restructuring of claims; and
- Proactive communication between our revenue-producing units and our independent risk oversight and control functions.

As part of the risk assessment process, Credit Risk Management performs credit reviews, which include initial and ongoing analyses of the firm's counterparties. For substantially all credit exposures, the core of the process is an annual counterparty credit review. A credit review is an independent analysis of the capacity and willingness of a counterparty to meet its financial obligations, resulting in an internal credit rating. The determination of internal credit ratings also incorporates assumptions with respect to the nature of and outlook for the counterparty's industry, and the economic environment. Senior personnel within Credit Risk Management, with expertise in specific industries, inspect and approve credit reviews and internal credit ratings.

The firm's risk assessment process may also include, where applicable, reviewing certain key metrics, including, but not limited to, delinquency status, collateral values, credit scores and other risk factors.

The firm's global credit risk management systems capture credit exposure to individual counterparties and on an aggregate basis to counterparties and their subsidiaries (economic groups). These systems also provide management with comprehensive information on the firm's aggregate credit risk by product, internal credit rating, industry, country and region.

Credit Risk Measures and Limits

The firm measures credit risk based on the potential loss in the event of non-payment by a counterparty using current and potential exposure. For derivatives and securities financing transactions, current exposure represents the amount presently owed after taking into account applicable netting and collateral arrangements, while potential exposure represents the firm's estimate of the future exposure that could arise over the life of a transaction based on market movements within a specified confidence level. Potential exposure also takes into account netting and collateral arrangements. For loans and lending commitments, the primary measure of credit risk is a function of the notional amount of the position.

For GS Group, the Risk Committee of the Board and the Risk Governance Committee approve credit risk limits at GS Group, business and product levels, consistent with the risk appetite statement. The GSI and GSIB Risk Committees approve the framework that governs the setting of credit risk limits at the entity level, and delegate responsibility for the ongoing execution and monitoring to the GSI and GSIB chief credit officers respectively. Credit Risk Management (through delegated authority from the Risk Governance Committee) sets credit limits for individual counterparties, economic groups, industries and countries. Policies authorised by GS Group's Enterprise Risk Committee and the Risk Governance Committee prescribe the level of formal approval required for GS Group to assume credit exposure to a counterparty across all product areas, taking into account any applicable netting provisions, collateral or other credit risk mitigants.

Credit limits are used at various levels (e.g., counterparty, economic group, industry and country), as well as underwriting standards to control the size and nature of the company's credit exposures. Limits for counterparties and economic groups are reviewed regularly and revised to reflect changing risk appetites for a given counterparty or group of counterparties. Limits for industries and countries are based on our risk appetite and are designed to allow for regular monitoring, review, escalation and management of credit risk concentrations.

Credit risk limits are monitored by Credit Risk Management, which is responsible for identifying and escalating, on a timely basis, instances where limits have been exceeded. When a risk limit has been exceeded, it is escalated to senior management and/or the appropriate risk committee.

Credit Exposures

For information on the firm's credit exposures, including the gross fair value, netting benefits and current exposure of the firm's derivative exposures and the firm's securities financing transactions, see "Note 7. Derivatives and Hedging Activities" and "Note 10. Collateralized Agreements and Financings" in Part II, Item 8 "Financial Statements and Supplementary Data" and "Credit Risk Management" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 Form 10-K.

Credit Risk and Counterparty Credit Risk RWAs

Credit RWAs are calculated based upon measures of credit exposure which are then risk weighted. Below is a description of the methodology used to calculate RWAs for Wholesale exposures, which generally include credit exposures to corporates, sovereigns or government entities (other than securitisation, retail or equity exposures). GSGUK has regulatory permission from the PRA to compute risk weights for most exposures in accordance with the Advanced Internal Ratings Based (AIRB) approach which utilises internal assessments of each counterparty's creditworthiness. The internal credit rating is assigned to each exposure class based on a review methodology determined in Credit Risk's Detailed Methodologies and Practices (DMP) document.

As such, the Credit Risk exposure that does not qualify for the AIRB approach but is instead calculated under the standardised approach, for which nominated external credit assessment institutions (ECAI) ratings are potentially eligible to be used, is immaterial. Exposure classes under the standardised approach include corporates, private equity and real estate for which external ratings are generally unavailable, unrated or private corporates. These exposures represent less than 5% of the total Credit Risk exposures.

Exposure at Default (EAD). For on-balance-sheet assets, such as receivables and cash, the EAD is generally based on the carrying value. For the calculation of EAD for off-balance-sheet exposures, including commitments and guarantees, a credit equivalent exposure amount is calculated based on the notional amount of each transaction multiplied by a credit conversion factor in accordance with Article 166 of CRD IV.

For the measurement of substantially all counterparty credit exposure on OTC, cleared and listed derivative and securities financing transactions, GSGUK has regulatory permission from the PRA to use the Internal Model Method (IMM). GSGUK uses IMM for substantially all of the counterparty credit risk arising from OTC derivatives, exchange-traded derivatives and securities financing transactions. The models estimate Expected Exposures (EE) at various points in the future using risk factor simulations. The model parameters are derived from historical and implied market data using the most recent three-year period as well as a stressed three-year period. The models also estimate the Effective Expected Positive Exposure (EEPE) over the first year of the portfolio, which is the time-weighted average of non-declining positive credit exposure over the EE simulation. EAD is calculated by multiplying the EEPE by a standard regulatory alpha factor of 1.4.

The EAD detailed in the following tables represents the exposures used in computing capital requirements and is not a directly comparable metric to balance sheet amounts presented in the consolidated financial information of GSGUK for the year ended November 30, 2018 due to differences in measurement methodology, counterparty netting and collateral offsets used.

As GSGUK calculates the majority of its counterparty credit exposure under the IMM, the impacts of netting and collateral are integral to the calculation of the exposure. The exposures disclosed below are presented on a net and collateralised basis where there is a legally enforceable netting and collateral opinion. They do not include the effect of any credit protection purchased on counterparties.

Advanced IRB Approach. RWAs are calculated by multiplying EAD by the counterparty's risk-weight. In accordance with the Advanced IRB approach, risk-weights are a function of the counterparty's Probability of Default (PD), Loss Given Default (LGD) and the maturity of the trade or portfolio of trades. Internal estimates of PD and LGD are not used other than for risk weighted asset calculation.

- PD is an estimate of the probability that an obligor will default over a one-year horizon. For the majority of Wholesale exposures, the PD is assigned using an approach where quantitative factors are combined with a qualitative assessment to determine internal credit rating grades. For each internal credit rating grade, over 5 years of historical empirical data is used to calculate a long run average annual PD which is assigned to each counterparty with that credit rating grade.

  Internal credit rating grades each have external public rating agency equivalents. The scale that is employed for internal credit ratings corresponds to that used by the major rating agencies and the internal credit ratings, while arrived at independently of public ratings, are assigned using definitions of each rating grade that are consistent with the definitions used by the major rating agencies for their equivalent credit rating grades. As a result, default data published by the major rating agencies for obligors with public ratings can be mapped to counterparties with equivalent internal credit ratings for quantification and validation of risk parameters.

- LGD is an estimate of the economic loss rate if a default occurs during economic downturn conditions. For Wholesale exposures, LGDs are estimated using data from a recognised vendor model, from a downturn period, and are mapped to obligors based on attributes identified as being statistically significant to the ultimate recovery. LGD estimates for low default portfolios are calibrated using the same data, i.e. from corporate portfolios, which is deemed to be a conservative approach.

- The definition of maturity depends on the nature of the exposure. For OTC, cleared and listed derivatives, maturity is an average time measure weighted by credit exposure (based on EE and EEPE) as required by applicable capital regulation. For securities financing transactions, maturity represents the notional weighted average number of days to maturity. Maturity is floored at one year and capped at five years except where the rules allow a maturity of less than one year to be used as long as certain criteria are met.

Governance and Validation of Risk Parameters

Approaches and methodologies for quantifying PD, LGD, and EAD are monitored and managed by Credit Risk Management. Models used for regulatory capital are independently reviewed, validated and approved by Model Risk Management. For further information, see "Model Risk Management."

To assess the performance of the PD parameters used, on an annual basis the firm performs a benchmarking exercise which includes comparisons of realised annual default rates to the expected annual default rates for each credit rating band and comparisons of the internal realised long-term average default rates to the empirical long-term average default rates assigned to each credit rating band. In 2018, as well as in previous annual periods, the PDs used for regulatory capital calculations were higher (i.e., more conservative) than the firm's actual internal realised default rate.

During 2018, the total number of counterparty defaults remained low, representing less than 0.5% of all counterparties, and such defaults primarily occurred within loans and lending commitments. Estimated losses associated with counterparty defaults were not material.

To assess the performance of LGD parameters used, on an annual basis the firm compares recovery rates following counterparty defaults to the recovery rates based on LGD parameters assigned to the corresponding exposures prior to default. While the actual realised recovery on each defaulted exposure varies due to transaction and other situation-specific factors, on average, recovery rates remain higher than those implied by the LGD parameters used in regulatory capital calculations.

The performance of each IMM model used to quantify EAD is assessed quarterly via backtesting procedures, performed by comparing the predicted and realised exposure of a set of representative trades and portfolios at certain horizons. The firm's models are monitored and enhanced in response to backtesting.

The following three tables present the methods used to calculate Counterparty Credit Risk RWAs and main parameters used within each method for GSGUK, GSI and GSIB as of November 30, 2018.

Table 6: Analysis of CCR Exposure by Approach

GSGUK

$ in millions

As of November 2018

		Notional	Replacement cost/current market value	Potential future credit exposure	EEPE	Multiplier	EAD post CRM	RWAs
1	Mark to market		$ 6,124	$ 9,120			$ 11,125	$ 7,417
3	Standardised approach		50			1.00	50	50
4	IMM (for derivatives and SFTs)				76,238	1.40	106,733	63,620
5	*Of which securities financing transactions*				21,891	1.40	30,648	10,082
6	*Of which derivatives and long settlement transactions*				54,347	1.40	76,085	53,538
11	**Total**							**$ 71,087**

GSI

$ in millions

As of November 2018

		Notional	Replacement cost/current market value	Potential future credit exposure	EEPE	Multiplier	EAD post CRM	RWAs
1	Mark to market		$ 6,027	$ 9,118			$ 11,026	$ 7,292
3	Standardised approach		-			-	-	-
4	IMM (for derivatives and SFTs)				76,071	1.40	106,500	63,414
5	*Of which securities financing transactions*				21,891	1.40	30,648	10,082
6	*Of which derivatives and long settlement transactions*				54,180	1.40	75,852	53,332
11	**Total**							**$ 70,706**

GSIB

$ in millions

As of November 2018

		Notional	Replacement cost/current market value	Potential future credit exposure	EEPE	Multiplier	EAD post CRM	RWAs
1	Mark to market		$ 97	$ 2			$ 99	$ 125
3	Standardised approach		-			-	-	-
4	IMM (for derivatives and SFTs)				166	1.40	233	206
5	*Of which securities financing transactions*				-	-	-	-
6	*Of which derivatives and long settlement transactions*				166	1.40	233	206
11	**Total**							**$ 331**

The following table presents GSGUK, GSI and GSIB's EAD after credit risk mitigation and RWAs on exposures to CCPs as of November 30, 2018.

Table 7: Exposures to CCPs

$ in millions							As of November 2018
		EAD post CRM			RWAs		
		GSGUK	GSI	GSIB	GSGUK	GSI	GSIB
1	**Exposures to QCCPs (total)**				**$ 1,046**	**$ 1,046**	**-**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	6,957	6,957	-	139	139	-
3	(i) OTC derivatives	2,221	2,221	-	44	44	-
4	(ii) Exchange-traded derivatives	4,328	4,328	-	87	87	-
5	(iii) SFTs	408	408	-	8	8	-
6	(iv) Netting sets where cross-product netting has been approved	-	-	-	-	-	-
7	Segregated initial margin	-	-	-			
8	Non-segregated initial margin	5,413	5,413	-	108	108	-
9	Prefunded default fund contributions	799	799	-	744	744	-
10	Alternative calculation of own funds requirements for exposures				55	55	-
11	**Exposures to non-QCCPs (total)**				-	-	-
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-	-	-	-	-
13	(i) OTC derivatives	-	-	-	-	-	-
14	(ii) Exchange-traded derivatives	-	-	-	-	-	-
15	(iii) SFTs	-	-	-	-	-	-
16	(iv) Netting sets where cross-product netting has been approved	-	-	-	-	-	-
17	Segregated initial margin	-	-	-			
18	Non-segregated initial margin	-	-	-	-	-	-
19	Prefunded default fund contributions	-	-	-	-	-	-
20	Unfunded default fund contributions	-	-	-	-	-	-

The following table presents GSGUK, GSI and GSIB's exposures subject to CVA capital charges and corresponding RWAs as of November 30, 2018.

Table 8: CVA VaR Capital Charge

$ in millions							As of November 2018
		Exposure value			RWAs		
		GSGUK	GSI	GSIB	GSGUK	GSI	GSIB
1	Total portfolios subject to the advanced method	$ 68,181	$ 67,908	$ 273	$ 21,363	$ 21,250	$ 113
2	(i) VaR component (including the 3× multiplier)				5,759	5,718	41
3	(ii) SVaR component (including the 3× multiplier)				15,604	15,532	72
5	Total subject to the CVA capital charge	**$ 68,181**	**$ 67,908**	**$ 273**	**$ 21,363**	**$ 21,250**	**$ 113**

The following table presents a quarterly flow statement of the RWAs and Capital requirements under the IMM for GSGUK, GSI and GSIB as of November 30, 2018.

Table 9: RWA Flow Statements of CCR Exposures under the IMM

$ in millions							As of November 2018
		RWA amounts			Capital requirements		
		GSGUK	GSI	GSIB	GSGUK	GSI	GSIB
1	**RWAs as at the end of the previous reporting period**	**$ 57,992**	**$ 57,804**	**$ 189**	**$ 4,639**	**$ 4,624**	**$ 15**
2	Asset size	6,754	6,736	17	540	539	1
3	Credit quality of counterparties	(645)	(645)	0	(52)	(52)	0
7	Foreign exchange movements	(679)	(677)	(2)	(54)	(54)	(0)
8	Other	445	443	2	36	36	0
9	**RWAs as at the end of the current reporting period**	**$ 63,867**	**$ 63,661**	**$ 206**	**$ 5,109**	**$ 5,093**	**$ 16**

The following table presents GSGUK, GSI and GSIB total and average amount of net balance sheet Credit Risk exposures over the eleven month period by exposure class as of November 30, 2018.

Table 10: Total and Average Net Amount of Exposures

$ in millions							As of November 2018
		GSGUK		GSI		GSIB	
		Net value of exposures at the end of the period	Average net exposures over the period	Net value of exposures at the end of the period	Average net exposures over the period	Net value of exposures at the end of the period	Average net exposures over the period
1	Central governments or central banks	$ 24,373	$ 24,000	$ 17,500	$ 20,040	$ 6,873	$ 3,960
2	Institutions	8,234	7,917	7,532	7,415	702	502
3	Corporates	17,065	17,343	6,059	5,819	11,006	11,524
14	Equity	434	541	434	541	0	0
14a	Items representing securitisation positions	871	776	-	-	871	776
14b	Non-credit obligation assets	68	68	63	63	5	5
15	***Total IRB approach***	**$ 51,045**	**$ 50,645**	**$ 31,588**	**$ 33,878**	**$ 19,457**	**$ 16,767**
16	Central governments or central banks	-	5	-	-	-	-
21	Institutions	716	824	-	-	-	-
22	Corporates	1,687	1,506	482	596	1	2
26	Secured by mortgages on immovable property	42	632	-	-	42	632
28	Exposures in default	191	187	191	187	-	-
29	Items associated with particularly high risk	1,643	1,923	-	-	-	-
33	Equity exposures	97	129	-	-	-	-
34	Other exposures	590	717	270	380	-	-
35	***Total standardised approach***	**$ 4,966**	**$ 5,923**	**$ 943**	**$ 1,163**	**$ 43**	**$ 634**
36	***Total***	**$ 56,011**	**$ 56,568**	**$ 32,531**	**$ 35,041**	**$ 19,500**	**$ 17,401**

The following table presents a quarterly flow statement of the RWAs and Capital requirements under the IRB approach for GSGUK, GSI and GSIB as of November 30, 2018.

Table 11: RWA Flow Statements of Credit Risk Exposures under the IRB Approach

$ in millions							As of November 2018
		RWA amounts			Capital requirements		
		GSGUK	GSI	GSIB	GSGUK	GSI	GSIB
1	**RWAs as at the end of the previous reporting period**	**$ 21,053**	**$ 14,702**	**$ 6,351**	**$ 1,684**	**$ 1,176**	**$ 508**
2	Asset size	(2,774)	(3,901)	1,127	(222)	(312)	90
3	Asset quality	(2)	-	(2)	(0)	-	(0)
7	Foreign exchange movements	(338)	(182)	(156)	(27)	(15)	(12)
8	Other	199	40	159	16	4	12
9	**RWAs as at the end of the current reporting period**	**$ 18,138**	**$ 10,659**	**$ 7,479**	**$ 1,451**	**$ 853**	**$ 598**

Credit Risk Mitigation

To reduce credit exposures on derivatives and securities financing transactions, we may enter into master netting agreements or similar arrangements (collectively, netting agreements) with counterparties that permit the firm to offset receivables and payables with such counterparties. A netting agreement is a contract with a counterparty that permits net settlement of multiple transactions with that counterparty, including upon the exercise of termination rights by a non-defaulting party. Upon exercise of such termination rights, all transactions governed by the netting agreement are terminated and a net settlement amount is calculated.

We may also reduce credit risk with counterparties by entering into agreements that enable us to receive and post cash and securities collateral with respect to our derivatives and securities financing transactions, subject to the terms of the related credit support agreements or similar arrangements (collectively, credit support agreements). An enforceable credit support agreement grants the non-defaulting party exercising termination provisions the right to liquidate collateral and apply the proceeds to any amounts owed. In order to assess enforceability of our right to setoff under netting and credit support agreements, we evaluate various factors, including applicable bankruptcy laws, local statutes and regulatory provisions in the jurisdiction of the parties to the agreement. The collateral we hold consists primarily of cash and securities of high quality government bonds (mainly US and EU), subject to haircuts as deemed appropriate by the Credit Risk Management function. The function performs ongoing collateral monitoring, to ensure the firm maintains an appropriate level of diversification of collateral, and distribution of collateral quality.

Our collateral is managed by a function within the Operations Division which reviews exposure calculations, makes margin calls with relevant counterparties, and ensures subsequent settlement of collateral movements. We monitor the fair value of the collateral on a daily basis to ensure our credit exposures are appropriately collateralised.

As of November 2018, the aggregate amounts of additional collateral or termination payments related to our net derivative liabilities under bilateral agreements that could have been called by our counterparties in the event of a one-notch and two-notch downgrade of our credit ratings are $96 million and $252 million respectively for GSI, and immaterial for GSIB.

For additional information about the firm's derivatives (including collateral and the impact of the amount of collateral required in the event of a ratings downgrade), see "Note 7. Derivatives and Hedging Activities" in Part II, Item 8 "Financial Statements and Supplementary Data" in the firm's 2018 Form 10-K. See "Note 10. Collateralized Agreements and Financings" in Part II, Item 8 "Financial Statements and Supplementary Data" in the firm's 2018 Form 10-K for further information about collateralised agreements and financings.

For loans and lending commitments, depending on the credit quality of the borrower and other characteristics of the transaction, we employ a variety of potential risk mitigants. Risk mitigants include: collateral provisions, guarantees, covenants, structural seniority of the bank loan claims and, for certain lending commitments, provisions in the legal documentation that allow us to adjust loan amounts, pricing, structure and other terms as market conditions change. The type and structure of risk mitigants employed can significantly influence the degree of credit risk involved in a loan or lending commitment.

When we do not have sufficient visibility into a counterparty's financial strength or when we believe a counterparty requires support from its parent, we may obtain third-party guarantees of the counterparty's obligations. Main acceptable types of guarantors are sovereigns, certain supranational and multilateral development banks, banks and other financial institutions. We may also mitigate our credit risk using credit derivatives or participation agreements.

The following three tables presents GSGUK, GSI and GSIB net carrying values of credit risk exposures secured by different CRM techniques as of November 30, 2018.

Table 12: CRM Techniques

GSGUK

$ in millions						As of November 2018
		Exposures unsecured – Carrying amount	**Exposures secured – Carrying amount**	**Exposures secured by collateral**	**Exposures secured by financial guarantees**	**Exposures secured by credit derivatives**
1	Total loans	$ 8,423	$ 2,676	$ 2,659	-	$ 17
2	Total debt securities	2,361	-	-	-	-
3	**Total exposures**	**$ 10,784**	**$ 2,676**	**$ 2,659**	**-**	**$ 17**
4	Of which defaulted	191	-	-	-	-

GSI

$ in millions						As of November 2018
		Exposures unsecured – Carrying amount	**Exposures secured – Carrying amount**	**Exposures secured by collateral**	**Exposures secured by financial guarantees**	**Exposures secured by credit derivatives**
1	Total loans	$ 611	-	-	-	-
2	Total debt securities	918	-	-	-	-
3	**Total exposures**	**$ 1,529**	**-**	**-**	**-**	**-**
4	Of which defaulted	191	-	-	-	-

GSIB

$ in millions						As of November 2018
		Exposures unsecured – Carrying amount	**Exposures secured – Carrying amount**	**Exposures secured by collateral**	**Exposures secured by financial guarantees**	**Exposures secured by credit derivatives**
1	Total loans	$ 7,782	$ 2,676	$ 2,659	-	$ 17
2	Total debt securities	871	-	-	-	-
3	**Total exposures**	**$ 8,653**	**$ 2,676**	**$ 2,659**	**-**	**$ 17**
4	Of which defaulted	-	-	-	-	-

The following table presents the impact of credit derivatives on the RWAs under the IRB approach for GSGUK, GSI and GSIB based on exposure class.

Table 13: IRB Approach - Effect on the RWAs of Credit Derivatives Used as CRM Techniques

$ in millions							As of November 2018
		Pre-Credit Derivatives RWAs			**Actual RWAs**		
		GSGUK	**GSI**	**GSIB**	**GSGUK**	**GSI**	**GSIB**
1	**Exposures under AIRB**						
2	Central governments and central banks	$ 1,191	$ 851	$ 340	$ 1,191	$ 851	$ 340
3	Institutions	4,312	4,113	199	4,383	4,113	270
6	Corporates – Other	13,103	5,632	7,471	12,496	5,632	6,864
12	Equity IRB	1,466	1,466	0	1,466	1,466	0
13	Other Non-Credit obligation assets	68	63	5	68	63	5
14	**Total**	**$ 20,140**	**$ 12,125**	**$ 8,015**	**$ 19,604**	**$ 12,125**	**$ 7,479**

Credit Derivatives

We enter into credit derivative transactions primarily to facilitate client activity and to manage the credit risk associated with market-making, including to hedge counterparty exposures arising from OTC derivatives (intermediation activities).

We also use credit derivatives to hedge counterparty exposure associated with investing and lending activities and to a lesser extent derivative exposure. Some of these hedges qualify as credit risk mitigants for regulatory capital purposes using the PD and LGD substitution approach (and subject to the regulatory haircuts for maturity and currency mismatch where applicable).

Where the aggregate notional of credit derivatives hedging exposure to a loan obligor is less than the notional loan exposure, the substitution approach is only employed for the percentage of loan exposure covered by eligible credit derivatives.

For further information regarding the firm's credit derivative transactions, see "Note 7. Derivatives and Hedging Activities" in Part II, Item 8 "Financial Statements and Supplementary Data" in the firm's 2018 Form 10-K.

For information regarding credit risk concentrations, see "Note 26. Credit Concentrations" in Part II, Item 8 "Financial Statements and Supplementary Data" in the firm's 2018 Form 10-K.

The following table presents GSGUK, GSI and GSIB exposure to credit derivatives based on notional and fair values as of November 30, 2018.

Table 14: Credit Derivatives Exposures

$ in millions									As of November 2018
	Credit derivative hedges								
	Protection bought			Protection sold			Other credit derivatives		
	GSGUK	GSI	GSIB	GSGUK	GSI	GSIB	GSGUK	GSI	GSIB
Notionals									
Index Credit Default Swaps	$ 306,663	$ 306,550	$ 113	$ 299,843	$ 299,726	$ 117	-	-	-
Total Return swaps	4,059	4,059	-	209	209	-	-	-	-
Other Credit Default Swaps	350,359	349,003	1,356	334,796	333,743	1,053	-	-	-
Other Credit Derivatives	-	-	-	-	-	-	245,103	244,664	439
Total notionals	**$ 661,081**	**$ 659,612**	**$ 1,469**	**$ 634,848**	**$ 633,678**	**$ 1,170**	**$ 245,103**	**$ 244,664**	**$ 439**
Fair values									
Positive fair value (asset)	**$ 10,544**	**$ 10,534**	**$ 10**	**$ 12,367**	**$ 12,336**	**$ 31**	**$ 6,065**	**$ 6,060**	**$ 5**
Negative fair value (liability)	**$ 13,453**	**$ 13,368**	**$ 84**	**$ 8,858**	**$ 8,781**	**$ 78**	**$ 4,498**	**$ 4,427**	**$ 70**

Wrong-way Risk

We seek to minimise exposures where there is a significant positive correlation between the probability of default of a counterparty and our exposure to that counterparty (net of the market value of any collateral we receive), which is known as "wrong-way risk". Wrong-way risk is commonly categorised into two types: specific wrong-way risk and general wrong-way risk. We categorise exposure as specific wrong-way risk when our counterparty and the issuer of the reference asset of the transaction are the same entity or are affiliates, or if the collateral supporting a transaction is issued by the counterparty or its affiliates. General wrong-way risk arises when there is a significant positive correlation between the probability of default of a counterparty and general market risk factors affecting the exposure to that counterparty. We have procedures in place to actively identify, monitor and control specific and general wrong-way risk, beginning at the inception of a transaction and continuing through its life, including assessing the level of risk through stress tests. We ensure that material wrong-way risk is mitigated using collateral agreements or increases to initial margin, where appropriate.

Credit Valuation Adjustment Risk-Weighted Assets

RWAs for CVA address the risk of losses related to changes in counterparty credit risk arising from OTC derivatives. We calculate RWAs for CVA primarily using the Advanced CVA approach set out in CRD IV, which permits the use of regulator approved VaR models. Consistent with our Regulatory VaR calculation (see "Market Risk Management" for further details), the CVA RWAs are calculated at a 99% confidence level over a 10-day time horizon.

The CVA RWAs also include a stressed CVA component, which is also calculated at a 99% confidence level over a 10-day horizon using both a stressed VaR period and stressed EEs. The CVA VaR model estimates the impact on our credit valuation adjustments from simulated changes to our counterparties' credit spreads. It reflects eligible CVA hedges (as defined in CRD IV), but it excludes those hedges that, although used for risk-management purposes, are ineligible for inclusion in the regulatory CVA VaR model. Examples of such hedges are interest rate hedges, or those that do not reference the specific exposures they are intended to mitigate, but are nevertheless highly correlated to the underlying credit risk.

Other Credit Risk-Weighted Assets

Credit RWAs also include the following components:

Cleared Transactions

RWAs for cleared transactions and default fund contributions (defined as payments made by clearing members to central clearing agencies pursuant to mutualised loss arrangements) are calculated based on specific rules within CRD IV. A majority of our exposures on centrally cleared transactions are to counterparties that are considered to be Qualifying Central Counterparties (QCCPs) in accordance with the European Market Infrastructure Regulation (EMIR). CRD IV includes a transitional rule which allows all CCPs applying for authorisation or recognition under EMIR to be treated as QCCPs. The European Commission has adopted an implementing act that extended the transitional phase to June 15, 2019. Such exposures arise from OTC derivatives, exchange-traded derivatives, securities financing transactions and long settlement transactions and are required to be risk weighted at either 2% or 4% based on the specified criteria.

Retail Exposures

As of November 30, 2018, we have immaterial retail exposures (defined as residential mortgage exposures, qualifying revolving exposures, or other retail exposures that are managed as part of a segment of exposures with homogeneous risk characteristics, not on an individual exposure basis) subject to standardised risk weights.

Other Assets

Other assets primarily include property, leasehold improvements and equipment, deferred tax assets, and assets for which there is no defined capital methodology or that are not material. RWAs for other assets are generally based on the carrying value plus a percentage of the notional amount of off-balance-sheet exposures, and are typically risk weighted at 100%.

Equity Exposures in the Banking Book

The firm makes direct investments in public and private equity securities; it also makes investments, through funds that it manages (some of which are consolidated), in debt securities and loans, public and private equity securities and real estate entities. These investments are typically longer-term in nature and are primarily held for capital appreciation purposes; they are therefore classified for regulatory capital purposes as banking book equity investments. The firm also makes commitments to invest, primarily in private equity, real estate and other assets. Such commitments are made both directly and indirectly through funds that the firm raises and manages. Equity exposures held in GSGUK's banking book are included in the Credit RWAs within row 5 of Table 5 and were not material as of November 30, 2018.

Past due exposures, impaired exposures and impairment provisions

Payments aged more than a threshold of 90 days on any material credit obligation to the company, 180 days on residential mortgage obligations or 120 days on other retail obligations are considered past due.

An exposure is considered impaired when it is probable that the borrower will be unable to pay all amounts due according to the contractual terms of the loan agreement. The firm's definition of unlikeliness to pay includes the distressed restructuring of an obligation, including bank loan obligations, that results in deferred or reduced payment to GS, whether or not counterparty is in bankruptcy, insolvency or local jurisdictional equivalent.

There are no instances for GSGUK, GSI or GSIB where past-due exposures are not considered to be impaired.

The allowance for impairment is determined using various risk factors, including industry default and loss data, current macroeconomic indicators, borrower's capacity to meet its financial obligations, borrower's country of risk, loan seniority and collateral type. In addition, for loans backed by real estate, risk factors include loan to value ratio, debt service ratio and home price index. The firm also records an allowance for losses on lending commitments that are held for investment and accounted for on an accrual basis. Such allowance is determined using the same methodology as the allowance for impairment, while also taking into consideration the probability of drawdowns or funding, and is included in other liabilities and accrued expenses. Additionally, loans are charged off against the impairment provision when deemed to be uncollectible.

Allowance for Losses on Loans and Lending Commitments

For information on the firm's impaired loans, past due loans, loans on non-accrual status, and allowance for losses on loans and lending commitments, see "Note 9. Loans Receivable" in Part II, Item 8 "Financial Statements and Supplementary Data" in the firm's 2018 Form 10-K.

Securitisations

Overview

CRD IV defines certain activities as securitisation transactions which attract capital requirements under the "Securitisation Framework." A securitisation is defined as a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched, having both of the following characteristics:

- Payments in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures; and
- The subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme.

The rules also distinguish between traditional and synthetic securitisations, the primary difference being that a traditional securitisation involves the transfer of assets from a bank's balance sheet into a securitisation vehicle, whereas a synthetic securitisation involves the transfer of credit risk through credit derivatives or guarantees.

Within the GSGUK group, we securitise commercial mortgages, loans and other types of financial assets by selling these assets to securitisation vehicles (e.g., trusts and special purpose vehicles). GSGUK acts as underwriter of the beneficial interests that are sold to investors.

Beneficial interests issued by securitisation entities are debt or equity securities that give the investors rights to receive all or portions of specified cash inflows to a securitisation vehicle and include senior and subordinated interests in principal, interest and/or other cash inflows. The proceeds from the sale of beneficial interests are used to pay the transferor for the financial assets sold to the securitisation vehicle or to purchase securities which serve as collateral.

A portion of our positions that meet the regulatory definition of a securitisation are classified in our trading book, and capital requirements for these positions are calculated under the market risk capital rules. However, we also have certain banking book positions that meet the regulatory definition of a securitisation.

We account for a securitisation as a sale when we have relinquished control over the transferred financial assets. Prior to securitisation, we account for assets pending transfer at fair value and therefore do not typically recognise significant gains or losses upon the transfer of assets. GSGUK did not, as of November 30, 2018 have material assets held with the intent to securitise.

Banking Book Activity

Securitisation exposures classified in the banking book were immaterial as of November 30, 2018. The small amount of securitisation exposures in the banking book within the GSGUK group that meet the regulatory definition of a securitisation fall into the following categories:

- **Warehouse Financing and Lending**. We provide financing to clients who warehouse financial assets. These arrangements are secured by the warehoused assets, primarily consisting of corporate loans and asset-backed and other loans.
- **Other**. We have certain other banking book securitisation activities such as holding securities issued by securitisation vehicles.

By engaging in the banking book securitisation activities noted above, we are primarily exposed to credit risk and to the performance of the underlying assets.

Trading Book Activity

Our securitisation exposures classified as trading book comprise mortgage-backed securities (MBS) and other asset-backed securities (ABS), derivatives referencing MBS or ABS, or derivatives referencing indices of MBS or ABS, which are held in inventory. The population also includes credit correlation positions, which are discussed in the "Comprehensive Risk" section of the "Market Risk Management" chapter.

The primary risks included in beneficial interests and other interests from our involvement with securitisation vehicles are the performance of the underlying collateral, the position of our investment in the capital structure of the securitisation vehicle and the market yield for the security. These interests are accounted for at fair value and are incorporated into the overall risk management approach for financial instruments. For a detailed discussion of the firm's risk management process and practices, see "Risk Management – Market Risk Management" and "Risk Management – Credit Risk Management" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 Form 10-K.

Calculation of Risk-Weighted Assets

Under the Ratings Based Approach (RBA), the risk weighted exposure amount of a rated securitisation position or resecuritisation position is calculated by applying to the exposure value a risk weight that depends on the associated external credit rating. The External Credit Assessment Institutions (ECAIs) used are Standard & Poor's Ratings Services (S&P), Moody's Investors Service (Moody's) and Fitch, Inc. (Fitch) for all types of exposures.

The RWAs for trading book securitisation positions are calculated by multiplying the exposure amount by the specific risk-weighting factors assigned and then multiplying by the specified regulatory factor of 1.06. The exposure amount is defined as the carrying value for securities, or the market value of the effective notional of the instrument or indices underlying derivative positions. The securitisation capital requirements are capped at the maximum loss that could be incurred on any given transaction.

RWAs for banking book securitisation exposures (including counterparty credit risk exposures that arise from trading book derivative positions) are calculated using the RBA capped at the maximum amount that could be lost on the position.

The following tables show our securitisation exposures in the trading book by type of exposure and risk weight band as of November 30, 2018.

Table 15: Securitisation Exposures by Type

$ in millions	As of November 2018		
	On-balance-sheet Exposures	Off-balance-sheet Exposures	Total Exposure Amount
	Traditional	Synthetic	
Residential mortgages	$ 316	$ 1,092	$ 1,408
Commercial mortgages	114	-	114
Corporates	-	4	4
Asset-backed and other	909	1,607	2,516
GSGUK Total	**$ 1,339**	**$ 2,703**	**$ 4,042**

Table 16: Securitisation Exposures and Related RWAs by Risk Weight Bands

$ in millions	As of November 2018		
	Ratings Based Approach (RBA)		
	Long Exposure Amount	Short Exposure Amount	Total RWAs
0% - 25%	$ 338	$ 1,864	$ 219
26% - 100%	435	177	243
101% - 250%	45	-	118
251% - 650%	59	-	331
651% - 1,250%	403	721	4,076
GSGUK Total	**$ 1,280**	**$ 2,762**	**$ 4,987**

Market Risk Management

Overview

Market risk is the risk of loss in the value of inventory, as well as certain other financial assets and financial liabilities, due to changes in market conditions. Categories of market risk include the following:

- Interest rate risk: results from exposures to changes in the level, slope and curvature of yield curves, the volatilities of interest rates, prepayment speeds and credit spreads;
- Equity price risk: results from exposures to changes in prices and volatilities of individual equities, baskets of equities and equity indices;
- Currency rate risk: results from exposures to changes in spot prices, forward prices and volatilities of currency rates; and
- Commodity price risk: results from exposures to changes in spot prices, forward prices and volatilities of commodities, such as crude oil, petroleum products, natural gas, electricity, and precious and base metals.

Market Risk Management, which is independent of the revenue-producing units and reports to the firm's chief risk officer, has primary responsibility for assessing, monitoring and managing market risk through firmwide oversight across global businesses.

Managers in revenue-producing units and Market Risk Management discuss market information, positions and estimated loss scenarios on an ongoing basis. Managers in revenue-producing units are accountable for managing risk within prescribed limits. These managers have in-depth knowledge of their positions, markets and the instruments available to hedge their exposures.

Market Risk Management Process

The firm's process for managing market risk includes:

- Collecting complete, accurate and timely information;
- A dynamic limit-setting framework;
- Monitoring compliance with established market risk limits and reporting our exposures;
- Diversifying exposures;
- Controlling position sizes;
- Evaluating mitigants, such as economic hedges in related securities or derivatives; and
- Proactive communication between our revenue-producing units and our independent risk oversight and control functions.

Market Risk Management produces risk measures and monitors them against established market risk limits. These measures reflect an extensive range of scenarios and the results are aggregated at product, business and firmwide levels. For additional information regarding the firm's market risk measures and risk limits, see "Risk Management – Market Risk Management" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 Form 10-K.

Market Risk-Weighted Assets

Trading book positions are subject to market risk capital requirements which are designed to cover the risk of loss in value of these positions due to changes in market conditions. These capital requirements are determined either by applying prescribed risk weighting factors, or they are based on internal models which are subject to various qualitative and quantitative parameters. The CRD IV market risk capital rules require that a firm obtains prior written permission from its regulators before using any internal model to calculate its risk-based capital requirement. As our permission applies to GSI and GSIB individually, we calculate model-based requirements for each of those entities separately and sum those to calculate GSGUK's requirements.

RWAs for market risk are calculated using the following internal models: Value-at-Risk (VaR), Stressed VaR (SVaR), Incremental Risk Charge (IRC), and Comprehensive Risk Measure (CRM), which for PRA purposes is called the All Price Risk Measure (APRM) and is subject to a floor. In addition, Standardised Rules, in accordance with Title IV of Part Three of CRD IV, are used to calculate RWAs for market risk for certain securitised and non-securitised positions by applying risk-weighting factors predetermined by regulators, to positions after applicable netting is performed. RWAs for market risk are the sum of each of these measures multiplied by 12.5.

Regulatory VaR

VaR is the potential loss in value of inventory positions, as well as certain other financial assets and financial liabilities, due to adverse market movements over a defined time horizon with a specified confidence level. The VaR model captures risks including interest rates, equity prices, currency rates and commodity prices. As such, VaR facilitates comparison across portfolios of different risk characteristics. VaR also captures the diversification of aggregated risk at the firmwide level.

For both risk management purposes (positions subject to VaR limits) and regulatory capital calculations, we use a single VaR model. However, VaR used for regulatory capital requirements (Regulatory VaR) differs from risk management VaR due to different time horizons and confidence levels (10-day and 99% for Regulatory VaR vs. one-day and 95% for risk management VaR), as well as differences in the scope of positions on which VaR is calculated. The 10-day VaR is based on scaling the 1-day VaR by the square root of 10.

VaR is calculated daily using historical simulations with full valuation of market factors, capturing both general and specific market risk. VaR is calculated at a positional level based on simultaneously shocking the relevant market risk factors for that position, using a mix of absolute and relative returns. We sample from five years of historical data to generate the scenarios for our VaR calculation. The historical data is weighted so that the relative importance of data reduces over time. This gives greater importance to more recent observations and reflects current asset volatilities.

In accordance with the CRD IV market risk regulatory capital requirements, we evaluate the accuracy of our VaR model through daily backtesting. The results of the backtesting determine the size of the VaR multiplier used to compute RWAs.

Table 17 presents our period end, maximum, minimum and average daily GSGUK, GSI and GSIB 99% 10-day Regulatory VaR over the third and fourth quarter of 2018.

Stressed VaR

SVaR is the potential loss in value of inventory positions, as well as certain other financial assets and financial liabilities, during a period of significant market stress. SVaR is based on a full valuation at a 99% confidence level over a 10-day time horizon using market data inputs from a continuous 12-month period of stress. The 10-day SVaR is calculated as the 1-day SVaR scaled by the square root of 10. We identify the stressed period by comparing VaR using market data inputs from different historical periods.

Table 17 presents our period end, maximum, minimum and average weekly GSGUK, GSI and GSIB 99% 10-day SVaR over the third and fourth quarter of 2018.

Incremental Risk

Incremental risk is the potential loss in value of non-securitised inventory positions due to the default or credit migration of issuers of financial instruments over a one-year time horizon. As required by the CRD IV market risk regulatory capital rules, this measure is calculated at a 99.9% confidence level over a one-year time horizon. It uses a multi-factor model assuming a constant level of risk. When assessing the risk, we take into account market and issuer-specific concentration, credit quality, liquidity horizons and correlation of default and migration risk. The liquidity horizon is calculated based upon the size of exposures and the speed at which we can reduce risk by hedging or unwinding positions, given our experience during a historical stress period, and is subject to the prescribed regulatory minimum. Our average liquidity horizon as of November 30, 2018 was 3.6 months.

Table 17 presents our period end, maximum, minimum and average of the weekly GSGUK, GSI and GSIB Incremental Risk measure over the third and fourth quarter of 2018.

Comprehensive Risk

Comprehensive risk is the potential loss in value, due to price risk and defaults, within credit correlation positions. A credit correlation position is defined as a securitisation position for which all or substantially all of the value of the underlying exposures is based on the credit quality of a single company for which a two-way market exists, or indices based on such exposures for which a two-way market exists, or hedges of these positions (which are typically not securitisation positions).

As required under the CRD IV market risk capital rules, the Comprehensive Risk Measure comprises a model-based measure, which is subject to a floor based on the minimum capital requirement of 8% of RWA calculated under the standard rules for the portfolio. The model-based measure is calculated at a 99.9% confidence level over a one-year time horizon applying a constant level of risk. The model comprehensively covers price risks including nonlinear price effects and takes into account contractual structure of cash flows, the effect of multiple defaults, credit spread risk, volatility of implied correlation, recovery rate volatility and basis risk. The liquidity horizon is based upon our experience during a historical stress period, subject to the prescribed regulatory minimum.

As of November 2018, we had credit correlation positions, subject to the Comprehensive Risk Measure, with a fair value under US GAAP of $212 million in net liabilities and under UK GAAP of $340 million in net assets and $428 million in net liabilities.

Table 17 presents the period end, maximum, minimum and average of the GSGUK, GSI and GSIB Comprehensive Risk Measure for the over the third and fourth quarter of 2018.

Table 17: IMA Values for Trading Portfolios

$ in millions		As of November 2018		
		GSGUK	**GSI**	**GSIB**
VaR (10 day 99%)				
1	Maximum value	**170**	**170**	**3**
2	Average value	**140**	**139**	**1**
3	Minimum value	**111**	**110**	**-**
4	Period end	**138**	**138**	**-**
SVaR (10 day 99%)				
5	Maximum value	**475**	**473**	**3**
6	Average value	**372**	**370**	**1**
7	Minimum value	**287**	**286**	**1**
8	Period end	**333**	**332**	**1**
IRC (99.9%)				
9	Maximum value	**1,198**	**1,176**	**23**
10	Average value	**891**	**869**	**22**
11	Minimum value	**657**	**634**	**18**
12	Period end	**874**	**856**	**18**
Comprehensive risk capital charge (99.9%)				
13	Maximum value	**172**	**172**	**-**
14	Average value	**136**	**136**	**-**
15	Minimum value	**94**	**94**	**-**
16	Period end	**94**	**94**	**-**

Table 18: Market Risk under the IMA

The table below presents the capital requirements and RWA under the IMA for Market Risk as of November 30, 2018.

$ in millions					As of November 2018		
		RWAs			Capital requirements		
		GSGUK	GSI	GSIB	GSGUK	GSI	GSIB
1	**VaR (higher of values a and b)**	**$ 5,211**	**$ 5,187**	**$ 24**	**$ 417**	**$ 415**	**$ 2**
(a)	Previous day's VaR (Article 365(1) of the CRR (VaRt-1))				138	138	0
(b)	Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR				417	415	2
2	**SVaR (higher of values a and b)**	**$ 13,313**	**$ 13,250**	**$ 63**	**$ 1,065**	**$ 1,060**	**$ 5**
(a)	Latest SVaR (Article 365(2) of the CRR (SVaRt-1))				333	332	1
(b)	Average of the SVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)				1,065	1,060	5
3	**IRC (higher of values a and b)**	**$ 10,975**	**$ 10,700**	**$ 275**	**$ 878**	**$ 856**	**$ 22**
(a)	Most recent IRC value (incremental default and migration risks calculated in accordance with Article 370 and Article 371 of the CRR)				874	856	18
(b)	Average of the IRC number over the preceding 12 weeks				816	794	22
4	**Comprehensive risk measure (higher of values a, b and c)**	**$ 1,675**	**$ 1,675**	**-**	**$ 134**	**$ 134**	**-**
(a)	Most recent risk number for the correlation trading portfolio (Article 377 of the CRR)				94	94	-
(b)	Average of the risk number for the correlation trading portfolio over the preceding 12 weeks				134	134	-
(c)	8% of the own funds requirement in the standardised approach on the most recent risk number for the correlation trading portfolio (Article 338(4) of the CRR)				71	71	-
5	**Other**	**$ 14,412**	**$ 14,412**	**-**	**$ 1,153**	**$ 1,153**	**-**
6	**Total**	**$ 45,586**	**$ 45,224**	**$ 362**	**$ 3,647**	**$ 3,618**	**$ 29**

Table 19: RWA Flow Statements of Market Risk Exposures under the IMA

GSGUK

$ in millions — **As of November 2018**

		VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWAs	Total capital requirements
1	**RWAs at previous quarter end**	**$ 5,176**	**$ 14,253**	**$ 11,976**	**$ 1,690**	**$ 13,832**	**$ 46,927**	**$ 3,754**
1a	*Regulatory adjustment*	(3,388)	(9,478)	(713)	(265)	918	(12,926)	(1,034)
1b	***RWAs at the previous quarter-end***	**$ 1,788**	**$ 4,775**	**$ 11,263**	**$ 1,425**	**$ 14,750**	**$ 34,001**	**$ 2,720**
2	Movement in risk levels	(62)	(612)	(338)	(250)	(8,250)	(9,512)	(761)
3	Model updates/changes	-	-	-	-	-	-	-
8a	***RWAs at the end of the reporting period***	**$ 1,726**	**$ 4,163**	**$ 10,925**	**$ 1,175**	**$ 6,500**	**$ 24,489**	**$ 1,959**
8b	*Regulatory adjustment*	3,485	9,150	50	500	7,912	21,097	1,688
8	**RWAs at the end of the reporting period**	**$ 5,211**	**$ 13,313**	**$ 10,975**	**$ 1,675**	**$ 14,412**	**$ 45,586**	**$ 3,647**

GSI

$ in millions — **As of November 2018**

		VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWAs	Total capital requirements
1	**RWAs at previous quarter end**	**$ 5,150**	**$ 14,190**	**$ 11,689**	**$ 1,690**	**$ 13,832**	**$ 46,551**	**$ 3,724**
1a	*Regulatory adjustment*	(3,369)	(9,427)	(714)	(265)	918	(12,857)	(1,029)
1b	***RWAs at the previous quarter-end***	**$ 1,781**	**$ 4,763**	**$ 10,975**	**$ 1,425**	**$ 14,750**	**$ 33,694**	**$ 2,695**
2	Movement in risk levels	(56)	(613)	(275)	(250)	(8,250)	(9,444)	(755)
3	Model updates/changes	-	-	-	-	-	-	-
8a	***RWAs at the end of the reporting period***	**$ 1,725**	**$ 4,150**	**$ 10,700**	**$ 1,175**	**$ 6,500**	**$ 24,250**	**$ 1,940**
8b	*Regulatory adjustment*	3,462	9,100	-	500	7,912	20,974	1,678
8	**RWAs at the end of the reporting period**	**$ 5,187**	**$ 13,250**	**$ 10,700**	**$ 1,675**	**$ 14,412**	**$ 45,224**	**$ 3,618**

GSIB

$ in millions — **As of November 2018**

		VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWAs	Total capital requirements
1	**RWAs at previous quarter end**	**$ 27**	**$ 63**	**$ 288**	**-**	**-**	**$ 378**	**$ 30**
1a	*Regulatory adjustment*	(20)	(50)	-	-	-	(70)	(5)
1b	***RWAs at the previous quarter-end***	**$ 7**	**$ 13**	**$ 288**	**-**	**-**	**$ 308**	**$ 25**
2	Movement in risk levels	(5)	-	(63)	-	-	(68)	(6)
3	Model updates/changes	-	-	-	-	-	-	-
8a	***RWAs at the end of the reporting period***	**$ 2**	**$ 13**	**$ 225**	**-**	**-**	**$ 240**	**$ 19**
8b	*Regulatory adjustment*	22	50	50	-	-	122	10
8	**RWAs at the end of the reporting period**	**$ 24**	**$ 63**	**$ 275**	**-**	**-**	**$ 362**	**$ 29**

Model Review and Validation

The models discussed above, which are used to determine Regulatory VaR, SVaR, Incremental risk and Comprehensive risk, are independently reviewed, validated and approved by Model Risk Management. For more information, see “Model Risk Management.”

These models are regularly reviewed and enhanced in order to incorporate changes in the composition of positions included in market risk measures, as well as variations in market conditions. Prior to implementing significant changes to our assumptions and/or models, Model Risk Management performs model validations. Significant changes to models are reviewed with the firm’s chief risk officer and chief financial officer, and approved by the Firmwide Risk Committee.

Regulatory VaR Backtesting Results

As required by the CRD IV market risk capital rules, we validate the accuracy of our Regulatory VaR models by backtesting the output of such models against daily loss results. The number of exceptions (that is, the number of overshootings based on comparing the higher of positional or actual losses to the corresponding 99% one-day Regulatory VaR) over the most recent 250 business days is used to determine the size of the VaR multiplier, which could increase from a minimum of three to a maximum of four, depending on the number of exceptions.

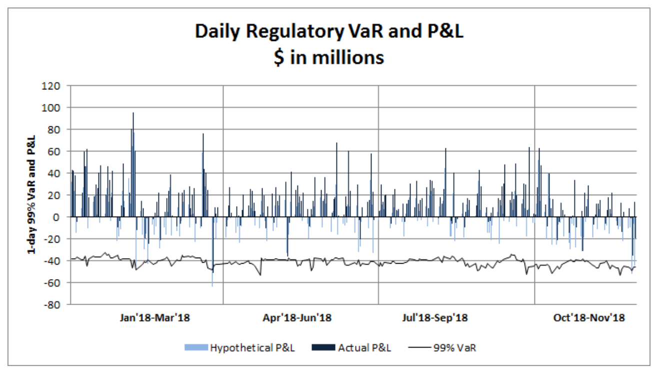
As defined in the CRD IV market risk capital rules, hypothetical net revenues for any given day represent the impact of that day’s price variation on the value of positions held at the close of business the previous day. As a consequence, these results exclude certain revenues associated with market-making businesses, such as bid/offer net revenues, which are more likely than not to be positive by their nature. In addition, hypothetical net revenues used in our Regulatory VaR backtesting relate only to positions which are included in Regulatory VaR and, as noted above, differ from positions included in our risk management VaR. This measure of hypothetical net revenues is used to evaluate the performance of the Regulatory VaR model and is not comparable to our actual daily net revenues. See “Risk Management — Market Risk Management” in Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the firm’s 2018 Form 10-K.

GSI hypothetical losses observed on a single day exceeded our 99% one-day Regulatory VaR twice during the year ending November 2018, driven by large moves in US equity markets. GSI actual losses observed on a single day did not exceed our 99% one-day Regulatory VaR during the year ending November 2018. GSIB hypothetical and actual losses observed on a single day exceeded our GSIB 99% one-day Regulatory VaR four times each during the year ending November 2018, driven by large moves in European Sovereign Bonds and GBP FX rate. Note that, although a one-day time horizon is used for backtesting purposes, a 10-day time horizon is used, as described earlier, to determine RWAs associated with Regulatory VaR.

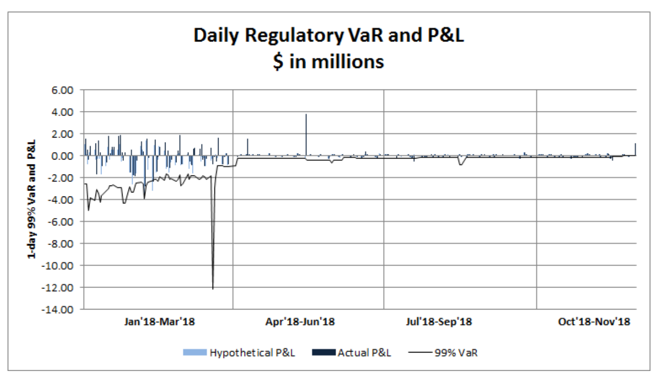
The tables below present our 99% one-day Regulatory VaR and hypothetical and actual PnL during the previous 11 months.

Table 20: Comparison of VaR estimates with gains/losses

- GSI



- GSIB



The table below summarizes the number of reported excesses for GSI and GSIB for the previous 11 months.

		Number of reported excesses	
	Multiplier	Hypothetical	Actual
2018 Backtesting			
GSI	3.00	2	0
GSIB	3.00	4	4

Stress Testing

Stress testing is a method of determining the effect of various hypothetical stress scenarios on the firm and GSI and GSIB individually. We use stress testing to examine risks of specific portfolios as well as the potential impact of significant risk exposures across GSI and GSIB. We use a variety of stress testing techniques to calculate the potential loss from a wide range of market moves on our portfolios, including sensitivity analysis, scenario analysis and stress tests.

For a detailed description of the firm's stress testing practices, see "Risk Management – Market Risk Management – Risk Measures – Stress Testing" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 10-K.

The table below presents the components of own funds requirements under the standardised approach as of November 30, 2018.

Table 21: Market Risk under the Standardised Approach

$ in millions | **As of November 2018**

		RWAs			Capital Requirements		
		GSGUK	**GSI**	**GSIB**	**GSGUK**	**GSI**	**GSIB**
	Outright products						
1	Interest rate risk (general and specific)	$ 20,768	$ 20,768	-	$ 1,661	$ 1,661	-
2	Equity risk (general and specific)	4,945	4,945	-	396	396	-
3	Foreign exchange risk	3,906	3,740	68	314	300	5
4	Commodity risk	1,203	865	-	96	69	-
4a	Collective investment undertakings	3,339	3,339	-	267	267	-
	Options						
5	Simplified approach	481	481	-	38	38	-
8	Securitisation (specific risk)	4,987	4,987	-	399	399	-
9	**Total**	**$ 39,629**	**$ 39,125**	**$ 68**	**$ 3,171**	**$ 3,130**	**$ 5**

Operational Risk Management

Overview

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes, people, systems or from external events. The firm's exposure to operational risk arises from routine processing errors as well as extraordinary incidents, such as major systems failures or legal and regulatory matters.

Potential types of loss events related to internal and external operational risk include:

- Clients, products and business practices;
- Execution, delivery and process management;
- Business disruption and system failures;
- Employment practices and workplace safety;
- Damage to physical assets;
- Internal fraud; and
- External fraud.

The firm maintains a comprehensive control framework designed to provide a well-controlled environment to minimise operational risks. The EMEA Operational Risk Committee provides oversight of the ongoing development and implementation of operational risk policies, framework and methodologies, with oversight from the directors of the firm, and monitors the effectiveness of operational risk management.

Operational Risk Management, which is independent of the firm's revenue-producing units and reports to the firm's chief risk officer, has primary responsibility for developing and implementing a formalised framework for assessing, monitoring and managing operational risk with the goal of maintaining the firm's exposure to operational risk at levels that are within its risk appetite.

Operational Risk Management Process

The firm's process for managing operational risk includes:

- Collecting complete, accurate and timely information;
- Training, supervision and development of people;
- Active participation of senior management in identifying and mitigating key operational risks;
- Independent risk oversight and control functions that monitor operational risk, and implementation of policies and procedures, and controls designed to prevent the occurrence of operational risk events; and
- Proactive communication between revenue-producing units and independent risk oversight and control functions.

The firm combines top-down and bottom-up approaches to manage and measure operational risk. From a top-down perspective, senior management assesses firmwide and business-level operational risk profiles. From a bottom-up perspective, the first and second lines of defence are responsible for risk identification and risk management on a day-to-day basis, including escalating operational risks to senior management.

The firm's operational risk management framework is in part designed to comply with the operational risk measurement rules under the Capital Framework and has evolved based on the changing needs of its businesses and regulatory guidance.

The operational risk management framework consists of risk identification and assessment, risk measurement and risk monitoring and reporting.

Risk Identification and Assessment

The core of the firm's operational risk management framework is risk identification and assessment. The firm has a comprehensive data collection process, including firmwide policies and procedures, for operational risk events.

The firm has established policies that require all employees to report and escalate operational risk events. When operational risk events are identified, the policies require that the events be documented and analysed to determine whether changes are required in the systems and/or processes to further mitigate the risk of future events.

The firm uses operational risk applications to capture and organise operational risk event data and key metrics. One of the key risk identification and assessment tools is an operational risk and control self-assessment process, which is performed by managers across the firm. This process consists of the identification and rating of operational risks, on a forward-looking basis, and the related controls. The results from this process are analysed to evaluate operational risk exposures and identify businesses, activities or products with heightened levels of operational risk.

Risk Measurement

The firm measures operational risk exposure using both statistical modelling and scenario analyses, which involves qualitative and quantitative assessments of internal and external operational risk event data and internal control factors for each of our businesses. Operational risk measurement also incorporates an assessment of business environment factors including, but not limited to:

- Evaluations of the complexity of business activities;
- The degree of automation in our processes;
- New activity information;
- The legal and regulatory environment; and
- Changes in the markets for our products and services, including the diversity and sophistication of our customers and counterparties.

The results from these scenario analyses are used to monitor changes in operational risk and to determine business lines that may have heightened exposure to operational risk. These analyses are used in the determination of the appropriate level of operational risk capital to hold.

Risk Monitoring and Reporting

The firm evaluates changes in its operational risk profile and its businesses, including changes in business mix or jurisdictions in which the firm operates, by monitoring the factors noted above at a firmwide level. The firm has both preventive and detective internal controls, which are designed to reduce the frequency and severity of operational risk losses and the probability of operational risk events. The firm monitors the results of assessments and independent internal audits of these internal controls.

Periodic operational risk reports are provided to senior management, the GSI and GSIB Risk Committees and our Boards of Directors. In addition, we have established thresholds to monitor the impact of an operational risk event, including single loss events and cumulative losses over a twelve-month period, as well as escalation protocols. If incidents breach escalation thresholds, respective operational risk reports are provided to senior management and the GSI and GSIB Board Risk Committees.

Model Review and Validation

The statistical models utilised by Operational Risk Management are independently reviewed, validated and approved by Model Risk Management. See "Model Risk Management" for further information.

Capital Requirements

The consolidated operational risk capital requirements for GSGUK are currently calculated under the Standardised Approach in accordance with CRD IV. GSI also follows this method. GSIB applies the Basic Indicator Approach in accordance with CRD IV.

Table 22: Operational Risk Capital Requirement

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
Standardised Approach	**$ 1,257**	**$ 1,128**	**-**
Basic Indicator Approach	**-**	**-**	**$ 37**

Model Risk Management

Overview

Model risk is the potential for adverse consequences from decisions made based on model outputs that may be incorrect or used inappropriately. The firm relies on quantitative models across business activities primarily to value certain financial assets and financial liabilities, to monitor and manage risk, and to measure and monitor regulatory capital.

The firm's model risk management framework is managed through a governance structure and risk management controls, which encompass standards designed to ensure we maintain a comprehensive model inventory, including risk assessment and classification, sound model development practices, independent review and model-specific usage controls. The Firmwide Model Risk Control Committee oversees the model risk management framework.

Model Risk Management, which is independent of revenue-producing units, model developers, model owners and model users, and reports to the firm's chief risk officer, has primary responsibility for assessing, monitoring and managing model risk through firmwide oversight across global businesses, and provides periodic updates to senior management, risk committees and the Risk Committee of the GS Board. GSGUK's framework for managing model risk is consistent with and part of GS Group's framework.

Model Review and Validation

Model Risk Management consists of quantitative professionals who perform an independent review, validation and approval of the firm's models. This review includes an analysis of the model documentation, independent testing, an assessment of the appropriateness of the methodology used, and verification of compliance with model development and implementation standards. Model Risk Management reviews all existing models on an annual basis, and approves new models or significant changes to models prior to implementation.

The model validation process incorporates a review of models and trade and risk parameters across a broad range of scenarios (including extreme conditions) in order to critically evaluate and verify:

- The model's conceptual soundness, including the reasonableness of model assumptions, and suitability for intended use;
- The testing strategy utilised by the model developers to ensure that the models function as intended;
- The suitability of the calculation techniques incorporated in the model;
- The model's accuracy in reflecting the characteristics of the related product and its significant risks;
- The model's consistency with models for similar products; and
- The model's sensitivity to input parameters and assumptions.

For more information regarding the use of models within these areas, see "Critical Accounting Policies – Fair Value – Review of Valuation Models," "Risk Management – Liquidity Risk Management," "Risk Management – Market Risk Management," "Risk Management – Credit Risk Management" and "Risk Management – Operational Risk Management" in Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the firm's 2018 Form 10-K and "Credit Risk Management," "Market Risk Management," and "Operational Risk Management" in this document.

Interest Rate Sensitivity

Interest Rate Risk in the Trading Book

Our exposure to interest rate risk in our trading book arises mostly from inventory held to support client market-making activities. This inventory is accounted for at fair value and its interest rate risk is monitored as a component of Market risk. For additional information regarding interest rate risk, see “Risk Management – Market Risk Management” in Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the firm’s 2018 Form 10-K.

Interest Rate Risk in the Banking Book

Our exposure to interest rate risk in the banking book (IRRBB) arises from differences in interest earned or paid as interest rates change, due to the reset characteristics of our assets and liabilities. In September 2018, the introduction of Instant Access Savings deposits via our Marcus by Goldman Sachs brand results in an increase of IRRBB risk for GSIB. IRRBB risk may increase further as GSIB continues to focus on the expansion of its lending and deposit taking activities. However, our banking book activities’ exposure to movements in interest rates remains immaterial for GSGUK as a whole as at November 30, 2018.

For further information regarding assset-liability management, see “Risk Management – Liquidity Risk Management” in Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the firm’s 2018 Form 10-K.

Leverage Ratio

GSGUK is required to monitor and disclose its leverage ratio using the CRR's definition of exposure as amended by the European Commission Leverage Ratio Delegated Act. In June 2019, the European Commission published updates to the CRR to implement a 3% minimum leverage ratio requirement for certain E.U. financial institutions, including GSGUK. This leverage ratio compares CRR's definition of Tier 1 capital to a measure of leverage exposure, defined as the sum of certain assets plus certain off-balance-sheet exposures (which include a measure of derivatives, securities financing transactions, commitments and guarantees), less Tier 1 capital deductions. The required minimum leverage ratio will become effective for GSGUK on 27 June 2021. This leverage ratio is based on our current interpretation and understanding of this rule and may evolve as the interpretation and application of this rule is discussed with our regulators.

Table 23: Leverage Ratio

$ in millions — **As of November 2018**

	GSGUK	**GSI**	**GSIB**
Tier 1 Capital	$ 37,136	$ 32,199	$ 3,039
Leverage Ratio Exposure	$ 795,170	$ 771,438	$ 23,229
Leverage Ratio	**4.7%**	**4.2%**	**13.1%**

The following tables present further information on the leverage ratio. Table 24 reconciles the exposure measure to the balance sheets of GSGUK, GSI and GSIB. Table 25 breaks down the exposures from on-balance sheet assets by trading and banking book. Table 26 gives further details on the adjustments and drivers of the leverage ratio.

Table 24: Summary Reconciliation of Accounting Assets and Leverage Ratio Exposures

$ in millions — **As of November 2018**

	GSGUK	**GSI**	**GSIB**
Total assets as per balance sheet	**$ 908,735**	**$ 887,374**	**$ 38,750**
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-	-	-
Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR"	-	-	-
Adjustments for derivative financial instruments[1]	(142,929)	(141,457)	(136)
Adjustments for securities financing transactions[1]	20,359	22,836	-
Adjustment for off-balance sheet items [1]	10,722	6,242	4,480
Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013[1]	-	(74)	(19,555)
Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013	-	-	-
Other adjustments	(1,717)	(3,483)	(310)
Total leverage ratio exposure	**$ 795,170**	**$ 771,438**	**$ 23,229**

1. Differences between the accounting values recognised as assets on the balance sheet and the leverage ratio exposure values. A further breakdown of these amounts can be found in Table 26.

Table 25: On-Balance Sheet Exposures

$ in millions — **As of November 2018**

	GSGUK	**GSI**	**GSIB**
Total on-balance sheet exposures[1] (excluding derivatives, SFTs, and exempted exposures), of which:	**$ 147,955**	**$ 131,593**	**$ 12,667**
Trading book exposures	**$ 85,686**	**$ 82,339**	**$ 3,631**
Banking book exposures, of which:	**$ 62,269**	**$ 49,254**	**$ 9,036**
Covered bonds	-	-	-
Exposures treated as sovereigns	38,246	31,373	6,873
Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	-	-	-
Institutions	8,838	7,977	192
Secured by mortgages of immovable properties	-	-	-
Retail exposures	-	-	-
Corporate	11,583	9,059	1,321
Exposures in default	191	191	-
Other exposures	3,411	654	650

Table 26: Leverage Ratio Common Disclosure

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
On-balance sheet exposures (excluding derivatives and SFTs)			
On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	$ 178,126	$ 161,622	$ 14,127
Asset amounts deducted in determining Tier 1 capital	(1,717)	(1,590)	(77)
Total on-balance sheet exposures[1] (excluding derivatives, SFTs and fiduciary assets)	**$ 176,409**	**$ 160,032**	**$ 14,050**
Derivative exposures			
Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	31,670	32,092	245
Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	314,665	316,005	454
Exposure determined under Original Exposure Method	-	-	-
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-	-	-
Deductions of receivables assets for cash variation margin provided in derivatives transactions	(29,126)	(28,910)	(216)
Exempted CCP leg of client-cleared trade exposures	(3,980)	(3,980)	-
Adjusted effective notional amount of written credit derivatives	737,898	737,898	-
Adjusted effective notional offsets and add-on deductions for written credit derivatives	(681,999)	(681,999)	-
Total derivative exposures	**$ 369,128**	**$ 371,106**	**$ 483**
Securities financing transaction exposures			
Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	285,817	280,096	24,418
Netted amounts of cash payables and cash receivables of gross SFT assets	(67,265)	(66,892)	(373)
Counterparty credit risk exposure for SFT assets	20,359	22,837	-
Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	-	-	-
Agent transaction exposures	-	-	-
Exempted CCP leg of client-cleared SFT exposure	-	-	-
Total securities financing transaction exposures	**$ 238,911**	**$ 236,041**	**$ 24,045**
Other off-balance sheet exposures			
Off-balance sheet exposures at gross notional amount	74,611	62,415	12,196
Adjustments for conversion to credit equivalent amounts	(63,889)	(56,173)	(7,716)
Other off-balance sheet exposures	**$ 10,722**	**$ 6,242**	**$ 4,480**
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)			
Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet)	-	(1,983)	(19,829)
Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet)	-	-	-
Capital and total exposures			
Tier 1 capital	$ 37,136	$ 32,199	$ 3,039
Total leverage ratio exposures	**$ 795,170**	**$ 771,438**	**$ 23,229**
Leverage ratio			
Leverage ratio	**4.7%**	**4.2%**	**13.1%**
Choice on transitional arrangements and amount of derecognised fiduciary items			
Choice on transitional arrangements for the definition of the capital measure	**-**	**-**	**-**
Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) No 575/2013	**-**	**-**	**-**

[1] The On Balance Sheet Exposures in Table 26 include cash collateral posted on derivative which is excluded from Table 25 in accordance with the European Commission Implementing Regulation (EU) 2016/200

Factors impacting the Leverage Ratio

The leverage ratio has increased from 4.5% as of December 2017 to 4.7% as of November 2018. This was primarily due to an increase in the company's Tier 1 capital, partially offset by an increase in leverage exposure.

Risk of Excessive Leverage

The risk of excessive leverage is the risk resulting from a vulnerability due to leverage or contingent leverage that may require unintended corrective measures to our business plan, including distressed selling of assets which might result in losses or in valuation adjustments to our remaining assets.

The GSI and GSIB Asset and Liability Committees (GSI and GSIB ALCOs) are the primary governance committees for the management of the UK material subsidiaries' balance sheets. The GSI and GSIB ALCOs are delegated specific responsibility by the GSI and GSIB Risk Committees for maintaining leverage ratios in accordance with the levels expressed in each entity's risk appetite statement.

We monitor the leverage ratio as calculated above and have processes in place to dynamically manage our assets and liabilities. These processes include:

- Monthly leverage ratio monitoring is conducted for GSI and GSIB. Leverage ratio monitoring thresholds have been established for GSI and GSIB and reported to the respective ALCOs, CROs, CFOs, CEOs, Risk Committees and Boards depending on size of movement.
- Quarterly leverage ratio planning which combines our projected leverage ratio assets (on- and off-balance sheet) and Tier 1 capital of GSGUK, GSI and GSIB.
- Potential new transactions which could have a material impact on GSGUK's capital and/or leverage position are escalated to and approved by Corporate Treasury, and by Controllers and other managers from independent control and support functions.

Capital Adequacy

Overview

Capital adequacy is of critical importance to us. We have in place a comprehensive capital management policy that provides a framework, defines objectives and establishes guidelines to assist us in maintaining the appropriate level and composition of capital in both business-as-usual and stressed conditions.

We determine the appropriate level and composition of capital by considering multiple factors including current and future regulatory capital requirements, our Internal Capital Adequacy Assessment Process (ICAAP), results of capital planning and stress testing processes, resolution capital models and other factors such as rating agency guidelines, subsidiary capital requirements, the business environment and conditions in the financial markets.

In addition, as part of the company's comprehensive capital management policy, a contingency capital plan is maintained that provides a framework for analysing and responding to a perceived or actual capital deficiency, including but not limited to, identification of drivers of a capital deficiency, as well as mitigants and potential actions. It outlines the appropriate communication procedures to follow during a crisis period, including internal dissemination of information as well as timely communication with external stakeholders.

Internal Capital Adequacy Assessment Process

We perform an ICAAP with the objective of ensuring that GSGUK is appropriately capitalised relative to the risks in our business. The ICAAP is a comprehensive assessment of the risks to which we are exposed and covers both the risks for which we consider capital to be an appropriate mitigant, and those for which we consider mitigants other than capital to be appropriate.

As part of our ICAAP, we perform an internal risk-based capital assessment. We evaluate capital adequacy based on the result of our internal risk-based capital assessment and our regulatory capital ratios, supplemented with the results of stress tests. Stress testing is an integral component of our ICAAP. It is designed to measure our estimated performance under various stressed market conditions and assists us in analysing whether GSGUK holds an appropriate amount of capital relative to the risks of our businesses. Our goal is to hold sufficient capital to ensure we remain adequately capitalised after experiencing a severe stress event. Our assessment of capital adequacy is viewed in tandem with our assessment of liquidity adequacy and is integrated into our overall risk management structure, governance and policy framework. For further details please refer to the 'Risk Management' pages in this document.

Own Funds Template

The table below presents further information on the detailed capital position of GSGUK, GSI and GSIB, in accordance with the format prescribed by the Commission Implementing Regulation (EU) No 1423/2013.

Table 27: Own Funds Disclosure

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
Capital instruments and the related share premium accounts	$ 2,523	$ 5,446	$ 2,157
Paid up capital instruments	2,135	582	63
Share premium	388	4,864	2,094
Retained earnings	27,851	20,070	959
Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	307	101	(1)
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**$ 30,681**	**$ 25,617**	**$ 3,115**
Additional value adjustments	(334)	(285)	(2)
Intangible assets (net of related tax liability)	(294)	(290)	-
Negative amounts resulting from the calculation of expected loss amounts	(598)	(568)	(30)
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(156)	(157)	1
Deferred tax assets	(45)	-	(45)
Defined-benefit pension fund assets	(406)	(406)	-
Other adjustments[1]	(12)	(12)	-
Total regulatory adjustments to Common equity Tier 1 (CET1)	**$ (1,845)**	**$ (1,718)**	**$ (76)**
Common Equity Tier 1 (CET1) capital	**$ 28,836**	**$ 23,899**	**$ 3,039**
Additional Tier 1 (AT1) capital	**8,300**	**8,300**	**-**
Tier 1 capital (T1 = CET1 + AT1)	**$ 37,136**	**$ 32,199**	**$ 3,039**
Capital instruments and the related share premium accounts	6,503	5,377	826
Qualifying own funds instruments included in consolidated T2 capital issued by subsidiaries and held by third parties	-	-	-
Of which: Instruments issued by subsidiaries subject to phase out	-	-	-
Non qualifying T2 capital instruments	-	-	-
Tier 2 (T2) capital before regulatory adjustments	**$ 6,503**	**$ 5,377**	**$ 826**
Tier 2 (T2) capital	**$ 6,503**	**$ 5,377**	**$ 826**
Total capital (TC = T1 + T2)	**$ 43,639**	**$ 37,576**	**$ 3,865**
Total risk weighted assets	**$ 221,378**	**$ 206,007**	**$ 9,496**
Common Equity Tier 1 (as a percentage of risk exposure amount)	**13.0%**	**11.6%**	**32.0%**
Tier 1 (as a percentage of risk exposure amount)	**16.8%**	**15.6%**	**32.0%**
Total capital (as a percentage of risk exposure amount)	**19.7%**	**18.2%**	**40.7%**
Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	**6.67%**	**6.66%**	**6.58%**
Of which: Capital conservation buffer requirement[2]	**1.88%**	**1.88%**	**1.88%**
Of which: Counter cyclical buffer requirement	**0.28%**	**0.28%**	**0.19%**
Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	**5.0%**	**3.5%**	**23.8%**
Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	**$ 2,193**	**$ 2,025**	**-**
Direct and indirect holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	-	-	-

1. Contains regulatory adjustments for foreseeable charges in GSI.
2. Capital conservation buffer will be fully transitioned by January 1, 2019.

Countercyclical Capital Buffer Template

The following tables present information on the impact of the countercyclical capital buffer as prescribed under CRR 440 which came into force from January 1, 2017.

Table 28: Countercyclical Capital Buffer

$ in millions	As of November 2018		
	GSGUK	**GSI**	**GSIB**
Total risk exposure amount	**$ 221,378**	**$ 206,007**	**$ 9,496**
Countercyclical buffer rate	**0.28%**	**0.28%**	**0.19%**
Countercyclical buffer requirement	**620**	**577**	**18**

The geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer is broken down in Table 29.

As of November 30, 2018 the Financial Policy Committee (FPC) had recognised exposures of U.K. institutions from Norway, Sweden, Hong Kong, Czech Republic, Iceland, Slovakia in addition to the UK as implemented in the calculation of this buffer. These are shown as separate rows below with their respective contributions to own funds requirements for GSGUK, GSI and GSIB.

Table 29: Geographical Distribution of Credit Exposures Relevant for the Calculation of the Buffer

$ in millions — **As of November 2018**

	General credit exposures		**Trading book exposure[1]**		**Securitisation exposure**		**Own funds requirements**					
Breakdown by Country	**Exposure value for SA**	**Exposure value for IRB**	**Sum of long and short position of trading book**	**Value of trading book exposure for internal models**	**Exposure value for SA**	**Exposure value for IRB**	**Of which: General credit exposures**	**Of which: Trading book exposures**	**Of which: Securiti-sation exposures**	**Total**	**Own funds require-ment weights**	**Counter-cyclical capital buffer rate**
Norway	-	$ 180	$ 0	$ 162	-	-	$ 27	$ 20	-	$ 47	0.7%	2.00%
Sweden	-	383	23	1,247	-	-	22	16	-	38	0.6%	2.00%
Hong Kong	-	270	10	3,946	-	-	31	9	-	40	0.6%	1.88%
Czech Republic	-	39	-	43	-	-	1	2	-	3	0.0%	1.00%
Iceland	-	2	-	50	-	-	0	9	-	9	0.1%	1.25%
Slovakia	-	57	-	19	-	-	3	0	-	3	0.0%	1.25%
United Kingdom	3,336	17,255	46,302	1,577,925	307	564	906	630	52	1,588	24.4%	1.00%
Other	1,082	48,971	23,822	590,567	-	-	2,793	1,980	-	4,773	73.4%	0.00%
GSGUK Total	**$ 4,418**	**$ 67,157**	**$ 70,157**	**$ 2,173,959**	**$ 307**	**$ 564**	**$ 3,783**	**$ 2,666**	**$ 52**	**$ 6,501**	**100.0%**	**0.28%**
Norway	-	180	-	162	-	-	27	20	-	47	0.8%	2.00%
Sweden	-	360	23	1,247	-	-	18	16	-	34	0.6%	2.00%
Hong Kong	-	267	10	3,946	-	-	31	9	-	40	0.7%	1.88%
Czech Republic	-	39	-	43	-	-	1	2	-	3	0.1%	1.00%
Iceland	-	2	-	50	-	-	0	9	-	9	0.2%	1.25%
Slovakia	-	57	-	19	-	-	2	0	-	2	0.0%	1.25%
United Kingdom	736	16,582	46,302	1,577,925	-	-	665	630	-	1,295	23.3%	1.00%
Other	-	44,109	23,822	589,601	-	-	2,162	1,957	-	4,119	74.2%	0.00%
GSI Total	**$ 736**	**$ 61,596**	**$ 70,157**	**$ 2,172,993**	**-**	**-**	**$ 2,906**	**$ 2,643**	**-**	**$ 5,549**	**100.0%**	**0.28%**
Norway	-	0	-	-	-	-	0	-	-	0	0.0%	2.00%
Sweden	-	23	-	-	-	-	5	-	-	5	0.7%	2.00%
Hong Kong	-	3	-	-	-	-	0	-	-	0	0.0%	1.88%
Czech Republic	-	-	-	-	-	-	-	-	-	-	0.0%	1.00%
Iceland	-	0	-	-	-	-	-	-	-	-	0.0%	1.25%
Slovakia	-	-	-	-	-	-	-	-	-	-	0.0%	1.25%
United Kingdom	689	673	-	1	307	564	60	0	52	112	17.3%	1.00%
Other	-	4,862	-	965	-	-	507	23	-	530	82.0%	0.00%
GSIB Total	**$ 689**	**$ 5,561**	**-**	**$ 966**	**$ 307**	**$ 564**	**$ 572**	**$ 23**	**$ 52**	**$ 647**	**100.0%**	**0.19%**

1. The value of trading book exposures for both internal models and standard approach has been reported on a gross basis in line with the reporting requirements however does not form the basis for the capital calculation.

Capital Instruments

GSGUKL has issued 213,468,400,601 ordinary A class shares at a par value of $0.01 for a total value of $2,134,684,006. GSI and GSIB have issued ordinary A class shares only to GSGUKL and are 100% wholly owned subsidiaries of GSGUKL. Neither GSGUKL, GSI nor GSIB has any other share classes in issue at this time. All other accounting shareholders' funds relates to share premium of the A class shares in issue, retained earnings and reserves. These items satisfy the conditions laid out under Article 26 of the CRR and are recognised as CET1 capital.

Both GSGUKL and GSI have $8.3billion of Additional Tier 1 (AT1) notes in issue which meet the definition of an Additional Tier 1 instrument under Article 52 of CRD IV as of November 30, 2018. Subordinated liabilities rank junior to senior obligations and generally count towards the capital base of GSGUK. Capital securities may be called and redeemed by the issuing entity, subject to notification and consent of the PRA.

During 2018, the UK group executed a capital restructure as follows:

On November 28 2018, GSGUKL issued $2.5 billion of AT1 notes to a group undertaking, and utilized the proceeds to subscribe for $2.5 billion of AT1 notes in GSI.

On May 18 2018, GSGUKL received a dividend of $0.1 billion from subsidiary undertaking GSAMI.

The following tables summarise the capital instruments issued by GSGUKL, GSI and GSIB. The terms of the Tier 2 instruments have been amended, where required, to meet the eligibility requirements of CRD IV under Articles 62-64.

Table 30: GSGUKL Capital Instruments' Main Features Template

$ in millions					As of November 2018
Issuer	GSGUKL	GSGUKL	GSGUKL	GSGUKL	GSGUKL
Unique Identifier (e.g. CUSIP, ISIN, or Bloomberg identifier for private placement)	N/A	N/A	N/A	N/A	N/A
Governing law(s) of the instrument	UK	UK	UK	UK	UK
Transitional CRR rules	CET1	Tier 2	Tier 2	Additional Tier 1	Tier 2
Post-transitional CRR rules	CET1	Tier 2	Tier 2	Additional Tier 1	Tier 2
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	Consolidated	Consolidated	Consolidated	Consolidated	Consolidated
Instrument type	Ordinary Shares	Subordinated Debt	Subordinated Debt	Deeply Subordinated Undated Additional Tier 1 Notes	Preference Shares
Amount recognised in regulatory capital	2,135	450	5,078	8,300	300
Nominal amount of instrument	2,135	450	5,078	3,000; 2,800; 2,500	300
Issue Price	2,135	450	5,078	$1,000,000 per Note	$1.00 per Preference Share
Redemption Price	2,135	450	5,078	$1,000,000 per Note	$1.00 per Preference Share
Accounting Classification	Shareholders' Equity	Amortised Cost	Amortised Cost	Shareholders' Equity	Amortised Cost
Original date of issuance[1]	Aug 20, 2013	Mar 20, 2013	Aug 1, 2005	June 27, 2017; June 28, 2017; November 28, 2018	June 27, 2018
Perpetual or dated	Perpetual	Dated	Dated	Perpetual	Perpetual
Original maturity date	No maturity	Dec 26, 2022	Dec 14, 2021	No maturity	No maturity
Issuer call subject to prior supervisory approval	N/A	Yes	Yes	No	Yes
Option call date, contingent call dates and redemption amount	N/A	No	No	N/A	June 28, 2023
Subsequent call dates, if applicable	N/A	N/A	N/A	N/A	Daily
Fixed or floating dividend / coupon	N/A	Floating	Floating	Fixed	Floating
Coupon rate and any related index[2]	N/A	CoF + LTDS + 100bps	CoF + LTDS + 100bps	8.55 per cent.; 8.55 per cent.; 8.67 per cent.	LIBOR + 3.77 per cent.
Existence of a dividend stopper	No	No	No	No	No
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully Discretionary	Mandatory	Mandatory	Fully Discretionary	Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully Discretionary	Mandatory	Mandatory	Fully Discretionary	Mandatory
Existence of step up or other incentive to redeem	N/A	N/A	N/A	N/A	No
Noncumulative or cumulative	Non-cumulative	Cumulative	Cumulative	Non-cumulative	Cumulative
Convertible or non-convertible	N/A	Non-convertible	Non-convertible	Convertible	Non-convertible
If convertible, conversion trigger(s)	N/A	N/A	N/A	Issuer discretion	N/A
If convertible, fully or partially	N/A	N/A	N/A	Always fully	N/A
If convertible, conversion rate	N/A	N/A	N/A	Each $1,000,000 nominal amount of Notes shall be converted into such number of Ordinary Shares as have an aggregate market value as closely as possible equal to the nominal amount of such Note.	N/A
If convertible, mandatory or optional conversion	N/A	N/A	N/A	Optional/at the option of the issuer	N/A
If convertible, specify instrument type convertible into	N/A	N/A	N/A	Ordinary Shares	N/A
If convertible, specify issuer of instrument it converts to	N/A	N/A	N/A	GSGUKL	N/A
Write-down features	N/A	N/A	N/A	Yes	N/A
If write-down, write-down trigger(s)	N/A	N/A	N/A	Regulatory Trigger Event[3]	N/A
If write-down, full or partial	N/A	N/A	N/A	Always fully (to $0.01 per Note)	N/A
If write-down, permanent or temporary	N/A	N/A	N/A	Permanent	N/A
If temporary write-down, description of write-up mechanism	N/A	N/A	N/A	N/A	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Preference shares	Unsecured and unsubordinated debt	Unsecured and unsubordinated debt	Preference Shares	Unsecured and unsubordinated debt
Non-compliant transitioned features	No	No	No	No	No
If yes, specify non-compliant features	N/A	N/A	N/A	N/A	N/A

1. First date of ordinary share issuance.
2. CoF represents Cost of Funds (the US Federal Reserve Funds Rate) and LTDS represents Long Term Debt Spread (the Goldman Sachs Weighted Average Cost of Debt).
3. Regulatory Trigger Event will be deemed to have occurred at any time where: (i) the CET1 Ratio of the GSGUKL and its consolidated subsidiaries as calculated by GSGUKL or the PRA is less than 7 per cent.; and or (ii) the CET1 Ratio of GSI as calculated by GSGUKL or the PRA is less than 7 per cent.

Table 31: GSI and GSIB Capital Instruments' Main Features Template

$ in millions							As of November 2018
Issuer	GSI	GSI	GSI	GSI	GSI	GSIB	GSIB
Unique Identifier	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Governing law(s) of the instrument	UK	UK	UK	UK	UK	UK	UK
Transitional CRR rules	CET1	Tier 2	Tier 2	Additional Tier 1	Tier 2	CET1	Tier 2
Post-transitional CRR rules	CET1	Tier 2	Tier 2	Additional Tier 1	Tier 2	CET1	Tier 2
Eligible at solo/(sub-) consolidated/solo&(sub-) consolidated	Consolidated	Consolidated	Consolidated	Consolidated	Consolidated	Consolidated	Consolidated
Instrument type	Ordinary Shares	Sub-ordinated Debt	Sub-ordinated Debt	Deeply Subordinated Undated Additional Tier 1 Notes	Sub-ordinated Debt	Ordinary Shares	Sub-ordinated Debt
Amount recognised in regulatory capital	582	4,252	675	8,300	450	63	826
Nominal amount of instrument	582	4,252	675	3,300; 2,500; 2,500	450	63	826
Issue Price	582	4,252	675	$1,000,000 per Note	450	63	826
Redemption Price	582	4,252	675	$1,000,000 per Note	450	63	826
Accounting Classification	Shareholder's Equity	Amortised Cost	Amortised Cost	Shareholder's Equity	Amortised Cost	Shareholder's Equity	Amortised Cost
Original date of issuance[1]	May 18, 1988	July 31, 2003	June 26, 2012	June 27, 2017; June 28, 2017; 28 November, 2018	Mar 20, 2013	Jun 28, 1973	Sep 9, 2015
Perpetual or dated	Perpetual	Dated	Dated	Perpetual	Dated	Perpetual	Dated
Original maturity date	No maturity	Dec 14, 2021	Dec 26, 2024	No maturity	Dec 26, 2024	No maturity	10 years from agreement
Issuer call subject to prior supervisory approval	N/A	Yes	Yes	No	Yes	N/A	Yes
Option call date, contingent call dates and redemption amount	N/A	No	No	N/A	No	N/A	No
Subsequent call dates, if applicable	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fixed or floating dividend / coupon	N/A	Floating	Floating	Fixed	Floating	N/A	Floating
Coupon rate and any related index[2]	N/A	CoF + LTDS + 100bps	CoF + LTDS + 100bps	8.55 per cent.; 8.55 per cent.; 8.67 per cent.	CoF + LTDS + 100bps	N/A	CoF + 341bps
Existence of a dividend stopper	No	No	No	No	No	No	No
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully discretionary	Mandatory	Mandatory	Fully Discretionary	Mandatory	Fully discretionary	Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully discretionary	Mandatory	Mandatory	Fully Discretionary	Mandatory	Fully discretionary	Mandatory
Existence of step up or other incentive to redeem	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noncumulative or cumulative	Non-cumulative	Cumulative	Cumulative	Non-cumulative	Cumulative	Non-cumulative	Cumulative
Convertible or non-convertible	N/A	Non-Convertible	Non-Convertible	Convertible	Non- Convertible	N/A	Non- Convertible
If convertible, conversion trigger(s)	N/A	N/A	N/A	Issuer discretion	N/A	N/A	N/A
If convertible, fully or partially	N/A	N/A		Always fully	N/A	N/A	N/A
If convertible, conversion rate	N/A	N/A		Each $1,000,000 nominal amount of Notes shall be converted into such number of Ordinary Shares as have an aggregate market value as closely as possible equal to the nominal amount of such Note.	N/A	N/A	N/A
If convertible, mandatory or optional conversion	N/A	N/A		Optional/at the option of the issuer	N/A	N/A	N/A
If convertible, specify instrument type convertible into	N/A	N/A		Ordinary Shares	N/A	N/A	N/A
If convertible, specify issuer of instrument it converts to	N/A	N/A		GSI	N/A	N/A	N/A
Write-down features	N/A	N/A	N/A	Yes	N/A	N/A	N/A
If write-down, write-down trigger(s)	N/A	N/A	N/A	Regulatory Trigger Event[3]	N/A	N/A	N/A
If write-down, full or partial	N/A	N/A	N/A	Always fully (to $0.01 per Note)	N/A	N/A	N/A
If write-down, permanent or temporary	N/A	N/A	N/A	Permanent	N/A	N/A	N/A
If temporary write-down, description of write-up mechanism	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Preference shares	Unsecured and unsubord-inated debt	Unsecured and unsubord-inated debt	Preference Shares	Unsecured and unsubord-inated debt	Preference shares	Unsecured and unsubord-inated debt
Non-compliant transitioned features	No	No	No	No	No	No	No
If yes, specify non-compliant features	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. First date of ordinary share issuance.
2. CoF represents Cost of Funds (the US Federal Reserve Funds Rate) and LTDS represents Long Term Debt Spread (the Goldman Sachs Weighted Average Cost of Debt).
3. Regulatory Trigger Event will be deemed to have occurred at any time where: (i) the CET1 Ratio of the GSGUKL and its consolidated subsidiaries as calculated by GSGUKL or the PRA is less than 7 per cent.; and or (ii) the CET1 Ratio of GSI as calculated by GSGUKL or the PRA is less than 7 per cent.

Governance Arrangements

Directors of GSI and GSIB are selected based primarily on the following criteria: (i) judgement, character, expertise, skills and knowledge useful to the oversight of the companies' businesses; (ii) diversity of viewpoints, backgrounds, experiences, and other demographics; (iii) business or other relevant experience; and (iv) the extent to which the interplay of the candidate's expertise, skills, knowledge and experience with that of other Board members will build a Board that is effective, collegial and responsive to the needs of the companies.

In selecting new directors, we consider a number of factors in seeking to develop a Board that, as a whole, reflects a range of skills, diversity, experience and expertise. It is our aim that at least 25% of the members of the Boards of the regulated entities in our UK group are women.

As of November 30, 2018, 40% of the members of the Board of GSI and 25% of the members of the Board of GSIB were women.

We have set out below information on the members of the Boards of Directors of GSI and GSIB as of November 30, 2018, together with the number of directorships they held at that date, including those at Goldman Sachs. We have excluded appointments held with organisations which do not pursue predominantly commercial objectives, such as charitable, educational and religious community organisations and counted directorships held within the same group as a single directorship in accordance with the FCA's Senior Management Arrangements, Systems and Controls (SYSC) handbook under requirement 4.3A.7.

Table 32: GSI Board of Directors[1]

Name	Role	Background	Directorships
J. M. D. Barroso	Non-executive director and chair	José Manuel joined the GSI Board of Directors in July 2016 as chair and a non-executive director, and also acts as an advisor to the firm. He is also a member of the GSI Board Nominations Committee. He served as President of the European Commission from 2004 to 2014 and as the Prime Minister of Portugal from 2002 to 2004. José Manuel has a number of academic positions and has received various honorary degrees, prizes and decorations.	**3**
S. A. Boyle	Executive director	Sally was appointed as a director of GSI in June 2018. Sally is head of Human Capital Management (HCM) in Europe, the Middle East and Africa (EMEA) and is responsible for HCM manager experience functions globally. Sally is also a member of the Supervisory Boards of Goldman Sachs Bank Europe SE, Goldman Sachs Group Europe SE and Goldman Sachs Europe SE. She is a member of the European Management Committee, Firmwide Conduct and Operational Risk Committee, EMEA Culture and Conduct Risk Committee and the Vendor Management Operating Committee. Sally joined Goldman Sachs in 1999, before which she was a partner at Mills & Reeve Solicitors. Sally is also a non-executive director of the Royal Air Force.	**1**
R. J. Gnodde	Executive director and chief executive officer	Richard is chief executive officer of GSI. He has been a member of the Firmwide Management Committee since 2003 and also serves as chair of the European Management Committee and a member of the Firmwide Reputational Risk Committee. Richard joined Goldman Sachs in 1987.	**1**
Lord Grabiner QC	Non-executive director	Lord Grabiner joined the GSI Board of Directors in June 2015 and is chair of the GSI Board Remuneration and Nominations Committees and a member of the GSI Board Audit Committee. He is a barrister and head of chambers at One Essex Court, and also sits as a deputy High Court Judge. Lord Grabiner also serves as non-executive director and President of The University of Law Limited and as the Master of Clare College, Cambridge.	**2**
N. Harman	Non-executive director	Nigel joined the GSI Board of Directors in December 2016 and is chair of the GSI Board Audit Committee and a member of the GSI Board Risk Committee. He was formerly a partner at KPMG, acting in a number of roles including chairman of UK Banking, head of Banking and head of Financial Risk Management.	**1**
S. S. Kilsby[1]	Non-executive director	Susan joined the GSI Board of Directors in May 2016 and is a member of the GSI Board Audit Committee and the GSI Board Risk Committee. Susan has also served as chair of Shire plc since 2014, prior to which she was an independent non-executive director of the company since 2011. She is also a non-executive director of Diageo plc, BBA Aviation plc and Fortune Brands Home & Security, Inc.	**4**
D. W. McDonogh	Executive director	Dermot joined the GSI Board of Directors in December 2016 and is chief operating officer and chief financial officer for EMEA. He is also the Chair of the Supervisory Boards of Goldman Sachs Bank Europe SE, Goldman Sachs Group Europe SE and Goldman Sachs Europe SE. He serves on a number of the firm's committees including the European Management Committee, Firmwide Client and Business Standards Committee, Firmwide Risk Committee and the Firmwide Asset and Liability Committee. Additionally, Dermot co-chairs the GSI Risk Committee and the EMEA Culture and Conduct Risk Committee. Dermot joined Goldman Sachs in 1994.	**1**
T. L. Miller OBE	Non-executive director	Therese ("Terry") Miller joined the GSI Board of Directors in July 2018 and is a member of the GSI Board Audit and Risk Committees. She served as general counsel for the London Organising Committee of the Olympic Games and Paralympic Games ("LOCOG") from 2006 to 2013. Prior to joining LOCOG, Terry was the International General Counsel of GSI. She is a non-executive director of Rothesay Life plc and the senior independent director and chair of the remuneration committee of Galliford Try plc, as well as a trustee of the Invictus Games Foundation.	**4**

E. E. Stecher	Non-executive director and chair	Esta joined the GSI Board of Directors in July 2018 and is a member of the GSI Remuneration Committee. She also chairs the Goldman Sachs Bank USA Board of Directors and is the Deputy Chair of the Supervisory Boards of Goldman Sachs Bank Europe SE, Goldman Sachs Group Europe SE and Goldman Sachs Europe SE. She is a member of the Firmwide Reputational Risk Committee and previously served on the Firmwide Management Committee. Esta joined Goldman Sachs in 1994, prior to which she was a partner at Sullivan & Cromwell.	**1**
M. O. Winkelman	Non-executive director	Mark joined the GSI Board of Directors in June 2016 and is the chair of the GSI Board Risk Committee and a member of the GSI Board Remuneration Committee. He has also served as a director of The Goldman Sachs Group, Inc. since 2014 and is a member of The Goldman Sachs Group, Inc. Audit and Risk Committees. Mark previously held a number of senior roles at Goldman Sachs between 1978 and 1994, including as a member of the Management Committee, co-head of the Fixed Income Division and head of the J. Aron Division. Mark also serves as a Trustee of the Board of Penn Medicine of the University of Pennsylvania.	**1**

1. Susan Kilsby resigned as a director of GSI on December 31, 2018.

Table 33: GSIB Board of Directors[1]

Name	Role	Background	Director-ships
D. C. M. Bicarregui	Executive director	David joined the GSIB Board of Directors in December 2016 and is the chief financial officer of GSIB and the firm's EMEA treasurer. He serves on a number of the firm's committees including the Firmwide, GSI and GSIB Asset and Liability Committees, the Firmwide New Activity Committee, and is a member of the GSIB Management Committee, the GSIB Risk Committee and the Deposit Pricing and Acquisition Subcommittee. David joined Goldman Sachs in 1997.	**2**
Lord Grabiner QC	Non-executive director	Lord Grabiner joined the GSIB Board of Directors in March 2016 and is chair of the GSIB Board Remuneration and Nominations Committees and a member of the GSIB Board Audit Committee. He is a barrister and head of chambers at One Essex Court, and also sits as a deputy High Court Judge. Lord Grabiner also serves as non-executive director and President of The University of Law Limited and as the Master of Clare College, Cambridge.	**2**
N. Harman	Non-executive director	Nigel joined the Board of Directors of GSIB in December 2016 2016 and is chair of the GSIB Board Audit Committee and a member of the GSIB Board Risk Committee. He was formerly a partner at KPMG, acting in a number of roles including chairman of UK Banking, head of Banking and head of Financial Risk Management.	**1**
E. H. Leouzon[1]	Executive director	Eugène joined the GSIB Board of Directors in September 2012. He is the firm's global chief underwriting officer and leads the firm's Debt Underwriting Group. Eugène is co-chair of the Firmwide Commitments Committee and the Asia Pacific Capital Committee. He serves on the GSIB Risk Committee, GSI Risk Committee, Firmwide Capital Committee, Firmwide Suitability Committee, Firmwide Risk Committee, and the Asia Pacific Commitments Committee.	**1**
D. W. McDonogh	Executive director and chief executive officer	Dermot is chief executive officer of GSIB. He is also chief operating officer and chief financial officer for EMEA and the Chair of the Supervisory Boards of Goldman Sachs Bank Europe SE, Goldman Sachs Group Europe SE and Goldman Sachs Europe SE. He serves on a number of the firm's committees including the European Management Committee, Firmwide Client and Business Standards Committee, Firmwide Risk Committee and the Firmwide Asset and Liability Committee. Additionally, Dermot chairs the GSIB Management Committee and co-chairs the GSIB Risk Committee and the EMEA Culture and Conduct Risk Committee. He joined Goldman Sachs in 1994.	**1**
T. L. Miller OBE	Non-executive director	Therese ("Terry") Miller joined the GSIB Board of Directors in August 2015 and is chair of the GSIB Board Risk Committee and a member of the GSIB Board Audit Committees. She served as general counsel for the London Organising Committee of the Olympic Games and Paralympic Games ("LOCOG") from 2006 to 2013. Prior to joining LOCOG, Terry was the International General Counsel of GSI. She is a non-executive director of Rothesay Life plc and the senior independent director and chair of the remuneration committee of Galliford Try plc, as well as a trustee of the Invictus Games Foundation.	**4**
E. E. Stecher	Non-executive director and chair	Esta joined the GSIB Board of Directors in 2011 and was appointed chair in October 2016. She is a member of the GSIB Board Nominations and Remuneration Committees. She also chairs the Goldman Sachs Bank USA Board of Directors and is the Deputy Chair of the Supervisory Boards of Goldman Sachs Bank Europe SE, Goldman Sachs Group Europe SE and Goldman Sachs Europe SE. She is a member of the Firmwide Reputational Risk Committee and previously served on the Firmwide Management Committee. Esta joined Goldman Sachs in 1994, prior to which she was a partner at Sullivan & Cromwell.	**1**
D. D. Wildermuth	Non-executive director	David joined the GSIB Board of Directors in March 2012 and is a member of the GSIB Board Risk Committee. He is the firm's deputy risk officer with oversight for credit risk, debt underwriting, enterprise risk and liquidity risk. David serves as chair of the Allowance for Loan and Leases Losses Committee and the Securities Division Franchise Investment Committee. He is also a member of the Firmwide Risk Committee, Firmwide Capital Committee, Firmwide Enterprise Risk Committee, Firmwide Model Risk Control Committee, Risk Governance Committee, Firmwide Investment Policy Committee and the Investment Banking Division Growth Investing Committee. David joined Goldman Sachs in 1997.	**1**

1. Eugene Leouzon resigned as a director of GSIB on December 31, 2018.

Cautionary Note on Forward-Looking Statements

We have included or incorporated by reference in these disclosures, and from time to time our management may make, statements that may constitute "forward-looking statements." Forward-looking statements are not historical facts, but instead represent only our beliefs regarding future events, many of which, by their nature, are inherently uncertain and outside our control. These statements include statements other than historical information or statements of current conditions.

It is possible that our actual results and financial condition may differ, possibly materially, from the anticipated results and financial condition indicated in these forward-looking statements. Important factors that could cause our actual results and financial condition to differ from those indicated in the forward-looking statements include, among others, those discussed under "Risk Factors" in Part I, Item 1A in the firm's 2018 Form 10-K.

Asset Encumbrance

Disclosure of the information required under article 443 of the CRR, including those detailed in the EU Commission Delegated Regulation on encumbered and unencumbered assets, has been made under separate disclosure on November 30, 2018.

The asset encumbrance disclosure for GSGUK, published on the firm's website adjacent to this document, can be accessed via the following link:

http://www.goldmansachs.com/disclosures/index.html

Liquidity Risk Management

Disclosure of the information required under article 435 of the CRR, including those detailed in the EBA Guidelines on liquidity risk management, has been made under separate disclosure on December 31, 2018.

The liquidity risk management disclosure for GSGUK, published on the firm's website adjacent to this document, can be accessed via the following link:

http://www.goldmansachs.com/disclosures/index.html

UK Remuneration Disclosures

Disclosure of the information required under article 450 of the CRR, including those detailed in the EBA Guidelines on remuneration policy, has been made under separate disclosure on December 31, 2018.

The remuneration disclosure for GSGUK, published on the firm's website adjacent to this document, can be accessed via the following link:

http://www.goldmansachs.com/disclosures/index.html

Glossary

- **Advanced Internal Ratings-Based (AIRB).** The AIRB approach of CRD IV provides a methodology for banks, subject to supervisory approval, to use various risk parameters to determine the EAD and risk-weights for regulatory capital calculations. Other risk parameters used in the determination of risk weights are each counterparty's Probability of Default (PD), Loss Given Default (LGD) and the effective maturity of the trade or portfolio of trades.

- **Central Counterparty (CCP).** A counterparty, such as a clearing house, that facilitates trades between counterparties.

- **Comprehensive Risk.** The potential loss in value, due to price risk and defaults, for credit correlation positions. Comprehensive risk consists of a modelled measure which is calculated at a 99.9% confidence level over a one-year time horizon, subject to a floor which is 8% of the standardised specific risk add-on.

- **Credit Correlation Position.** A securitisation position for which all or substantially all of the value of the underlying exposures is based on the credit quality of a single company for which a two-way market exists, or indices based on such exposures for which a two-way market exists, or hedges of these positions (which are typically not securitisation positions).

- **Credit Risk.** The potential for loss due to the default or deterioration in credit quality of a counterparty (e.g., an OTC derivatives counterparty or a borrower) or an issuer of securities or other instruments we hold.

- **Credit Valuation Adjustment (CVA).** An adjustment applied to uncollateralised OTC derivatives to cover the risk of mark-to-market losses of bilateral credit risk (i.e. counterparty and own) in uncollateralised derivatives.

- **Debt Valuation Adjustment (DVA).** An adjustment applied to debt held at fair value representing the mark-to-market of unilateral own credit risk in unsecured debt held at fair value.

- **Default.** A default is considered to have occurred when either or both of the two following events have taken place: (i) we consider that the obligor is unlikely to pay its credit obligations to us in full; or (ii) the obligor has defaulted on a payment and/or is past due more than 90 days on any material Wholesale credit obligation, 180 days on residential mortgage obligations or 120 days on other retail obligations.

- **Default Risk.** The risk of loss on a position that could result from failure of an obligor to make timely payments of principal or interest on its debt obligation, and the risk of loss that could result from bankruptcy, insolvency, or similar proceedings.

- **Effective Expected Positive Exposure (EEPE).** The time-weighted average of non-declining positive credit exposure over the EE simulation. EEPE is used in accordance with the IMM as the exposure measure that is then risk weighted to determine counterparty risk capital requirements.

- **Event Risk.** The risk of loss on equity or hybrid equity positions as a result of a financial event, such as the announcement or occurrence of a company merger, acquisition, spin-off, or dissolution.

- **Expected Exposure (EE).** The expected value of the probability distribution of non-negative credit risk exposures to a counterparty at any specified future date before the maturity date of the longest term transaction in a netting set.

- **Exposure at Default (EAD).** The exposure amount that is risk weighted for regulatory capital calculations. For on-balance-sheet assets, such as receivables and cash, EAD is generally based on the balance sheet value. For the calculation of EAD for off-balance-sheet exposures, including commitments and guarantees, an equivalent exposure amount is calculated based on the notional amount of each transaction multiplied by a credit conversion factor designed to estimate the net additions to funded exposures that would be likely to occur over a one-year horizon, assuming the obligor were to default. For substantially all of the counterparty credit risk arising from OTC derivatives, exchange-traded derivatives and securities financing transactions, internal models calculate the distribution of exposure upon which the EAD calculation is based.

- **Idiosyncratic Risk.** The risk of loss in the value of a position that arises from changes in risk factors unique to that position.

- **Incremental Risk.** The potential loss in value of non-securitised inventory positions due to the default or credit migration of issuers of financial instruments over a one-year time horizon. This measure is calculated at a 99.9% confidence level over a one-year time horizon using a multi-factor model.

- **Internal Models Methodology (IMM).** The IMM under CRD IV rules establishes a methodology for entities to use their internal models to estimate exposures arising from OTC derivatives, securities financing transactions and cleared transactions, subject to qualitative and quantitative requirements and supervisory approval.
- **Loss Given Default (LGD).** An estimate of the economic loss rate if a default occurs during economic downturn conditions.
- **Market Risk.** The risk of loss in the value of our inventory, as well as certain other financial assets and financial liabilities, due to changes in market conditions.
- **Operational Risk.** The risk of loss resulting from inadequate or failed internal processes, people, systems or from external events.
- **Other Systemically Important Institutions.** Institutions identified by national regulators as those whose failure or malfunction could potentially lead to serious negative consequences for the domestic financial systems and real economy.
- **Prudent Valuation Adjustment (PVA).** A deduction from CET1 capital where the prudent value of trading assets or other financial assets measured at fair value is materially lower than the fair value recognised in the consolidated financial information.
- **Probability of Default (PD).** Estimate of the probability that an obligor will default over a one-year horizon.
- **Ratings Based Approach.** Under the ratings based method, the risk weighted exposure amount of a rated securitisation position or resecuritisation position are calculated by applying to the exposure value the risk weight associated with the credit quality step as prescribed in CRD IV multiplied by 1.06.
- **Regulatory Value-at-Risk (VaR).** The potential loss in value of trading positions due to adverse market movements over a 10-day time horizon with a 99% confidence level.
- **Regulatory VaR Backtesting.** Comparison of daily positional loss results to the Regulatory VaR measure calculated as of the end of the prior business day.
- **Resecuritisation Position.** Represents an on or off-balance-sheet transaction in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation position.
- **Securitisation Position.** Represents a transaction or scheme in which the credit risk associated with an exposure or pool of exposures is tranched and both payments in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures and the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme.
- **Specific Risk.** The risk of loss on a position that could result from factors other than broad market movements and includes event risk, default risk and idiosyncratic risk. The specific risk add-on is applicable for both securitisation positions and for certain non-securitised debt and equity positions, to supplement the model-based measures.
- **Stress Testing.** Stress testing is a method of determining the effect of various hypothetical stress scenarios.
- **Stressed VaR (SVaR).** The potential loss in value of inventory positions, as well as certain other financial assets and financial liabilities, during a period of significant market stress. SVaR is calculated at a 99% confidence level over a 10-day horizon using market data inputs from a continuous 12-month period of stress.
- **Synthetic Securitisation.** Defined as a securitisation transaction in which the tranching is achieved by the use of credit derivatives or guarantees, and the pool of exposures is not removed from the balance sheet of the originator.
- **Traditional Securitisation.** Defined as a securitisation transaction which involves the economic transfer of the exposures being securitised to a securitisation special purpose entity which issues securities; and so that this must be accomplished by the transfer of ownership of the securitised exposures from the originator or through sub-participation; and the securities issued do not represent payment obligations of the originator.
- **Value-at-Risk (VaR).** The potential loss in value of inventory positions, as well as certain other financial assets and financial liabilities, due to adverse market movements over a defined time horizon with a specified confidence level. Risk management VaR is calculated at a 95% confidence level over a one-day horizon.
- **Wholesale Exposure.** A term used to refer collectively to credit exposures to companies, sovereigns or government entities (other than Securitisation, Retail or Equity exposures).

Appendix I: Scope of Consolidation Tables

Consolidated Balance Sheet under the Regulatory Scope of Consolidation

The following three tables provide a reconciliation of GSGUK, GSI and GSIB balance sheet as of November 30, 2018 on an accounting consolidation basis to the GSGUK, GSI and GSIB balance sheet under the regulatory scope of consolidation. It also breaks down how carrying values under the scope of regulatory consolidation are allocated to the different risk frameworks laid out in Part Three of the CRR.

Table 34: Differences Between Accounting and Regulatory Scopes of Consolidation and Mapping of Financial Statement Categories with Regulatory Risk Categories

GSGUK

$ in millions **As of November 2018**

		Carrying values of items				
	Carrying values as reported in published financial statements and under the scope of regulatory consolidation	**Subject to the credit risk framework**	**Subject to the CCR framework**	**Subject to the securitisation framework**	**Subject to the market risk framework**	**Not subject to capital requirements or subject to deduction from capital**
Assets						
Cash at bank and in hand	$ 32,097	$ 30,590	-	-	-	$ 1,507
Receivables from Broker Dealers and Customers	57,580	9,808	47,519	254	-	-
Cash Instruments Owned	83,457	4,015	-	617	78,825	-
Derivative financial instruments	512,057	885	511,172	-	511,172	-
Collateralised agreements	208,681	-	208,681	-	202,906	-
Fixed assets	569	278	-	-	-	290
Other Assets	14,294	3,346	10,475	-	-	472
Total assets	**$ 908,735**	**$ 48,922**	**$ 777,847**	**$ 871**	**$ 792,903**	**$ 2,269**
Liabilities						
Amounts due to Broker Dealers & Customers	114,497	-	-	-	444	114,053
Collateralised financings	128,475	-	128,474	-	128,474	1
Cash Instruments sold but not yet purchased	47,609	-	-	-	47,135	474
Derivative financial instruments	498,475	-	497,457	-	497,457	1,018
Other Creditors	80,297	-	-	-	-	80,297
Total liabilities	**$ 869,353**	**-**	**$ 625,931**	**-**	**$ 673,510**	**$ 195,843**

GSI

$ in millions						As of November 2018
		Carrying values of items				
	Carrying values as reported in published financial statements and under the scope of regulatory consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets						
Cash at bank and in hand	$ 24,396	$ 22,889	-	-	-	$ 1,507
Receivables from Broker Dealers and Customers	52,084	5,235	46,849	-	-	-
Cash Instruments Owned	81,566	1,142	-	-	80,424	-
Derivative financial instruments (Assets)	512,563	620	511,943	-	511,943	-
Collateralised agreements	203,334	-	203,334	-	203,334	-
Fixed assets	315	25	-	-	-	290
Other Assets	13,116	3,277	9,409	-	-	429
Total assets	**$ 887,374**	**$ 33,188**	**$ 771,535**	**-**	**$ 795,701**	**$ 2,226**
Liabilities						
Amounts due to Broker Dealers & Customers	53,646	-	-	-	-	53,646
Collateralised financings	147,777	-	147,777	-	147,777	-
Cash Instruments sold but not yet purchased	47,600	-	-	-	47,135	465
Derivative financial instruments (Liabilities)	498,386	-	498,106	-	498,106	280
Other Creditors	106,048	-	-	-	-	106,048
Total liabilities	**$ 853,457**	**-**	**$ 645,883**	**-**	**$ 693,018**	**$ 160,439**

GSIB

$ in millions | **As of November 2018**

	Carrying values as reported in published financial statements and under the scope of regulatory consolidation	Carrying values of items				
		Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets						
Cash at bank and in hand	$ 6,984	$ 6,984	-	-	-	-
Receivables from Customers	5,536	4,408	874	254	-	-
Cash Instruments Owned	736	117	-	617	2	-
Derivative financial instruments (Assets)	619	265	354	-	354	-
Collateralised agreements	24,073	-	24,073	-	-	-
Fixed assets	-	-	-	-	-	-
Other Assets	802	756	-	-	-	45
Total assets	**$ 38,750**	**$ 12,530**	**$ 25,301**	**$ 871**	**$ 356**	**$ 45**
Liabilities						
Amounts due to Customers	32,445	-	-	-	444	32,001
Collateralised financings	8	-	8	-	-	-
Cash Instruments sold but not yet purchased	12	-	-	-	2	9
Derivative financial instruments (Liabilities)	1,082	-	345	-	345	737
Long-term subordinated loans from group undertakings	826	-	-	-	-	826
Other Liabilities	1,262	-	-	-	-	1,262
Total liabilities	**$ 35,635**	**-**	**$ 353**	**-**	**$ 791**	**$ 34,835**

Regulatory Balance Sheet Assets Reconciliation to Exposure at Default (EAD)

The following three tables present a reconciliation of the consolidated regulatory balance sheet to EAD for items subject to credit risk, CCR and securitisation and frameworks.

Table 35: Main Sources of Differences Between Regulatory Exposures Amounts and Carrying Values in Financial Statements

GSGUK

$ in millions		As of November 2018		
		Items subject to		
		Credit risk framework	CCR framework	Securitisation framework
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)**	**$ 48,922**	**$ 777,847**	**$ 871**
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)	-	(625,931)	-
3	Total net amount under the regulatory scope of consolidation	48,922	151,916	871
4	Off-balance-sheet amounts	7,849	-	-
5	*Differences due to credit conversion factor*	(1,631)	-	-
6	*Differences due netting of collateral, haircut and EAD modelling*	(4,667)	(21,689)	0
7	**Exposure amounts considered for regulatory purposes**	**$ 50,473**	**$ 130,228**	**$ 871**

GSI

$ in millions		As of November 2018		
		Items subject to		
		Credit risk framework	CCR framework	Securitisation framework
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)**	**$ 33,188**	**$ 771,535**	**-**
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)	-	(645,883)	-
3	Total net amount under the regulatory scope of consolidation	33,188	125,652	-
4	Off-balance-sheet amounts	-	-	-
5	*Differences due to credit conversion factor*	-	-	-
6	*Differences due netting of collateral, haircut and EAD modelling*	(620)	4,958	-
7	**Exposure amounts considered for regulatory purposes**	**$ 32,568**	**$ 130,610**	**-**

GSIB

$ in millions				As of November 2018
		Items subject to		
		Credit risk framework	CCR framework	Securitisation framework
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)**	**$ 12,530**	**$ 25,301**	**$ 871**
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)	-	(353)	-
3	Total net amount under the regulatory scope of consolidation	12,530	24,948	871
4	Off-balance-sheet amounts[1]	7,849	-	-
5	*Differences due to credit conversion factor*	(1,631)	(490)	-
6	*Differences due netting of collateral, haircut and EAD modelling*	(4,059)	(5,106)	0
7	**Exposure amounts considered for regulatory purposes**	**$ 14,689**	**$ 19,352**	**$ 871**

[1]**Off balance sheet amounts**: Off balance sheet amounts are stated gross and primarily consist of undrawn committed facilities and guarantees.

Explanations of differences between accounting and regulatory exposure amounts

The carrying value of assets is usually measured at amortised cost or fair value as at the balance sheet date. For on-balance-sheet assets, such as receivables and cash, the EAD is generally based on the carrying value. For the calculation of EAD for off-balance-sheet exposures, including commitments and guarantees, a credit equivalent exposure amount is calculated based on the notional amount of each transaction multiplied by a credit conversion factor in accordance with Article 166 of CRD IV.

As GSGUK calculates the majority of its credit exposure under the IMM, the impacts of netting and collateral are integral to the calculation of the exposure. The exposures considered for regulatory purposes are presented on a net and collateralised basis where there is a legally enforceable netting and collateral opinion. Under UK GAAP, netting is only permitted if legal right of set-off exists and the cash flows are intended to be settled on a net basis.

Appendix II: Credit Risk Tables

The following three tables present GSGUK, GSI and GSIB's net values of on-balance-sheet and off-balance-sheet exposures by geographical areas and exposure classes as of November 30, 2018.

Table 36: Geographical Breakdown of Exposures

GSGUK

$ in millions		As of November 2018								
		Net value								
		EMEA	Germany	United Kingdom	Other countries	**Asia**	**Americas**	United States	Other countries	**Total**
1	Central governments or central banks	$ 24,362	$ 19,839	$ 4,485	$ 38	$ 9	$ 2	$ 1	$ 1	$ 24,373
2	Institutions	3,331	14	1,604	1,713	1,714	3,189	2,962	227	8,234
3	Corporates	11,708	968	4,517	6,223	530	4,827	3,149	1,678	17,065
5	Equity	263	-	62	201	128	43	39	4	434
5a	Securitisations	871	-	864	7	-	-	-	-	871
5b	Non-credit obligation assets	68	-	68	-	-	-	-	-	68
6	***Total IRB approach***	**$ 40,603**	**$ 20,821**	**$ 11,600**	**$ 8,182**	**$ 2,381**	**$ 8,061**	**$ 6,151**	**$ 1,910**	**$ 51,045**
7	Central governments or central banks	-	-	-	-	-	-	-	-	-
12	Institutions	96	1	73	22	-	620	620	-	716
13	Corporates	1,681	-	1,579	102	-	6	-	6	1,687
15	Secured by mortgages on immovable property	42	-	42	-	-	-	-	-	42
16	Exposures in default	172	-	50	122	12	7	-	7	191
17	Items associated with particularly high risk	1,542	40	719	783	71	30	-	30	1,643
21	Equity exposures	97	-	97	-	-	-	-	-	97
22	Other exposures	590	-	286	304	-	-	-	-	590
23	***Total standardised approach***	**$ 4,220**	**$ 41**	**$ 2,846**	**$ 1,333**	**$ 83**	**$ 663**	**$ 620**	**$ 43**	**$ 4,966**
24	***Total***	**$ 44,823**	**$ 20,862**	**$ 14,446**	**$ 9,515**	**$ 2,464**	**$ 8,724**	**$ 6,771**	**$ 1,953**	**$ 56,011**

GSI

$ in millions		As of November 2018								
		Net value								
		EMEA	Germany	United Kingdom	Other countries	**Asia**	**Americas**	United States	Other countries	**Total**
1	Central governments or central banks	$ 17,492	$ 14,532	$ 2,925	$ 35	$ 8	-	-	-	$ 17,500
2	Institutions	3,157	5	1,516	1,636	1,689	2,686	2,463	223	7,532
3	Corporates	4,201	18	3,036	1,147	426	1,432	1,329	103	6,059
5	Equity	263	-	62	201	128	43	39	4	434
5a	Securitisations	-	-	-	-	-	-	-	-	-
5b	Non-credit obligation assets	63	-	63	-	-	-	-	-	63
6	***Total IRB approach***	**$ 25,176**	**$ 14,555**	**$ 7,602**	**$ 3,019**	**$ 2,251**	**$ 4,161**	**$ 3,831**	**$ 330**	**$ 31,588**
7	Central governments or central banks	-	-	-	-	-	-	-	-	-
12	Institutions	-	-	-	-	-	-	-	-	-
13	Corporates	482	-	482	-	-	-	-	-	482
15	Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-
16	Exposures in default	171	-	49	122	13	7	-	7	191
17	Items associated with particularly high risk	-	-	-	-	-	-	-	-	-
21	Equity exposures	-	-	-	-	-	-	-	-	-
22	Other exposures	270	-	270	-	-	-	-	-	270
23	***Total standardised approach***	**$ 923**	-	**$ 801**	**$ 122**	**$ 13**	**$ 7**	-	**$ 7**	**$ 943**
24	***Total***	**$ 26,099**	**$ 14,555**	**$ 8,403**	**$ 3,141**	**$ 2,264**	**$ 4,168**	**$ 3,831**	**$ 337**	**$ 32,531**

GSIB

$ in millions										As of November 2018
		Net value								
		EMEA	Germany	United Kingdom	Other countries	**Asia**	**Americas**	United States	Other countries	**Total**
1	Central governments or central banks	$ 6,871	$ 5,306	$ 1,562	$ 3	$ 0	$ 2	$ 1	$ 1	$ 6,873
2	Institutions	174	9	88	78	25	503	499	4	702
3	Corporates	7,507	951	1,480	5,076	104	3,395	1,820	1,575	11,006
5	Equity	0	-	0	-	-	-	-	-	0
5a	Securitisations	871	-	864	6	-	-	-	-	871
5b	Non-credit obligation assets	5	-	5	-	-	-	-	-	5
6	***Total IRB approach***	**$ 15,428**	**$ 6,266**	**$ 3,999**	**$ 5,163**	**$ 129**	**$ 3,900**	**$ 2,320**	**$ 1,580**	**$ 19,457**
7	Central governments or central banks	-	-	-	-	-	-	-	-	-
12	Institutions	-	-	-	-	-	-	-	-	-
13	Corporates	1	-	1	-	-	-	-	-	1
15	Secured by mortgages on immovable property	42	-	42	-	-	-	-	-	42
16	Exposures in default	-	-	-	-	-	-	-	-	-
17	Items associated with particularly high risk	-	-	-	-	-	-	-	-	-
21	Equity exposures	-	-	-	-	-	-	-	-	-
22	Other exposures	-	-	-	-	-	-	-	-	-
23	***Total standardised approach***	**$ 43**	-	**$ 43**	-	-	-	-	-	**$ 43**
24	***Total***	**$ 15,471**	**$ 6,266**	**$ 4,042**	**$ 5,163**	**$ 129**	**$ 3,900**	**$ 2,320**	**$ 1,580**	**$ 19,500**

The following three tables present GSGUK, GSI and GSIB's net values of on-balance-sheet and off-balance-sheet exposures by industry or counterparty types and exposure classes as of November 30, 2018.

Table 37: Concentration of Exposures by Industry or Counterparty Types
GSGUK

$ in millions **As of November 2018**

		Sovereigns (including Central Banks)	Banks	CCPs and Exchanges	Other Financials	Real Estate	Manufac turing	Transport, Utilities & Storage	Retail / Wholesale trade	Services and other Industries	Total
1	Central governments or central banks	$ 24,373	-	-	-	-	-	-	-	-	$ 24,373
2	Institutions	-	5,701	-	1,318	-	-	-	-	1,215	8,234
3	Corporates	2	-	2,012	8,511	224	1,534	1,565	338	2,879	17,065
5	Equity	-	3	22	311	12	22	27	-	37	434
5a	Securitisations	-	-	-	871	-	-	-	-	-	871
5b	Non-credit obligation assets	-	-	-	-	-	-	-	-	68	68
6	***Total IRB approach***	**$ 24,375**	**$ 5,704**	**$ 2,034**	**$ 11,011**	**$ 236**	**$ 1,556**	**$ 1,592**	**$ 338**	**$ 4,199**	**$ 51,045**
7	Central governments or central banks	-	-	-	-	-	-	-	-	-	-
12	Institutions	-	716	-	-	-	-	-	-	-	716
13	Corporates	-	0	-	880	-	92	-	-	715	1,687
15	Secured by mortgages on immovable property	-	-	-	-	42	-	-	-	-	42
16	Exposures in default	-	88	-	41	-	5	-	-	57	191
17	Items associated with particularly high risk	-	-	-	1,299	15	-	110	66	153	1,643
21	Equity exposures	-	-	-	97	-	-	-	-	-	97
22	Other exposures	-	-	-	-	-	-	-	-	590	590
23	***Total standardised approach***	**-**	**$ 804**	**-**	**$ 2,317**	**$ 57**	**$ 97**	**$ 110**	**$ 66**	**$ 1,515**	**$ 4,966**
24	***Total***	**$ 24,375**	**$ 6,508**	**$ 2,034**	**$ 13,328**	**$ 293**	**$ 1,653**	**$ 1,702**	**$ 404**	**$ 5,714**	**$ 56,011**

GSI

$ in millions **As of November 2018**

		Sovereigns (including Central Banks)	Banks	CCPs and Exchanges	Other Financials	Real Estate	Manufac turing	Transport, Utilities & Storage	Retail / Wholesale trade	Services and other Industries	Total
1	Central governments or central banks	$ 17,500	-	-	-	-	-	-	-	-	$ 17,500
2	Institutions	-	5,000	-	1,317	-	-	-	-	1,215	7,532
3	Corporates	2	-	2,012	2,353	1	69	80	2	1,540	6,059
5	Equity	-	3	22	311	12	22	27	-	37	434
5a	Securitisations	-	-	-	-	-	-	-	-	-	-
5b	Non-credit obligation assets	-	-	-	-	-	-	-	-	63	63
6	***Total IRB approach***	**$ 17,502**	**$ 5,003**	**$ 2,034**	**$ 3,981**	**$ 13**	**$ 91**	**$ 107**	**$ 2**	**$ 2,855**	**$ 31,588**
7	Central governments or central banks	-	-	-	-	-	-	-	-	-	-
12	Institutions	-	-	-	-	-	-	-	-	-	-
13	Corporates	-	-	-	-	-	-	-	-	482	482
15	Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-
16	Exposures in default	-	88	-	41	-	5	-	-	57	191
17	Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-
21	Equity exposures	-	-	-	-	-	-	-	-	-	-
22	Other exposures	-	-	-	-	-	-	-	-	270	270
23	***Total standardised approach***	**-**	**$ 88**	**-**	**$ 41**	**-**	**$ 5**	**-**	**-**	**$ 809**	**$ 943**
24	***Total***	**$ 17,502**	**$ 5,091**	**$ 2,034**	**$ 4,022**	**$ 13**	**$ 96**	**$ 107**	**$ 2**	**$ 3,664**	**$ 32,531**

GSIB

$ in millions **As of November 2018**

		Sovereigns (including Central Banks)	Banks	CCPs and Exchanges	Other Financials	Real Estate	Manufac turing	Transport, Utilities & Storage	Retail / Wholesale trade	Services and other Industries	Total
1	Central governments or central banks	$ 6,873	-	-	-	-	-	-	-	-	$ 6,873
2	Institutions	-	701	-	1	-	-	-	-	-	702
3	Corporates	0	-	-	6,158	223	1,465	1,485	336	1,339	11,006
5	Equity	-	-	-	-	-	-	-	-	0	0
5a	Securitisations	-	-	-	871	-	-	-	-	-	871
5b	Non-credit obligation assets	-	-	-	-	-	-	-	-	5	5
6	***Total IRB approach***	**$ 6,873**	**$ 701**	**-**	**$ 7,030**	**$ 223**	**$ 1,465**	**$ 1,485**	**$ 336**	**$ 1,344**	**$ 19,457**
7	Central governments or central banks	-	-	-	-	-	-	-	-	-	-
12	Institutions	-	-	-	-	-	-	-	-	-	-
13	Corporates	-	-	-	-	-	-	-	-	1	1
15	Secured by mortgages on immovable property	-	-	-	-	42	-	-	-	-	42
16	Exposures in default	-	-	-	-	-	-	-	-	-	-
17	Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-
21	Equity exposures	-	-	-	-	-	-	-	-	-	-
22	Other exposures	-	-	-	-	-	-	-	-	-	-
23	***Total standardised approach***	**-**	**-**	**-**	**-**	**$ 42**	**-**	**-**	**-**	**$ 1**	**$ 43**
24	***Total***	**$ 6,873**	**$ 701**	**-**	**$ 7,030**	**$ 265**	**$ 1,465**	**$ 1,485**	**$ 336**	**$ 1,345**	**$ 19,500**

The following three tables present GSGUK, GSI and GSIB's net values of on-balance-sheet and off-balance-sheet exposures by industry or counterparty types and exposure classes as of November 30, 2018.

Table 38: Maturity of Exposures

GSGUK

$ in millions **As of November 2018**

		Net exposure value					
		On demand	<= 1 Year	> 1 Year <= 5 Years	>5 years	No Stated Maturity	Total
1	Central governments or central banks	$ 24,341	$ 14	$ 18	-	-	$ 24,373
2	Institutions	5,548	1,946	740	-	-	8,234
3	Corporates	2,093	4,731	9,339	902	-	17,065
5	Equity	-	-	-	-	434	434
5a	Securitisations	-	-	260	611	-	871
5b	Non-credit obligation assets	-	68	-	-	-	68
6	***Total IRB approach***	**$ 31,982**	**$ 6,759**	**$ 10,357**	**$ 1,513**	**$ 434**	**$ 51,045**
12	Institutions	716	-	-	-	-	716
13	Corporates	0	671	122	476	418	1,687
15	Secured by mortgages on immovable property	-	-	42	-	-	42
16	Exposures in default	-	191	-	-	-	191
17	Items associated with particularly high risk	-	-	-	-	1,643	1,643
21	Equity exposures	-	-	-	-	97	97
22	Other exposures	-	286	-	-	304	590
23	***Total standardised approach***	**$ 716**	**$ 1,148**	**$ 164**	**$ 476**	**$ 2,462**	**$ 4,966**
24	***Total***	**$ 32,698**	**$ 7,907**	**$ 10,521**	**$ 1,989**	**$ 2,896**	**$ 56,011**

GSI

$ in millions							As of November 2018
		Net exposure value					
		On demand	<= 1 Year	> 1 Year <= 5 Years	>5 years	No Stated Maturity	Total
1	Central governments or central banks	$ 17,473	$ 9	$ 18	-	-	$ 17,500
2	Institutions	5,376	1,495	661	-	-	7,532
3	Corporates	40	4,167	1,852	-	-	6,059
5	Equity	-	-	-	-	434	434
5a	Securitisations	-	-	-	-	-	-
5b	Non-credit obligation assets	-	63	-	-	-	63
6	***Total IRB approach***	**$ 22,889**	**$ 5,734**	**$ 2,531**	**-**	**$ 434**	**$ 31,588**
12	Institutions	-	-	-	-	-	-
13	Corporates	-	482	-	-	-	482
15	Secured by mortgages on immovable property	-	-	-	-	-	-
16	Exposures in default	-	191	-	-	-	191
17	Items associated with particularly high risk	-	-	-	-	-	-
21	Equity exposures	-	-	-	-	-	-
22	Other exposures	-	270	-	-	-	270
23	***Total standardised approach***	**-**	**$ 943**	**-**	**-**	**-**	**$ 943**
24	***Total***	**$ 22,889**	**$ 6,677**	**$ 2,531**	**-**	**$ 434**	**$ 32,531**

GSIB

$ in millions							As of November 2018
		Net exposure value					
		On demand	<= 1 Year	> 1 Year <= 5 Years	>5 years	No Stated Maturity	Total
1	Central governments or central banks	$ 6,868	$ 5	-	-	-	$ 6,873
2	Institutions	171	451	80	-	-	702
3	Corporates	2,053	565	7,486	902	-	11,006
5	Equity	-	-	-	-	0	0
5a	Securitisations	-	-	260	611	-	871
5b	Non-credit obligation assets	-	5	-	-	-	5
6	***Total IRB approach***	**$ 9,092**	**$ 1,026**	**$ 7,826**	**$ 1,513**	**$ 0**	**$ 19,457**
12	Institutions	-	-	-	-	-	-
13	Corporates	-	1	-	-	-	1
15	Secured by mortgages on immovable property	-	-	42	-	-	42
16	Exposures in default	-	-	-	-	-	-
17	Items associated with particularly high risk	-	-	-	-	-	-
21	Equity exposures	-	-	-	-	-	-
22	Other exposures	-	-	-	-	-	-
23	***Total standardised approach***	**-**	**$ 1**	**$ 42**	**-**	**-**	**$ 43**
24	***Total***	**$ 9,092**	**$ 1,027**	**$ 7,868**	**$ 1,513**	**$ 0**	**$ 19,500**

Table 39: Credit Quality of Exposures by Exposure Class and Instrument

GSGUK

$ in millions		Gross carrying values of						As of November 2018
		Defaulted exposures[1]	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumu-lated write-offs	Credit risk adjustment charges of the period	Net values
1	Central governments or central banks	-	$ 24,373	-	-	-	-	$ 24,373
2	Institutions	-	8,234	-	-	-	-	8,234
3	Corporates	-	17,091	26	-	-	3	17,065
14	Equity	18	416	-	-	-	-	434
14a	Securitisation positions	-	871	0	-	-	0	871
14b	Non-credit obligation assets	-	68	-	-	-	-	68
15	***Total IRB approach***	**$ 18**	**$ 51,053**	**$ 26**	**-**	**-**	**$ 3**	**$ 51,045**
16	Central governments or central banks	-	-	-	-	-	-	-
21	Institutions	-	716	-	-	-	-	716
22	Corporates	-	1,687	-	-	-	-	1,687
26	Secured by mortgages on immovable property	-	42	-	-	-	-	42
28	Exposures in default	191	-	-	-	-	-	191
29	Items associated with particularly high risk	-	1,643	-	-	-	-	1,643
33	Equity exposures	-	97	-	-	-	-	97
34	Other exposures	-	590	-	-	-	-	590
35	***Total standardised approach***	**$ 191**	**$ 4,775**	**-**	**-**	**-**	**-**	**$ 4,966**
36	***Total***	**$ 209**	**$ 55,828**	**$ 26**	**-**	**-**	**$ 3**	**$ 56,011**
37	Of which: Loans	33	3,890	20	-	-	(0)	3,903
38	Of which: Debt securities	158	2,203	0	-	-	0	2,361
39	Of which: Off- balance-sheet exposures	-	7,849	6	-	-	3	7,843

GSI

$ in millions		Gross carrying values of						As of November 2018
		Defaulted exposures[1]	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumu-lated write-offs	Credit risk adjustment charges of the period	Net values
1	Central governments or central banks	-	$ 17,500	-	-	-	-	$ 17,500
2	Institutions	-	7,532	-	-	-	-	7,532
3	Corporates	-	6,059	-	-	-	-	6,059
14	Equity	18	416	-	-	-	-	434
14a	Securitisation positions	-	-	-	-	-	-	-
14b	Non-credit obligation assets	-	63	-	-	-	-	63
15	***Total IRB approach***	**$ 18**	**$ 31,570**	**-**	**-**	**-**	**-**	**$ 31,588**
16	Central governments or central banks	-	-	-	-	-	-	-
21	Institutions	-	-	-	-	-	-	-
22	Corporates	-	482	-	-	-	-	482
26	Secured by mortgages on immovable property	-	-	-	-	-	-	-
28	Exposures in default	191	-	-	-	-	-	191
29	Items associated with particularly high risk	-	-	-	-	-	-	-
33	Equity exposures	-	-	-	-	-	-	-
34	Other exposures	-	270	-	-	-	-	270
35	***Total standardised approach***	**$ 191**	**$ 752**	**-**	**-**	**-**	**-**	**$ 943**
36	***Total***	**$ 209**	**$ 32,322**	**-**	**-**	**-**	**-**	**$ 32,531**
37	Of which: Loans	33	578	-	-	-	-	611
38	Of which: Debt securities	158	760	-	-	-	-	918
39	Of which: Off- balance-sheet exposures	-	-	-	-	-	-	-

GSIB

$ in millions								As of November 2018
		Gross carrying values of						
		Defaulted exposures[1]	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumu-lated write-offs**	**Credit risk adjustment charges of the period**	**Net values**
1	Central governments or central banks	-	$ 6,873	-	-	-	-	$ 6,873
2	Institutions	-	702	-	-	-	-	702
3	Corporates	-	11,032	26	-	-	3	11,006
14	Equity	-	0	-	-	-	-	0
14a	Securitisation positions	-	871	0	-	-	0	871
14b	Non-credit obligation assets	-	5	-	-	-	-	5
15	***Total IRB approach***	**-**	**$ 19,483**	**$ 26**	**-**	**-**	**$ 3**	**$ 19,457**
16	Central governments or central banks	-	-	-	-	-	-	-
21	Institutions	-	-	-	-	-	-	-
22	Corporates	-	1	-	-	-	-	1
26	Secured by mortgages on immovable property	-	42	-	-	-	-	42
28	Exposures in default	-	-	-	-	-	-	-
29	Items associated with particularly high risk	-	-	-	-	-	-	-
33	Equity exposures	-	-	-	-	-	-	-
34	Other exposures	-	-	-	-	-	-	-
35	***Total standardised approach***	**-**	**$ 43**	**-**	**-**	**-**	**-**	**$ 43**
36	***Total***	**-**	**$ 19,526**	**$ 26**	**-**	**-**	**$ 3**	**$ 19,500**
37	Of which: Loans	-	3,282	20	-	-	(0)	3,262
38	Of which: Debt securities	-	871	0	-	-	0	871
39	Of which: Off- balance-sheet exposures	-	7,849	6	-	-	3	7,843

[1]The defaulted exposures quantified in the tables above include positions where the obligor defaulted prior to our purchase of the position.

Table 40: Credit Quality of Exposures by Industry or Counterparty Types

GSGUK

$ in millions		Gross carrying values of						As of November 2018
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	Sovereigns	-	$ 24,375	-	-	-	-	$ 24,375
2	Services and other Industries	61	5,658	5	-	-	1	5,714
3	Banks	91	6,417	-	-	-	-	6,508
4	Other Financials	45	13,295	12	-	-	2	13,328
5	CCPs and Exchanges	-	2,034	-	-	-	-	2,034
6	Manufacturing	6	1,650	3	-	-	0	1,653
7	Transport, Utilities & Storage	6	1,697	1	-	-	(4)	1,702
8	Retail / Wholesale trade	-	409	5	-	-	4	404
9	Real Estate	-	293	0	-	-	(0)	293
10	***Total***	**$ 209**	**$ 55,828**	**$ 26**	**-**	**-**	**$ 3**	**$ 56,011**

GSI

$ in millions		Gross carrying values of						As of November 2018
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	Sovereigns	-	$ 17,502	-	-	-	-	$ 17,502
2	Services and other Industries	61	3,603	-	-	-	-	3,664
3	Banks	91	5,000	-	-	-	-	5,091
4	Other Financials	45	3,977	-	-	-	-	4,022
5	CCPs and Exchanges	-	2,034	-	-	-	-	2,034
6	Manufacturing	6	90	-	-	-	-	96
7	Transport, Utilities & Storage	6	101	-	-	-	-	107
8	Retail / Wholesale trade	-	2	-	-	-	-	2
9	Real Estate	-	13	-	-	-	-	13
10	***Total***	**$ 209**	**$ 32,322**	**-**	**-**	**-**	**-**	**$ 32,531**

GSIB

$ in millions		Gross carrying values of						As of November 2018
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	Sovereigns	-	$ 6,873	-	-	-	-	$ 6,873
2	Services and other Industries	-	1,350	5	-	-	1	1,345
3	Banks	-	701	-	-	-	-	701
4	Other Financials	-	7,042	12	-	-	2	7,030
5	CCPs and Exchanges	-	-	-	-	-	-	-
6	Manufacturing	-	1,468	3	-	-	0	1,465
7	Transport, Utilities & Storage	-	1,486	1	-	-	(4)	1,485
8	Retail / Wholesale trade	-	341	5	-	-	4	336
9	Real Estate	-	265	0	-	-	(0)	265
10	***Total***	**-**	**$ 19,526**	**$ 26**	**-**	**-**	**$ 3**	**$ 19,500**

Table 41: Credit Quality of Exposures by Geography

GSGUK

$ in millions **As of November 2018**

		Gross carrying values of						
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	EMEA	$ 176	$ 44,673	$ 26	-	-	$ 3	$ 44,823
2	Germany	-	20,863	1	-	-	0	20,862
3	United Kingdom	51	14,402	7	-	-	4	14,446
4	Other Countries	125	9,408	18	-	-	(1)	9,515
5	Asia	22	2,442	0	-	-	0	2,464
8	Americas	11	8,713	0	-	-	(0)	8,724
9	United States	-	6,771	0	-	-	0	6,771
10	Other Countries	11	1,942	0	-	-	(0)	1,953
12	***Total***	**$ 209**	**$ 55,828**	**$ 26**	**-**	**-**	**$ 3**	**$ 56,011**

GSI

$ in millions **As of November 2018**

		Gross carrying values of						
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	EMEA	$ 176	$ 25,923	-	-	-	-	$ 26,099
2	Germany	-	14,555	-	-	-	-	14,555
3	United Kingdom	51	8,352	-	-	-	-	8,403
4	Other Countries	125	3,016	-	-	-	-	3,141
5	Asia	22	2,242	-	-	-	-	2,264
8	Americas	11	4,157	-	-	-	-	4,168
9	United States	-	3,831	-	-	-	-	3,831
10	Other Countries	11	326	-	-	-	-	337
12	***Total***	**$ 209**	**$ 32,322**	**-**	**-**	**-**	**-**	**$ 32,531**

GSIB

$ in millions **As of November 2018**

		Gross carrying values of						
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	EMEA	-	$ 15,497	$ 26	-	-	$ 3	$ 15,471
2	Germany	-	6,267	1	-	-	0	6,266
3	United Kingdom	-	4,049	7	-	-	4	4,042
4	Other Countries	-	5,181	18	-	-	(1)	5,163
5	Asia	-	129	0	-	-	0	129
8	Americas	-	3,900	0	-	-	(0)	3,900
9	United States	-	2,320	0	-	-	0	2,320
10	Other Countries	-	1,580	0	-	-	(0)	1,580
12	***Total***	**-**	**$ 19,526**	**$ 26**	**-**	**-**	**$ 3**	**$ 19,500**

Table 42: IRB (Equity Exposures Subject to the Simple Risk - Weighted Approach)[1]

GSGUK

$ in millions						As of November 2018
			Equities under the simple risk-weighted approach			
Categories	**On BS amount**	**Off BS amount**	**Risk Weight**	**Exposure Amount**	**RWAs**	**Capital Requirements**
Exchange-traded equity exposures	$ 176	-	290%	$ 176	$ 510	$ 41
Other Equity Exposures	$ 258	-	370%	$ 258	$ 956	$ 76
Total	**$ 434**	**-**		**$ 434**	**$ 1,466**	**$ 117**

GSI

$ in millions						As of November 2018
			Equities under the simple risk-weighted approach			
Categories	**On BS amount**	**Off BS amount**	**Risk Weight**	**Exposure Amount**	**RWAs**	**Capital Requirements**
Exchange-traded equity exposures	$ 176	-	290%	$ 176	$ 510	$ 41
Other Equity Exposures	$ 258	-	370%	$ 258	$ 956	$ 76
Total	**$ 434**	**-**		**$ 434**	**$ 1,466**	**$ 117**

1. GSGUK and its subsidiaries do not have private equity exposures which are risk-weighted at 190%.

Table 43: IRB Approach - Credit Risk Exposures by Exposure Class and PD Range

GSGUK

$ in millions **As of November 2018**

PD Scale	Original on - BS gross exposures	Off-BS exposures pre-CCF	Average CCF	EAD post CRM and post CCF	Average PD	Number of Obligors	Average LGD	Average Maturity	RWAs	RWA density	EL	Value Adjustments and provisions
Central governments or central banks												
0.00 to <0.15	$ 24,352	-	-	$ 24,352	0.00014	11	0.5000	1.0000	$ 1,137	5%	$ 2	
0.15 to <0.25	0	-	-	0	0.00176	5	0.5000	1.0000	0	33%	0	
0.25 to <0.50	1	-	-	1	0.00260	3	0.5000	1.0000	1	42%	0	
0.50 to <0.75	0	-	-	0	0.00605	4	0.5000	1.0000	0	68%	0	
0.75 to <2.50	0	-	-	0	0.02370	1	0.5000	1.0000	0	120%	0	
2.50 to <10.00	2	-	-	2	0.08569	12	0.5000	1.0000	4	193%	0	
10.00 to <100.00	18	-	-	18	0.23780	2	0.5000	1.0000	49	272%	2	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 24,373	-	-	$ 24,373	0.00032	38	0.5000	1.0000	$ 1,191	0%	$ 4	
Institutions												
0.00 to <0.15	$ 6,141	$ 447	99.37%	$ 6,767	0.00057	580	0.6007	1.0479	$ 1,572	23%	$ 2	
0.15 to <0.25	674	77	77.68%	734	0.00172	110	0.6606	1.1042	388	53%	1	
0.25 to <0.50	35	-	-	35	0.00260	26	0.6541	1.0000	25	73%	0	
0.50 to <0.75	180	-	-	180	0.00606	43	0.6724	1.0000	200	111%	1	
0.75 to <2.50	19	-	-	19	0.02208	41	0.6492	1.0000	30	158%	0	
2.50 to <10.00	94	-	-	94	0.09631	13	0.6595	1.0000	268	284%	6	
10.00 to <100.00	581	-	-	581	0.23780	25	0.4626	4.8262	1,900	327%	64	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 7,724	$ 524	96.17%	$ 8,410	0.01830	838	0.5989	1.3118	$ 4,383	0%	$ 74	
Corporates												
0.00 to <0.15	$ 4,831	$ 2,849	75.08%	$ 6,455	0.00051	224	0.5896	2.0415	$ 1,891	29%	$ 2	
0.15 to <0.25	676	1,455	76.41%	1,590	0.00173	578	0.6519	2.2908	1,045	66%	2	
0.25 to <0.50	31	441	75.01%	362	0.00260	31	0.6110	3.3757	312	86%	1	
0.50 to <0.75	485	958	75.04%	1,214	0.00651	75	0.6416	3.0169	1,718	141%	5	
0.75 to <2.50	333	330	75.07%	1,217	0.02163	47	0.6637	2.7787	2,682	220%	17	
2.50 to <10.00	761	480	75.09%	1,120	0.06879	90	0.6513	3.3811	3,373	301%	50	
10.00 to <100.00	357	28	75.78%	379	0.23780	182	0.6579	1.6180	1,475	389%	59	
100.00 (Default)	0	-	-	0	0.99900	1	0.6641	5.0000	0	1%	0	
Subtotal	$ 7,474	$ 6,541	75.37%	$ 12,337	0.01689	1,228	0.6184	2.3901	$ 12,496	101%	$ 136	$ 26
Total (all portfolios)	**$ 39,571**	**$ 7,065**	**76.91%**	**$ 45,120**	**0.00696**	**2,104**	**0.5417**	**1.3235**	**$ 18,070**	**40%**	**$ 214**	**$ 26**

GSI

$ in millions **As of November 2018**

PD Scale	Original on - BS gross exposures	Off-BS exposures pre-CCF	Average CCF	EAD post CRM and post CCF	Average PD	Number of Obligors	Average LGD	Average Maturity	RWAs	RWA density	EL	Value Adjustments and provisions
Central governments or central banks												
0.00 to <0.15	$ 17,482	-	-	$ 17,482	0.00013	6	0.5000	1.0000	$ 801	5%	$ 1	
0.15 to <0.25	0	-	-	0	0.00170	2	0.5000	1.0000	0	32%	0	
0.25 to <0.50	0	-	-	0	0.00260	1	0.5000	1.0000	0	42%	0	
0.50 to <0.75	0	-	-	0	0.00662	2	0.5000	1.0000	0	71%	0	
0.75 to <2.50	0	-	-	0	0.02370	1	0.5000	1.0000	0	120%	0	
2.50 to <10.00	0	-	-	0	0.07484	4	0.5000	1.0000	1	182%	0	
10.00 to <100.00	18	-	-	18	0.23780	2	0.5000	1.0000	49	272%	2	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 17,500	-	-	$ 17,500	0.00038	18	0.5000	1.0000	$ 851	5%	$ 3	
Institutions												
0.00 to <0.15	$ 5,950	-	-	$ 5,950	0.00056	498	0.6054	1.0000	$ 1,350	23%	$ 2	
0.15 to <0.25	673	-	-	673	0.00172	97	0.6610	1.0000	340	50%	1	
0.25 to <0.50	35	-	-	35	0.00260	24	0.6541	1.0000	25	73%	0	
0.50 to <0.75	180	-	-	180	0.00606	41	0.6724	1.0000	200	111%	1	
0.75 to <2.50	19	-	-	19	0.02209	38	0.6492	1.0000	30	158%	0	
2.50 to <10.00	94	-	-	94	0.09631	13	0.6595	1.0000	268	284%	6	
10.00 to <100.00	581	-	-	581	0.23780	22	0.4626	4.8264	1,900	327%	64	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 7,532	-	-	$ 7,532	0.02035	733	0.6020	1.2950	$ 4,113	55%	$ 74	
Corporates												
0.00 to <0.15	$ 4,757	-	-	$ 4,757	0.00048	127	0.5941	1.5218	$ 1,127	24%	$ 1	
0.15 to <0.25	586	-	-	586	0.00170	38	0.6402	1.0000	313	53%	1	
0.25 to <0.50	3	-	-	3	0.00260	7	0.6615	1.0000	2	73%	0	
0.50 to <0.75	32	-	-	205	0.00647	14	0.6344	2.9939	274	133%	1	
0.75 to <2.50	102	-	-	767	0.02368	13	0.6620	2.7628	1,778	232%	12	
2.50 to <10.00	303	-	-	397	0.07470	20	0.6334	1.6348	1,056	266%	19	
10.00 to <100.00	276	-	-	276	0.23780	109	0.6644	1.0000	1,082	392%	43	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 6,059	-	-	$ 6,991	0.01690	328	0.6116	1.6430	$ 5,632	81%	$ 77	
Total (all portfolios)	**$ 31,091**	**-**	**-**	**$ 32,023**	**0.00869**	**1,079**	**0.5484**	**1.2098**	**$ 10,596**	**33%**	**$ 154**	

GSIB

$ in millions												As of November 2018
PD Scale	**Original on - BS gross exposures**	**Off-BS exposures pre-CCF**	**Average CCF**	**EAD post CRM and post CCF**	**Average PD**	**Number of Obligors**	**Average LGD**	**Average Maturity**	**RWAs**	**RWA density**	**EL**	**Value Adjustments and provisions**
Central governments or central banks												
0.00 to <0.15	$ 6,870	-	-	$ 6,870	0.00015	5	0.5000	1.0000	$ 336	5%	$ 1	
0.15 to <0.25	0	-	-	0	0.00176	3	0.5000	1.0000	0	33%	0	
0.25 to <0.50	1	-	-	1	0.00260	2	0.5000	1.0000	1	42%	0	
0.50 to <0.75	0	-	-	0	0.00600	2	0.5000	1.0000	0	68%	0	
0.75 to <2.50	-	-	-	-	-	-	-	-	-	0%	-	
2.50 to <10.00	2	-	-	2	0.08768	8	0.5000	1.0000	3	195%	0	
10.00 to <100.00	-	-	-	-	-	-	-	-	-	0%	-	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 6,873	-	-	$ 6,873	0.00017	20	0.5000	1.0000	$ 340	5%	$ 1	-
Institutions												
0.00 to <0.15	$ 191	$ 447	99.37%	$ 817	0.00059	82	0.5663	1.3965	$ 222	27%	$ 0	
0.15 to <0.25	1	77	77.68%	61	0.00171	13	0.6561	2.2562	48	79%	0	
0.25 to <0.50	0	-	-	0	0.00260	2	0.6581	1.0000	0	62%	0	
0.50 to <0.75	0	-	-	0	0.00600	2	0.6855	1.0000	0	115%	0	
0.75 to <2.50	0	-	-	0	0.01560	3	0.6637	1.0000	0	144%	0	
2.50 to <10.00	-	-	-	-	-	-	-	-	-	0%	-	
10.00 to <100.00	0	-	-	0	0.23780	3	0.5355	1.0000	0	328%	0	
100.00 (Default)	-	-	-	-	-	-	-	-	-	0%	-	
Subtotal	$ 192	$ 524	96.17%	$ 878	0.00068	105	0.5726	1.4559	$ 270	31%	$ 0	-
Corporates												
0.00 to <0.15	$ 74	$ 2,849	75.08%	$ 1,698	0.00058	97	0.5770	3.4975	$ 764	45%	$ 1	
0.15 to <0.25	90	1,455	76.41%	1,004	0.00174	540	0.6587	3.0437	732	73%	1	
0.25 to <0.50	28	441	75.01%	359	0.00260	24	0.6106	3.3957	310	87%	1	
0.50 to <0.75	453	958	75.04%	1,009	0.00652	61	0.6431	3.0216	1,444	143%	4	
0.75 to <2.50	231	330	75.07%	450	0.01814	34	0.6665	2.8058	904	201%	5	
2.50 to <10.00	458	480	75.09%	723	0.06554	70	0.6611	4.3418	2,317	321%	31	
10.00 to <100.00	81	28	75.78%	103	0.23780	73	0.6403	3.2831	393	384%	16	
100.00 (Default)	0	-	-	0	0.99900	1	0.6641	5.0000	0	1%	0	
Subtotal	$ 1,415	$ 6,541	75.37%	$ 5,346	0.01688	900	0.6272	3.3673	$ 6,864	128%	$ 59	$ 26
Total (all portfolios)	**$ 8,480**	**$ 7,065**	**75.20%**	**$ 13,097**	**0.00297**	**1,025**	**0.5229**	**1.4055**	**$ 7,474**	**57%**	**$ 60**	**$ 26**

Table 44: IRB Approach - Backtesting of PD per Exposure Class

GSGUK

Exposure class	PD Range Min	PD Range Max	External rating equivalent Min	External rating equivalent Max	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: Beginning of the year	Number of obligors: End of the year	Defaulted obligors in the year	of which: new defaulted obligors in the year	Average historical annual default rate (5 years)
Central governments or central banks	0.01%	23.78%	AAA	CCC	0.03%	2.72%	22	38	-	-	0.00%
Institutions	0.03%	23.78%	AAA	CCC	1.93%	2.23%	731	838	-	-	0.23%
Corporates	0.03%	23.78%	AAA	CCC	2.93%	9.94%	1,275	1,228	3	2	0.83%

GSI

Exposure class	PD Range Min	PD Range Max	External rating equivalent Min	External rating equivalent Max	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: Beginning of the year	Number of obligors: End of the year	Defaulted obligors in the year	of which: new defaulted obligors in the year	Average historical annual default rate (5 years)
Central governments or central banks	0.01%	23.78%	AAA	CCC	0.04%	3.25%	12	18	-	-	0.00%
Institutions	0.03%	23.78%	AAA	CCC	2.02%	2.34%	614	733	-	-	0.26%
Corporates	0.03%	23.78%	AAA	CCC	2.92%	9.08%	480	328	2	1	1.18%

GSIB

Exposure class	PD Range Min	PD Range Max	External rating equivalent Min	External rating equivalent Max	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: Beginning of the year	Number of obligors: End of the year	Defaulted obligors in the year	of which: new defaulted obligors in the year	Average historical annual default rate (5 years)
Central governments or central banks	0.01%	23.78%	AAA	CCC	0.02%	2.07%	10	20	-	-	0.00%
Institutions	0.03%	23.78%	AAA	CCC	0.06%	1.33%	117	105	-	-	0.00%
Corporates	0.03%	23.78%	AAA	CCC	6.31%	13.32%	795	900	1	1	0.14%

Table 45: Exposure-Weighted Average LGD and PD by Geography

GSGUK

		LGD			PD		
		EMEA	**Americas**	**Asia**	**EMEA**	**Americas**	**Asia**
1	Central governments or central banks	50.00%	50.06%	50.07%	0.03%	0.13%	0.04%
2	Institutions	65.66%	57.74%	65.47%	0.57%	0.24%	0.13%
3	Corporates	64.51%	59.12%	63.78%	1.53%	0.94%	0.39%

GSI

		LGD			PD		
		EMEA	**Americas**	**Asia**	**EMEA**	**Americas**	**Asia**
1	Central governments or central banks	50.00%	50.06%	50.07%	0.05%	0.13%	0.04%
2	Institutions	65.56%	57.85%	65.48%	1.03%	0.25%	0.13%
3	Corporates	65.14%	59.15%	63.77%	0.94%	1.02%	0.38%

GSIB

		LGD			PD		
		EMEA	**Americas**	**Asia**	**EMEA**	**Americas**	**Asia**
1	Central governments or central banks	50.00%	50.00%	50.00%	0.02%	0.71%	5.80%
2	Institutions	65.77%	54.84%	64.57%	0.11%	0.07%	0.06%
3	Corporates	63.87%	58.82%	64.60%	2.12%	0.28%	0.82%

Table 46: Standardised Approach - Credit Risk Exposure and CRM Effects

GSGUK

$ in millions — **As of November 2018**

		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	Exposure classes	**On-balance-sheet amount**	**Off-balance-sheet amount**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**RWAs**	**RWA density**
1	Central governments or central banks	-	-	-	-	-	0%
6	Institutions	716	-	716	-	157	22%
7	Corporates	1,687	-	1,687	-	1,687	100%
9	Secured by mortgages on immovable property	42		42		20	48%
10	Exposures in default	191	-	191	-	286	150%
11	Higher-risk categories	1,643	-	1,643	-	2,464	150%
15	Equity	97	-	97	-	97	100%
16	Other items	590	-	590	-	963	163%
17	**Total**	**$ 4,966**	**-**	**$ 4,966**	**-**	**$ 5,674**	114%

GSI

$ in millions — **As of November 2018**

		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	Exposure classes	**On-balance-sheet amount**	**Off-balance-sheet amount**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**RWAs**	**RWA density**
1	Central governments or central banks	-	-	-	-	-	0%
6	Institutions	-	-	-	-	-	0%
7	Corporates	482	-	482	-	482	100%
9	Secured by mortgages on immovable property	-	-	-	-	-	0%
10	Exposures in default	191	-	191	-	286	150%
11	Higher-risk categories	-	-	-	-	-	0%
15	Equity	-	-	-	-	-	0%
16	Other items	270	-	270	-	643	240%
17	**Total**	**$ 943**	**-**	**$ 943**	**-**	**$ 1,411**	150%

GSIB

$ in millions — **As of November 2018**

		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	Exposure classes	**On-balance-sheet amount**	**Off-balance-sheet amount**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**RWAs**	**RWA density**
1	Central governments or central banks	-	-	-	-	-	0%
6	Institutions	-	-	-	-	-	0%
7	Corporates	1	-	1	-	1	100%
9	Secured by mortgages on immovable property	42	-	42	-	21	48%
10	Exposures in default	-	-	-	-	-	0%
11	Higher-risk categories	-	-	-	-	-	0%
15	Equity	-	-	-	-	-	0%
16	Other items	-	-	-	-	-	0%
17	**Total**	**$ 43**	**-**	**$ 43**	**-**	**$ 22**	50%

Table 47: Standardised Approach

GSGUK

	$ in millions									As of November 2018
		Risk weight								
	Exposure classes	**0%**	**20%**	**35%**	**50%**	**100%**	**150%**	**250%**	**Total**	**Of which unrated**
1	Central governments or central banks	-	-	-	-	-	-	-	-	-
6	Institutions	-	671	-	45	-	-	-	716	65
7	Corporates	-	-	-	-	1,687	-	-	1,687	1,687
9	Secured by mortgages on immovable property	-	-	34	-	8	-	-	42	42
10	Exposures in default	-	-	-	-	-	191	-	191	65
11	Higher-risk categories	-	-	-	-	-	1,643	-	1,643	1,643
15	Equity	-	-	-	-	97	-	-	97	97
16	Other items	-	-	-	-	341	-	249	590	590
17	**Total**	**-**	**$ 671**	**$ 34**	**$ 45**	**$ 2,133**	**$ 1,834**	**$ 249**	**$ 4,966**	**$ 4,189**

GSI

	$ in millions									As of November 2018
		Risk weight								
	Exposure classes	**0%**	**20%**	**35%**	**50%**	**100%**	**150%**	**250%**	**Total**	**Of which unrated**
1	Central governments or central banks	-	-	-	-	-	-	-	-	-
6	Institutions	-	-	-	-	-	-	-	-	-
7	Corporates	-	-	-	-	482	-	-	482	482
9	Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-
10	Exposures in default	-	-	-	-	-	191	-	191	65
11	Higher-risk categories	-	-	-	-	-	-	-	-	-
15	Equity	-	-	-	-	-	-	-	-	-
16	Other items	-	-	-	-	21	-	249	270	270
17	**Total**	**-**	**-**	**-**	**-**	**$ 503**	**$ 191**	**$ 249**	**$ 943**	**$ 817**

GSIB

	$ in millions									As of November 2018
		Risk weight								
	Exposure classes	**0%**	**20%**	**35%**	**50%**	**100%**	**150%**	**250%**	**Total**	**Of which unrated**
1	Central governments or central banks	-	-	-	-	-	-	-	-	-
6	Institutions	-	-	-	-	-	-	-	-	-
7	Corporates	-	-	-	-	1	-	-	1	1
9	Secured by mortgages on immovable property	-	-	34	-	8	-	-	42	42
10	Exposures in default	-	-	-	-	-	-	-	-	-
11	Higher-risk categories	-	-	-	-	-	-	-	-	-
15	Equity	-	-	-	-	-	-	-	-	-
16	Other items	-	-	-	-	-	-	-	-	-
17	**Total**	**-**	**-**	**$ 34**	**-**	**$ 9**	**-**	**-**	**$ 43**	**$ 43**

Appendix III: Counterparty Credit Risk Tables

Table 48: IRB Approach - CCR Exposures by Portfolio and PD Scale

GSGUK

$ in millions **As of November 2018**

	PD Scale	EAD post CRM	Average PD	Number of Obligors	Average LGD	Average Maturity	RWAs	RWA density
Sovereign								
	0.00 to <0.15	$ 10,334	0.00018	155	0.5001	2.63	$ 1,125	11%
	0.15 to <0.25	3,665	0.00179	14	0.5000	3.99	2,360	64%
	0.25 to <0.50	121	0.00260	15	0.5000	0.14	38	32%
	0.50 to <0.75	54	0.00622	13	0.5000	1.19	39	72%
	0.75 to <2.50	1	0.02370	3	0.5000	1.00	1	120%
	2.50 to <10.00	4	0.06294	9	0.5000	1.03	7	170%
	10.00 to <100.00	-	-	1	-	-	-	0%
	100.00 (Default)	-	-	-	-	-	-	0%
	Subtotal	$ 14,179	0.00066	210	0.5001	2.95	$ 3,570	25%
Institutions								
	0.00 to <0.15	$ 38,407	0.00054	5,674	0.6212	1.54	$ 11,192	29%
	0.15 to <0.25	11,895	0.00174	2,411	0.6592	2.13	8,999	76%
	0.25 to <0.50	1,712	0.00260	894	0.6657	1.32	1,354	79%
	0.50 to <0.75	4,730	0.00650	1,048	0.6424	2.08	6,649	141%
	0.75 to <2.50	3,226	0.01794	2,722	0.6765	2.13	6,221	193%
	2.50 to <10.00	1,213	0.07748	172	0.6510	0.96	2,938	242%
	10.00 to <100.00	41	0.23780	433	0.6511	1.72	160	390%
	100.00 (Default)	4	0.99900	3	0.6560	2.66	0	1%
	Subtotal	$ 61,228	0.00395	13,357	0.6350	1.71	$ 37,513	61%
Corporates								
	0.00 to <0.15	$ 25,621	0.00046	3,077	0.6177	1.91	$ 7,255	28%
	0.15 to <0.25	6,817	0.00174	879	0.6406	2.67	5,229	77%
	0.25 to <0.50	2,421	0.00260	623	0.5573	2.03	1,598	66%
	0.50 to <0.75	2,510	0.00641	973	0.7342	1.76	3,430	137%
	0.75 to <2.50	3,107	0.01738	2,236	0.7107	2.08	6,115	197%
	2.50 to <10.00	1,377	0.08136	772	0.6997	2.00	4,123	299%
	10.00 to <100.00	584	0.23780	1,413	0.6372	2.11	2,203	377%
	100.00 (Default)	13	0.99900	6	0.6225	3.94	0	1%
	Subtotal	$ 42,450	0.00857	9,979	0.6345	2.04	$ 29,953	71%
	Total (all portfolios)	**$ 117,857**	**0.00522**	**23,546**	**0.6186**	**1.98**	**$ 71,036**	**60%**

GSI

$ in millions **As of November 2018**

	PD Scale	EAD post CRM	Average PD	Number of Obligors	Average LGD	Average Maturity	RWAs	RWA density
Sovereign								
	0.00 to <0.15	$ 10,334	0.00018	155	0.5001	2.63	$ 1,125	11%
	0.15 to <0.25	3,665	0.00179	14	0.5000	3.99	2,360	64%
	0.25 to <0.50	121	0.00260	15	0.5000	0.14	38	32%
	0.50 to <0.75	54	0.00622	13	0.5000	1.19	39	72%
	0.75 to <2.50	1	0.02370	3	0.5000	1.00	1	120%
	2.50 to <10.00	4	0.06294	9	0.5000	1.03	7	170%
	10.00 to <100.00	-	0.23780	1	0.5000	1.00	0	0%
	100.00 (Default)	-	-	-	-	-	-	0%
	Subtotal	$ 14,179	0.00066	210	0.5001	2.95	$ 3,570	25%
Institutions								
	0.00 to <0.15	$ 38,328	0.00054	5,666	0.6212	1.54	$ 11,166	29%
	0.15 to <0.25	11,866	0.00174	2,408	0.6592	2.13	8,972	76%
	0.25 to <0.50	1,712	0.00260	894	0.6657	1.32	1,354	79%
	0.50 to <0.75	4,726	0.00650	1,041	0.6424	2.08	6,644	141%
	0.75 to <2.50	3,222	0.01794	2,720	0.6766	2.13	6,213	193%
	2.50 to <10.00	1,213	0.07748	172	0.6510	0.96	2,938	242%
	10.00 to <100.00	41	0.23780	432	0.6511	1.72	160	390%
	100.00 (Default)	4	0.99900	3	0.6560	2.66	0	1%
	Subtotal	$ 61,112	0.00396	13,336	0.6350	1.71	$ 37,447	61%
Corporates								
	0.00 to <0.15	$ 25,579	0.00046	3,073	0.6177	1.91	$ 7,233	28%
	0.15 to <0.25	6,682	0.00174	873	0.6403	2.64	5,075	76%
	0.25 to <0.50	2,421	0.00260	623	0.5573	2.03	1,598	66%
	0.50 to <0.75	2,507	0.00641	971	0.7343	1.76	3,427	137%
	0.75 to <2.50	3,078	0.01732	2,232	0.7116	2.06	6,043	196%
	2.50 to <10.00	1,371	0.08146	764	0.6999	2.01	4,109	300%
	10.00 to <100.00	584	0.23780	1,412	0.6372	2.11	2,203	377%
	100.00 (Default)	13	0.99900	6	0.6225	3.94	0	1%
	Subtotal	$ 42,235	0.00858	9,954	0.6345	2.04	$ 29,688	70%
	Total (all portfolios)	**$ 117,526**	**0.00522**	**23,500**	**0.6185**	**1.98**	**$ 70,705**	**60%**

GSIB

$ in millions								As of November 2018
	PD Scale	**EAD post CRM**	**Average PD**	**Number of Obligors**	**Average LGD**	**Average Maturity**	**RWAs**	**RWA density**
Sovereign								
	0.00 to <0.15	-	-	-	-	-	-	0%
	0.15 to <0.25	-	-	-	-	-	-	0%
	0.25 to <0.50	-	-	-	-	-	-	0%
	0.50 to <0.75	-	-	-	-	-	-	0%
	0.75 to <2.50	-	-	-	-	-	-	0%
	2.50 to <10.00	-	-	-	-	-	-	0%
	10.00 to <100.00	-	-	-	-	-	-	0%
	100.00 (Default)	-	-	-	-	-	-	0%
	Subtotal	-	-	-	-	-	-	0%
Institutions								
	0.00 to <0.15	$ 79	0.00060	8	0.6367	1.68	$ 26	33%
	0.15 to <0.25	29	0.00180	3	0.6616	2.80	27	92%
	0.25 to <0.50	-	-	-	-	-	-	-
	0.50 to <0.75	4	0.00670	7	0.6598	1.00	5	115%
	0.75 to <2.50	4	0.01560	2	0.6294	2.78	8	205%
	2.50 to <10.00	-	-	-	-	-	-	-
	10.00 to <100.00	0	0.23780	1	0.6561	1.00	0	357%
	100.00 (Default)	-	-	-	-	-	-	-
	Subtotal	$ 116	0.00170	21	0.6436	1.98	$ 66	57%
Corporates								
	0.00 to <0.15	$ 42	0.00050	4	0.5947	3.74	$ 22	53%
	0.15 to <0.25	135	0.00180	6	0.6586	4.14	154	114%
	0.25 to <0.50	-	-	-	-	-	-	-
	0.50 to <0.75	3	0.00600	2	0.6754	1.28	3	97%
	0.75 to <2.50	29	0.02370	4	0.6228	3.63	72	244%
	2.50 to <10.00	6	0.05810	8	0.6525	1.03	14	239%
	10.00 to <100.00	0	0.23780	1	0.6397	1.00	0	348%
	100.00 (Default)	-	-	-	-	-	-	-
	Subtotal	$ 215	0.00690	25	0.6413	1.47	$ 265	123%
	Total (all portfolios)	**$ 331**	**0.00510**	**46**	**0.6421**	**1.11**	**$ 331**	**100%**

Table 49: Impact of Netting and Collateral Held on Exposure Values[1]

GSGUK

$ in millions						As of November 2018
		Gross positive fair value or net carrying amount	**Netting benefits**	**Netted current credit exposure**	**Collateral held**	**Net credit exposure[2]**
1	Derivatives	$ 512,057	$ 449,028	$ 63,029	$ 95,844	$ 34,553
2	SFTs	285,071	66,519	218,553	412,417	14,242
4	**Total**	**$ 797,128**	**$ 515,547**	**$ 281,582**	**$ 508,261**	**$ 48,795**

GSI

$ in millions						As of November 2018
		Gross positive fair value or net carrying amount	**Netting benefits**	**Netted current credit exposure**	**Collateral held**	**Net credit exposure[2]**
1	Derivatives	$ 512,563	$ 449,266	$ 63,297	$ 94,119	$ 33,814
2	SFTs	280,097	66,892	213,205	408,184	14,807
4	**Total**	**$ 792,660**	**$ 516,158**	**$ 276,502**	**$ 502,303**	**$ 48,621**

GSIB

$ in millions						As of November 2018
		Gross positive fair value or net carrying amount	**Netting benefits**	**Netted current credit exposure**	**Collateral held**	**Net credit exposure[2]**
1	Derivatives	$ 333	$ 192	$ 525	$ 1,726	$ 791
2	SFTs	24,446	373	24,073	25,359	-
4	**Total**	**$ 24,779**	**$ 565**	**$ 24,598**	**$ 27,085**	**$ 791**

[1] GSGUK and its subsidiaries do not have cross-product netting where both derivatives and SFTs are netted at a counterparty level.

[2] Net credit exposure for derivatives and SFTs represents the current exposure component of the modelled EAD, and takes into account legally enforceable collateral received.

Table 50: Composition of Collateral for Exposures to CCR[1]

GSGUK

$ in millions						As of November 2018
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
Sovereign	$ 2,979	$ 22,494	$ 2,798	$ 16,657	$ 284,859	$ 208,190
Equities	4,595	981	12	-	109,009	95,777
Corporate Bonds	366	2,091	-	341	10,176	7,777
Cash	1,274	60,500	183	52,130	-	-
Other	562	-	-	91	8,373	12,213
Total	**$ 9,777**	**$ 86,067**	**$ 2,994**	**$ 69,219**	**$ 412,417**	**$ 323,957**

GSI

$ in millions						As of November 2018
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
Sovereign	$ 2,840	$ 22,494	$ 2,790	$ 16,657	$ 282,704	$ 217,074
Equities	4,092	93	12	-	107,621	99,178
Corporate Bonds	364	2,091	-	341	9,486	13,873
Cash	1,274	60,309	183	51,446	-	-
Other	562	-	-	91	8,373	13,301
Total	**$ 9,131**	**$ 84,988**	**$ 2,986**	**$ 68,535**	**$ 408,184**	**$ 343,426**

GSIB

$ in millions						As of November 2018
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
Sovereign	$ 139	-	$ 8	-	$ 12,697	$ 859
Equities	504	888	-	-	4,789	-
Corporate Bonds	3	-	-	-	6,786	-
Cash	-	191	-	684	-	-
Other	-	-	-	-	1,087	-
Total	**$ 646**	**$ 1,080**	**$ 8**	**$ 684**	**$ 25,359**	**$ 859**

[1] In addition, as of 30 November 2018, GSI had received $24.1bn additional collateral on derivative transactions the firm cleared on behalf of the clients.

Appendix IV: Past Due Exposures, Impaired Exposures and Impairment Provisions Tables

Table 51: Aging of Past-due Exposures

$ in millions **As of November 2018**

		Gross carrying values					
		≤ 30 days	**> 30 days ≤ 60 days**	**> 60 days ≤ 90 days**	**> 90 days ≤ 180 days**	**> 180 days ≤ 1 year**	**> 1 year**
1	Loans	-	-	-	-	$ 20	$ 3
2	Debt securities	-	-	5	-	36	123
3	***GSGUK Total exposures***	**-**	**-**	**$ 5**	**-**	**$ 56**	**$ 126**
1	Loans	-	-	-	-	-	3
2	Debt securities	-	10	5	-	-	123
3	***GSI Total exposures***	**-**	**$ 10**	**$ 5**	**-**	**-**	**$ 126**
1	Loans	-	-	-	-	-	-
2	Debt securities	-	-	-	-	-	-
3	***GSIB Total exposures***	**-**	**-**	**-**	**-**	**-**	**-**

Table 52: Non-performing and Forborne Exposures

$ in millions **As of November 2018**

		Gross carrying amount of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
			Of which performing but past due > 30 days and <= 90 days	Of which performing forborne	Of which non-performing				On performing exposures		On non-performing exposures		On non-performing exposures	Of which forborne exposures
						Of which defaulted	Of which impaired	Of which forborne		Of which forborne		Of which forborne		
	GSGUK													
010	Debt securities	**$ 2,361**	**$ 5**	**-**	**$ 158**	**$ 158**	**-**	**-**	**$ 0**	**-**	**-**	**-**	**-**	**-**
020	Loans and advances	**$ 3,367**	**-**	**-**	**$ 52**	**$ 33**	**$ 19**	**-**	**$ 23**	**-**	**$ 4**	**-**	**-**	**-**
030	Off-balance-sheet exposures	**$ 7,849**	**-**	**-**	**-**	**-**	**-**	**-**	**$ 13**	**-**	**-**	**-**	**-**	**-**
	GSI													
010	Debt securities	918	5	-	158	158	-	-	-	-	-	-	-	-
020	Loans and advances	56	-	-	33	33	-	-	-	-	-	-	-	-
030	Off-balance-sheet exposures	-	-	-	-	-	-	-	-	-	-	-	-	-
	GSIB													
010	Debt securities	871	-	-	-	-	-	-	0	-	-	-	-	-
020	Loans and advances	3,282	-	-	19	-	19	-	23	-	4	-	-	-
030	Off-balance-sheet exposures	7,849	-	-	-	-	-	-	13	-	-	-	-	-

Table 53: Changes in the Stock of General and Specific Credit Risk Adjustments[1]

$ in millions					As of November 2018
		Accumulated specific credit risk adjustment		Accumulated general credit risk adjustment	
		GSGUK	GSIB	GSGUK	GSIB
1	**Opening balance as of 30th June 2018**	**$ 48**	**$ 48**	**-**	**-**
2	Increases due to amounts set aside for estimated loan losses during the period	9	9	-	-
3	Decreases due to amounts reversed for estimated loan losses during the period	(7)	(7)	-	-
6	Impact of exchange rate differences	(1)	(1)	-	-
8a	Position and valuation changes	(18)	(18)	-	-
9	**Closing balance as of 30th November 2018**	**$ 31**	**$ 31**	**-**	**-**

[1]Changes in specific credit risk adjustment are due to position and valuation changes rather than changes in amounts set aside for estimated loan losses, transfers between credit risk adjustments, exchange rate differences or business combinations (such as acquisitions and disposals of subsidiaries).

Table 54: Changes in the Stock of Defaulted and Impaired Loans and Debt Securities[1]

$ in millions				As of November 2018
		Gross carrying value defaulted exposures		
		GSGUK	GSI	GSIB
1	**Opening balance as of 30th June 2018**	**$ 288**	**$ 288**	**-**
2	Loans and debt securities that have defaulted or impaired since the last reporting period	-	-	-
5	Other changes	(97)	(97)	-
6	**Closing balance as of 30th November 2018**	**$ 191**	**$ 191**	**-**

[1]There were no defaulted or impaired loans and debt securities written off or returned to non-defaulted status during the period.

Appendix V: Index of Tables to EBA Templates

1. Template 3 (The disclosure on differences in the scopes of consolidation) has been disclosed within the Basis of Consolidation section of the document.

2. The specialised lending section of Template 5 (IRB (specialised lending and equities)) has not been disclosed as GSGUK and its subsidiaries does not have specialised lending exposure.

3. Template 6 (Non-deducted participation in insurance undertakings) has not been disclosed as GSGUK and its subsidiaries do not have material holdings of own funds instruments of an insurance undertaking, re-insurance undertaking or an insurance holding company.

4. Template 28 (Standardised approach – CCR exposures by regulatory portfolio and risk) has not been disclosed as the material entities within GSGSUK have regulatory permission from the PRA to compute risk weights in accordance with the AIRB approach. As a result, CCR exposures outside of these entities that are subject to the Standardised approach are deemed to be immaterial. The CCR exposure class, institutions, represents less than 5% of the total CCR exposure.