Citigroup Global Markets Limited

Pillar 3 Disclosures

December 2019

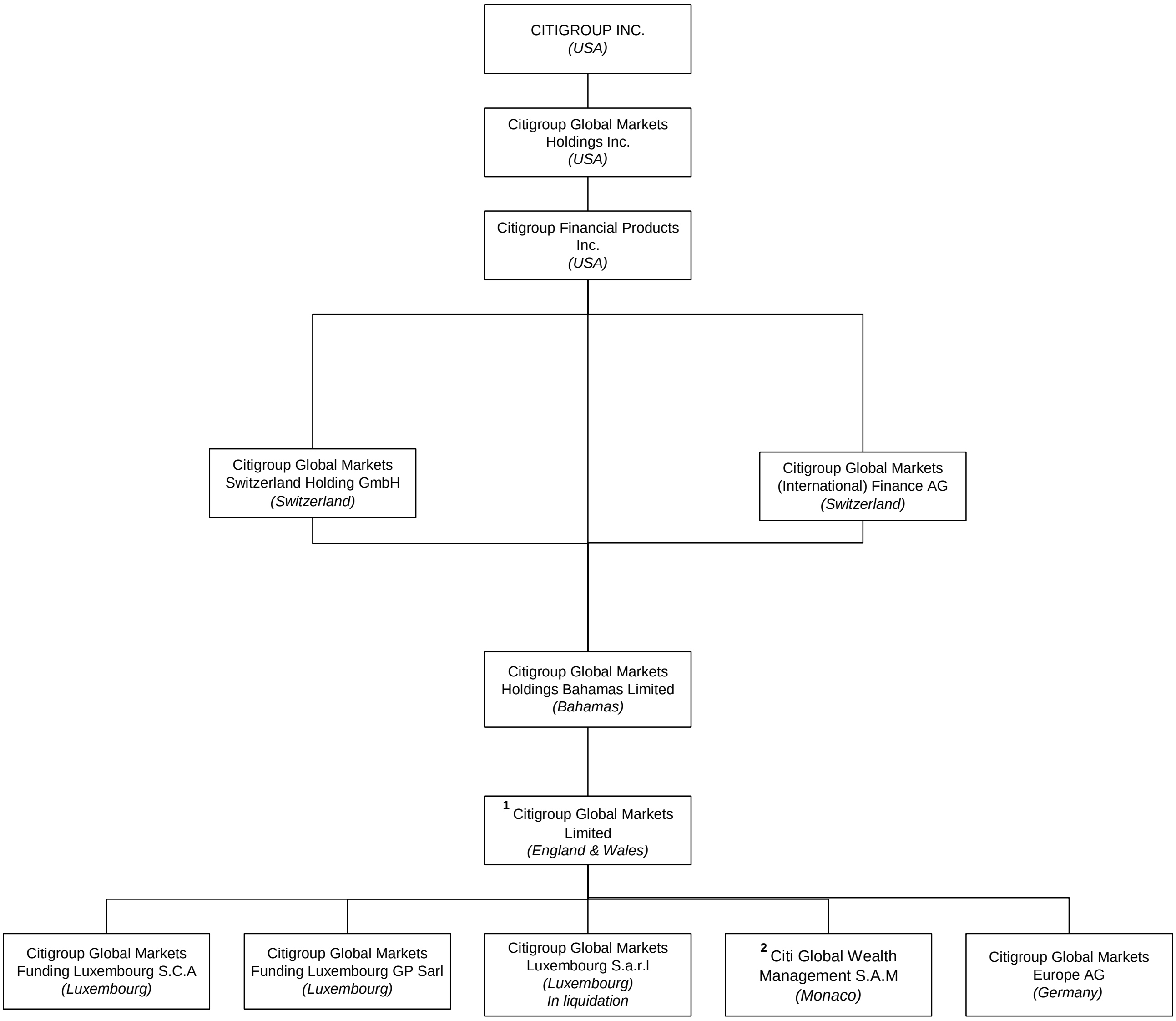
Contents

Tables

Introduction

Citigroup Global Markets Limited (CGML) is a wholly owned, indirect subsidiary of Citigroup Inc. It is Citi's international broker dealer, providing products and services for institutional clients. CGML acts as a market maker in equity, fixed income and commodity products across cash, over-the-counter (OTC) derivatives and exchange traded markets, as well as a provider of investment banking capital markets and advisory services. CGML operates globally, generating the majority of its business from the Europe, Middle East and Africa (EMEA) region with the remainder coming from Asia and the Americas.

CGML is authorised by the Prudential Regulation Authority (PRA) and regulated by the PRA and Financial Conduct Authority (FCA). CGML is also a Commodity Futures Trading Commission (CFTC) registered swap dealer and is considered a Risk Taking/Operating Material Legal Entity in Citi's Global Resolution Plan. As at 31 December 2019, it had four active branch offices and five subsidiaries, as set out below.



Branches in: Czech Republic, France, Israel, Italy, Spain, Switzerland and UAE.
Subsidiaries in: Germany, Monaco and Luxembourg.

[1] Authorised by the Prudential Regulation Authority (PRA) and regulated by the Financial Conduct Authority and PRA
[2] Regulated by the Commission de Contrôle des Activities Financieres

CGML's business falls within the Institutional Clients Group (ICG) segment of Citi's operations and is almost entirely wholesale in nature, with a client base that encompasses corporates, institutions and governments. CGML's principal business activities are summarised below:

Business	Activities
Global Rates	Makes markets and facilitates client activity across interest rate products in G10 markets, including sovereign and supranational bonds, inflation bonds, and interest rate, cross currency and inflation derivatives.
Global Spread Products	Provides clients with access to investment grade, high yield and distressed bond markets, as well as credit derivatives and structured credit products.
Equity Markets & Securities Services	Comprises: • Equity Markets, undertakes market making in, and provides clients with exposure to, equities, convertible bonds, listed and OTC derivatives, structured products, securities financing, and electronic trading. • Multi Asset Group, develops asset-side investment and hedging solutions for distributors and institutional investors. • Prime Finance, provides globally co-ordinated prime brokerage services to clients. • Delta One, which provides access, financing and investment solutions to a broad spectrum of clients via synthetic products. • Futures & OTC Clearing, which provides clients with access to global liquidity venues, global execution on all major futures exchanges, multi-asset clearing services on global central counterparties (CCPs) and delivery of collateral solutions.
Commodities	Acts as a principal in commodity markets worldwide, providing risk management services to clients, acting as a liquidity provider and providing investor solutions and working capital facilities for commodity inventories.
Foreign Exchange and Local Markets (FXLM)	Facilitates local and international client demand for flow FX products, such as spot and forward contracts, short-term interest rate products, and interest rate and currency derivatives.
Banking, Capital Markets and Advisory	Capital Markets Origination provides structuring and syndication of securities and financing transactions in the bond capital markets and delivers equity and equity-linked solutions in financing acquisitions, funding capital expenditures, managing liabilities, monetising assets and hedging exposures. Corporate and Investment Banking coordinates the overall relationship with clients across all business areas from Corporate Banking and coverage in regards to episodic products out of Investment Banking.

Overview of Pillar 3 Disclosures

This document contains the Pillar 3 disclosures, qualitative and quantitative, for CGML, Citi's principal UK operating subsidiary, for 2019. The disclosures are made in accordance with Part 8 of the Capital Requirements Regulation within the Capital Requirements Directive (CRD IV) package. In addition, we have implemented the European Banking Authority (EBA) final guidelines on revised Pillar 3 disclosures (EBA/GL/2016/11), amended in June 2017, which bring into force the disclosure of new quantitative tables to further enhance comparability and consistency across the industry. Where not relevant to the activities of CGML, specific rows and columns have been deleted from templates.

The report is produced and published quarterly, with increased disclosures in the semi-annual and full annual publications. Omissions are detailed in Appendix 6. All information deemed as immaterial, proprietary and confidential to CGML has been omitted. The CRD IV package, which came into effect on 1 January 2014 and implements the provisions of the Basel Capital Accord in the European Union (EU), mandates a framework of capital adequacy regulation for banks and investment firms incorporating three distinct pillars.

- Pillar 1 prescribes the minimum capital requirements for such firms;
- Pillar 2 addresses the associated supervisory review process; and
- Pillar 3 specifies further public disclosure requirements in respect of their capital and risk profile.

In accordance with the requirements set out in CRD IV, the focus of the disclosures is on European Economic Area (EEA) parent institutions and firms which are significant subsidiaries of EEA parent institutions.

The disclosures complement both the group level materials included in the Citigroup Annual Report, and CGML's own 2019 financial statements.

The basis of the disclosures for CGML is on a consolidated basis.

The following table sets out further details of the entities included in the CGML consolidated group.

We are aware of no material practical or legal impediment to the prompt transfer of capital resources or repayment of liabilities among these entities, beyond the normal requirements imposed by company and other legislation.

Subsidiary	Date Established	Description
Citi Global Wealth Management Societe Anonyme Monegasque (SAM) (Monaco)	2007	• Established as a Citi Private Bank advisor, chartered and headquartered in Monaco. Formed as an asset management company to serve family offices and ultra-high net worth individuals resident in Monaco with a full range of global investment products and tailored financial solutions, through the Citi Private Bank • Incorporated to meet regulations that stipulate that only a local onshore registered and authorised legal entity and its local registered employees are permitted to procure clients and/or provide local Monaco resident investment advisory services • The entity has no onshore booking, deposit taking or lending capability. Local clients' book into the existing Citi Private Bank booking centres in Citibank NA Jersey, Citibank NA London, Citibank (Switzerland) and Citibank Europe plc
Citigroup Global Markets Luxembourg SARL	2011	• Established by the Prime Finance business within Investor Services to carry out Securities Lending and Delta One activity. • Incorporated in the form of a SarL, or limited liability company • This entity is currently in liquidation
Citigroup Global Markets Funding Luxembourg SCA and GP SARL	2012	• Established as a Euro Medium Term Note (EMTN) issuance vehicle by the Multi Asset Group for the benefit of CGML • Established due to CGML itself being unable to publicly issue debt as a private limited company • Two Luxembourg entities were incorporated as subsidiaries of CGML – 'SCA' (a form of partnership), the issuance vehicle; and – 'SarL' (a limited company), set up as an unlimited shareholder and manager • The SCA issues the notes but transfers the risks to CGML via fully-funded Total Return Swaps
Citigroup Global Markets Europe AG	2018	• Incorporated due to Great Britain's imminent exit from the European Union, the unrestricted permission to engage in business activities in other European countries will lapse • Established as a Securities Trading Bank with permission to do business on the European markets and for the relevant target clients in Europe

Policy and Verification

In accordance with Article 431 (3) of the Capital Requirement Regulation (CRR), CGML's Pillar 3 disclosures are covered under the Citi internal EU Pillar 3 Standard, which outlines the principles and minimum standards to be applied when developing a set of Pillar 3 disclosures for legal entities within the EU. The firm operates within a framework of internal controls and procedures for assessing the appropriateness of this disclosure. The Standard is regularly updated and approved to comply with increased guidance on Pillar 3 disclosures.

The disclosures within the Pillar 3 document have been reviewed by appropriate senior management within the Finance, Risk and HR functions. The document was then approved by the CGML Asset and Liability Committee (ALCO) and finally reviewed and approved by the Board.

The UK ALCO is the primary balance sheet and liquidity governance committee of CGML which meets monthly and carries out the following functions.

- The UK ALCO committee's remit includes oversight of CGML's balance sheet management, liquidity and capital levels, local regulatory requirements related to the Balance Sheet, oversight of market and foreign exchange risks of non-trading portfolios, and monitoring of Treasury management limits, targets and ratios.
- The committee reviews and approves key regulatory documents such as Internal Capital Adequacy Assessment Process (ICAAP) and Internal Liquidity Adequacy Assessment Process (ILAAP) before these are submitted to the Board for approval.
- The committee ensures adherence to capital standards, determines dividend repatriation, and monitors local capital hedging and investment.
- CGML senior management through UK ALCO monitors changes in the economic environment and any corresponding impact on the asset quality of CGML's balance sheet and the prudential adequacy of CGML.
- Membership of the UK ALCO includes the CGML Chief Executive Officer, UK Chief Country Officer (chair), UK CFO, UK Treasurer, UK Country Risk Officer, Independent Treasury Market Risk and other key business and functional heads.

Transitional Arrangements for the Adoption of IFRS 9

CGML has decided not to apply the transitional arrangements introduced by regulation (EU) 2017/2395 for mitigating the impact of IFRS 9 on own funds and the treatment of certain large exposures. CGML has concluded that the impact of IFRS 9 adoption is immaterial; and therefore the reported own funds, capital and leverage ratios already reflect the full impact of IFRS 9.

This decision reflects the nature of CGML's business and, in particular, the absence of a loan book on its balance sheet.

CGML maintains regulatory capital which is comfortably above the minimum regulatory requirements.

Future Outlook

The UK's Withdrawal from the EU

Following the UK referendum on EU membership in June 2016, Citi established a formal programme to deliver a coordinated response to the UK's decision to leave the EU. The UK's membership of the European Union came to an end on 31 January 2020 following the ratification by the UK and the EU of the Withdrawal Agreement with a transition period until 31 December 2020.

Across the impacted legal entities, Citi is operationally ready to support its clients following Brexit. Citi continues to monitor Brexit related political, legislative and regulatory considerations, for its EEA based client activities and all impacted legal entities.

Currently, CGML relies on passporting to provide products and services on a cross-border basis across the EEA. In preparation for Brexit and to minimise client and market disruption, CGML is seeking to maintain its existing EEA client, counterparty and Financial Market Infrastructure (FMI) relationships by making use of cross-border licences or licence exemptions in certain EEA jurisdictions, where available.

Where such cross-border licences and licence exemptions are not available, EEA client facing activities are being transferred to Citigroup Global Markets Europe AG (CGME, Citi's EEA Investment Firm and a wholly owned subsidiary of CGML) or Citibank Europe Plc (CEP) in certain instances to ensure continuity of services and products. CGME and CEP are operationally ready, and provision of Markets & Securities Services to certain EU-based clients has commenced.

As part of this preparation, activities in CGML's existing EEA branches in France, Italy and Spain have been transferred to newly established branches of CGME in the respective EEA locations to support provision of investment services and products. CGML Ireland Branch activities have been transferred to CEP and the branch has been formally closed.

CGME's client base will comprise eligible counterparties and professional clients (including clients who may be treated as professionals on request) for the purpose of Directive 2014/65/EU on markets in financial instruments. These typically include financial institutions, institutional and other investors, corporates, government and public sector entities and retail intermediaries.

CGML will continue to be a full service Investment Firm and one of Citi's global market risk hubs in the target state. Further, CGML will continue to focus on ensuring sustained future viability of CGME as a part of post Brexit restructuring.

The UK's withdrawal from the EU and its associated economic, political, legal and regulatory ramifications will continue to be a source of uncertainty during 2020 as the exact nature of UK's future relationship with EU remains unclear.

Emergence of COVID-19

The global spread of COVID-19 has resulted in governments taking varied actions towards stemming its spread and also bolstering economies. Consequently, the global economy has seen a slowdown of economic activity in many sectors and increased volatility in the financial markets including the UK. The impact of COVID-19 is expected to continue for the coming months with likely adverse effects on the operations and financial position of the business. The Company is closely monitoring the spread of COVID-19, the actions and reactions of Governments and the potential effects it will have on its business.

Board's Declaration

We confirm that CGML's Pillar 3 disclosures, to the best of our knowledge, comply with Part Eight of the CRR and have been prepared in compliance with CGML's internal control framework.

Key Metrics

Table 1: Key Metrics (KM1)

		31 December 2019	30 September 2019	30 June 2019	31 March 2019	31 December 2018
	Available capital (amounts)	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**
1	Common Equity Tier 1 (CET1)	14,492	14,547	14,501	13,966	13,959
2	Tier 1	16,792	16,847	16,801	16,266	16,259
3	Total capital	21,392	21,447	21,401	20,866	20,859
	Risk-weighted assets (amounts)					
4	Total risk-weighted assets (RWA)	132,613	145,837	146,596	143,406	131,022
	Risk-based capital ratios as a percentage of RWA					
5	Common Equity Tier 1 ratio (%)	10.93%	9.97%	9.89%	9.74%	10.65%
6	Tier 1 ratio (%)	12.66%	11.55%	11.46%	11.34%	12.41%
7	Total capital ratio (%)	16.13%	14.71%	14.60%	14.55%	15.92%
	Additional CET1 buffer requirements as a percentage of RWA					
8	Capital conservation buffer requirement (2.5% from 2019) (%)	2.50%	2.50%	2.50%	2.50%	1.88%
9	Countercyclical buffer requirement (%)	0.46%	0.49%	0.41%	0.43%	0.42%
10	Bank G-SIB additional requirements (%)	0.00%	0.00%	0.00%	0.00%	0.00%
11	Total of bank CET1 specific buffer requirements (%) (row 8 + row 9+ row 10)	2.96%	2.99%	2.91%	2.93%	2.29%
12	CET1 available after meeting the bank's minimum capital requirements (%) [1]	2.44%	1.31%	1.29%	1.15%	2.38%
	Basel III Leverage Ratio [2]					
13	Total Basel III leverage ratio measure	397,050	438,335	412,256	438,607	418,231
14	Basel III leverage ratio (%) (row 2/row 13)	4.23%	3.84%	4.08%	3.71%	3.89%
	Liquidity Coverage Ratio [3]					
15	Total HQLA	20,491	19,714	21,260	18,862	19,832
16	Total net cash outflow	9,292	9,864	11,944	11,438	12,392
17	LCR ratio (%)	220.52%	199.85%	178.00%	164.91%	160.04%

[1] The CET1 available after meeting minimum capital requirements for December 2018 has been amended to reflect the availability of Tier 2 capital to meet certain capital requirements.
[2] Leverage ratio exposure is disclosed on a fully phased-in basis in accordance with the EU delegated act.
[3] Please note that LCR daily average is calculated for CGML solo entity as consolidated LCR is not monitored on a daily basis (only monthly).

CGML’s capital ratios improved over the year primarily driven by an increase in CET1 capital resulting from inclusion of audited 2018 P&L.

Risk Management and Governance

Risk Management Approach

Objective

CGML's objective is to take prudent risks in support of Citi's strategy to serve as a trusted partner to its clients, consistent with Citi's Mission and Value Proposition and commitment to Responsible Finance, and to ensure that the risks taken are within our risk appetite, are supported by sufficient capital and liquidity, and are identified, understood, quantified, mitigated and communicated, in line with CGML's Risk Appetite Framework.

Risk Appetite Framework

Citi's Risk Appetite Policy establishes a holistic Risk Appetite Framework in order to clearly and consistently communicate the types and levels of risk the firm is willing to take within the context of the firm's articulated business strategy. The Risk Appetite Framework established through the policy integrates many existing processes at Citi. Given the diversified nature of Citi's businesses, Citi's limit framework is business and product specific. Each business is required to develop a Risk Appetite Framework specific to its business strategy, activities and products, and each risk taking or operating material legal entity ('MLE'), such as CGML, is required to develop a Risk Appetite Framework that is specific to the business strategy, activities and products for the legal entity.

The CGML Risk Management Framework documents the risk management model and approach used to ensure robust management of the material risks facing the legal entity and includes CGML's Risk Appetite Framework. CGML's Risk Appetite Framework is divided into four parts, with three components of quantitative risk appetite, and the qualitative risk appetite principles which are principle-based boundaries to guide behaviour.
CGML's risk appetite is set by the CGML Board, and incorporates management judgement regarding prudent risk taking and growth in light of the business environment within which the entity operates and takes into account current capital levels and planned capital actions.

The CGML Risk Appetite Framework is reviewed annually, at a minimum, as part of the Internal Capital Adequacy Assessment Process (ICAAP) update. The primary objective of the ICAAP framework is to ensure that CGML remains sufficiently capitalised in all plausible economic circumstances and has been designed to assess current and forecast capital levels under both normal and stressed operating conditions. The CGML CEO, EMEA CFO, EMEA CRO, UK CRO or any CGML Board member can request a refresh at any time for any reason, including for any material changes in the risk profile or operating environment.

Quantitative Risk Appetite

CGML's Risk Appetite Framework includes both principle-based qualitative boundaries to guide behaviour and quantitative boundaries within which the firm will operate, focusing on ensuring that it has sufficient capital resources in light of the risks to which the entity could be exposed.
The three quantitative risk appetite components are as follows:

- CGML ensures that it maintains a sufficient capital excess above and beyond its Pillar 2A, CRD IV and PRA buffer requirements under business as usual conditions in order to accommodate volatility, on both a current and forward looking basis, referred to as the Capital Action Trigger (CAT)
- CGML is also required to maintain a trading stress loss estimate below a certain level, as estimated using Citi's standard Global Systemic Stress Test (GSST) approach for any of the scenarios analysed; and
- CGML also has an Internal Risk Capital Appetite which is a measure of how much risk the Board believes it is prudent to take based on internal measures of capital adequacy, rather than regulatory capital

Note that Internal Risk Capital Appetite is not a target, but a determination of acceptable risk-taking that management may utilise without further Board dialogue, based on the maximum amount of risk considered appropriate given current capital levels, planned capital actions, the business environment, growth expectations and other factors. An 'excess' is held to compensate for risk and business aspects not wholly captured in risk capital and to allow for volatility, which is referred to as the 'minimum required excess'.

CGML's Internal Risk Capital Appetite is allocated down to key risk types – market risk capital, credit risk capital, operational risk capital and pension risk capital. These allocations are based largely on management judgment and incorporate known forward-looking events and management's recognition that increases in one risk type can impact another, for example that increased market risk could create increased Counterparty Credit Risk (CCR) and that growth in any area could cause increased operational risk.

The CGML Board of Directors, with input from senior Citi and CGML management, sets overarching expectations and holds management accountable for ensuring that CGML's risk profile remains within this risk appetite.

Qualitative Risk Appetite

The Board of CGML has adopted the Citigroup Risk Appetite Principles outlined below given their global applicability. Given CGML's critical role in implementing Citi's strategy, CGML must be aligned with Citigroup's Risk Appetite Principles, whilst ensuring that the local assurance mechanisms are in place in order to ensure compliance.

With respect to qualitative risk appetite, the activities that Citi engages in must be consistent with Citi's Mission and Value Proposition and key principles, including Citi's commitment to Responsible Finance.

Citi's Mission and Value Proposition is to serve as a trusted partner to our clients by responsibly providing financial services that enable growth and economic progress and requires employees to ensure that their decisions pass three tests:

- Are in our clients' interests
- Create economic value; and
- Are always systemically responsible

Responsible Finance means conduct that is transparent, prudent and dependable, and delivers better outcomes for our clients and society.

Citi engages in activities that involve uncertainty. The foundation of Citi's Risk Culture is taking intelligent risk with shared responsibility, without forsaking individual accountability.

- Taking intelligent risk means we must identify, measure and aggregate risks, and establish risk tolerances based on a full understanding of concentrations and "fat tail" risk. For risks that are difficult to quantify, we monitor metrics that are indicative of a safe and sound risk culture compared to thresholds and trends and rely on professional judgement following a defined framework of assessment
- Shared responsibility means we collectively bear responsibility to consider, seek input on and escalate concerns, and leverage knowledge across and within the 'three lines of defence' (described in Section 2.1.3); and
- Individual accountability means we must each adhere to policies and standards, actively manage risk, identify issues, escalate concerns and make fully informed decisions that take into account all risks to Citi.

Citi demonstrates a safe and sound risk culture, and assesses and manages risk, such as operational, compliance, strategic, reputational, conduct and legal risks, by:

- Setting an appropriate tone from the top, through Citi's Mission and Value Proposition, the principle of Responsible Finance and Citi's global, business and regional communications strategy, which work together to establish the values expectations for the firm
- Setting appropriate standards, through Citi's Code of Conduct, Leadership Standards and global, business and local policies and procedures, which work together to set the behavioural and other conduct standards for employees of the firm
- Establishing a robust risk management and governance framework including risk policies, risk limits and metrics including early warning triggers where appropriate, concentrations and a defined protocol for reporting, escalating and resolving limit breaches and other risk management issues
- Requiring partnership, open dialogue, escalation and transparency among the three lines of defence, including input by the second line of defence in risk-taking decisions and representation by control functions on senior management committees
- Establishing comprehensive talent management processes, such as Citi's annual talent review process and key talent development programs
- Establishing comprehensive training programs, through risk, compliance and leadership training programs, such as the Chief Country Officer Risk training and Citi's Ethics and Leadership training
- Establishing processes for evaluating accountability, including through Citi's covered employee review process through which employees who are able to take material risks for the firm are independently reviewed by second line of defence control functions; and
- Establishing comprehensive performance management and compensation programs that measure and evaluate performance based on goals achieved balanced against the values, attitudes, competencies and behaviours, including risk behaviours used in achieving such goals; and making compensation and rewards decisions in line with the values and behavioural expectations of the firm

Material Risks

CGML's business falls within the Institutional Clients Group (ICG) segment of Citi's operations and is almost entirely wholesale in nature. CGML has a major international presence as a dealer, market maker and underwriter in equity and fixed income securities and offers risk-based solutions to producers, consumers and investors in commodity markets.

CGML also provides advisory services to a wide range of corporate, institutional and government clients. CGML's trading activities encompass cash, exchange traded and over-the-counter (OTC) derivatives markets. CGML does not originate securitisations or engage in leveraged finance transactions.

CGML's main counterparties, which are also key clients of Citi globally, are banks, investment firms, investment managers, insurers, hedge funds, public sector institutions and corporates.

CGML's material risks are market risk, credit risk, funding and liquidity risk, and operational risk. Operational risk includes a number of risk types, including conduct risk, fraud (including unauthorised trading) and technology risk (including cyber risk).

Risk Governance Structure

Risk management must be built on a foundation of ethical culture. Under Citi's Mission And Value Proposition (described in Section 2.1.2.2), which was developed by Citi's senior leadership and distributed throughout the firm, Citi strives to serve as a trusted partner to its clients by responsibly providing financial services that enable growth and economic progress while earning and maintaining the public's trust by constantly adhering to the highest ethical standards.

Additionally, Citi evaluates employees' performance against a series of behavioural expectations set out in Citi's leadership standards, which were designed in part to effectuate Citi's Mission and Value Proposition. Other culture-related efforts in connection with conduct risk, ethics and leadership, escalation and treating customers fairly, also help Citi to execute its Mission and Value Proposition.

Whilst the management of risk is the collective responsibility of all employees, as at December 2019 Citi assigns accountability into the following three lines of defence:

- **First line of defence:** The business owns all of its risks, and is responsible for the management of those risks
- **Second line of defence:** Citi's control functions (e.g., Risk Management, Finance, Compliance, etc.) establish and monitor standards for the management of risks and effectiveness of controls; and
- **Third line of defence**: Citi's Internal Audit function independently provides assurance, based on a risk-based audit plan that processes are reliable and that governance and controls are effective

Risk Management Model and Policies

CGML utilises Citi's over-arching Risk Management model and organisation, with its multi-dimensional risk oversight, people, policies, processes and systems in order to ensure robust oversight of entity risks. An explanation of Citi's overall approach to managing risk can be found in the "Managing Global Risk" section in Citi's 31 December 2019 Form 10-K, available on the Citigroup website.

In addition, CGML has developed entity-specific Risk Management and controls to ensure that there is local challenge to risk-taking and that Citi's approach is appropriate for CGML, as documented in the CGML Risk Management Framework.

CGML applies Citi's global Risk Management Framework, tailored as appropriate for the entity, based on the following principles established by the Chief Risk Officer

- A defined risk appetite, aligned with business strategy
- Accountability through a common framework to manage risks
- Risk decisions based on transparent, accurate and rigorous analytics
- A common risk capital model to evaluate risks
- Expertise, stature, authority and independence of risk managers; and
- Risk managers empowered to make decisions and escalate issues.

The (Citi-level) Citi Mark-to-Market Policy is the primary policy governing the approach to the setting of limits, triggers and the monitoring of market risk taken on CGML.

The (ICG-level) ICG Risk Manual is the primary ICG-level policy governing the approach to the taking of credit risk on CGML.

The (Citi-level) Operational Risk Management (ORM) Policy establishes a consistent Operational Risk Management Framework for assessing and communicating operational risk and the overall effectiveness of the internal control environment across Citi. That framework is applied at the CGML level, together with the Key Operational Risks (KORs) that have been identified as being specifically relevant for CGML (described further in Section 2.5.3) as part of the CGML Operational Risk Management Framework.

The (Citi-level) Liquidity Risk Management Policy addresses the key liquidity risks that Citi faces as a firm, which requires CGML to define its liquidity risk appetite and operate a limit and trigger structure in order to ensure compliance.

Risk Management Responsibilities

Citi's Chief Risk Officer reports directly to the Citi CEO. Citi manages risk across three dimensions: businesses, regions and critical products. Citi's Risk Management Framework (as defined in the Citi Risk Appetite Policy) aims to recognise the range of Citi's global business activities by combining corporate oversight with Independent Risk Management functions within each business.

Regional Chief Risk Officers are accountable for the risks in their geographic area and are the primary risk contact for the regional business heads and local regulators. In addition, Product Chief Risk Officers are accountable for those areas of critical importance to Citi and are accountable for the risks within their specialities across businesses and regions, such as real estate and fundamental credit. The Product Chief Risk Officers serve as a resource to the Chief Risk Officer, as well as enabling the businesses and Regional Chief Risk Officers to focus on the day-to-day management of risks and to respond in a timely manner to business needs.

The Regional Chief Risk Officer for EMEA (EMEA CRO) is the designated Senior Manager for Risk Management under the Senior Managers Regime. The EMEA CRO reports directly to the Global CRO. The EMEA CRO role is formally inclusive of all divisions and aligned with the regional management structure to foster a more integrated approach to cross-divisional risks.

The EMEA CRO together with the UK CRO is responsible for the risks facing CGML, including market risk, credit risk and operational risk. Liquidity risk is the responsibility of Treasury and Liquidity Risk Management.

As noted above, CGML utilises Citi's over-arching risk management model, policies and organisation, with its multi-dimensional risk oversight, people, processes and systems in order to ensure robust oversight of entity risks.

The UK CRO is responsible for the day-to-day management of risk on CGML, overseen by the EMEA CRO, along with the risk managers for the different risk types (market risk, liquidity risk, credit risk and operational risk) and product risk managers responsible for the risks within their specialities. Certain risks, such as conduct risk, franchise risk and fraud risk, are shared with other functional areas and Risk Management is responsible for designing the escalation framework, quantification methodologies and identifying emerging trends in these areas.

Governance Forums and Committees

The Board of Directors has overall responsibility for the stewardship of the Company's business and, as a result, is primarily responsible for safeguarding its profitability, financial solvency and assets and for ensuring that it complies with all legal and regulatory requirements, subject to necessary delegations.

Committees of the Board include the CGML Risk Committee, the CGML Audit Committee, the CGML Remuneration Committee, which functions as a committee of the Board regarding the remuneration of the Company's employees and material risk takers, and the Nomination Committee, which functions as a committee of the Board to review and issue recommendations for nominations for the appointment of directors of the company.

There are a number of governance and control committees that escalate issues to the CGML Board, CGML Audit Committee or CGML Risk Committee. Members of CGML management sit on all of these committees. Please see appendix 7 for further details.

CGML Risk Committee

The CGML Risk Committee is a standing committee of the Board of Directors and operates within its Terms of Reference (ToR) approved by the Board.

The purpose of the Committee is to assist the Board in fulfilling its responsibility with respect to:

a) CGML's credit, market, liquidity, operational, reputational and strategic risks
b) Aligning CGML's risks with the strategy, capital adequacy and the macroeconomic environment
c) Developing a strategy to manage these risks
d) Overseeing management and their responsibility for executing CGML's Risk Management, Treasury and M&A policies
e) Overseeing compliance with CGML's risk management framework including CGML Board approved policies and practices adopted by CGML for the management of its risks
f) Evaluating whether incentives provided by the remuneration system take into consideration risk, capital, liquidity and the likelihood and timing of earnings

The Committee shall comply with all local legal and regulatory requirements concerning membership and independence, which include:

a) The Committee shall comprise at least three Non-Executive members of the Board, the majority of which shall be Independent Non-Executive Directors
b) Each member shall meet the independence, experience and expertise requirements of the FCA and PRA and have sufficient time to discharge the responsibilities of the Committee
c) The members of the Committee and the Committee Chair shall be appointed by, and may be removed by, the Board of CGML
d) Committee membership and the position of Committee Chair shall be reviewed on a periodic basis and be updated as required
e) The EMEA CRO, the UK CRO, the EMEA CFO and the EMEA Chief Legal Officer shall be permanent attendees at meetings of the Committee. Other Non-Executive members of the Board of CGML have the right to attend meetings of the Committee. Other non-members or other representatives of the Risk function, Compliance and Internal and External Audit, may be invited to attend all or part of any meeting as and when appropriate and necessary

The CGML Risk Committee meets at a minimum quarterly. During 2019 it held six meetings.

The Directors of CGML receive regular reports on any risk matters that need to be brought to their attention via standing forums. In addition, ad-hoc notifications take place via the CGML CEO or UK CRO where escalation is required to the Board, depending on materiality, the criteria for assessing which has been previously presented to and approved by the CGML Risk Committee.

CGML Audit Committee

The Audit Committee is a standing committee of the Board of Directors and is governed by the by its ToR as approved by the Board. The effectiveness of CGML's internal control system is reviewed regularly by the Directors and the CGML Audit Committee, which receives reports of assessments undertaken by the Internal Audit function. Certain aspects of the internal control system are also subject to regulatory supervision, the results of which are monitored closely by the directors and senior management. Citi has an established Managers Control Assessment ('MCA') programme to help managers self-assess key operational risks and controls and to identify and address weaknesses in the design and effectiveness of internal controls that mitigate significant operational risks.

The CGML Audit Committee and Directors are also responsible for monitoring the preparation of CGML's financial statements and for reviewing and assessing the independence of the statutory auditor, in particular in the provision by the auditor of additional services to CGML.

CGML Remuneration Committee

The CGML Remuneration Committee acts as the remuneration committee of CGML, whereas the Personnel and Compensation Committee (P&C Committee) of the Board of Directors of Citigroup Inc. is the remuneration committee for the wider group. The CGML Remuneration Committee met eight times in 2019 and each Director attended at least 75% of all meetings. The CGML Remuneration Committee does not engage independent consultants, but Clifford Chance has advised on remuneration matters for 2019.

CGML Nomination Committee

The CGML Nomination Committee is a sub-Committee of the Board of Directors of CGML. The purpose of the CGML Nomination Committee is to review and issue recommendations for nominations for the appointment of Directors to the Board of CGML taking into account the Companies Act 2006, UK regulatory requirements and any applicable internal regulations of CGML.

The Nomination Committee is independent and is only subject to applicable laws and regulations as well as its own charter.

UK Business Risk, Compliance and Control Committee

The UK Business Risk, Compliance and Control Committee (UKBRCC) holds quarterly discussions with entity management around emerging risks facing Citi's UK entities and provides a forum for escalation and reporting of operational risk events, internal control, legal, compliance, regulatory and other risk issues. Where considered necessary, the UKBRCC further escalates items to the CGML Audit Committee.

Reputational Risk

With respect to reputational risk, a Citi-wide (including an EMEA-based) Business Practices Committee (BPC) composed of regional senior management (including the EMEA CRO) reviews practices involving potentially significant reputational or franchise issues. This committee reviews whether Citi's business practices have been designed and implemented in a way that meets the highest standards of professionalism, integrity and ethical behaviour.

Additional committees, including those noted in Section 2.1.8 below, ensure that product risks are identified, evaluated and determined to be appropriate for Citi and its customers, and incorporate the necessary approvals, controls and accountabilities.

Climate Change

Climate change and its consequences to the global economy represent a range of key emerging risks, with the scope growing beyond reputation-related risks to financial risk. Financial risks from climate change arise through two primary channels: physical risk from abrupt unplanned disruption to businesses and transitional risk from a shift to low carbon and climate resilient policies and technologies. Citigroup continues to assess the risks to our business emerging from climate change.

Citi has addressed climate risks in project related financings and corporate-level reviews in select sectors for the past many years. In 2019, a global multi-disciplined cross functional Climate Risk Working Group (CRWG) was established charged with the build out our capabilities for managing financial risks associated with climate change at Citi. The CRWG is closely monitoring climate risk management industry and regulatory developments in the UK, and globally, to ensure local expectations are taken into consideration as Citi builds out its global climate risk management capabilities.
In 2020, Citi appointed a Global Head of Climate Risk Management supported by dedicated Risk Management staff to spearhead Citi's overall efforts. Within the UK, the Senior Management Function (SMF) with a specific climate-based Statement of Responsibilities is supported by the wider Citi risk management infrastructure, including a formal Senior Manager delegate. Progress is being made to integrate climate risk into Citi's risk management frameworks and policies. Climate related considerations will be embedded into the firm's risk appetite and client strategy in due course. A more

granular assessment of CGML's portfolio and its vulnerability to climate change scenarios is being progressed considering the entity's businesses and risk profile.

New Products and Services

The New Product Approval Committee (NPAC) is designed to ensure that significant risks, including reputational and franchise risks, in a new ICG product, service or complex transaction are identified and evaluated, determined to be appropriate, properly recorded for risk aggregation purposes, effectively controlled and have accountabilities in place.

Investment Products Risk (IPR) manages the potential significant franchise, operational, regulatory and economic risks related to the manufacture and distribution of investment products purchased by Retail Investors, via global or regional Distribution Product Approval Committees (DPAC).

Risk Management Infrastructure

CGML senior management consider the Risk Management infrastructure as described in this document as being adequate to capture and measure the risks taken as a result of the entity's business profile and strategy.

Credit Risk Management

Credit risk is the risk that counterparties may be unable or unwilling to make a payment or fulfil contractual obligations. This may be characterised in terms of an actual default or by deterioration in a counterparty's credit quality. The former case may result in an actual and immediate loss, whereas in the latter case, future losses may become more likely.
Credit risk is one of the most significant risks that Citi faces as an institution. As a result, Citi has a well-established framework in place for managing credit risk across all businesses. This includes a defined risk appetite, credit limits and credit policies. Citi's credit risk management also includes processes and policies with respect to problem recognition, including "watch lists," portfolio review, updated risk ratings and classification triggers. The framework is supplemented by regular stress testing and monitoring of exposures, with monthly and quarterly reporting to senior management and the Board of Directors respectively.

When analysing credit risk, CGML Risk Management manage and monitor the risk from a number of perspectives including obligor and facility ratings, classifications, concentration, stress testing and any associated cost of credit.

Credit risk arises in many of CGML's businesses and as a result of activities including:

- Securities transactions
- Derivatives
- Securities Financing Transactions
- When CGML acts as an intermediary on behalf of its clients and other third parties; and
- When acting as underwriter (not on a best-efforts basis) or within a capital raising capacity.

CGML's counterparty credit risk largely arises from its Securities Financing Transaction (SFT) and Over the Counter (OTC) derivative counterparties. It will also arise from clearing and settlement exposure. As CGML's counterparty credit risk is almost entirely margined or secured, with the exception of short-term FX transactions, some Commodities business or certain trades approved on a case-by-case basis, CGML only hedges a limited amount of its counterparty exposure.

An explanation of Citi's approach to managing credit risk can be found in "Managing Global Risk – Credit Risk" in Citi's 31 December 2019 Form 10-K, available on the Citigroup website.

Corporate Credit Risk

For corporate clients and investment banking activities across the organisation, the credit process is grounded in a series of fundamental policies, including:

- Joint business and independent Risk Management responsibility for managing credit risks
- A single centre of control for each credit relationship, which coordinates credit activities with each client
- Portfolio limits to ensure diversification and in order to maintain risk/capital alignment
- A minimum of two authorised credit officer signatures required on most extensions of credit, one of which must be from a credit officer in Credit Risk Management
- Risk rating standards, applicable to every obligor and facility; and
- Consistent standards for credit origination documentation and remedial management

Wholesale exposures are classifiably-managed (individually rated) and primarily arise as a result of activity in ICG businesses (including Citi Private Bank), as well as Corporate Treasury. Typical financial reporting categories that include wholesale exposures are deposits with banks, debt securities, loans and off-balance sheet commitments such as unused commitments to lend or to extend letters of credit.

Wholesale exposures, which include counterparty credit risk exposures arising from OTC derivative contracts, repo-style transactions and eligible margin loans, consist of exposures such as those to corporates, banks, securities firms, financial institutions, central governments, government agencies, local governments, other public sector entities, income producing real estate, high volatility commercial real estate, high net worth individuals not eligible for retail treatment, and other obligor or counterparty types not included in retail.

Credit risk principles, policies and procedures typically require:

- A comprehensive analysis of the proposed credit exposure or transaction
- Review of external agency ratings (where appropriate); and
- Financial and corporate due diligence, including support, management profile and qualitative factors

The responsible credit officer completes a review of the financial condition of the counterparty to determine the client's business needs and compare that to the risk that Citi might be asked to extend. During consideration of a credit extension, the credit officer will assess ways to mitigate the risk through legal documentation, parental support or collateral.

Once the analysis is completed and the product limits are determined, anti-tying and franchise risk is reviewed, after which the approval process takes place. The total facility amount, including direct, contingent and pre-settlement exposure, is aggregated and the credit officer reviews the approved tables within policy that appoint the appropriate level of authority needed to review and approve the facility. Every extension of credit must be approved by at least two credit officers.

Credit risk analysts conduct daily exception monitoring versus limits and any resulting issues are escalated to credit officers, and to business management as necessary.

Internal Obligor Risk Ratings

Risk Parameter Estimates

Citi's wholesale exposures primarily relate to activities in the ICG. As noted in Section 2.1.4, Citi's ICG businesses that incur credit, market, operational and franchise risk are covered by an ICG Risk Management manual (ICG Risk Manual) which sets forth the ICG's core risk principles, policy framework, limits, definitions, rules and standards for identifying, measuring, approving and reporting risk.
Obligors are assigned a risk rating and total facilities are approved and extended to an obligor by following processes in accordance with the ICG Risk Manual.

For Citi's wholesale exposures, internal credit ratings are used in determining approval levels, risk capital and reserves. Each wholesale obligor is assigned an obligor risk rating (ORR) that reflects the one-year probability of default (PD) of the obligor. Each wholesale facility is assigned a facility risk rating (FRR) that reflects the expected loss rate of the facility, the product of the one-year PD and the expected loss given default (LGD) associated with the facility characteristics.

The ORRs are used for longer-term credit assessments for large credit relationships, which form the basis for obligor limits and approval levels. ORRs are established through an integrated framework that combines quantitative and qualitative tools, calibrated and tested across economic cycles, with risk manager expertise of customers, markets and industries. ORRs are generally expected to change in line with material changes in the PD of the obligor. Rating categories are defined consistently across wholesale credit by ranges of PDs and are used to calibrate and objectively test rating models and the final ratings assigned to individual obligors.

Independently validated models and, in limited cases, external agency ratings establish the starting point in the obligor rating process. The use of external agency ratings in establishing an internal rating occurs when agency ratings have been reviewed against internal rating performance and definitions, and is generally limited to ratings of BBB+/Baa1 or higher.

Internal rating models include statistically derived models and expert judgement rating models. The statistical models are developed by an independent analytical team in conjunction with independent Risk Management. The analytical team resides in Credit and Operational Risk Analytics (CORA), which is part of the corporate-level independent risk group. The statistical rating models cover Citi's corporate segment and certain other activities are based on statistically significant financial variables. Expert judgement rating models, developed by independent Risk Management, cover industry or obligor segments where there are limited defaults or data histories, or highly specialised or heterogeneous populations.

To the extent that Risk Management believes the applicable model does not capture all the relevant factors affecting the credit risk of an obligor, discretionary adjustments may be applied to derive the final ORR, within limits defined by policy. For larger obligors, the final ORRs are derived through the use of a scorecard that is designed to capture the key risks for the segment.

The ICG Risk Manual requires an annual comprehensive analysis of each obligor and all proposed credit exposures to that obligor and independent Risk Management periodically reviews exposures across the banking book and trading book portfolios to ensure compliance with various limit and concentration criteria. Quarterly reviews are also conducted of certain high risk exposures.

For UK regulatory capital purposes, CGML does not have an Internal Ratings Based model permission from the PRA.

Credit Risk Measurement

Methodology Used to Assign Credit Risk Limits

The process for approving a counterparty's credit risk exposure limit is guided by

- Core credit policies;
- Procedures and standards;
- Experience and judgement of credit risk professionals; and
- The amount of exposure at risk

The process applies to all counterparty credit risk products – OTC derivative contracts, repo-style transactions and eligible margin loans. The process includes the determination of maximum potential exposure after recognition of netting agreements and collateral as appropriate.

While internal ratings are the starting point in establishing credit assessments, a range of factors, such as quality of management and strategy, nature of industry and regulatory environment, among others, are also taken into consideration for obligor limits and approval levels. Exposure to credit risk on derivatives is also impacted by market volatility, which may impair the ability of clients to satisfy their obligations to Citi. Credit risk analysts conduct daily monitoring versus limits and any resulting issues are escalated to credit officers and business management as appropriate. Usage against the credit limits may reflect netting agreements and collateral.

Citi credit limits have several parameters, including a value, the type of risk and the type of product or products that the limit covers. The risk type is the same as in the institution's risk measurement model.

Counterparty Credit Risk Exposures

Counterparty credit risk is the risk that the counterparty to a transaction will default before the final settlement of the transaction's cash flows. For OTC derivatives, counterparty credit risk arises from pre-settlement exposures (PSE). For regulatory capital purposes, CGML calculates its exposures under two methods:

- The Internal Models Method (IMM); and
- The Current Exposure Method (CEM).

CGML's Exchange Traded Derivatives (ETDs) are calculated under CEM.

Two conditions are required for Citi to recognise a loss on a contract: firstly the counterparty defaults and, secondly, the contract has a positive market value to the firm. Consequently, risk measurement is a function of three elements:

- Potential Future Exposure (PFE); – reflects expected counterparty credit exposure over a specified period of time calculated at some level of confidence
- Probability of Default (PD); – the probability of default of a counterparty over a one year period; and
- Loss Given Default (LGD) the ratio of the loss on an exposure due to the default of a counterparty to the amount outstanding at default

For SFTs, counterparty credit risk arises from the positive difference in the exposure value of securities, commodities or cash sold, posted or lent and the value of securities, commodities or cash received in return. For regulatory capital purposes, CGML calculates its exposures under the Financial Collateral Comprehensive Method (FCCM). Repo-style transactions consist of repurchase or reverse repurchase transactions and securities borrowing or securities lending transactions, including transactions in which Citi acts as agent for a customer and indemnifies the customer against loss, and are based on securities taken or given as collateral, which are marked-to-market, generally daily. Eligible margin loans are extensions of credit collateralised by liquid and readily marketable debt or equity securities, or gold, which satisfy certain conditions. Credit risk is calculated at least daily (overnight) and at times selectively refreshed intraday to be compared to counterparty limits. When the risk is below the limit, the difference is available at the start of the next day to accept incremental business and risk. When risk has exceeded the limit it is reported to the credit officer for the client whose limit is exceeded and to the senior credit officer in charge of the portfolio of clients to which that client belongs.

Credit exposure is generally expressed as the current mark-to-market, net of margin, reflecting the net value owed to Citi by a given counterparty, plus the potential future exposure calculated using Monte Carlo simulation which estimates the amount that a counterparty may owe over the life of a transaction (or a portfolio of transactions) calculated to a 97.7% degree of statistical confidence for modelled exposure, or via Credit Exposure Factors (CEFs) applied to the notional based on product type and tenor.

The risk associated with these credit exposures is a function of the creditworthiness of the obligor, as well as the terms and conditions of the specific obligation. Citi assesses the risk associated with its credit exposures on a regular basis through its loan loss reserve process, as well as through regular stress testing at the company, business, geography and product levels. In addition, Citi also recognise CVA (see 2.2.8) in the valuation of its OTC derivatives. These stress testing processes typically estimate potential incremental credit costs that would occur as a result of either downgrades in the credit quality or defaults of the obligors or counterparties.
29

The process of ensuring that all facilities are properly captured and approved is audited on a regular basis by Fundamental Credit Review (FCR). FCR is an independent credit review function that assesses the effectiveness of credit risk management and the ability to identify, monitor and mitigate current and emerging credit risks across the firm.

Citi uses a global risk reporting system to manage credit exposure to its wholesale obligors and counterparties.

Internal Economic Capital

Corporate exposure is included in the firm's economic capital model by aggregating this with other direct and indirect exposures and calculating economic capital based on the perceived credit quality of the obligor.

Risk Concentrations

Concentration risk is the risk associated with having exposure concentrated on a specific client, industry, region or group of obligors that are sensitive to the same economic, financial or business developments. CGML Risk Management analyses risk concentrations on a monthly basis.

To manage concentration of risk within credit risk, Citi has in place a concentration management framework consisting of industry limits, obligor limits and single-name triggers. Independent Risk Management reviews concentration of risk across Citi's regions and businesses to assist in managing this type of risk.

Relationship Group

The total facilities amount (TFA) is set by relationship group which is typically the parent company and all its subsidiaries. This aggregation is critical to ensure that credit risk can be managed holistically. Credit lines are established between one client legal entity and one Citi legal entity. The CGML Risk Management Framework, sets a level of TFA for the aggregate CGML credit lines above which higher level approval is required. This takes into account the size of CGML relative to Citigroup as a whole, but also recognises the largely collateralised nature of the business carried out on CGML. Where the aggregate amount of facilities made available to the relationship by CGML is in excess of the limits or thresholds, further approval of those aggregate facilities (not the full relationship TFA) must be granted by a Risk SCO who is also a UK Material Risk Taker (MRT).

Industry Type

In addition, a set of limits or thresholds have been put in place for CGML to monitor its exposure to industries and to countries. The industry limits are expressed as percentages of the aggregate PSE accounted for by different industry types, e.g. public sector entities, banks, hedge funds. The exposures to these industries are measured monthly and any exceptions are escalated to the CGML Risk Manager for notification to the CGML Risk Committee. The purpose of industry limits on CGML is to serve as an early warning device to alert management to changes in the sectoral composition of the entire CGML counterparty portfolio.

Country

CGML's clients are located around the world and are embedded in Citi's global franchise. The purpose of reviewing the country concentrations is to highlight where CGML may have exposures to clients in very low rated countries.

Global Country Risk Management (GCRM) operates a 'Watchlist' system with gradings indicating the riskiness of that country. These gradings align closely with ratings attributed to the countries where Citi does business.

All of the non-Green countries are assigned a limit on aggregate exposure and the current outstandings (measured on a monthly basis).

The country limit or threshold applicable to any specific country is a percentage of CGML's aggregate PSE exposure as determined by the country's Watchlist grading. CGML's exposure to a country, as measured by the aggregate exposure to counterparties domiciled in that country, is tested against these limits on a monthly basis and any exception is notified to the CGML Risk Manager for notification to the CGML Risk Committee. It should be noted that these limits act as triggers for escalation and review, not as absolute ceilings.

Shadow Banking Entities

The EBA defines Shadow Banking Entities as entities that

- Carry out credit intermediation activities, defined as bank-like activities involving maturity transformation, liquidity transformation, leverage, credit risk transfer or similar activities; and

- Are neither within the scope of prudential consolidation nor subject to solo prudential requirements under specified EU legislation (or equivalent third country legal frameworks). Entities referred to in Article 2(5) and Article 9(2) of Directive 2013/36/EU, as well as other entities as defined in the EBA Guidelines, EBA/GL/2015/20 ('excluded undertakings'), are not to be regarded as shadow banking entities

CGML has set an internal limit on the aggregate Exposures At Default (EAD) to Shadow Banking Entities at a defined proportion of eligible capital. In the event that the limit is breached, CGML's approach is for the UK CRO to report the breach to the CGML Risk Committee, together with an explanation for the breach and either a plan to reduce exposure back within the limit, or a justification as to why it is appropriate to risk-accept the exposure level.

The framework for the management of Shadow Banking exposure also requires that limits are set at the individual counterparty level. The approach for any counterparty identified as a Shadow Banking Entity is two-fold.

- Firstly, it will have been subject to the normal credit review and credit risk limit setting processes as set out under the ICG Risk Manual. The credit risk limits provided to the entity will have been set taking into account its characteristics, including the nature of its trading activities. These credit risk limits are set using the methodologies commensurate with CGML's IMM permissions using PFE metrics, (PSE, Pre-Settlement Exposure) and not EAD, and are monitored under normal ICG procedures.

- Additionally, there is an EAD threshold expressed as a percentage of eligible capital for intercompany and for third-party exposures, applicable to all the counterparties identified as Shadow Banking Entities. As with an aggregate limit breach, any counterparty breaching this limit will be subject to a review which: (i) investigates the nature of the trades which have given rise to the exposure; (ii) further reviews the nature of the counterparty to determine how the entity will come back within the EAD limit and whether risk mitigation is required; or (iii) provides a justification as to why it is appropriate to risk-accept the exposure level.

The limit has been set at a level which is sufficiently low to be protective to CGML's capital base, but not so low as to result in a number of entities being caught under their normal trading pattern.

Collateral Management

Collateral management refers to all systems, methods, processes, controls, data collection and Operations and Technology systems that are used to take, manage, value, maintain and realise collateral held for mitigation purposes.

The primary objectives of collateral management at Citi are:

- Risk mitigation;
- Operational efficiency in the use of collateral;
- Robust documentation on such collateral;
- A collateral structure that optimises its use;
- Efficiency and accuracy of reporting;
- Liquidity management;
- Capital allocation; and
- Market competitiveness.

Collateral reports are prepared monthly for SFT and OTC exposures and are reviewed by the UK CRO, in particular for changes in the profile or composition of collateral, concentrations and unusual or concerning securities.

CGML undertakes almost exclusively margined business with its counterparties. Netting is generally permitted for both SFTs and OTC derivatives. The majority of the collateral taken by CGML against OTC derivatives and SFT exposures is in the form of cash or G10 sovereign bonds.
Margin requirement for Non centrally cleared derivatives (MRNCCD) is the new regulation that establishes initial margin and variation margin requirements for non-centrally cleared derivatives entered into after the effective date of the regulation. The rules require two-way initial margin (IM) posting and daily variation margin (VM) exchange for certain types of counterparty and for certain products defined as in scope.

Collateral considered eligible is defined as

- IM: cash, sovereign debt, government-sponsored debt, investment grade debt including corporate bonds, equities, gold, and shares of certain funds with appropriate haircuts
- VM: cash for trades between swap dealers; same types of collateral as IM for trades between swap dealers and financial end users

Occasionally, with appropriate agreement, other forms of collateral may be accepted.

CGML has established a Collateral Risk Governance Committee (CRGC) to support CGML's ability to appropriately manage risks associated with collateral positions for all businesses relevant to CGML. The CRGC is mandated with assessing the adequacy of risk measurement approaches for both regulatory capital and internal risk management purposes, monitoring and mitigating risks that may arise from CGML collateral positions, and ensuring there is appropriate oversight of and accountability for management of risk associated with collateral positions.

Wrong Way Risk

CGML incurs both general and specific Wrong Way Risk (WWR) in its business. Wrong-way risk arises when there is a strong correlation between the counterparty's probability of default and the mark-to-market value of the underlying transaction. Stated differently, WWR occurs when exposure to a counterparty is negatively correlated with the credit quality of the counterparty.

There are two main types of WWR

- Specific WWR arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty where there is close relationship between the counterparty and the underlying exposure; and
- General WWR is less definite than specific WWR and occurs where the credit quality of the counterparty is subject to impairment due to changes in macroeconomic factors. General Wrong-Way risk' arises when the likelihood of default by counterparties is positively correlated with general market risk factors.

WWR in a trading exposure arises when there is significant correlation between the exposure underlying asset and the counterparty which, in the event of default, could lead to a significant mark-to-market loss. The interdependence between the counterparty credit exposure and underlying reference asset or collateral for each transaction can exacerbate and magnify the speed at which a portfolio deteriorates. Thus, the goal of Citi's WWR policy (part of the ICG Risk Manual) is to provide best practices and guidelines for the identification, approval, reporting and mitigation of specific and general WWR

WWR is monitored at a Company level. A monthly report is circulated that identifies OTC or SFT transactions that generate Specific WWR, and SFT transactions executed with Banks and CDS-based transactions which generate General WWR. WWR is mitigated through the use of enforceable netting agreements, margining and offsetting or terminating transactions.

CGML has established SFT WWR limits on bank counterparties from a number of countries that pledge collateral from the same country of risk. The utilisation against limits is monitored and reported on a daily basis.

CGML has developed a new GWWR capital framework for its SFT portfolio which identifies trades that generate GWWR and, where relevant, determines a GWWR Pillar 2A add on. The new framework applies a logic-based approach to determine correlations between the counterparty and issuer of the collateral, followed by market risk stress tests to determine a GWWR expected loss.

Additionally, CGML has established a GWWR Review Council to identify, monitor and control CGML's exposure to GWWR. The Council membership comprises relevant subject matter experts from both the first and second line of defence.

Credit Rating Downgrade

Adequate liquidity and sources of funding are essential to Citi's businesses. Funding and liquidity risks arise from multiple factors, including a loss of liquidity from derivative transactions due to legally agreed conditions such as rating downgrade triggers.

Downgrade triggers can create a requirement for CGML to reserve additional liquidity in the event of rating agencies' downgrades of CGML. This can be present in both unsecured and secured derivative agreements. A typical downgrade trigger in unsecured agreements would require CGML to post variation margin on outstanding contract payable amounts, or in secured agreements, downgrade triggers may require CGML to post additional initial margin or segregate margin received.

CGML includes the potential impact of a credit rating downgrade in its stress testing and scenario models to quantify the effect on its liquidity position. As at 31 December 2019, the potential value of the additional collateral pertaining to downgrade thresholds that CGML would need to post with counterparties in the event of a one-notch downgrade of its rating was $0.07 billion and a three-notch downgrade was an incremental $0.2 billion.

CGML carries out two internal liquidity stress tests on a daily basis.

- S2 – Highly Stressed Market Disruption Scenario: In S2 scenario CGML is assumed to be downgraded one notch from current levels; and
- Resolution Liquidity Adequacy Positioning (RLAP) ratio: The RLAP scenario assumes a three-notch downgrade of long-term ratings and a one-notch downgrade of short-term ratings of CGML.

In addition to the stress test scenarios, CGML has a robust monitoring and reporting framework to capture the potential liquidity impact of derivative downgrade triggers.

Credit and Funding Valuation Adjustments

Credit valuation adjustments (CVA) and funding valuation adjustments (FVA) are applied to the relevant population of over-the-counter (OTC) derivative instruments where adjustments to reflect counterparty credit risk, own credit risk and term funding risk are required to estimate fair value. This principally includes derivatives with a base valuation (e.g., discounted using overnight indexed swap (OIS)) requiring adjustment for these effects, such as uncollateralized interest rate swaps. The CVA represents a portfolio-level adjustment to reflect the risk premium associated with the counterparty's (assets) or Citi's (liabilities) non-performance risk. FVA reflect a market funding risk premium inherent in the uncollateralized portion of a derivative portfolio and in certain collateralized derivative portfolios that do not include standard credit support annexes (CSAs), such as where the CSA does not permit the reuse of collateral received. Citi's FVA methodology leverages the existing CVA methodology to estimate a funding exposure profile. The calculation of this exposure profile considers collateral agreements in which the terms do not permit the Company to reuse the collateral received, including where counterparties post collateral to third-party custodians.

Citi's CVA and FVA methodology consists of two steps:

- First, the exposure profile for each counterparty is determined using the terms of all individual derivative positions and a Monte Carlo simulation or other quantitative analysis to generate a series of expected cash flows at future points in time. The calculation of this exposure profile considers the effect of credit risk mitigants and sources of funding, including pledged cash or other collateral and any legal right of offset that exists with a counterparty through arrangements such as netting agreements. Individual derivative contracts that are subject to an enforceable master netting agreement with a counterparty are aggregated as a netting set for this purpose, since it is those aggregate net cash flows that are subject to non-performance risk. This process identifies specific, point-in-time future cash flows that are subject to non-performance risk and unsecured funding, rather than using the current recognized net asset or liability as a basis to measure the CVA and FVA.
- Second, for CVA, market-based views of default probabilities derived from observed credit spreads in the credit default swap (CDS) market are applied to the expected future cash flows determined in step one. Citi's own-credit CVA is determined using Citi-specific CDS spreads for the relevant tenor. Generally, counterparty CVA is determined using CDS spread indices for each credit rating and tenor. For certain identified netting sets where individual analysis is practicable (e.g., exposures to counterparties with liquid CDSs), counterparty specific CDS spreads are used. For FVA, a term structure of future liquidity spreads is applied to the expected future funding requirement.

The CVA and FVA are designed to incorporate a market view of the credit and funding risk, respectively, inherent in the derivative portfolio. However, most unsecured derivative instruments are negotiated bilateral contracts and are not commonly transferred to third parties. Derivative instruments are normally settled contractually or, if terminated early, are terminated at a value negotiated bilaterally between the counterparties. Thus, the CVA and FVA may not be realized upon a settlement or termination in the normal course of business. In addition, all or a portion of these adjustments may be reversed or otherwise adjusted in future periods in the event of changes in the credit or funding risk associated with the derivative instruments.

Market Risk Management

The risks associated with financial instruments are a significant component of the overall risk faced by CGML through its activity as a broker-dealer. Market risk is the risk to earnings or capital from adverse changes in market factors. Price risk losses arise from fluctuations in the market value of trading and non-trading positions resulting from changes in interest rates, credit spreads, foreign exchange rates, equity and commodity prices, and in their implied volatilities. Foreign exchange risk is managed as part of the market risk framework. Trading positions are marked to market, with the results reflected in earnings.

CGML's derivative transactions are principally in the interest rate, FX, equity, credit and commodity markets. CGML maintains positions in financial instruments for four principal reasons

- As a result of the sale or assignment of derivative positions to its clients (usually in the over-the-counter market)
- To satisfy its clients' requirements to buy or sell investments
- As a result of underwriting activities; and
- To economically hedge positions on its books created by the business activity noted above.

Market Risk Limit Framework

Under the Citi Mark-to-Market Policy, each business is required to establish, with approval from the Independent Market Risk Management function, a market risk limit framework for identified risk factors. This framework must clearly define approved risk profiles, include Permitted Product Lists (PPLs), follow the new product approval process for complex products (NPAC) and remain within the parameters of Citi's overall risk appetite, with the established limits monitored by Market Risk Management.

Responsibility for hedging or otherwise mitigating market risk lies in the first instance with the business originating the risk and the management of this process begins with the employees who work most closely with CGML's customers, products and markets and extends up to the senior executives who manage these businesses with a complementary aggregation up to the country level. Risks taken must be commensurate with the risk appetite of the firm as set by senior management. The Market Risk Management function independently monitors market risks via a comprehensive system of limits and triggers.

For traded product price risk, all traded risk exposures are aggregated in the CitiRisk Market Risk (CRMR) system daily. CRMR is used as the primary system to calculate aggregated market risk measures, including the firm's Value at Risk. Price risk in Citi's trading portfolios is monitored using a series of measures, including but not limited to:

- Risk factor sensitivities
- Value at Risk (VaR)
- Stressed VaR
- Volatility and correlation
- Weekly stress testing

For CGML, Market Risk Appetite is captured in CGML's Risk Appetite Framework which sets the level of risk taking the CGML Risk Committee and Board are willing to take. Price risks are measured in accordance with established standards to ensure consistency across businesses and the ability to aggregate risk. Citi's market risk limit framework consists of Tier 1 limits, Tier 2 limits and Tier 3 management triggers. Tier 1 limits are generally the most significant limits for Citi overall, and include limits on trading exposures in certain larger countries. Tier 2 limits are generally set at a product group level or in some cases at a desk, regional or legal entity level (as is the case for CGML). Tier 3 management triggers are desk-level triggers on non-material risk factors.

For CGML, the Framework is supplemented by daily monitoring against CGML's VaR, Tier 2 market risk factor limits and Tier 3 market risk factor management triggers and regular (weekly) stress testing, as well as monthly and quarterly reporting to CGML's senior management and the Board respectively.

Permitted Product Lists (PPLs) and Trading Mandates

All Citi Markets businesses, and all Citi businesses undertaking activity which gives rise to mark-to-market (MTM) exposure and/or are considered in-scope of the Volcker Rule, must have one or more PPLs to cover all of their activity and have a Trading Mandate. The PPL defines the products that the business is permitted to trade, as well as any restrictions on the trading or booking of each product that have been imposed by the control function covering the business. As part of this process, a CGML PPL is maintained. The Trading Mandate forms part of the documentation required to define how the desk's activity is permissible under the Volcker rule. The Trading Mandate summarises the trading and hedging strategies of the business and cross-refers to the PPL.

Market Risk Management, in consultation with the Business Sponsor, is responsible for approving the Trading Mandate and PPL for each trading desk, establishing the Tier 1 and Tier 2 Limit framework, and validating the Volcker Tier 3 Limit framework proposed by the business.

Market Risk Measurement

Value at Risk (VaR), Risk Factor Sensitivity Limits and Stress Loss Limit

CGML's VaR reports are circulated daily for monitoring of: (i) the VaR usage against the overall VaR limit; (ii) the standalone VaR by market risk factor; (iii) the component VaR (CVaR) contribution to total VaR; and (iv), the stressed VaR.
As well as an overall VaR limit, the Company has factor sensitivity limits in place for each market risk factor that are monitored daily. Factor sensitivities are defined as the change in the value of a position for a defined change in a market risk factor (e.g. the change in the value of a Treasury bill for a one basis point change in interest rates). It is the responsibility of each business to ensure that factor sensitivities are calculated and reported for all relevant risks taken within a trading portfolio.

VaR estimates the potential decline in the value of a position or a portfolio under normal market conditions. The firm's VaR methodology incorporates the factor sensitivities of the trading portfolio with the volatilities and correlations of those factors and is expressed as the risk to the firm over a one-day holding period, at a 99% confidence level. Citigroup's VaR is based on the volatilities of and correlations between a multitude of market risk factors, as well as factors that track the specific issuer risk in debt and equity securities. CGML's VaR model is described in more detail in Section 10.
Stress testing is performed on trading portfolios on a regular basis to estimate the impact of extreme market movements. It is performed on both individual trading portfolios, as well as on aggregations of portfolios and businesses. Independent Market Risk Management, in conjunction with the businesses, develops stress scenarios, reviews the output of periodic stress testing exercises and uses the information to make judgements as to the ongoing appropriateness of exposure levels and limits.

Exposure that approaches or exceeds limit or trigger levels is escalated within Market Risk Management and to CGML's Market Risk Manager and the UK CRO, with necessary actions taken.

In relation to Equities, an ex-ante stress loss based escalation framework is in place to cover all block trades, accelerated equity offerings, equity underwritings, rights offerings and special situation (event-driven) transactions. Transactions with estimated stress losses above certain levels require escalation to the UK CRO, the CGML Chief Executive Officer and to the Board.

Liquidity Risk Management

CGML defines liquidity risk as the risk that it will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without adversely affecting either daily operations or its financial condition.

CGML's liquidity risk appetite is set by CGML's Liquidity Risk Management Framework. The Framework adopts and adheres to Citigroup's global Liquidity Risk Management Policy ('Policy'). Under the Policy, CGML is defined as an operating Material Legal Entity ('MLE').

As a MLE, CGML is required to maintain sufficient liquidity to meet all maturing obligations within 12 months under the Highly Stressed Market Disruption stress scenario ('S2'). It must also meet the Resolution Liquidity Adequacy & Positioning ('RLAP') ratio stress metric used to measure the short-term (30 days) survival horizon under a severe market disruption stress scenario.

In addition, CGML is also required to comply with all regulatory rules and requirements as determined by the European Commission Delegated Act with regard to the liquidity coverage requirement ('EC Delegated Act') for credit institutions and with PRA Rulebook. Under the EC Delegated Act, CGML is required to maintain a Liquidity Coverage Ratio ('LCR') above 100% on a consolidated all-currency basis.

CGML's overall liquidity adequacy is determined based on both its adherence to the internal liquidity risk appetite as well as conformance with the regulatory CRDIV liquidity regime. As at month-end December 2019, this buffer, as per Capital Requirements Directive IV ('CRDIV') eligibility criteria, equated to $26.8bn.

As a result of the analysis conducted during the Internal Liquidity Adequacy Assessment Process (ILAAP) the risks identified and assessed, and through the application of tools, limits and policies and liquidity stress tests, Management Body concludes that CGML's liquidity risk management framework is appropriate for ensuring sufficient liquidity resources are in place on a forward-looking basis. This conclusion is based on a quantitative assessment of CGML's liquidity through examination of internal and external stress testing results and is further supported by CGML's overall liquidity risk management framework and governance structure. In addition, Management Body considers the Liquidity Risk Management infrastructure to be adequate to capture and measure the risks taken as a result of the entity's business profile and strategy.

Structure and Organisation of the Liquidity Risk Management Function

Citigroup operates a centralised treasury model, whereby the overall balance sheet is managed by Corporate Treasury. The EMEA Regional Treasurer is supported by the UK Treasurer who is responsible for the UK legal vehicles balance sheets and liquidity profile as well as those of CGML's subsidiaries.

Corporate Treasury Management – London, Budapest and Germany

The UK Treasurer heads the UK Legal Entity Treasury group, which is responsible for managing CGML's liquidity on a day-to-day basis.
The Legal Entity Treasury team is specifically responsible for CGML's daily funding, liquidity risk management including intraday liquidity, liquidity stress testing, and for providing oversight to the Fixed Income and Equity finance desks including setting and monitoring limits.

The Legal Entity Treasury team in London is also responsible for managing the relationship with internal and external stakeholders. Internal stakeholders consist of Citi senior management and Governance committees, the Finance desks and NY Corporate Treasury. External stakeholders comprise auditors, credit rating agencies and regulatory authorities. This team also provides oversight and governance for the team in Budapest, as explained below, to ensure adherence to the overall liquidity risk management framework.

The Business Treasury team in London is responsible for managing the relationship with the businesses, enhancing balance sheet management and coordination, focusing on the intersection of interest rate risk, transfer pricing, RoA/RoTCE, liquidity, capital allocation, and balance sheet costing.

The Budapest team is an extension of the London Treasury teams reporting to both the EMEA ICG Business Treasurer and the U.K Treasurer. Among the other EMEA-wide Corporate Treasury responsibilities, this team is involved in the review and attestation of CGML's PRA liquidity reporting & internal liquidity reporting, and monitoring & reviewing CGML's CRDIV and PRA reporting including the Liquidity Coverage Ratio ('LCR'), PRA110 Cash Flow Mismatch, Net Stable Funding Ratio ('NSFR'), Asset Encumbrance and Additional Liquidity Monitoring Metrics ('ALMM'). Under a Continuity of Business ('COB') scenario, arrangements are in place for relocation to a contingency site.

Mumbai Finance and Risk Shared Services (FRSS)

EMEA Treasury follows Citigroup's site strategy in employing a central liquidity reporting and production team in Mumbai. The Mumbai EMEA Treasury Finance & Risk Shared Services ('FRSS') team is organised into three teams to cover: EU Bank Reporting, Broker Dealer Capital Markets Reporting and CEEMEA Reporting.

CGML's internal liquidity reporting is produced by the Broker Dealer Capital Markets Reporting team. The team operates from Nirlon Park Knowledge Block on the outskirts of Mumbai, and the Citi Bank Mumbai Head Office in Mumbai serves as the continuity of business ('COB') site.

Budapest CSC Finance Regulatory Reporting

The Regulatory Liquidity Reporting team in Budapest is part of the MLE Prudential Reporting team within Budapest Local Regulatory Reporting team and produces regulatory liquidity returns of CGML such as CRDIV and PRA reporting of Liquidity Coverage Ratio ('LCR'), Net Stable Funding Ratio ('NSFR'), Asset Encumbrance and Additional Liquidity Monitoring Metrics ('ALMM'), and PRA 110 Cash Flow Mismatch Report. Under a Continuity of Business (COB) scenario, arrangements are in place for relocation to a contingency site located at the Budapest Arena Corner in Hungary.

Three Lines of Defence

The management of risk is a fundamental responsibility of all CGML employees. Consistent with Citigroup, CGML manages its risks through three lines of defence: (i) business management, (ii) independent control functions and (iii) Internal Audit. The three lines of defence as at 2019 collaborate with each other in structured forums and processes to ensure all perspectives are taken into account to collectively lead the entity to outcomes that are in clients' and shareholders' interests, that create economic value, and that are systemically responsible.

- Each of CGML's businesses (the first line of defence), including Corporate Treasury, own and manage the risks inherent in or arising from the business, and is responsible for establishing and operating controls to mitigate key risks, performing manager assessments of the design and effectiveness of internal controls, and promoting a culture of compliance and control.
- CGML's independent control functions (the second line of defence), including Independent Risk Management, Finance, Compliance, Legal, and Human Resources ('HR'), set standards against which the businesses and functions are required to manage and oversee risks, including compliance with applicable laws, regulatory requirements, and policies and standards of ethical conduct. These functions are involved in identifying, measuring, monitoring, or controlling aggregate risks, and are independent from front line units.
- CGML's Internal Audit function (the third line of defence) independently reviews activities of the first two lines of defence, based on a risk-based audit plan and methodology approved by the Audit Committee.

Strategies and Processes for Monitoring

CGML adopts the Citigroup Global Liquidity Risk Management Policy ('the Policy') which establishes the standards for defining, measuring, limiting and reporting liquidity risk. CGML's Liquidity Risk Management Framework sets CGML's liquidity risk appetite. The Framework adopts and adheres to the Policy. Under the Policy, CGML is defined as an operating Material Legal Entity ('MLE').

According to the Policy, CGML is required to prepare a detailed plan of its liquidity position which also considers a forecast of future business activities. This plan is called the Funding and Liquidity Plan (FLP) and it addresses strategic liquidity issues and establishes the parameters for identifying, measuring, monitoring and limiting liquidity risk and sets forth key assumptions for liquidity risk management. The FLP is divided into the following component parts:

1) Contingency Funding Plan (CFP);
2) Intra-day Liquidity Risk Management Plan; and
3) Balance Sheet Funding and Liquidity Plan.

A combination of metric monitoring, triggers, limits and stress testing are utilised to identify and measure liquidity risk arising from various sources. Limits and triggers are used to control risks, whilst stress assumptions are used to calibrate the level of liquidity buffer required for CGML to maintain adequate liquidity under different stress scenarios. To provide for resilience under stress, CGML holds a buffer of liquid assets, which is comprised predominantly of US, EU and UK government bonds. As at month-end December 2019, this buffer, as per Capital Requirements Directive IV ('CRDIV') eligibility criteria, equated to $26.8bn.

The liquidity position of CGML is calculated in Citi's strategic liquidity risk systems and reported to senior management on a daily basis and reviewed by the UK ALCO and CGML Board through the CGML Risk Committee. CGML's Risk Committee reviews the Liquidity Risk Management Policy and the Internal Liquidity Adequacy Assessment Process (ILAAP) document and recommends it to CGML Board for final approval. CGML Board also approves the Liquidity Risk Management Framework, the Funding and Liquidity Plan, the Contingency Funding Plan and any relevant CGML-specific liquidity policies.

CGML has maintained adequate liquidity resources throughout the year to meet the minimum requirements set in both internal and external (Regulatory) stress scenarios.

Operational Risk Management

Operational risk is the risk of loss resulting from inadequate or failed internal processes, systems or human factors, or from external events, and includes reputation and franchise risk associated with business practices or market conduct. It also includes the risk of failing to comply with applicable laws, regulations, ethical standards or Citi policies. Operational Risk does not encompass strategic risk or the risk of loss resulting solely from authorised judgments made with respect to taking credit, market, liquidity or insurance risk.

Operational Risk Management proactively assists the businesses, Operations, Technology and other independent control groups in enhancing the effectiveness of controls and managing operational risks across products, business lines and regions. Furthermore, operational risks are considered as new products and business activities are developed and processes are designed, modified or sourced through alternative means.
The objective is to keep operational risk at appropriate levels relative to the characteristics of Citi's businesses, the markets in which it operates, its capital and liquidity, and the competitive, economic and regulatory environment.

Operational Risk Framework

Citi's Operational Risk Management (ORM) Policy establishes a consistent Operational Risk Management Framework designed to balance strong corporate oversight with well-defined independent Risk Management, for assessing and communicating operational risk and the overall effectiveness of the internal control environment across the organisation. That framework is applied at the CGML level, together with the Key Operational Risks (KORs) that have been identified as being specifically relevant for the entity and are a component of the Risk Management Framework.

To anticipate, mitigate and control operational risk, Citi maintains a system of policies and has established a consistent framework for monitoring, assessing and communicating operational risks and the overall effectiveness of the internal control environment. As part of this framework, Citi has established a Manager's Control Assessment (MCA) programme which helps managers to self-assess key operational risks and controls and to identify and address weaknesses in the design and effectiveness of internal controls that mitigate significant operational risks.

The ORM Framework establishes a foundation on which the activities of businesses, regions and functions, the resulting operational risks and the associated controls are identified, periodically assessed, subject to corrective action, appropriately documented and communicated. Specifically, the ORM Framework establishes minimum standards for consistent identification, measurement, monitoring, reporting and management of operational risk across Citi.

The process established by the ORM Framework is expected to lead to effective anticipation and mitigation of operational risk and improved operational risk loss experience and includes the following steps:

- Identify and assess Key Operational Risks (KORs)
- Design controls to mitigate identified risks
- Establish Key Risk Indicators (KRIs)
- Implement a process for early problem recognition and timely escalation
- Produce comprehensive operational risk reporting; and
- Ensure that sufficient resources are available to actively improve the operational risk environment and mitigate emerging risks

As new products and business activities are developed, processes are designed, modified or sourced through alternative means and operational risks are considered.

Measurement of Operational Risk

To support advanced capital modelling and management, each business is required to capture relevant operational risk event information. A localised version of the Citi risk capital model for operational risk has been developed and applied for CGML. The PRA has approved this model, including the associated capital allocation, for use as an Advanced Measurement Approach (AMA). It uses a combination of internal and external loss data to support statistical modelling of capital requirement estimates, which are then adjusted to incorporate qualitative aspects of the operational risk and control environment.

To enhance its operational risk management, CGML has implemented a forward looking scenario analysis programme to identify and quantify emerging operational risks, through a systematic process of obtaining opinions from business managers and Risk Management experts to devise reasoned assessments of the likelihood and loss impact of plausible, high severity operational risk losses. This development has been integrated into the operational risk capital assessment for CGML.

In addition, there are various governance forums for escalation and reporting of internal control, compliance, regulatory and risk issues, including operational risk loss events.

Key Operational Risks

Key Operational Risks (KORs) are derived from an evaluation of operational risk exposure on a residual risk basis considering CGML's current business strategy, substantial emerging risks and other relevant factors which include assessment of the four Basel operational risk data elements, i.e. internal losses, external losses, scenario analysis and output from Internal Audit assessments and from self-assessment results from the Manager's Control Assessment (MCA). The identified KORs for CGML include those set out below and are in the process of being incorporated into the Citi-level global operational risk appetite framework. Risks will align to the Citi-wide global risk taxonomy that is being developed for operational and compliance risk.

ORM liaises with Subject Matter Experts (SMEs) aligned to each KOR to define the risk for CGML and to identify appropriate metrics i.e. Key Indicators (KIs) to monitor KOR risk profiles. Given that CGML's business is almost entirely wholesale in nature (falling within the ICG), segment metrics are leveraged as far as possible.

Money Laundering (AML) and Sanctions Risk

Local and international AML and Sanctions requirements impact the activities carried out by the Company and its clients. Following the development of Sectoral Sanctions to address the political situation in Ukraine, Citi has developed an enhanced control infrastructure around activities that may be affected by applicable sanctions regimes. Regulatory requirements concerning AML controls continue to focus particularly on customer due diligence and suspicious activity monitoring, and Citi continues to implement enhancements in these areas.

Conduct Risk

Citi is exposed to the risk of improper conduct through prohibited and manipulative practices by individual employees, collusive practices across employees and other market participants, and misconduct that harms customers or the integrity of the markets. Citi's Conduct Risk Policy sets out a framework through which Citi manages, minimises and mitigates its significant conduct risks, and describes the responsibilities of each of the three lines of defence for complying with the policy.

Cyber Risk

Citi is exposed to cyber/information security risk through hacking of Citi or third-party systems containing Citi's data, and denial of service attacks on Citi and third-party servers.

The cyber security threat landscape is rapidly evolving with increasingly sophisticated attacks (e.g. denial of service, account takeover) on Citi, our clients and third-party applications. Citi's Information Security programme strategy is built on a deep understanding of the threat environment through the work of the Global Information Security (GIS) Cyber Intelligence Centre (CIC). External benchmarks indicate that Citi appears to be well placed to deal with current threats. However, due to the ever-changing evolution of the threat landscape, Citi continues to invest in its identification, prevention and detection capabilities.

Geopolitical Risk

Citi is exposed to risk resulting from changes in the geopolitical environment (e.g. COVID 19, capital controls, Brexit, and China, Middle East and Russia instability) which may give rise to adverse financial impacts or the inability to continue with business. In addition geopolitical instability also puts Citi at risk of terrorism-related events. Citi has a robust and comprehensive programme to meet the organisational change requirements resulting from these challenges. Citi has well established and tested processes in place to mitigate the impact of business disruptions including those arising from COVID 19 or terrorism related risk events.

Internal Fraud (Unauthorised Trading Risk)

The risk of loss due to fraudulent activity such as unauthorised trading (rogue trading), mis-marking or payments fraud is a key risk for CGML. A number of initiatives are ongoing to enhance Citi's fraud prevention framework including rogue trading prevention and detection controls. These include the implementation of consistent Markets-wide controls, designed to identify and prevent unauthorised trading in the Markets business and Corporate Treasury.

ETrading Risk Management

Citi is exposed to ETrading Risk Management (ETRM) risk i.e. the risk of systematic controls' failure to prevent or limit loss exposure for highly automated transactions. This risk specifically includes elevated risk of failures in high frequency/algorithmic electronic trading due to the inability to keep technological capabilities up-to-date, the inability to respond quickly to operational risk events where increased duration is directly correlated to severity, and where response is compromised by fragmented infrastructure and substandard monitoring capabilities.

Citi has established a risk and control framework for ETrading Risk Management to ensure that enhanced controls are implemented to mitigate this risk.

Reporting Risk

Reporting risk is the risk from failed mandatory reporting obligations and inaccurate reporting. The risk arises where the data or underlying processes may be of an insufficient quality to meet Citi's business, regulatory, financial reporting and customer needs. This could result from the business originator of data being unable to provide accurate, complete and timely records of business transactions and customer activities. Quality management inadequacies could also result in non-compliance with regulatory standards. Citi has identified and implemented a number of control enhancements to ensure that any such risks are identified and mitigated on a timely basis.

Data Management

Data management risk arises from the inadequate development, execution and supervision of plans, policies, programs and practices that control, protect, deliver and enhance the value of data. Data management risk can manifest in a number of ways including but not limited to data integrity risk and End User Computing (EUC). This can result in Citi failing to store and maintain records in accordance with policy directives leading to records being over retained and can expose Citi to regulatory scrutiny and business disruption or key processes not being included in the scope of Data Quality controls, resulting in improper management of data affecting regulatory reporting and surveillance activities. In addition, poor oversight of EUCs can result in undetected human error in data entry and formula updates, fraud, inappropriate access to sensitive information, regulatory violations or data integrity errors tied to critical management decisions or reporting processes. Citi has implemented a robust controls framework to mitigate risks arising from Data Management.

Model Risk Management

Citi is exposed to model risk through the use of incorrect or inaccurate models (such as failed or non-validated models) and incorrect uses of models (for example using the model beyond its approved use cases). Model risk may result in adverse outcomes including but not limited to financial losses (for instance inaccurate quantification of risks, loosening of lending standards) and regulatory criticism.

Third-party Vendor Management including Affiliates

Citi is exposed to third-party risk through inconsistent or inadequate delivery of products or services that support core operational or client-facing processes, misconduct on the part of third parties (e.g., fraud), or failure by third parties to ensure that the contracted products or services are delivered to Citi in a safe and sound manner and in compliance with applicable laws, regulations and Citi policies.

Processing Risk

Citi is exposed to risk of untimely, inaccurate or incomplete processes caused by unintentional human error carried out to set up, execute and settle a transaction. Processing Risk applies across Citi's core activities including safeguarding assets, lending, payments and accessing the capital markets, as well as internal activities performed to support the Citi franchise. This includes errors in account set up and reference data, initial transaction capture, transaction maintenance, payments and settlements, physical asset handling and collateral/margin management. It excludes pre and post transaction processing activities such as Know Your Customer (KYC), financial/client/regulatory reporting, risk and P/L production and fraud determination. Processing Risk also excludes risk driven by IT failures which is covered under Technology Risk.

Stress Testing

Overview

The Citi Chief Risk Officer is responsible for monitoring and controlling major risk exposures and concentrations across Citi. This includes the aggregation of risks within and across businesses, as well as subjecting those risks to alternative stress scenarios in order to assess the potential economic impact they may have on Citi. This aggregation is also performed at a CGML level.

Stress tests are undertaken across Citi and CGML and cover mark-to-market, available-for-sale, and amortised cost portfolios. These firm-wide stress reports seek to measure the potential impact to Citi and CGML and their component businesses, of stresses such as the risk of very large movements in a number of key risk factors (e.g. interest rates, credit spreads), as well as the potential impact of a range of historical and hypothetical forward-looking systemic stress scenarios.

Supplementing the stress testing described above, Risk Management works with input from the businesses and Finance to provide periodic updates to senior management and the CGML Board on significant potential exposures across CGML arising from risk concentrations, financial market participants and other systemic issues. These risk assessments are forward-looking exercises, intended to inform senior management and the Board about the potential economic impacts to CGML that may occur, directly or indirectly, as a result of hypothetical scenarios, based on judgmental analysis from Independent Risk Managers.

The stress testing and risk assessment exercises are a supplement to the standard limit-setting and risk capital exercises, as these processes incorporate events in the marketplace and within CGML that impact the firm's view of the form, magnitude, correlation and timing of identified risks that may arise. In addition to enhancing awareness and understanding of potential exposures within CGML, the results of these processes serve as the starting point for the management of risk and mitigation strategies.

Market Risk

Citi performs stress testing on a regular basis to estimate the impact of extreme market movements. It is performed on individual positions and trading portfolios, as well as in aggregate and inclusive of multiple trading portfolios. Market Risk Management after consultations with the businesses, develops both systemic and specific stress scenarios, reviews the output of periodic stress testing exercises, and uses the information to assess the ongoing appropriateness of exposure levels and limits.

Citi uses two complementary approaches to market risk stress testing across all major risk factors (i.e., equity, foreign exchange, commodity, interest rate and credit spreads):

- Global Systemic Stress Testing (GSST) – top-down systemic stresses; and
- Business Specific Stress Testing (BSST) – bottom-up business specific stresses

Systemic stress tests are designed to quantify the potential impact of extreme market movements on a firm-wide basis, and are constructed using both historical periods of market stress and projections of adverse economic scenarios. Business specific stress tests are designed to probe the risks of particular portfolios and market segments, especially those risks that are not fully captured in VaR and systemic stresses.

Both categories of stress testing can be based upon either a range of historical periods of market stress or purely hypothetical future market events.

Credit Risk

The CitiRisk Credit (Product Stress Testing, PST) system provides the ability to apply various stress scenarios to counterparty positions, portfolios and transactions. The stress results and impact of changes on counterparty risk exposure improve the understanding of the risk profile of a counterparty and assist in diagnosing their vulnerabilities to specific market events.

The core CCR stress testing scenarios are the Global Systemic Stress Testing (GSST) scenarios, which include both hypothetical and historical scenarios. The Stress Testing and Risk Capital Council is responsible for developing the stress scenarios and for reviewing them annually in order to ensure that they remain appropriate in light of current and anticipated market conditions. Each Credit Risk team can use further scenarios that are relevant for their specific industry and portfolio.

Ad-hoc market event scenarios are developed with input from Market Risk. Market Risk define the market risk factor shocks relevant to the event. These are then translated into PST into the scenarios by Risk Analytics and Technology used to stress the positions. FRI are responsible for the infrastructure and governance of the Product Stress Testing application. Quantitative Risk and Stress Testing (QRS) are responsible for the methodology of the stress impact calculations based on the provided scenarios.

Liquidity Risk

Stress testing is intended to quantify the likely impact of an event on the balance sheet and liquidity position and to identify viable contingent actions that can be utilised in a liquidity event. The internal stress testing scenarios are developed in accordance with the Citi's Liquidity Risk Management Policy. The Citigroup Liquidity Book of Assumptions provides the comprehensive set of assumptions used for the broker dealer vehicles, including CGML.

Scenarios

CGML uses stress testing and scenario analysis to quantify the likely impact to the balance sheet and liquidity position, and to identify viable funding alternatives that can be utilised. These scenarios include

- Potential significant changes in key funding sources
- Market triggers (such as credit rating downgrades)
- Changes to use of funding; and
- Political and economic conditions, including standard and stressed market conditions as well as firm-specific events

Assumptions

Due to the nature of the broker dealer business model and funding profile, this set of assumptions focuses on secured financing and maintaining CGML's core business franchise throughout the period of stress. The assumptions are considered appropriate for CGML given its business activities, scale, complexity and position within the wider group. The stress scenarios include realistic deterioration in secured funding sources and an inability to roll unsecured funding (sourced via its affiliate relationships). The scenarios also include a deterioration in CGML's credit ratings.

Stress Testing Assumptions developed are product specific and include consideration for expected behaviour of customers and the firm during stress. Funding and liquidity risks arise from multiple factors, such as the following:

- restriction of wholesale secured and unsecured funding through widening of haircuts, reluctance of counterparties to roll maturing transactions or lack of availability for financing for certain asset classes;
- intraday liquidity risk where correspondent banks and securities settlement agents or depositories withdraw or restrict secured or unsecured intraday credit facilities upon which the Company relies to make payments and settle its transactions;
- cross currency liquidity shortfalls arising from cash flow mismatches within a particular currency;
- potential outflows from off balance sheet activities such as security versus security transactions, letters of credit or committed facilities (e.g. underwriting);
- loss of liquidity from derivatives transactions due to asymmetric margining terms, legally agreed conditions such as rating downgrade triggers, margin calls due to large market revaluations or clearing house/exchange action, novation of liquidity accretive contracts away from the Company or increased operational diligence of certain counterparties;
- recognition that the Company may continue to provide funding to certain customers to preserve its franchise despite there being no legal obligation to do so; and
- incremental funding requirements of the Company's Prime Brokerage and Delta One businesses from loss of internal coverage and cross funding, inability to roll repo or increased repo haircuts.

Internal Stress Testing

CGML carries out two internal liquidity stress tests on a daily basis to capture above scenarios as well as the assumptions.

As an operating MLE, CGML is required to maintain sufficient liquidity to meet all maturing obligations within 12 months under the Highly Stressed Market Disruption stress scenario ('S2'). It must also meet the Resolution Liquidity Adequacy & Positioning ('RLAP') ratio stress metric used to measure the short-term (30 days) survival horizon under a severe market disruption stress scenario. CGML also monitors its exposures in material currencies using internal stress testing on a monthly basis.

External Stress Test

In addition, CGML is also required to comply with all regulatory rules and requirements as determined by the European Commission Delegated Act with regard to the liquidity coverage requirement ('EC Delegated Act') for credit institutions and with PRA Rulebook. Under the EC Delegated Act, CGML is required to maintain a Liquidity Coverage Ratio ('LCR') above 100% on a consolidated all-currency basis.

CGML Liquidity Stress call, comprising Legal Entity Treasury, Independent Risk, Global Liquidity Management and Finance desks is established to review stress test results on a monthly basis which are also shared with the UK ALCO.

Operational Risk

CGML's operational risk scenario analysis programme is planned and executed in accordance with the global ORM Scenario Analysis Standards, an appendix to the ORM policy.

Scenario analysis provides a forward looking view of operational risk that complements historical internal and external data. It is a systematic process to derive assessments for the likelihood and potential loss impact of plausible, high severity and low likelihood operational risk losses, i.e. 'fat-tailed' hypothetical events.

CGML scenarios are ratified by the UK Citi Country Officer and are used to benchmark estimates from CGML's operational risk capital model, under governance provided by the CGML Capital Committee.

Scenario analysis is also used as a tool to strengthen Risk Management controls and to stimulate dialogue and gain greater insights into emerging and existing key risks.

Regulatory Framework for Disclosure

The tables presented in this section show an outline of the differences in the basis of consolidation for accounting and regulatory purposes. It provides the breakdown of the carrying amounts reported under the scope of regulatory consolidation to the different risk categories. This section enable users to identify the differences between the scope of accounting consolidation and the scope of regulatory consolidation and the allocation of the regulatory scope of consolidation into the different risk frameworks laid out in Part Three of the CRR.

Table 2: Differences between Accounting and Regulatory Scopes of Consolidation and the Mapping of Financial Statement Categories with Regulatory Risk Categories (LI1)

		Carrying values of items				
	Carrying values under 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
	$ million	$ million	$ million	$ million	$ million	$ million
Assets						
Financial assets at amortised cost: Cash at bank and in hand	4,433	3,173	-	-	-	1,260
Financial assets at amortised cost: Collateralised financing transactions	54,422	-	54,422	-	54,422	-
Financial assets at fair value through profit or loss - derivatives	210,874	-	210,874	-	210,874	-
Financial assets at fair value through profit or loss - inventory	59,939	-	59,939	-	59,939	-
Financial assets designated at fair value through profit or loss	53,386	-	53,386	-	53,386	-
Equity securities held for investment	69	69	-	-	-	-
Pension	490	-	-	-	-	490
Other Assets	51,072	2,896	40,323	69	7,522	261
Total assets as at 31 December 2019	**434,684**	**6,138**	**418,944**	**69**	**386,143**	**2,011**
Liabilities						
Financial liabilities at amortised cost: bank loans and overdrafts	8,594	-	-	-	-	8,594
Financial liabilities at amortised cost: Collateralised financing transactions	50,728	-	50,728	-	50,728	-
Financial liabilities at fair value through p&l - derivatives	215,348	-	215,348	-	215,348	-
Financial liabilities at fair value through p&l - securities sold but not yet purchased	38,324	-	38,324	-	38,324	-
Financial liabilities designated at fair value through p&l	34,762	-	34,762	-	34,762	-
Other Liabilities	58,583	-	40,553	-	14,001	4,029
Subordinated Loans	10,100	-	-	-	-	10,100
Total liabilities as at 31 December 2019	**416,438**	**-**	**379,714**	**-**	**353,163**	**22,723**
Called up share capital	-	-	-	-	-	-
Other Equity Instrument	-	-	-	-	-	-
Capital Reserves	-	-	-	-	-	-
Retained Earnings and other Reserves	-	-	-	-	-	-
Total liabilities & Equity as at 31 December 2019	**416,438**	**-**	**379,714**	**-**	**353,163**	**22,723**

Differences between Accounting and Regulatory Exposure Amounts

CGML is not required to publish consolidated financial statements; therefore, the “Carrying values as reported in published financial statements” is not disclosed.

- Carrying values under scope of regulatory consolidation – the total amount reported in this column do not equal the sum of the columns relating to the regulatory frameworks, as certain line items are subject to more than one regulatory framework. Consequently, assets included in a line item can be subject to credit risk, counterparty credit risk and market risk
- Items subject to credit risk framework – this is based on non-trading book asset
- Item subject to securitisation framework – amount only non-trading books. Trading book securitisation positions are included under market risk framework
- Not subject to capital requirements or subject to capital deduction – these are assets that are deducted from own funds
- Items measured and designated at fair value through profit and loss are trading book items and can be subject to credit risk, counterparty credit risk and market risk

Table 3: Main Sources of Differences between Regulatory Exposure Amounts and Carrying Values in Financial Statements (LI2)

			Items subject to		
		Total	Credit risk framework	CCR framework	Securitisation framework
		$ million	$ million	$ million	$ million
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)**	425,151	6,138	418,944	69
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)	379,714	0	379,714	0
3	Total net amount under the regulatory scope of consolidation	**45,437**	**6,138**	**39,229**	**69**
6	*Differences due to different netting rules and collateral usage*	66,969	(609)	67,582	(4)
10	**Exposure amounts considered for regulatory purposes as at 31 December 2019**	112,406	5,529	106,811	65

The total column cannot directly reconcile to the carrying value in Table 2 above, as the market risk framework and items not subject to capital requirements or subject to deduction from capital are not reflected in Table 3.

Own Funds

Under the PRA's minimum capital standards, CGML is required to maintain a prescribed excess of own funds over its capital resources requirements. Own funds are measured and reported in accordance with the provisions of the Capital Requirements Regulation (CRR).

Regulatory capital comprises the following distinct elements for CGML

- Common Equity Tier 1 capital, which includes ordinary share capital, retained earnings, and capital reserves
- Additional Tier 1 capital
- Tier 2 capital, which includes Long-term Subordinated Loan
- Deductions from capital, which include
    - Intangible assets
    - Certain securitisation and free delivery positions
    - Defined benefit pension assets
    - Prudent valuation adjustments
    - Credit Valuation Adjustments (CVA) for liabilities

This disclosure has been prepared using the format set out in Annex IV of the final 'Implementing technical standards with regard to disclosure of own funds requirements for institutions' (Commission implementing regulation- EU 1423/2013). The table below shows the components of regulatory capital as at 31 December 2019.

Table 4: Own Funds Disclosure Template

		31 December 2019	31 December 2018
		$ million	$ million
Common Equity Tier 1 (CET1) capital: Instruments and reserves			
1	Capital Instruments and the related share premium accounts	1,500	1,500
2	Retained earnings [1]	2,171	1,563
3	Accumulated other comprehensive instruments (and other reserves)	12,155	12,043
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	0	0
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**15,826**	**15,105**
Common Equity Tier 1 (CET1) capital: regulatory adjustments			
7	Additional value adjustments (negative value)	(695)	(555)
8	Intangible assets (net of related tax liabilities) (negative amount)	(200)	(193)
15	Defined-benefit pension fund assets (negative amounts)	(378)	(330)
20a	Exposure amount of the following items which qualify for a RW of 1250 %, where the institution opts for the deduction alternative	**(59)**	**(66)**
20c	of which: securitisation positions (negative amount)	(40)	(51)
20d	of which: free deliveries (negative amount)	(19)	(14)
24	CET1 capital elements or deductions - other	(2)	(2)
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1)**	**(1,334)**	**(1,146)**
29	**Common Equity Tier 1 (CET1) capital**	**14,492**	**13,959**
Additional Tier 1 (AT1) capital: instruments			
30	Capital instruments and the related share premium accounts	2,300	2,300
31	of which: classified as equity under applicable accounting standards	2,300	2,300
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**2,300**	**2,300**
Additional Tier 1 (AT1) capital: regulatory adjustments			
43	**Total Regulatory Adjustments to Additional Tier 1 (AT1) Capital**	0	0
44	**Additional Tier 1 (AT1) capital**	**2,300**	**2,300**
45	**Tier 1 capital (T1 = CET1 + AT1)**	**16,792**	**16,259**
Tier 2 (T2) capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	4,600	4,600
51	Tier 2 (T2) capital before regulatory adjustments	4,600	4,600
57	Total regulatory adjustments to Tier 2 (T2) capital	0	0
58	**Tier 2 (T2) capital**	**4,600**	**4,600**
59	**Total capital (TC = T1 + T2)**	**21,392**	**20,859**
60	**Total risk weighted assets**	**132,613**	**131,022**
Capital ratios and buffers			
61	Common Equity Tier 1 (as a percentage of total risk exposure amount)	10.93%	10.65%
62	Tier 1 (as a percentage of total risk exposure amount)	12.66%	12.41%
63	Total capital (as a percentage of total risk exposure amount)	16.13%	15.92%
64	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 systemically important institution buffer expressed as a percentage of risk exposure amount)	7.46%	6.79%
65	of which: capital conservation buffer requirement	2.50%	1.88%
66	of which: countercyclical buffer requirement	0.46%	0.42%
67	of which: systemic risk buffer requirement	0.00%	0.00%
67a	of which: Global Systemically Important Institution (G-811) or Other Systemically Important Institution (0-811) buffer	0.00%	0.00%
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	2.44%	2.07%
Amounts below the thresholds for deduction (before risk weighting)			
72	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]	1,040	839
73	Direct and indirect holdings by the institution of the CET1 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) [2]	1,449	769
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	146	227

[1]. Retained earnings do not include the impact of audited profit for the respective years. Impact of audited profit is shown in table 9 "Balance sheet reconciliation" below.
[2]. The comparative figures as at 31 December 2018 for rows 72 and 73 in the above table have been amended to reflect applicable holdings in financial sector entities.

CGML's CET1 capital increased over the period primarily driven by inclusion of audited 2018 annual P&L, with further increase across Accumulated Other Comprehensive Income (AOCI).

In line with the requirements of CRD IV, the Capital Conservation Buffer rose to 2.5% from 1 January 2019.

Further details of the main features of CGML's capital instruments can be found in Appendix 4.

Table 5: Balance Sheet Reconciliation

This table presents CGML's capital resources as at 31 December 2019. The template is prepared using the format set out in Annex I of the final 'Implementing technical standards with regard to disclosure of own funds requirements for institutions' (Commission implementing regulation- EU 1423/2013).

	Accounting Balance Sheet	Own Funds
	$ million	$ million
Shareholders' funds as reported in the balance sheet		
Called up share capital	1,500	1,500
Other equity instruments	2,300	2,300
Capital reserves	10,999	10,999
Retained earnings and other reserves	3,172	3,327
Total shareholders' funds as reported in the balance sheet	**17,971**	**18,126**
Common Equity Tier 1 (CET1) capital: regulatory adjustments		
Additional value adjustments (negative value)		(695)
Intangible assets (net of related tax liabilities) (negative amount)		(200)
Defined-benefit pension fund assets (negative amounts)		(378)
Exposure amount of the following items which qualify for a RW of 1250 %, where the institution opts for the deduction alternative		(59)
of which: securitisation positions (negative amount)		(40)
of which: free deliveries (negative amount)		(19)
CET1 capital elements or deductions - other		(2)
Total Regulatory deductions		(1,334)
Tier 1 capital (T1 = CET1 + AT1)		**16,792**
Subordinated liabilities qualifying as Tier 2		4,600
Total regulatory own funds as at 31 December 2019		**21,392**

Total Loss Absorbing Capacity (TLAC)

From January 2019, systemically important banks were required to hold additional long term debt which could be made available to absorb losses from a failing institution, known as Total Loss Absorbing Capacity or TLAC. In the EU these requirements were introduced under CRR2 as the Minimum Requirement for Own Funds and Eligible Liabilities (MREL), with effect from June 2019. MREL is a requirement for firms to maintain a minimum amount of loss-absorbing resources over and above the own funds requirements. This helps to ensure that when firms fail, the resolution authority (the Bank of England) can use a firm's own financial resources to absorb losses and recapitalise the business so it can continue to provide critical functions without the need to rely upon public funds and without threatening financial market stability. MREL resources can take the form of regulatory capital (own funds) and certain types of debt liabilities (eligible liabilities) that will be written down and/or converted to equity if a firm is likely to fail. Under CRR2, CGML is subject to a minimum internal MREL of 16% of RWA and 6% of leverage exposures, subject to a 90% scalar.

Table 6: TLAC composition (TLAC1)

The table below provides details of the composition of CGML's internal TLAC eligible instruments. As the TLAC requirements came into force on 27 June 2019 there are no prior year comparative figures. CGML, as a material subsidiary of a non-EU GSII under Article 92b of CRR2, makes these disclosures in accordance with point (b) of Article 430 (1), Article 437a and point (h) of Article 447.

		31 December 2019 $ million
Regulatory capital elements of TLAC and adjustments		
1	**Common Equity Tier 1 (CET1) capital**	**14,492**
2	Additional Tier 1 (AT1) capital before TLAC adjustments	2,300
3	AT1 capital ineligible as TLAC as issued out of subsidiaries to third parties	-
4	Other adjustments	-
5	**AT1 instruments eligible under the TLAC framework**	**2,300**
6	Tier 2 (T2) capital before TLAC adjustments	4,600
7	Amortised portion of Tier 2 instruments where remaining maturity > 1 year	-
8	Tier2 capital ineligible as TLAC as issued out of subsidiaries to third parties	-
9	Other adjustments	-
10	**Tier2 instruments eligible under the TLAC framework**	**4,600**
11	**TLAC arising from regulatory capital**	**21,392**
Non-regulatory capital elements of TLAC		
12	Internal TLAC instruments issued directly by the entity and subordinated to excluded liabilities	5,500
13	Internal TLAC instruments issued directly by the entity which are not subordinated to excluded liabilities but meet all other TLAC Term Sheet requirements	-
17	**TLAC arising from non-regulatory capital instruments before adjustments**	**5,500**
Non-regulatory capital elements of TLAC: adjustments		
18	TLAC before deductions	26,892
19	Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to single point of entry G-SIBs)	-
20	Deduction of investments in own other TLAC liabilities	-
21	Other adjustments to TLAC	-
22	**TLAC after deductions**	**26,892**
Risk-weighted assets (RWA) and leverage exposure measure for TLAC purposes		
23	Total RWA adjusted as permitted under the TLAC regime	132,613
24	Leverage exposure measure	397,050
TLAC ratios and buffers		
25	TLAC (as a percentage of RWA adjusted as permitted under the TLAC regime)	20%
26	TLAC (as a percentage of leverage exposure)	6.77%
27	CET1 (as a percentage of RWA) available after meeting the entity's minimum capital and TLAC requirements	3.47%
28	Bank-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss-absorbency requirement, expressed as a percentage of RWA)	2.96%
29	Of which: capital conservation buffer requirement	2.50%
30	Of which: bank-specific countercyclical buffer requirement	0.46%
31	Of which: higher loss-absorbency requirement	-

Table 7: TLAC Creditor Ranking (TLAC2)

The following table provides a breakdown of eligible instruments in the creditor hierarchy of CGML.

		Creditor ranking				
		(most junior) 1	2	3	(most senior) 4	Total as at 31 December 2019
		$ million	$ million	$ million	$ million	$ million
1	Is the resolution entity the creditor/investor? (yes or no)	Yes	Yes	Yes	Yes	
2	Description of creditor ranking (free text)	Ordinary Shares	AT1	Subordinated Loans	Senior Subordinated Loans	-
3	Total capital and liabilities net of credit risk mitigation	1,500	2,300	4,600	5,500	13,900
4	Subset of row 3 that are excluded liabilities	-	-	-	-	-
5	Total capital and liabilities less excluded liabilities (row 3 minus row 4)	1,500	2,300	4,600	5,500	13,900
6	Subset of row 5 that are eligible as TLAC	1,500	2,300	4,600	5,500	13,900
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years	-	-	-	-	-
8	Subset of row 6 with 2 years ≤ residual maturity < 5 years	-	-	-	3,000	3,000
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years	-	-	3,600	2,500	6,100
10	Subset of row 6 with residual maturity ≥ 10 years, but excluded perpetual securities	-	-	1,000	-	1,000
11	Subset of row 6 that is perpetual securities	1,500	2,300	-	-	3,800

Capital Requirements and Buffers

CGML complies with the CRD IV minimum capital requirements to ensure that sufficient capital is maintained to cover all relevant risks and exposures. For this purpose, the firm calculates capital charges for market risk, counterparty risk and operational risk based upon a number of internal models and standardised approaches, as well as recognising a number of credit risk mitigation techniques.

To assess the adequacy of capital to support current and expected future activities, the firm produces regular capital forecasts for CGML, taking into account both normal business conditions and a variety of stressed scenarios. On at least an annual basis CGML prepares an Internal Capital Adequacy Assessment Process (ICAAP) document, setting out its risk appetite, capital requirements and associated policies and procedures. Through its Supervisory Review and Evaluation Process, the PRA has set CGML's minimum Total Capital Requirement (Pillar 1 + Pillar 2a) at 11.92%.

The following table set out CGML's Pillar 1 minimum capital requirements and Risk Weighted Assets (RWAs) as at 31 December 2019 and 30 September 2018.

Table 8: Overview of RWAs (OV1)

This table provide an overview of total RWA forming the denominator of the risk-based capital requirements calculated in accordance with Article 92 of the CRR. Further breakdowns of RWAs are presented in subsequent parts of these disclosures.

		31 December 2019	30 September 2019	31 December 2019
		RWAs	RWAs	Minimum capital requirements
		$ million	$ million	$ million
1	**Credit risk (excluding CCR)**	**3,939**	3,160	**315**
2	Of which the standardised approach	**3,939**	3,160	**315**
3	Of which the foundation IRB (FIRB) approach	-	-	-
4	Of which the advanced IRB (AIRB) approach	-	-	-
5	Of which equity IRB under the simple risk-weighted approach or the IMA	-	-	-
6	**CCR**	**72,338**	79,650	**5,787**
7	Of which mark to market	**56,550**	62,206	**4,524**
8	Of which original exposure	-	-	-
9	Of which the standardised approach	-	-	-
10	Of which internal model method (IMM)	**8,689**	9,156	**695**
11	Of which risk exposure amount for contributions to the default fund of a CCP	**306**	383	**24**
12	Of which CVA	**6,793**	7,905	**543**
13	**Settlement risk**	**81**	73	**6**
14	**Securitisation exposures in the banking book (after the cap)**	**77**	109	**6**
14a	Of which subject to the revised securitisation framework [1]	**8**	20	**1**
15	Of which IRB approach	-	-	-
16	Of which IRB supervisory formula approach (SFA)	-	-	-
17	Of which internal assessment approach (IAA)	-	-	-
18	Of which standardised approach	**69**	89	**6**
19	**Market risk** [1]	**32,884**	40,020	**2,631**
20	Of which the standardised approach	**21,695**	26,303	**1,736**
21	Of which IMA	**11,189**	13,717	**895**
22	**Large exposures**	**3,181**	3,577	**255**
23	**Operational risk**	**20,113**	19,248	**1,609**
24	Of which basic indicator approach	-	-	-
25	Of which standardised approach	**513**	498	**41**
26	Of which advanced measurement approach	**19,600**	18,750	**1,568**
27	Amounts below the thresholds for deduction (subject to 250% risk weight)	-	-	-
28	Floor adjustment	-	-	-
29	**Total**	**132,613**	145,837	**10,608**

[1] September 2019 figures have been amended to reflect exposures treated under the new securitisation framework within Securitisation Exposures .

Capital Buffers

Under CRD IV, CGML is required to hold additional capital buffers including the capital conservation buffer (2.5%) and the institution-specific countercyclical buffer, detailed in Appendix 5.

Leverage

Leverage risk is the risk that excessive growth in exposure or a decrease in capital will lead to an entity becoming more vulnerable to leverage or contingent leverage that may require unintended corrective measures, including distressed selling of assets which might result in losses or in valuation adjustments to its remaining assets.

In accordance with CRD IV, the leverage ratio for CGML is calculated by dividing fully loaded Tier 1 capital by the total of the entity's on and off-balance sheet exposures.

The leverage ratio is a monitoring tool which will allow competent authorities to assess the risk of excessive leverage in their respective institutions. It aims to constrain the build-up of excess leverage in the banking sector.

The requirement for the calculation and reporting of the leverage ratio has been implemented in the EU for reporting and disclosure purposes, but currently this is not set as a binding requirement. The leverage ratio during this transitional phase is set at a minimum level of 3%.

Management of Capital and Leverage Risk

CGML's approach to managing the risk of excessive leverage incorporates the following

Daily Capital and Leverage Monitoring

This is conducted for CGML's capital ratios (Common Equity Tier 1 (CET1), Tier 1 and Total Capital Ratios). The excess capital over Pillar 1 and Pillar 2 requirements (including the Individual Capital Guidance and Capital Planning Buffer) and over the internal Capital Action Trigger, are also monitored daily. The latter is an internal trigger set to ensure that the entity holds a sufficient capital excess to permit timely management decisions in case of short-term stresses.

For CGML there are both legal entity capital usage limits and business specific regulatory capital targets. These limits and targets are subject to detailed monitoring and review by both the business and finance subject matter experts, and reported to senior management on a weekly basis.
Balance Sheet and Regulatory Capital Quarterly Reforecasts are performed quarterly of the Pillar 1 requirements and balance sheet for all businesses. These forecasts are owned by the businesses and are vetted by the regional Markets head.

All the above tools are monitored and controlled through the monthly UK ALCO process. The UK ALCO is the primary governance committee for the management of CGML's balance sheet. Amongst the responsibilities of the UK ALCO are the provision of balance sheet oversight of trends and business mix, ensuring prudent legal entity balance sheet management and overseeing the local regulatory requirements related to the balance sheet. The UK ALCO and CGML Board of Directors are also responsible for reviewing CGML's liquidity position on a daily basis.

CGML's Risk Committee reviews and approves the Liquidity Risk Management Framework, the Funding and Liquidity Plan (FLP) on an annual basis.

Stress Testing: On a weekly basis, the trading books of the entities are stress tested for market risk across a range of scenarios. A trigger has been set for the largest loss of the three 1-in-25 year scenarios that are run weekly and potential stress losses above this trigger will be escalated to the entity CEO, CRO and Treasurer.

The following table sets out CGML's leverage ratio as at 31 December 2019 and 31 December 2018.

Table 9: Summary Reconciliation of Accounting Assets and Leverage Ratio Exposures (LRSUM)

This table summarises the total leverage exposure, comprising of the total assets in the statutory financial statement and other regulatory adjustments for leverage purposes.

		31 December 2019 $ million	31 December 2018 $ million
1	Total assets as per published financial statements	427,278	404,907
4	Adjustments for derivative financial instruments	(49,987)	(6,847)
5	Adjustment for securities financing transactions (SFTs)	35,631	36,667
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	-	-
7	Other adjustments - differences in Statutory and Regulatory consolidation	(15,873)	(16,497)
8	**Leverage ratio total exposure measure**	**397,050**	**418,231**

The total assets as per published financial statements for CGML are on a solo basis, CGML does not publish financial statements at the consolidated level.

In accordance with Article 4(2) of the commission implementing regulation (EU) 2016/200, the implementing technical standards concerning the disclosure of the leverage ratio, CGML is not required to complete and publish financial statements at the consolidated level.

Table 10: Leverage Ratio Common Disclosure (LRCOM)

This table shows the breakdown of the Leverage exposure disclosed in Table 12 – Summary reconciliation of accounting assets and leverage ratio exposures and the leverage ratio.

		31 December 2019 $ million	31 December 2018 $ million
On-balance sheet exposures (excluding derivatives and SFTs)			
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	96,027	74,972
2	(Asset amounts deducted in determining Tier 1 capital)	(638)	(591)
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)**	95,389	74,381
Derivative exposures			
4	Replacement cost associated with *all* derivatives transactions (ie net of eligible cash variation margin)	26,478	18,008
5	Add-on amounts for PFE associated with *all* derivatives transactions (mark- to-market method)	127,608	121,556
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(17,369)	(10,853)
8	(Exempted CCP leg of client-cleared trade exposures)	(8,733)	(6,609)
9	Adjusted effective notional amount of written credit derivatives	816,088	732,366
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(786,117)	(704,324)
11	**Total derivatives exposures (sum of lines 4 to 10)**	157,954	150,144
SFT exposures			
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions [1]	173,612	189,635
13	(Netted amounts of cash payables and cash receivables of gross SFT assets) [1]	(56,717)	(23,999)
14	Counterparty credit risk exposure for SFT assets	26,811	28,070
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	143,706	193,706
Other off-balance sheet exposures			
17	Off-balance sheet exposures at gross notional amount	-	-
18	(Adjustments for conversion to credit equivalent amounts)	-	-
19	**Other off-balance sheet exposures (sum of lines 17 and 18)**	-	-
Capital and total exposure measure			
20	**Tier 1 capital**	16,792	16,259
21	**Leverage ratio total exposure measure** (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	397,050	418,231
Leverage ratio			
22	**Leverage ratio**	4.23%	3.89%
Choice on transitional arrangements and amount of derecognised fiduciary items			
EU-23	Choice on transitional arrangements for the definition of the capital measure	Fully phased in	
	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) No 575/2013	Fully phased in	

[1] The comparative figures as at 31 December 2018 for gross and netted SFT figures have been amended to incorporate the impact of netting.

CGML's Leverage ratio increased to 4.23% as at 31 December 2019, reflecting an increase in Tier 1 capital, along with a reduction in leverage exposures as additional netting was achieved within the SFTs.

Table 11: Split-up of on Balance Sheet Exposures (Excluding Derivatives, SFTs and Exempted Exposures) (LRSplit)

		31 December 2019 $ million	31 December 2018 $ million
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	**96,027**	**74,972**
EU-2	Trading book exposures	90,658	70,794
EU-3	Banking book exposures, of which:	5,369	4,178
EU-4	*Covered bonds*	-	-
EU-5	*Exposures treated as sovereigns*	188	211
EU-7	*Institutions*	360	17
EU-8	*Secured by mortgages of immovable properties*	-	-
EU-9	*Retail exposures*	-	-
EU-10	*Corporate*	935	362
EU-11	*Exposures in default*	-	-
EU-12	*Other exposures (eg equity, securitisations, and other non-credit obligation assets)*	3,886	3,589

Credit Risk and Credit Risk Mitigation

Credit Quality of Assets

The IFRS 9 impairment standard applies to any debt instruments measured at amortised cost or at fair value through other comprehensive income and also to off balance sheet loan commitments and financial guarantees. The standard requires an estimation of an expected credit loss (ECL) that is unbiased and probability weighted, including information about past events, current conditions and reasonable and supportable forecasts of future events and economic conditions at the reporting date. The estimate will also consider the time value of money.

ECL will be measured on each reporting date according to a three-Stage expected credit loss impairment model under which each financial asset is classified in one of the stages below:

- Stage 1 – From initial recognition of a financial asset to the date on which the asset has experienced a significant increase in credit risk relative to its initial recognition, a loss allowance is recognized equal to the credit losses expected to result from defaults expected over the next 12 months. Interest is calculated based on the gross carrying amount of the asset.
- Stage 2 – Following a significant increase in credit risk relative to the risk at initial recognition of the financial asset, a loss allowance is recognized equal to the full credit losses expected over the remaining life of the asset. Interest is calculated based on the gross carrying amount of the asset.

The credit losses for financial assets in Stage 1 and Stage 2 are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Group expects to receive).

- Stage 3 – When a financial asset is considered to be credit-impaired, a loss allowance equal to the full lifetime expected credit losses will be recognized. Credit losses are measured as the difference between the gross carrying amount and the present value of estimated future cash flows. Interest revenue is calculated based on the carrying amount of the asset, net of the loss allowance, rather than on its gross carrying amount.

Evidence that a financial asset is impaired includes observable data that comes to the attention of the Company such as:

- Significant financial difficulty of the issuer or obligor;
- A breach of contract, such as a default or delinquency in interest or principal payments;
- It becomes probable that the borrower will enter bankruptcy or other financial reorganisation;
- The disappearance of an active market for that financial asset because of financial difficulties; or
- Observable data indicating that there is a measurable decrease in the estimated future cash flows from a portfolio of financial assets since the initial recognition of those assets, although the decrease cannot yet be identified with the individual financial assets in the portfolio, including:
  - adverse changes in the payment status of borrowers in the portfolio; and
  - national or local economic conditions that correlate with defaults on the assets in the portfolio.

Because of the nature of business activities and the financial assets on the Company's balance sheet (high credit quality reverse repo asset loans and short term trade receivables), the recognition of expected credit losses has a minimal impact. For the vast majority of its exposures, the Company has taken advantage of practical expedients allowed by IFRS 9 in which either: (a) lifetime expected credit losses are recognised irrespective of changes in credit risk (applicable to receivables such as trade date or brokerage receivables), or (b) twelve-month expected credit losses are recognised where credit risk is low at the reporting date (applicable to reverse repos and securities borrowed).

Retail Impairment

CGML has no retail exposure.

Risk Profile

The following tables in this section details CGML's credit risk profile focusing on on-balance sheet and off-balance sheet regulatory exposures.

The risk profile is further analysed into exposure classes, industry, regions, maturities and defaulted exposures.

Table 12: Total and Average Net Amount of Exposures (CRB-B)

The table below provide a breakdown of credit risk exposures pre CCF and CRM by exposure class and average over four quarters.

	Net value of exposures at the end of the period		Average net exposures over the period	
	31 December 2019 $ million	31 December 2018 $ million	31 December 2019 $ million	31 December 2018 $ million
Standardised approach				
Central governments or central banks	188	848	648	377
Institutions	649	205	684	445
Corporates	1,510	1,046	1,504	926
Claims on institutions and corporates with a short-term credit assessment	2,557	1,877	2,475	1,339
Equity exposures	74	59	67	58
Other exposures	552	229	365	237
Total Standardised approach	**5,529**	**4,263**	**5,744**	**3,383**

Average net exposure values are calculated by aggregating the last four-quarter ends of the year and dividing by four.

Exposures rose across almost all exposures classes during 2019, with a fall year on year in Central governments.

Table 13: Geographical Breakdown of Exposures (CRB-C)

This table provide a breakdown of credit risk exposures pre CCF and CRM by geographical areas and exposure classes.

	EU	UNITED KINGDOM	GERMANY	BELGIUM	LUXEMBOURG	IRELAND	DENMARK	Other EU countries	AMERICAS	UNITED STATES	CANADA	APAC	HONG KONG	INDIA	SOUTH KOREA	Other countries	EMEA	LATAM	Total
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Standardised approach																			
Central governments or central banks	**188**	188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**188**
Institutions	**320**	216	1	-	1	1	95	7	**289**	224	66	**2**	-	-	-	2	**37**	-	**648**
Corporates	**1,101**	939	162	-	-	-	-	-	**1**	1	-	**279**	1	270	1	6	**98**	**30**	**1,510**
Claims on institutions and corporates with a short-term credit assessment	**1,804**	746	347	269	195	180	0	68	**17**	17	-	**608**	363	1	91	152	**117**	**11**	**2,557**
Equity exposures	**73**	60	-	-	1	-	-	12	-	-	-	-	-	-	-	-	-	-	**74**
Other exposures	**552**	552	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**552**
Total as at 31 December 2019	**4,039**	**2,700**	**511**	**269**	**197**	**180**	**95**	**87**	**308**	**242**	**66**	**889**	**364**	**272**	**93**	**160**	**254**	**40**	**5,529**

	EU	UNITED KINGDOM	BELGIUM	PORTUGAL	HUNGARY	Other EU countries	Americas	UNITED STATES	CANADA	APAC	TAIWAN	SOUTH KOREA	JAPAN	HONG KONG	AUSTRALIA	Other countries	EMEA	LATAM	Total
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Standardised approach																			
Central governments or central banks	**848**	848	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**848**
Institutions	**114**	105	-	-	-	8	**86**	83	4	**4**	0	1	1	-	1	1	-	-	**205**
Corporates	**771**	770	-	-	-	2	**23**	23	-	**154**	137	3	-	2	-	11	**67**	**30**	**1,046**
Claims on institutions and corporates with a short-term credit assessment	**1,338**	859	325	55	26	73	**179**	179	-	**296**	-	98	82	48	23	46	**43**	**20**	**1,877**
Equity exposures	**59**	56	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	**59**
Other exposures	**229**	**229**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**229**
Total as at 31 December 2018	**3,359**	2,867	325	55	26	86	**289**	286	4	**454**	137	101	82	50	24	58	**111**	**50**	**4,263**

Credit risk exposure increased by $1,266 million mainly due to the following key geographical areas:

- EU exposures grew by $680 million with the largest increase being in Claims on institutions and corporates with short-term credit assessment, where falls in the UK and Belgium were offset by rises in Germany, Luxembourg and Ireland. The UK and Germany also saw increases in Corporate exposures.
- Exposures in APAC rose by $434 million due to increases in Hong Kong and India, particularly exposures to Claims on institutions and corporates with short-term credit assessment and Corporates.

Table 14: Concentration of Exposures by Industry (CRB-D)

This table provide a breakdown of exposures pre CCF and CRM by industry or counterparty types and exposure classes

	Electricity, gas, steam and air conditioning supply	Information and communication	Financial and insurance activities	Real estate activities	Professional, scientific and technical activities	Administrative and support service activities	Public administration and defence; compulsory social security	Other	Total
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Standardised approach									
Central governments or central banks	-	-	1	-	-	-	188	-	**188**
Institutions	-	-	649	-	-	-	-	-	**649**
Corporates	162	-	1,077	2	-	-	-	268	**1,509**
Claims on institutions and corporates with a short-term credit assessment	-	-	2,557	-	-	-	-	-	**2,557**
Equity exposures	-	-	73	-	-	-	-	-	**73**
Other exposures	-	-	552	-	-	-	-	-	**552**
Total as at 31 December 2019	**162**	**-**	**4,909**	**2**	**-**	**-**	**188**	**268**	**5,529**

	Electricity, gas, steam and air conditioning supply	Information and communication	Financial and insurance activities [1]	Real estate activities	Professional, scientific and technical activities	Administrative and support service activities	Public administration and defence; compulsory social security	Other [1]	Total
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Standardised approach									
Central governments or central banks	-	-	637	-	-	-	211	-	**848**
Public sector entities	-	-	229	-	-	-	-	-	**229**
Corporates	-	-	1,029	17	-	-	-	-	**1,046**
Claims on institutions and corporates with a short-term credit assessment	-	-	1,877	-	-	-	-	-	**1,877**
Equity exposures	-	-	29	-	29	-	-	-	**58**
Other exposures	-	-	205	-	-	-	-	-	**205**
Total as at December 2018	**-**	**-**	**4,006**	**17**	**29**	**-**	**211**	**-**	**4,263**

[1] The comparative figures as at 31 December 2018 for Financial and insurance activities have been aligned with the current period's presentation to incorporate exposures previously categorised as Other.

Exposures rose with most counterparty types, particularly Finance and insurance activities.

Table 15: Maturity of Exposures (CRB-E)

The table below provide a breakdown of net exposures pre CCF and CRM by residual maturity and exposure classes.

	Net exposure value					
	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	Undated	Total
	$ million	$ million	$ million	$ million	$ million	$ million
Central governments or central banks	1	188	-	-	-	188
Institutions	359	290	-	-	-	649
Corporates	279	1,218	-	-	-	1,496
Claims on institutions and corporates with a short- term credit assessment	2,557	-	-	-	-	2,557
Equity exposures	-	2	-	72	-	74
Other exposures	-	539	-	-	26	565
Total standardised approach as at 31 December 2019	**3,195**	**2,236**	**-**	**72**	**26**	**5,529**

	Net exposure value					
	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	Undated	Total
	$ million	$ million	$ million	$ million	$ million	$ million
Central governments or central banks	637	211	-	-	-	848
Institutions	197	8	-	-	-	205
Corporates	253	793	-	-	-	1,046
Claims on institutions and corporates with a short- term credit assessment	1,877	-	-	-	-	1,877
Equity exposures	-	-	-	59	-	59
Other exposures	-	220	-	-	9	229
Total standardised approach as at 31 December 2018	**2,964**	**1,231**	**-**	**59**	**9**	**4,263**

Exposures rose across all maturity categories, with the greatest increase being in exposures under one year.

Table 16: Credit Quality of Exposures by Exposure Class and Instrument (CR1-A)

		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
		$ million	$ million	$ million	$ million	$ million	$ million	$ million
	Standardised approach	-						
16	Central governments or central banks	-	188	-	-	-	-	188
21	Institutions	-	649	-	-	-	-	649
22	Corporates	-	1,510	-	-	-	-	1,510
31	Claims on institutions and corporates with a short- term credit assessment	-	2,557	-	-	-	-	2,557
33	Equity exposures	-	74	-	-	-	-	74
34	Other exposures	-	552	-	-	-	-	552
35	**Total standardised approach**	-	**5,529**	-	-	-	-	**5,529**
36	**Total as at 31 December 2019**	-		-	-	-	-	-
37	Of which: Loans [1]	-	3,692	-	-	-	-	3,692
40	Of which: Other	-	1,838	-	-	-	-	1,838

		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
		$ million	$ million	$ million	$ million	$ million	$ million	$ million
	Standardised approach							
16	Central governments or central banks	-	848	-	-	-	-	848
21	Institutions	-	205	-	-	-	-	205
22	Corporates	-	1,046	-	-	-	-	1,046
31	Claims on institutions and corporates with a short- term credit assessment	-	1,877	-	-	-	-	1,877
33	Equity exposures	-	59	-	-	-	-	59
34	Other exposures [2]	-	228	-	-	-	-	228
35	**Total standardised approach**	-	**4,263**	-	-	-	-	**4,263**
36	**Total as at 31 December 2018**	-		-	-	-	-	-
37	Of which: Loans [1]	-	2,862	-	-	-	-	2,862
40	Of which: Other	-	1,402	-	-	-	-	1,402

1 Loans includes cash held with counterparties
2 The comparative figures as at 31 December 2018 for non material items have been re-aligned to be consistent with the current period's presentation.

Table 17: Credit Quality of Exposures by Industry or Counterparty Types (CR1-B)

The table provide a picture of the credit quality of CGML's on-balance-sheet and off-balance sheet exposures by industry or counterparty types.

	Gross carrying values of						
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Mining and quarrying	-	268	-	-	-	-	268
Electricity, gas, steam and air conditioning supply	-	162	-	-	-	-	162
Financial and insurance activities	-	4,909	-	-	-	-	4,909
Real estate activities	-	2	-	-	-	-	2
Public administration and defence, compulsory social security	-	188	-	-	-	-	188
Total as at 31 December 2019	-	**5,529**	-	-	-	-	**5,529**

	Gross carrying values of						
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Financial and insurance activities [1]	-	4,006	-	-	-	-	4,006
Real estate activities	-	17	-	-	-	-	17
Professional, scientific and technical activities	-	29	-	-	-	-	29
Public administration and defence, compulsory social security	-	211	-	-	-	-	211
Other services [1]	-	-	-	-	-	-	-
Total as at 31 December 2018	-	**4,263**	-	-	-	-	**4,263**

[1] The comparative figures as at 31 December 2018 for Financial and insurance activities have been aligned with the current period's presentation to incorporate exposures previously categorised as Other.

Table 18: Credit Quality of Exposures by Geography (CR1-C)

This table provide a picture of the credit quality of CGML's on-balance-sheet and off-balance-sheet exposures by geography.

	Gross carrying values of						
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
	$ million	$ million	$ million	$ million	$ million	$ million	$ million
EU	**-**	**4,039**	**-**	**-**	**-**	**-**	**4,039**
United Kingdom	-	2,700	-	-	-	-	2,700
Germany	-	511	-	-	-	-	511
Belgium	-	269	-	-	-	-	269
Luxembourg	-	197	-	-	-	-	197
Ireland	-	180	-	-	-	-	180
Denmark	-	95	-	-	-	-	95
Spain	-	26	-	-	-	-	26
Italy	-	24	-	-	-	-	24
Other countries	-	37	-	-	-	-	37
APAC	**-**	**889**	**-**	**-**	**-**	**-**	**889**
Hong Kong	-	364	-	-	-	-	364
India	-	272	-	-	-	-	272
Korea, Republic of	-	93	-	-	-	-	93
Taiwan	-	40	-	-	-	-	40
Other countries	-	120	-	-	-	-	120
Americas	**-**	**308**	**-**	**-**	**-**	**-**	**308**
United States	-	242	-	-	-	-	242
Canada	-	66	-	-	-	-	66
EMEA	**-**	**254**	**-**	**-**	**-**	**-**	**254**
Russian Federation	-	60	-	-	-	-	60
South Africa	-	34	-	-	-	-	34
Other countries	-	160	-	-	-	-	160
LATAM	**-**	**40**	**-**	**-**	**-**	**-**	**40**
Bahamas	-	30	-	-	-	-	30
Other countries	-	10	-	-	-	-	10
Total as at 31 December 2019	**-**	**5,529**	**-**	**-**	**-**	**-**	**5,529**

	Gross carrying values of						
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
	$ million	$ million	$ million	$ million	$ million	$ million	$ million
EU	**-**	**3,359**	**-**	**-**	**-**	**-**	**3,359**
United Kingdom	-	2,867	-	-	-	-	2,867
Belgium	-	325	-	-	-	-	325
Portugal	-	55	-	-	-	-	55
Hungary	-	26	-	-	-	-	26
Other countries	-	86	-	-	-	-	86
APAC	**-**	**454**	**-**	**-**	**-**	**-**	**454**
Taiwan	-	137	-	-	-	-	137
South Korea	-	101	-	-	-	-	101
Japan	-	82	-	-	-	-	82
Hong Kong	-	50	-	-	-	-	50
Australia	-	24	-	-	-	-	24
Other countries	-	60	-	-	-	-	58
Americas	**-**	**289**	**-**	**-**	**-**	**-**	**289**
United States	-	286	-	-	-	-	286
Canada	-	3	-	-	-	-	4
EMEA	**-**	**111**	**-**	**-**	**-**	**-**	**111**
United Arab Emirates	-	22	-	-	-	-	22
Nigeria	-	18	-	-	-	-	18
Other countries	-	71	-	-	-	-	70
LATAM	**-**	**50**	**-**	**-**	**-**	**-**	**50**
Bahamas	-	30	-	-	-	-	30
Other countries	-	20	-	-	-	-	21
Total as at 31 December 2018	**-**	**4,263**	**-**	**-**	**-**	**-**	**4,263**

Table 19: Credit quality of performing and non-performing exposures by past due days

		Gross carrying amount/nominal amount											
		Performing exposures			Non-performing exposures								
	$ million		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
1	Loans and advances	3,692	3,692	-	-	-	-	-	-	-	-	-	-
2	*Central banks*	1	1	-	-	-	-	-	-	-	-	-	-
4	*Credit institutions*	2,991	2,991	-	-	-	-	-	-	-	-	-	-
6	*Non-financial corporations*	700	700	-	-	-	-	-	-	-	-	-	-
21a	Other	1,838	1,838	-	-	-	-	-	-	-	-	-	-
22	Total	5,529	5,529	-	-	-	-	-	-	-	-	-	-

Table 20: Performing and non-performing exposures and related provisions

		Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	Collateral and financial guarantees received	
		Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions				On performing exposures	On non-performing exposures
	$ million		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3			
1	Loans and advances	3,692	3,692	-	-	-	-	-	-	-	-	-	-	-	-	-
2	*Central banks*	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	*Credit institutions*	2,991	2,991	-	-	-	-	-	-	-	-	-	-	-	-	-
6	*Non-financial corporations*	700	700	-	-	-	-	-	-	-	-	-	-	-	-	-
21a	Other	1,838	1,838	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Total	5,529	5,529	-	-	-	-	-	-	-	-	-	-	-	-	-

Credit Risk Mitigation

As part of its risk management activities, the firm uses various risk mitigants to hedge portions of the credit risk in its portfolio, in addition to outright asset sales. Credit risk mitigation, including netting, collateral and other techniques, is important to Citi in the effective management of its credit risk exposures.

The utilisation of collateral is of critical importance in the mitigation of risk. In-house legal counsel, in consultation with approved external legal counsel, will determine whether collateral documentation is enforceable and gives the firm the right to liquidate or take possession of collateral in a timely manner in the event of the default, insolvency, bankruptcy or other defined credit event of the obligor.

Collateral Types

The majority of the collateral taken by CGML against OTC derivative exposures is in the form of cash. Other collateral, such as corporate bonds, municipal bonds, U.S. agency securities and mortgage-backed securities, may also be pledged as collateral for OTC derivative transactions.
Collateral is generally posted to secure the net open exposure of OTC derivative transactions, at a counterparty level, whereby the receiving party is free to co-mingle or re-hypothecate such collateral in the ordinary course of business.

Collateral posted to open and maintain a master netting agreement with a counterparty in the form of cash and securities may from time to time be segregated in an account at a third-party custodian pursuant to a tri-party account control agreement.

In respect of SFTs, the majority of the collateral is in the form of:

- Cash
- Long-term and short-term debt securities; or
- Public equity securities

Occasionally, with appropriate agreement, other forms of collateral may be accepted.

Policies for Securing, Valuing and Managing Collateral

Citi's policies and procedures cover management and governance of financial assets (including securing and valuing collateral) utilised for the purpose of mitigating the credit risk of OTC derivatives, repo-style transactions and eligible margin loans. Specifically, businesses are required to establish standard eligibility criteria for collateral usage and review processes for approving non-standard collateral. Industry standard legal agreements combined with internal reviews for legal enforceability are used to achieve a perfected security interest in the collateral.

Additionally, Risk Management establishes guidelines on appropriate collateral haircuts related to repo-style transactions and eligible margin loans. A haircut is the percentage of reduction in current market value applicable to each type of collateral and is largely based on liquidity and price volatility of the underlying security. Potential correlations between the exposure and the underlying collateral are reflected through the setting of appropriately greater haircuts.

Derivative Master Netting Agreements

Credit risk from derivatives is mitigated where possible through netting agreements whereby derivative assets and liabilities with the same counterparty can be offset. Citi policy requires all netting arrangements to be legally documented. ISDA (International Swaps and Derivatives Association) master agreements are Citi's preferred manner for documenting OTC derivatives.

In-house legal counsel will also approve relevant jurisdictions and counterparty types for netting purposes. Off-balance sheet netting and netting of collateral against the exposure is permitted if legal counsel determine that the firm has these rights.
Netting is generally permitted for the following types of transaction:

- Securities Financing Transactions (SFTs)
- Exchange Traded Derivatives (ETDs); and
- Over The Counter (OTC) derivative transactions

The agreements provide the contractual framework within which dealing activities across a full range of OTC products are conducted and contractually bind both parties to apply close-out netting across all outstanding transactions covered by an agreement if either party defaults or other predetermined events occur.

Citi considers the level of legal certainty regarding enforceability of its offsetting rights under master netting agreements and credit support annexes to be an important factor in its risk management process. For example, Citi generally transacts much lower volumes of derivatives under master netting agreements where Citi does not have the requisite level of legal certainty regarding enforceability. For further information on Citi's policies regarding master netting agreements, see the "Derivatives" section (note 22) of Citi's 31 December 2019 Form 10-K, available on the Citigroup website.

Valuation of Collateral

Collateral valuations must be completed daily for SFTs, OTC derivatives and margin lending by the relevant operations units and collateral/margin departments. Collateral haircuts are applied in a number of circumstances, such as where there is a material positive correlation between the credit quality of the counterparty and the value of the collateral, or where there are currency or maturity mismatches. The firm has systems and procedures for requesting and promptly receiving additional collateral for transactions whose terms require maintenance of collateral values at specified thresholds as documented in the respective legal agreements.

Margining Procedures

Daily margin procedures are established for managing margin calls which is considered best practice in order to maintain an appropriate level of collateral coverage reflecting market value fluctuations. Trades are reconciled on a regular basis that is consistent with regulatory and industry best practice guidelines and margin dispute processes are in place. Procedures are established surrounding collateral substitution and collateral re-use/re-hypothecation. Limits and concentration monitoring are utilised to control Citi's collateral concentrations to different types of asset classes.

Additionally, for eligible margin loans, procedures are established to ensure an appropriate level of allowance for credit losses.

Reporting

The firm has procedures in place to ensure that appropriate information is available to support the collateral process and that timely and accurate margin calls feed correctly into the margin applications from upstream systems. Key to the process is a daily credit exposure report as well as reports identifying counterparties that have not met their requirement for additional collateral to satisfy specified initial margin amounts and variation margin thresholds. In addition, there is firm wide risk reporting of counterparty exposures at an individual and an aggregate level.

Collateral Concentrations

Cash and sovereign government bonds are the predominant form of collateral accepted in respect of margined OTC derivative transactions and SFTs at 31 December 2019.

Other Forms of Credit Risk Mitigation

CGML does not generally use credit derivatives to mitigate its counterparty risk exposure, but Citi does use credit derivatives for this purpose when exposure is viewed at a global level, and such hedging is carried out by certain US affiliate companies. CGML does not use eligible credit derivatives as exposure hedges to any exposures currently including IMM positions.

Table 21: CRM Techniques – Overview (CR3)

This table shows the extent of the use of CRM techniques

		Exposures unsecured – Carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
		$ million	$ million	$ million	$ million	$ million
1	Total loans [1]	3,692	-	-	-	-
2	Total other	1,838	-	-	-	-
3	**Total exposures as at 31 December 2019**	**5,529**	**-**	**-**	**-**	**-**
4	Of which defaulted	-	-	-	-	-

		Exposures unsecured – Carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
		$ million	$ million	$ million	$ million	$ million
1	Total loans [1]	2,862	-	-	-	-
2	Total other	1,402	-	-	-	-
3	**Total exposures as at 31 December 2018**	**4,263**	**-**	**-**	**-**	**-**
4	Of which defaulted	-	-	-	-	-

[1] Loans include cash held with counterparties

Credit Risk and Credit Risk Mitigation in the Standard Approach

Use of External Credit Ratings under the Standardised Approach for Credit Risk

Under the Standardised approach, ratings assigned by External Credit Assessment Institutions (ECAIs) are used in the calculation of RWAs. Credit assessments applied to central governments and central banks, institutions, corporate and equity exposure classes in the trading book and banking book alike, as determined by the PRA in accordance with the requirements of CRD IV.

CGML uses ratings assigned by Standard and Poor's, Moody's and Fitch for credit risk calculations.

Table 22: Credit Quality Assessment Scale

Credit Quality Step	Standard & Poor's	Moody's	Fitch
Credit Quality Step 1	AAA to AA-	Aaa to Aa3	AAA to AA-
Credit Quality Step 2	A+ to A-	A1 to A3	A+ to A-
Credit Quality Step 3	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-
Credit Quality Step 4	BB+ to BB-	Ba1 to Ba3	BB+ to BB-
Credit Quality Step 5	B+ to B-	B1 to B3	B+ to B-
Credit Quality Step 6	CCC+ and below	Caa1 and below	CCC+ and below

Risk weightings are assigned to each exposure depending on its credit quality step and other factors, including exposure class and maturity. Exposures for which no rating is available are treated in a similar way to those under Credit Quality Step 3.

The table below sets out a simplified summary of how credit quality is linked to risk weighting.

Table 23: Simplified Summary of risk Weightings by Credit Quality Step

			Institution (Includes Banks)		
Credit Quality Step	Corporates	Governments and Central Banks	Sovereign Method	>3 Months Maturity	Maturity 3 Months or Less
Step 1	20%	0%	20%	20%	20%
Step 2	50%	20%	50%	50%	20%
Step 3	100%	50%	100%	50%	20%
Step 4	100%	100%	100%	100%	50%
Step 5	150%	100%	100%	100%	50%
Step 6	150%	150%	150%	150%	150%

Table 24: Standardised Approach – Credit Risk Exposure and CRM Effects (CR4)

This table shows the effect of CCF and CRM techniques applied on total on-balance sheet and off-balance sheet credit risk exposures, across exposure classes.

	Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	On-balance-sheet amount $ million	Off-balance-sheet amount $ million	On-balance-sheet amount $ million	Off-balance-sheet amount $ million	RWAs $ million	RWA density $ million
Exposure classes						
Central governments or central banks	188	-	188	-	469	249%
Institutions	649	-	649	-	214	33%
Corporates	1,510	-	1,510	-	1,509	100%
Institutions and corporates with a short-term credit assessment	2,557	-	2,557	-	985	39%
Equity	74	-	74	-	76	103%
Other exposures	551	-	551	-	685	124%
Total as at 31 December 2019	**5,528**	-	**5,528**	-	**3,939**	**71%**

	Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	On-balance-sheet amount $ million	Off-balance-sheet amount $ million	On-balance-sheet amount $ million	Off-balance-sheet amount $ million	RWAs $ million	RWA density $ million
Exposure classes						
Central governments or central banks	848	-	848	-	527	62%
Public sector entities [1]	-	-	-	-	-	-
Institutions	205	-	205	-	99	48%
Corporates	1,046	-	1,046	-	1,044	100%
Institutions and corporates with a short-term credit assessment	1,877	-	1,877	-	705	38%
Equity	59	-	59	-	59	100%
Other exposures [1]	228	-	228	-	301	132%
Total as at 31 December 2018	**4,263**	**-**	**4,263**	**-**	**2,735**	**64%**

1 The comparative figures as at 31 December 2018 for non material items have been re-aligned to be consistent with the current period's presentation.

RWA density is expressed as total risk weighted exposures divided by exposures post-CCF and post-CRM.

Table 25: Standardised Approach – Risk Weighted (CR5)

This table provides the breakdown of exposures under the standardised approach by asset class and risk weight.

	Risk weight																	
	0%	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1250%**	**Others**	**Deduc-ted**	**Total**	**Of which: unrated**
	$ million	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**
Exposure classes																		
Central governments or central banks	1	-	-	-	-	-	-	-	-	-	-	188	-	-	-	-	**188**	188
Institutions	-	-	-	-	369	-	279	-	-	-	-	-	-	-	-	-	**649**	372
Corporates	-	-	-	-	-	-	2	-	-	1,507	1	-	-	-	-	-	**1,510**	1,507
Institutions and corporates with a short-term credit assessment	-	-	-	-	1,403	-	901	-	-	250	3	-	-	-	-	-	**2,557**	-
Equity	-	-	-	-	-	-	-	-	-	72	-	2	-	-	-	-	**74**	74
Other items	-	-	-	-	-	-	-	-	-	463	-	89	-	-	-	-	**552**	552
Total as at 31 December 2019	**1**	**-**	**-**	**-**	**1,773**	**-**	**1,182**	**-**	**-**	**2,293**	**4**	**278**	**-**	**-**	**-**	**-**	**5,529**	**2,693**

	Risk weight																	
	0%	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1250%**	**Others**	**Deduc-ted**	**Total**	**Of which: unrated**
	$ million	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**
Exposure classes																		
Central governments or central banks	637	-	-	-	-	-	-	-	-	-	-	211	-	-	-	-	**848**	211
Institutions	-	-	-	-	19	-	181	-	-	4	-	-	-	-	-	-	**204**	20
Corporates	-	-	-	-	-	-	3	-	-	1,043	-	-	-	-	-	-	**1,046**	1,011
Institutions and corporates with a short-term credit assessment	-	-	-	-	796	-	1,070	-	-	11	-	-	-	-	-	-	**1,877**	166
Equity	-	-	-	-	-	-	-	-	-	59	-	-	-	-	-	-	**59**	59
Other items	-	-	-	-	-	-	-	-	-	181	-	48	-	-	-	-	**229**	229
Total as at 31 December 2018	**637**	**-**	**-**	**-**	**815**	**-**	**1,254**	**-**	**-**	**1,298**	**-**	**259**	**-**	**-**	**-**	**-**	**4,263**	**1,696**

Counterparty Credit Risk

For UK regulatory reporting purposes, CGML uses the standardised approach to determine counterparty credit risk capital requirements, based on External Credit Assessment Institution (ECAI) ratings for calculating Risk Weighted Assets (RWAs). The measures of Exposure at Default (EAD) used to determine these requirements are described below.

For OTC derivatives, CGML uses two approaches: IMM and CEM (as mentioned in Section 2.2). For IMM, the firm uses a constant covariance Monte Carlo simulation of potential future exposure to determine an expected positive exposure (EPE) measure as an input to Citi's EAD calculation. The model is calibrated with historical volatilities subject to a set of independent internal validation and statistical back-testing standards. The model utilises a standard supervisory alpha multiplication factor of 1.4. For those positions which fall outside of the scope of the firm's IMM model permission, CGML uses the CEM approach. This method assigns to each transaction a regulatory stipulated exposure based on the mark-to-market value and a measure of potential future exposure which is a percentage of notional driven by residual maturity and the type of contract, i.e. interest rate, equities etc.

Netting agreements and margin collateral may be recognised as credit risk mitigants provided they meet certain eligibility criteria as described below.

For SFTs, CGML applies a supervisory volatility adjustment under the financial collateral comprehensive method for calculating its EAD. The calculation equals exposure less collateral after applying regulatory haircuts for security volatility adjustments and any applicable currency mis-matches. The EAD is then used to calculate RWAs using the standardised approach.

Table 26: Analysis of CCR Exposure by Approach (CCR1)

This table provide a comprehensive view of the methods used by CGML to calculate CCR regulatory requirements and the main parameters used within each method.

		Notional $ million	Replacement cost/current market value $ million	Potential future credit exposure $ million	EEPE $ million	Multiplier $ million	EAD post CRM $ million	RWAs $ million
1	Mark to market		8,976	27,183			28,071	17,828
2	Original exposure		-	-			-	-
3	Standardised approach		-	-			-	-
4	IMM (for derivatives and SFTs)				9,215	1.4	12,900	8,632
5	Of which securities financing transactions						-	-
6	Of which derivatives and long settlement transactions				9,215	1.4	12,900	8,632
7	Of which from contractual cross-product netting						-	-
8	Financial collateral simple method (for SFTs)						-	-
9	Financial collateral comprehensive method (for SFTs)						51,664	38,047
10	VaR for SFTs						-	-
11	**Total as at 31 December 2019**							**64,507**

		Notional $ million	Replacement cost/current market value $ million	Potential future credit exposure $ million	EEPE $ million	Multiplier $ million	EAD post CRM $ million	RWAs $ million
1	Mark to market		11,440	24,503			24,926	17,061
2	Original exposure		-	-			-	-
3	Standardised approach		-	-			-	-
4	IMM (for derivatives and SFTs) [1]				10,139	1.4	14,194	9,083
5	Of which securities financing transactions				-	-	-	-
6	Of which derivatives and long settlement transactions				10,139	1.4	14,194	9,083
7	Of which from contractual cross-product netting				-	-	-	-
8	Financial collateral simple method (for SFTs)					-	-	-
9	Financial collateral comprehensive method (for SFTs)						52,548	39,390
10	VaR for SFTs						-	-
11	**Total as at 31 December 2018**							**65,533**

[1] The EEPE for exposures under IMM as at 31 December 2018 has been amended.

This excludes CVA charges or exposures cleared through a CCP.

The counterparty credit risk RWA fell by $1,026 million to $64,507 million at December 2019 due to the following:

- Increase in Mark to Market (MtM) of $767 million offset by a decrease in Internal Model methods (IMM) of $451 million;
- Financial collateral comprehensive method (FCCM) for SFTs declined by $1,343 million.

Table 27: Credit Valuation Adjustment (CVA) Capital Charge (CCR2)

		31 December 2019		31 December 2018	
		Exposure value	RWAs	Exposure value	RWAs
		$ million	$ million	$ million	$ million
1	Total portfolios subject to the advanced method	8,017	2,324	9,369	3,184
2	(i) VaR component (including the 3× multiplier)		697		1,137
3	(ii) SVaR component (including the 3× multiplier)		1,628		2,047
4	All portfolios subject to the standardised method	9,014	4,469	14,065	6,256
5	**Total subject to the CVA capital charge**	**17,031**	**6,793**	**23,434**	**9,440**

CGML's CVA requirements decreased in 2019 primarily due to a reduction in OTC derivatives exposure.

Table 28: Exposures to CCPs (CCR8)

This table provide a comprehensive picture of the institution's exposures to CCPs. In particular, the template includes all types of exposures (due to operations, margins, and contributions to default funds) and related capital requirements.

	As at 31 December 2019		As at 31 December 2018	
	EAD post CRM	RWAs	EAD post CRM	RWAs
	$ million	$ million	$ million	$ million
Exposures to QCCPs (total)		**1,047**		**895**
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	14,678	741	17,553	685
(i) OTC derivatives	3,312	212	4,479	153
(ii) Exchange-traded derivatives	5,842	354	7,427	394
(iii) SFTs	3,100	127	3,172	89
(iv) Netting sets where cross-product netting has been approved	-	-	-	-
Segregated initial margin	-		-	
Non-segregated initial margin	2,424	48	2,475	49
Prefunded default fund contributions [1]	782	306	670	210
Alternative calculation of own funds requirements for exposures		-		-

CRR2 introduces a new framework for identifying QCCPs. If a third-country CCP has applied for recognition in accordance with EMIR, a new transitional provision permits firms to consider that third-country CCP as a QCCP for a period of time. The time period depends on the date of application of the CCP for recognition as a QCCP and/or the date of the EU implementing act in relation to the country in which the CCP is established, so it may have commenced prior to the introduction of CRR2.

During 2019 CGML's exposure to CCPs fell increased, primarily driven by OTC Derivatives.

Table 29: Standardised Approach – CCR Exposures by Regulatory Portfolio and Risk (CCR3)

This table provides a breakdown of Counterparty Credit Risk exposures and risk-weighted by portfolio (type of counterparties) and by risk weight (riskiness attributed according to the standardised approach).

		Risk weight									
		0%	2%	4%	20%	50%	100%	150%	Others	Total	Of which: unrat-ed
		$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
1	Central governments or central banks	4,534	-	-	485	22	7,285	-	-	12,326	10,526
2	Regional government or local authorities	74	-	-	11	-	-	-	-	85	-
3	Public sector entities	81	-	-	1,018	4	549	-	-	1,652	401
4	Multilateral development banks	178	-	-	1	-	-	-	-	179	-
5	International organisations	-	-	-	-	-	-	-	-	-	-
6	Institutions	-	10,313	2,116	7,794	29,116	700	-	-	50,039	10,667
7	Corporates	-	-	-	920	2,327	35,934	442	-	39,623	34,815
8	Retail	-	-	-	-	-	-	-	-	-	-
9	Institutions and corporates with a short-term credit assessment	-	-	-	58	2,219	61	412	-	2,750	-
10	Other items	-	-	-	-	-	-	158	-	158	124
10b	Claims in the form of CIU	-	-	-	-	-	-	-	-	-	-
11	**Total as at 31 December 2019**	**4,867**	**10,313**	**2,116**	**10,287**	**33,688**	**44,529**	**1,012**	**-**	**106,812**	**56,533**

Risk weight

		0%	2%	4%	20%	50%	100%	150%	Others	Total	Of which: unrat-ed
		$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
1	Central governments or central banks	6,415	-	-	878	1	10,030	-	-	17,324	12,502
2	Regional government or local authorities	82	-	-	588	-	7	-	-	677	-
3	Public sector entities	-	-	-	152	-	1,074	-	-	1,226	974
4	Multilateral development banks	-	-	-	-	-	-	-	-	-	-
5	International organisations	-	-	-	-	-	-	-	-	-	-
6	Institutions	-	11,018	5,265	6,618	25,706	510	-	-	49,117	11,281
7	Corporates	-	-	-	540	1,760	35,481	203	-	37,984	33,912
8	Retail	-	-	-	-	-	-	-	-	-	-
9	Institutions and corporates with a short-term credit assessment	-	-	-	293	963	208	370	-	1,834	-
10	Other items	-	-	-	-	-	-	1,058	-	1,058	138
10b	Claims in the form of CIU	-	-	-	-	-	-	-	-	-	-
11	**Total as at 31 December 2018**	**6,497**	**11,018**	**5,265**	**9,069**	**28,430**	**47,310**	**1,631**	**-**	**109,220**	**58,807**

Overall exposures fell by $2,409 million, with a reduction in exposures to Central governments or central banks of almost $5 billion partially offset by increases in Institutional and Corporate exposures. Unrated exposures decreased by $2,275 million.

Table 30: RWA Flow Statements of CCR Exposures under the IMM (CCR7)

This table presents a flow statement explaining changes in the CCR RWAs determined under the IMM for Counterparty Credit Risk (derivatives and SFTs) in accordance with Part 3, Title II and Chapter 6 of the CRR.

		31 December 2019		30 September 2019	
		RWAs	Capital requirements	RWAs	Capital requirements
		$ million	$ million	$ million	$ million
1	**RWAs as at the end of the previous reporting period**	**9,156**	**733**	**8,898**	**712**
2	Asset size	(488)	(39)	273	22
3	Credit quality of counterparties	21	2	(15)	(1)
4	Model updates (IMM only)	0	0	0	0
5	Methodology and policy (IMM only)	0	0	0	0
6	Acquisitions and disposals	0	0	0	0
7	Foreign exchange movements	0	0	0	0
8	Other	0	0	0	0
9	**RWAs as at the end of the current reporting period**	**8,689**	**696**	**9,156**	**733**

During the fourth quarter, counterparty credit risk RWAs fell by $467 million driven primarily by a decrease in asset size.

Table 31: Impact of Netting and Collateral Held on Exposure Values (CCR5-A)

The table provides an overview of the impact of netting and collateral held on exposures for SFT and derivatives, including exposures arising from transactions cleared through a CCP.

		Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
		$ million	$ million	$ million	$ million	$ million
1	Derivatives	498,741	451,067	47,674	37,549	10,125
2	SFTs	410,994	-	410,994	405,680	5,314
3	Non-eligible collateral under the CRR11				37,047	
4	**Total as at 31 December 2019**	**909,735**	**451,067**	**458,668**	**480,276**	**15,439**

		Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
		$ million	$ million	$ million	$ million	$ million
1	Derivatives	362,613	295,249	67,363	32,004	35,360
2	SFTs	417,432	-	417,432	390,563	41,294
3	Non-eligible collateral under the CRR11				69,608	
4	**Total as at 31 December 2018**	**780,045**	**295,249**	**484,795**	**492,175**	**76,653**

Collateral held includes collateral not eligible for CRM or that would have no impact on the netted current credit exposure in the application of Chapter 4 and Chapter 6 of Part Two, Title III of the CRR.

Table 32: Composition of Collateral for Exposures to CCR (CCR5-B)

This table shows the breakdown of all types of posted or received by CGML to support or reduce Counterparty Credit Risk exposures related to derivative transactions or to SFTs, including transactions cleared through a CCP.

	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		
	$ million	$ million	$ million	$ million	$ million	$ million
Cash	1	24,019	-	26,429	143,816	189,963
Sovereign Debt	2,131	4,597	-	2,000	175,592	119,277
Corporate Bond	166	2,635	-	2,105	19,871	18,900
Equities	200	-	-	-	61,916	41,087
Other	-	3,800	-	608	4,485	40,900
Total as at 31 December 2019	**2,497**	**35,051**	-	**31,142**	**405,680**	**410,126**

	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		
	$ million	$ million	$ million	$ million	$ million	$ million
Cash	-	19,149	-	19,766	11,890	10,920
Sovereign Debt	1,102	5,715	-	2,278	252,484	265,304
Corporate Bond	208	3,639	-	5,628	28,990	33,524
Equities	79	-	-	-	66,326	68,728
Other	-	2,110	-	109	30,872	37,216
Total as at 31 December 2018	**1,390**	**30,614**	**-**	**27,781**	**390,562**	**415,692**

Table 33: Credit Derivatives Exposures (CCR6)

The table below illustrate the extent of CGML's exposures to credit derivative transactions broken down between derivatives bought or sold.

	Credit derivative hedges		Other credit derivatives	
	Protection bought	Protection sold	Protection bought	Protection sold
	$ million	$ million	$ million	$ million
Notionals as at 31 December 2019				
Single-name credit default swaps			254,938	253,998
Index credit default swaps			542,505	541,832
Total return swaps			2,210	81,768
Credit options			20,095	18,463
Other credit derivatives			1,098	1,098
Total notionals			**820,847**	**897,159**
Fair values				
Positive fair value (asset)			2,712	23,575
Negative fair value (liability)			(21,530)	(4,972)

	Credit derivative hedges		Other credit derivatives	
	Protection bought	Protection sold	Protection bought	Protection sold
	$ million	$ million	$ million	$ million
Notionals as at 31 December 2018				
Single-name credit default swaps			268,556	266,163
Index credit default swaps			428,532	429,024
Total return swaps			487	395
Credit options			41,781	41,724
Other credit derivatives			1,562	3,020
Total notionals			740,918	740,326
Fair values				
Positive fair value (asset)			3,861	9,665
Negative fair value (liability)			(9,586)	(4,043)

Notional value of credit derivatives increased by $80 million to $821 million for protection bought and by $157 million to $897 million for protection sold, with significant increases in Index credit default swaps partially offset by smaller reductions in most other product types.

CGML does not use credit derivatives for credit risk mitigation purposes. The prior year comparatives have been amended in line with this.

Market risk

Internal Model Approach (IMA)

CGML uses a Value at Risk (VaR) model to calculate market risk capital requirements for the majority of its trading portfolio under an IMA permission granted by the PRA. The permission covers general market risk and issuer specific risk for a number of Fixed Income, Equities and Commodities businesses. In addition to VaR based capital requirements, CGML is required to set aside capital in respect of Stressed VaR (SVaR) and the Incremental Risk Charge (IRC).

Non-proprietary details of the scope of CGML's IMA permission are available in the Financial Services Register on the FCA website.

VaR Model

The VaR model is designed to capture potential market losses at a 99% confidence level over a one day holding period. The capital requirement is based on the VaR measure over a ten day holding period. CGML uses a one day VaR for internal management reporting purposes. The key components of the VaR model are the variance/covariance matrix of market variables and the sensitivity of Citi's trading portfolio to those variables. The variance/covariance matrix is calibrated using three years of market data, with some volatilities adjusted up to capture fat tail effects at a 99% confidence level over a one day period, and others adjusted up to capture short-term spikes in volatility. Market variations simulated from the matrix by a Monte Carlo methodology are applied to the set of factor sensitivities to generate a forecast distribution of one day profit and loss, from which the VaR can be computed. The factor sensitivities are designed to capture all material market risks on each trading asset, both linear and non-linear in nature. Risk exposure feeds, comprising factor sensitivities, are fed from each trading unit at the end of the day and stored in the CitiRisk Market Risk (CRMR) system.

The risk factor covariance matrix used in the VaR calculation is updated on a monthly basis. Additionally, to reflect current market conditions, volatility of major market factors is updated on an intra-month basis through scaling factors. The covariance matrix for SVaR is reviewed on a quarterly basis to ascertain whether the underlying stress period requires updating.

Revaluation grids are used for nonlinear positions. Ten day VaR/SVaR numbers are calculated directly from ten day volatility estimates. Production and reporting take place on a daily basis and for any requested sub-portfolio or market factor.

The covariance matrix used for the VaR calculation is calibrated using risk factor time series data from three years of recent history, except for commodities, where 18 months of historical data is used. A mixed approach (of relative or absolute returns, depending on the risk factor) is used in the VaR and SVaR models when simulating movements in risk factors. The volatility model is a Hybrid Exponentially Weighted Moving Average (H-EWMA) approach using the maximum of the three year fat tail scaled (FTS) volatility and the exponentially weighted moving average (EWMA) volatility estimation over an effective window of one month. In this way, both long and short (recent) historical windows are considered in this combined approach in order to achieve a prudent volatility estimation.

The accuracy of the VaR model is assessed through daily back-testing performed by VaR Operations with oversight from Market Risk Management. The backtesting results for CGML's in-scope businesses, both in aggregate and at individual business level, are reported quarterly to the PRA.

Stressed VaR

Stressed VaR (SVaR) estimates the potential decline in the value of a position or a portfolio under stressed market conditions. The firm's SVaR methodology incorporates the factor sensitivities of the trading portfolio with the volatilities and correlations of those factors under stressed conditions and is expressed as the risk to the firm over a one-day holding period, at a 99% confidence level.

Citi's Monte Carlo VaR/SVaR model incorporates a full covariance matrix. The volatilities and correlations are built from thousands of market factors with actual time series from the last three years for VaR and a one-year stress period for SVaR. Proxy rules exist for market factors that do not have a sufficiently long time series or where the relevant data are inappropriate for matrix construction (e.g. due to gaps, unreliable sources, or too short a history). Aggregation of VaR/SVaR components by market factors or portfolios is fully integrated into the model.

CGML bases the stress period selection on a broad set of market factors that represent all assets held by CGML. The market factor selection is based on the materiality of risk. A common stress period is selected as the covariance matrix calibrated from this period maximises VaR for CGML's portfolio, in accordance with PRA Supervisory Statement SS13/13.

The stressed period selection is reviewed by Market Risk Management, Market Risk Analytics and the IMA Control Committee at least on a quarterly basis, and is reported to the PRA quarterly.

Incremental Risk Charge

The Incremental Risk Charge (IRC) is a measure of potential losses due to default and credit migration risk over a one-year time horizon at a one-tailed, 99.9% confidence level under the assumption of constant positions.

A Monte Carlo in-house 6-factor copula model is used for the correlations between issuers. The correlation depends mainly on the risk rating, region and industry sector of the issuer, and thus provides a richer correlation structure than what has been observed with 1-factor copula models.

The model is calibrated annually to the public data of over 20,000 companies maintained within Citi's databases and has been the subject of independent model validation. The migration and default of each issuer are modelled consistently by a single normal random variable which is mapped to the inverse normal cumulative distribution of the transition matrix to determine whether a migration or a default happens. The transition matrix is based on publicly available data from rating agencies. The scope of the issuers that is used for the calibration of the model encompasses the full spectrum of relevant trading products. The model accepts as inputs the jump-to-default amounts and the spread sensitivities from every debt issuer with interest rate exposure in Citi's systems. Recovery rates are also simulated with their parameters properly calibrated to market data.

A fixed one-year liquidity horizon is used consistently across all positions. The approach also includes positions that have maturities of less than one year, and for such positions the time of default is determined and the P&L effect is estimated accordingly.

The IRC model, which is used to calculate the incremental risk capital over a one-year time horizon at a one–tailed 99.9% confidence level, is consistent with regulatory requirements and meets the required soundness standard. A model validation and internal governance framework is in place to monitor the model's performance on an on-going basis to ensure that it continues to meet the required soundness standard.

The IRC model has been validated to provide an independent assessment of technical and functional soundness. The validation includes testing performed on the underlying data and the mathematical framework by the model developer as well as additional independent testing designed by the model validator. The model parameters are calibrated on the long-term averages of through-the-cycle data, taking into account periods of significant market stress.

Backtesting is not feasible as the IRC model captures default losses at a very high confidence level (99.9%), which is in line with regulatory standards. However, the accuracy and internal consistency of data and parameters used for the IRC model and modelling processes have been independently validated to ensure the technical and functional soundness of the model.

In addition, for the businesses within the scope of its IMA permission, CGML holds capital buffers in respect of certain risks not fully captured by its VaR/SVaR/IRC models.

Risks Not in VaR (RNIVs)

To the extent that a material risk is not adequately captured in the VaR model, CGML derives and documents RNIVs as Pillar 1 add-ons to appropriately buffer the risks.

RNIV capital add-ons are calculated as follows:

- VaR type RNIVs – For each relevant risk factor, the VaR based add-on (VaR RNIV) is calculated as the standalone VaR equivalent, scaled to a 10 day holding period. A stressed VaR based add-on (SVaR RNIV) is also calculated with the stressed period identified corresponding to the one used for Stressed VaR

- Stressed RNIVs – For some risk factors, RNIVs are based on stress tests (Stressed RNIVs). In such cases, CGML calibrates shocks to at least the same confidence level as would be the case were the risk to be included in the VaR framework

RNIVs and Stressed RNIVs are calculated by market risk managers and the identification, quantification and reporting of existing RNIVs, as well as potentially new risks, is monitored by the Quantitative Risk and Stress (QRS) function on a monthly basis.

Table 34: Market Risk Under the IMA (MR2-A)

This table display the components of the own funds requirements under the IMA for market risk.

		As at 31 December 2019		As at 31 December 2018	
		RWAs	Capital requirements	RWAs	Capital requirements
		$ million	$ million	$ million	$ million
1	**VaR (higher of values a and b)**	2,493	199	4,040	323
(a)	Previous day's VaR (Article 365(1) of the CRR (VaRt-1))		69		100
(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		199		323
2	**SVaR (higher of values a and b)**	5,043	403	7,563	605
(a)	Latest SVaR (Article 365(2) of the CRR (SVaRt-1))		216		189
(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)		403		605
3	**IRC (higher of values a and b)**	3,653	292	2,733	219
(a)	Most recent IRC value (incremental default and migration risks calculated in accordance with Article 370 and Article 371 of the CRR)		243		196
(b)	Average of the IRC number over the preceding 12 weeks		292		219
4	**Comprehensive risk measure (higher of values a, b and c)**	-	-	-	-
(a)	Most recent risk number for the correlation trading portfolio (Article 377 of the CRR)		-		-
(b)	Average of the risk number for the correlation trading portfolio over the preceding 12 weeks		-		-
(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)		-		-
5	**Other**	-	-	-	-
6	**Total**	**11,189**	**895**	**14,336**	**1,147**

Over the period, CGMLs total IMA capital requirements decreased $3.1 billion primarily driven by a reduction in SVaR and VaR.

Table 35: RWA Flow Statements of Market Risk Exposures under the IMA (MR2-B)

The table presents a flow statement explaining variations in the market RWAs.

		VaR	SVaR	IRC	Compre-hensive risk measure	Other	Total RWAs	Total capital requirem-ents
		$ million	$ million	$ million	$ million	$ million	$ million	$ million
1	**RWAs at 30 September 2019**	**3,436**	**6,877**	**3,404**	**-**	**-**	**13,717**	**1,097**
1a	*Regulatory adjustment*	(1,233)	(1,325)	-	-	-	(2,558)	(205)
1b	*RWAs at the previous quarter-end (end of the day)*	2,203	5,552	3,404	-	-	11,158	893
2	Movement in risk levels	(598)	228	(370)	-	-	(740)	(59)
3	Model updates/changes	(92)	(1,234)	-	-	-	(1,327)	(106)
4	Methodology and policy	-	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-	-
6	Foreign exchange movements	-	-	-	-	-	-	-
7	Other	-	-	-	-	-	-	-
8a	*RWAs at the end of the reporting period (end of the day)*	1,513	4,546	3,034	-	-	9,092	727
8b	*Regulatory adjustment*	980	497	619	-	-	2,097	168
8	**RWAs at 31 December 2019**	**2,493**	**5,043**	**3,653**	-	-	**11,189**	**895**

Over the quarter, there was a reduction in RWA and capital, mainly due to model updates and changes which particularly impacted SVaR measures.

Table 36: IMA Values for Trading Portfolios (MR3)

This table displays the values (maximum, minimum, average at the end of the reporting period) resulting from the different types of models approved to be used for computing the regulatory capital charge at the group level, before any additional capital charge is applied on the value in accordance with Article 365 in Part Three, Title V, Chapter 5 of the CRR.

	31 December 2019	31 December 2018
	$ million	$ million
VaR (10 day 99%)		
Maximum value	86	151
Average value	49	56
Minimum value	27	31
Period end	43	44
SVaR (10 day 99%)		
Maximum value	140	210
Average value	51	73
Minimum value	3	7
Period end	139	40
IRC (99.9%)		
Maximum value	384	336
Average value	211	306
Minimum value	98	255
Period end	227	324
Comprehensive risk capital charge (99.9%)		
Maximum value	-	-
Average value	-	-
Minimum value	-	-
Period end	-	-

- There was a reduction in average 10-day 99% VaR in 2019 compared to 2018.
- Over the period, IRC decreased due to a reduction in risk levels.

Backtesting

Backtesting is the comparison of VaR to profit and loss results and is conducted on a daily basis, at both legal entity and business levels. In line with regulatory requirements, Citi performs backtesting against both actual profit or loss and hypothetical profit or loss (the daily profit or loss that would arise from a constant trading portfolio) at both levels in order to ensure that the firm's VaR model meets supervisory standards for the measurement of regulatory capital. Under normal and stable market conditions, Citi would expect the number of days where trading losses exceed its VaR to be no more than two or three occasions per year. Periods of unstable market conditions could increase the number of these exceptions.

The table below illustrates a comparison of the daily end-of-day VaR measure with the hypothetical P&L (one-day change in the portfolio's value by the end of the subsequent business day) for each day in the past four quarters.

Stress Testing

As noted earlier, Citi performs stress testing on a regular basis to estimate the impact of extreme market movements. It is performed on individual positions and trading portfolios, as well as in aggregate and inclusive of multiple trading portfolios. Market Risk Management after consultations with the businesses, develops both systemic and specific stress scenarios, reviews the output of periodic stress testing exercises, and uses the information to assess the ongoing appropriateness of exposure levels and limits.

Citi uses two complementary approaches to market risk stress testing across all major risk factors (i.e., equity, foreign exchange, commodity, interest rate and credit spreads). These are applied to valuation models to analyse the impact on the valuation of portfolios under stress.

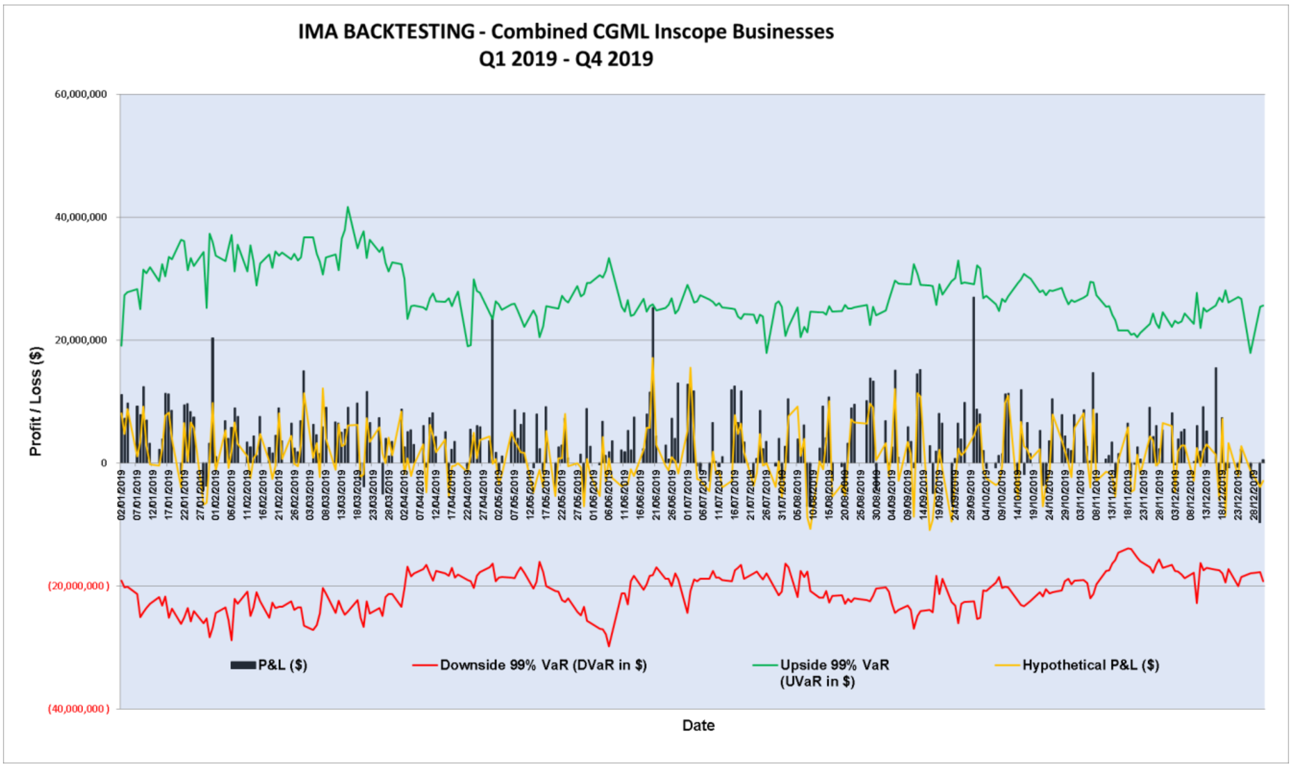
- Global Systemic Stress Testing (GSST) – top-down systemic stresses; and
- Business Specific Stress Testing (BSST) for the ICG – bottom-up business specific stresses

Global systemic stress tests are designed to quantify the potential impact of extreme market movements on a firm-wide basis, and are constructed using both historical periods of market stress and projections of adverse economic scenarios. Business specific stress tests are designed to probe the risks of particular portfolios and market segments, especially those risks that are not fully captured in VaR and systemic stresses.

Table 37: Comparison of VaR Estimates with Gains/Losses (MR4)

The table presents a comparison of the results of estimates from the regulatory VaR model approved with both hypothetical and actual trading outcomes, in order to highlight the frequency and the extent of the backtesting exceptions and to give an analysis of the main outliers in backtested results. The table includes the backtesting results of the businesses that fall within the scope of CGML's IMA model permission.

There was one upside exception during the year, on 30 April 2019, which was driven by volatility on derivative transactions.



Note that the downside VaR in the figures is taken as the 100th worst loss out of 10,000 simulated daily P&Ls (1st percentile) from Citi's Monte Carlo VaR model. The upside VaR is taken to be the 100th best profit out of the 10,000 simulations (99th percentile). Hypothetical P&L represents market moves, excluding all trading P&L, fees, financing and accruals.

Total revenues of the trading business consist of:

1. Customer revenue, which includes spreads from customer flow activity and gains on positions; and
2. Net interest income

CGML maintains the necessary systems, controls and documentation to demonstrate appropriate standards in respect of valuation, reporting and valuation adjustments.

Valuation Methodologies

The valuation methodology for CGML is in line with relevant accounting requirements.

Independent Price Verification (IPV)

The Valuation Control Group (VCG), a group within Product Control which is independent from the Front Office, verify the market prices and model inputs that are used in the valuation process for securities and derivatives required to be measured at fair value. Formal reviews are conducted and where required, adjustments are made to the valuations in the books and records.

Fair value positions are classified within the three level fair value hierarchy (Level 1, 2 or 3) based on observability of inputs used to measure fair value. The levelled fair value inventory is disclosed in the Financial Statements.

VCG calculate a prudent valuation in line with the EBA's final regulatory technical standards. A CET1 capital deduction is taken where the prudent valuation differs to the fair valuation.

Valuation Adjustments or Reserves

Valuation Adjustments (VAs) are calculated and the fair value is adjusted in order to account for a number of factors that impact the fair value estimates.

Standardised Approach

Although CGML uses the standardised approach to calculate regulatory capital requirements for only a small proportion of the trading portfolio, nonetheless, this generates a larger number in terms of RWAs and capital that the firm needs to be hold against these assets.

Table 38: Market Risk under the Standardised Approach (MR1)

The table display the components of own funds requirements under the standardised approach for market risk.

		31 December 2019		31 December 2018	
		RWAs	Capital requirements	RWAs	Capital requirements
		$ million	$ million	$ million	$ million
	Outright products				
1	Interest rate risk (general and specific)	10,985	879	8,718	697
2	Equity risk (general and specific)	5,033	403	5,714	457
3	Foreign exchange risk	2,669	214	2,311	185
4	Commodity risk	871	70	1,056	85
	Options				
5	Simplified approach	-	-	-	-
6	Delta-plus method	-	-	30	2
7	Scenario approach	1,973	158	616	49
8	Securitisation (specific risk)	165	13	204	16
9	**Total**	**21,695**	**1,736**	**18,650**	**1,492**

The $3 billion increase in standardised market risk RWA was primarily driven by a $2.3 billion rise in Interest rate risk and a $1.4 billion increase in Scenario risk, partly offset by a reduction of $0.7 billion in Equity risk.

Liquidity Risk

Liquidity Coverage Ratio Disclosure

Concentration of Funding and Liquidity Sources

CGML's funding strategy is centred on maintaining a funding profile that is diversified by structure, tenor and currency. CGML closely monitors and manages the tenor of funding sources to ensure it can meet liquidity needs under different stress scenarios and different time horizons.

CGML's primary funding sources include (i) repurchase agreements (ii) short and long-term unsecured debt (primarily senior and subordinated debt) mainly issued by CGML'S Intermediary holding company, structured notes and (iii) stockholders' equity.

CGML as an operating MLE is required to calculate the concentration exposures at a minimum on a monthly basis. Triggers must be established and approved by the Independent Risk, UK ALCO, and Citi Global Liquidity Management for each of the concentration exposures. The UK ALCO must review the concentration triggers and any breaches to the triggers. Interim and permanent changes in concentration triggers for the CGML must be approved by the UK ALCO, the UK Treasurer or equivalent, Independent Risk Manager or equivalent, and Global Liquidity Management.

Derivative Exposures and Potential Collateral Calls

In the ordinary course of business, CGML enters into various types of derivative transactions, including bilateral transactions that are over-the-counter (OTC) and transactions settled via exchanges with central counterparties. CGML enters into derivatives contracts covering interest rate, foreign currency, commodity, equity and other market/credit risks for the purpose of trading and acting as a market maker or to hedge CGML's own risk profile.

Derivative contracts are highly leveraged financial products and therefore may require additional liquidity support in a stressed environment. Such requirements are typically in the form of additional margin/collateral requirements that counterparties may ask CGML to post as per the terms of the contract. The nature of additional margin/collateral requirements depend upon the nature of stress (i.e. idiosyncratic vs. market-wide).

During the life span of a derivatives transaction, Citi may be required to post initial margin or variation margin. The requirement to post margin can negatively impact Citi's funding and liquidity. In addition, ratings downgrades by the Rating Agencies may also have a negative impact on CGML's funding and liquidity due to reduced funding capacity and/or the need to post additional cash or securities collateral to counterparties.

CGML maintains liquidity reserves to counter potential liquidity outflows from derivatives activities under various stress scenarios.

Currency Mismatch in the LCR

Cross-currency liquidity risk arises when there is a mismatch between the currency of assets and the currency of liabilities (e.g. local currency assets are funded by foreign currency liabilities). FX markets may be constrained in a crisis meaning that conversion from one currency to another cannot be guaranteed. This risk is common for international banks due to their cross border operations and multi-currency approach to business.

CGML manages its cross-currency risk through short and long-term strategies using FX swaps, multi-currency long-term funding and adjustment of the currency asset/liability mix. Material currencies are monitored through the establishment of FX capacity limits as well as material currency stress testing.

The LCR Delegated Act is calculated, reported and monitored on a solo and consolidated basis and in significant currencies, EUR, GBP and USD. Majority of CGML's liquidity is held in USD, which can be readily converted to other currencies in the event of stress. To minimize liquidity mismatches, including currency mismatches in the LCR Delegated Act, CGML seeks to fund assets in the same currency and, at the same time, monitors the potential risk from foreign currency mismatches. To the extent mismatches arise, CGML employs currency limits framework to assess foreign currency capacity to meet funding needs and the ability to convert currencies to provide liquidity buffer under stress conditions. The framework incorporates currency matching of projected cash flows through applying discounts and size and tenor restrictions to determine the foreign currency capacity required to cover USD shortfalls as well as shortfalls in significant currencies under various volatility and stress scenarios. If the offset capacity is not sufficient to cover currency shortfalls, appropriate actions are taken to reduce the mismatch. The capacity and assumptions are determined by Citi's Independent Risk function.

The Degree of Centralisation of Liquidity Management and Interaction between the Group's Units

CGML is part of a multi-entity and branch organisation that operates in multiple jurisdictions. Intragroup liquidity risk arises when there are significant exposures (from lending/borrowing or similar activities) to or from group companies and one or both sides fail to meet their obligations in a stressed environment. CGML's exposure to intercompany borrowing and lending activity is controlled via internal liquidity metrics and regulatory limits.

Day-to-day funding fluctuations are managed through USD unsecured intercompany loans, typically in the overnight tenor from Citicorp LLC. To the extent that CGML utilises daily resources from other Citigroup affiliates, it is assumed for stress testing purposes that these funds will not be available during a stress. As such, liquidity reserves are held against daily funding dependencies.

Table 39: Liquidity Coverage Ratio Disclosure

		Total unweighted value				Total weighted value			
		31 Mar 2019	**30 Jun 2019**	**30 Sept 2019**	**31 Dec 2019**	**31 Mar 2019**	**30 Jun 2019**	**30 Sept 2019**	**31 Dec 2019**
Number of data points used in the calculation of averages		**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
		$ million	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**	**$ million**
HIGH-QUALITY LIQUID ASSETS									
1	Total high-quality liquid assets (HQLA)					21,849	22,947	23,471	24,846
CASH-OUTFLOWS									
2	Retail deposits and deposits from small business customers, of which:	-	-	-	-	-	-	-	-
3	*Stable deposits*	-	-	-	-	-	-	-	-
4	*Less stable deposits*	-	-	-	-	-	-	-	-
5	Unsecured wholesale funding	2,984	3,016	3,291	3,277	2,984	3,016	3,291	3,277
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	-	-	-	-	-	-	-	-
7	*Non-operational deposits (all counterparties)*	2,984	3,016	3,291	3,277	2,984	3,016	3,291	3,277
8	*Unsecured debt*	-	-	-	-	-	-	-	-
9	Secured wholesale funding	-	-	-	-	31,797	31,820	30,696	29,562
10	Additional requirements	6,730	7,541	6,996	7,283	5,583	5,874	6,145	6,526
11	*Outflows related to derivative exposures and other collateral requirements*	6,635	6,838	6,972	7,279	5,522	5,851	6,129	6,523
12	*Outflows related to loss of funding on debt products*	-	-	-	-	-	-	-	-
13	*Credit and liquidity facilities*	96	45	24	4	61	23	16	4
14	Other contractual funding obligations	4,729	4,475	4,383	4,163	4,363	4,127	3,981	3,794
15	Other contingent funding obligations	1,156	1,269	1,316	1,507	578	635	658	754
16	**TOTAL CASH OUTFLOWS**					45,305	45,473	44,770	43,912
CASH-INFLOWS									
17	Secured lending (e.g. reverse repos)	169,240	172,008	173,432	170,171	30,189	27,991	28,341	28,376
18	Inflows from fully performing exposures	2,210	2,185	2,311	2,125	2,472	2,185	2,311	2,125
19	Other cash inflows	5,924	5,648	5,621	6,073	6,654	5,648	5,621	6,073
EU-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)	-	-	-	-	-	-	-	-
EU-19b	(Excess inflows from a related specialised credit institution)	-	-	-	-	-	-	-	-
20	**TOTAL CASH INFLOWS**	177,374	179,841	181,364	178,370	39,316	35,824	36,273	36,575
EU-20a	***Fully exempt inflows***	-	-	-	-	-	-	-	-
EU-20b	***Inflows Subject to 90% Cap***	-	-	-	-	-	-	-	-
EU-20c	***Inflows Subject to 75% Cap***	119,409	121,128	122,046	120,937	39,938	35,824	36,273	36,575
								Total Adjusted Value	
21	**LIQUIDITY BUFFER**					21,849	22,947	23,471	24,846
22	**TOTAL NET CASH OUTFLOWS**					11,377	11,419	11,243	11,029
23	**LIQUIDITY COVERAGE RATIO (%)**					192%	201%	209%	225%

Securitisation

CGML's securitisation activities fall within the ICG business segment. Within ICG, securitisation activity is conducted within Global Securitised Products (GSP-CMO) and Global Spread Products (GSP-Markets).

Global Securitised Products

This group within the ICG structures and underwrites securitisations of financial assets primarily for financial institutions across EMEA. The desk originates and distributes (both via bank loan syndication and capital markets) secured risk based mainly on tranching and rating of that risk.

Global Spread Products

The EMEA Global Spread Products' (GSP-Markets) business model is primarily comprised of two types of activity, market making in asset backed securities (ABS) and in real estate and mortgage loan/portfolio financing, with a consequent exit through a loan sale or securitisation. GSP-Markets' ABS trading desk uses CGML to book market risk. The Commercial Real Estate and Residential Real Estate desks have no exposure on CGML although CGML will act as an underwriter and arranger of commercial or residential mortgage backed securities (CMBS, RMBS) issuances. GSP-Markets is further divided into the following business lines:

ABS Trading

The ABS desk actively trades new issuances, existing ABS, RMBS and CMBS securities. Trading activities on ABS, RMBS and CMBS are carried out on CGML.

Commercial Real Estate

The Commercial Real Estate (CRE) team is focused on financing of commercial real estate backed projects, non-performing loan portfolio financing, acquisition of performing/re-performing commercial real estate portfolios.

The primary exit strategy includes the issuance of commercial mortgage backed securities (CMBS) which can be arranged and distributed through CGML. The loan financing itself only takes place on Citi's bank chain vehicles.

Residential Real Estate

The Residential Real Estate team primarily finances acquisitions of performing and re-performing residential mortgage portfolios, as well as financing of warehouse loans for residential mortgage businesses. The primary exit strategy includes issuance of RMBS which can be arranged and distributed through CGML. The loan financing itself only takes place on Citi's bank chain vehicles.

The Residential Real Estate team originates, structures and distributes RMBS from CGML and works with the following ratings agencies for the rating of issuances

- Standard and Poor's – ABS exchange service and Ratings Direct (general); rating of Conduit Programmes; preliminary ratings assessments (at loan stage) and final determinations or assessments at the time of a capital markets issuance
- Moody's – Real estate related break-ups; rating of Conduit Programmes; preliminary ratings assessments (at loan stage) and final determinations or assessments at the time of a capital markets issuance
- Fitch – Real estate related break-ups and general surveillance; rating of Conduit Programmes; preliminary ratings assessments (at loan stage) and final determinations or assessments at the time of a capital markets issuance

Accounting Policies for Securitisation Activity in the Trading Book (IFRS)

CGML holds securitisation positions including new issuance and trading of existing assets based securities, commercial or residential mortgage backed securities. Under IFRS these securities held for trading purpose will be classified as "Financial assets at fair value through profit or loss" (FVTPL).

Securitisation Exposures in the Trading Book

Table 40: Securitisation Exposures in the Trading Book

The following tables set out the aggregate amount of securitisation positions held in the trading book by CGML as at 31 December 2019.

	Institution acts as investor		
	Traditional Non-STS	Synthetic	Sub-total
	$ million	$ million	$ million
Retail (total)	333	-	333
residential mortgage	293	-	293
credit card	40	-	40
other retail exposures	-	-	-
re-securitisation	-	-	-
Wholesale (total)	20	-	20
loans to corporates	3	-	3
commercial mortgage	17	-	17
lease and receivables	-	-	-
other wholesale	-	-	-
re-securitisation	-	-	-
Total as at 31 December 2019	353	-	353
Of which subject to the revised securitisation framework	29	-	29

Table 41: Securitisation Exposures in the Trading Book – bank acting as investor

	Exposure values (by risk weight bands)					Exposure values	RWA	Capital charge after cap
	≤20% RW	>20% to <50% RW	>50% to <100% RW	>100% to <1250% RW	1250% RW			
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Commercial mortgages	15	1	-	-	2	17	3	-
Credit card receivables	39	-	-	1	-	40	11	1
Loans to corporates or SMEs	1	-	-	1	1	3	2	-
Residential mortgages	213	44	10	17	9	293	155	12
Total as at 31 December 2019	268	45	10	19	11	353	173	13
Of which subject to the revised securitisation framework	28	-	-	1	-	29	8	1

Citi has a well-established risk management framework for securitisations. The ICG trading book securitisation business is subject to the ICG policy “Rules Governing Market Risk”, part of the ICG Risk Manual.

Credit Risk Managers are responsible for

- Determining the ICG’s risk appetite for securitisation transactions
- Approving extensions of credit and ensuring data capture associated with those extensions of credit is accurate
- Monitoring and managing credit extensions to be within Citi’s risk appetite and limits; and
- Working with the respective businesses in the allocation of credit to optimise returns

Market Risk Managers are responsible for

- Ensuring that securitisation transactions, booked in the trading book, are consistent with the businesses’ mandate and represent an adequate risk/reward balance
- Approving securitisation transactions that are booked in the trading book and ensuring data capture associated with those securitisation transactions is accurate; and
- Ongoing monitoring of market risk associated with securitisation transactions that are booked in the trading book

The business operates under an approved permitted products list which applies at the desk level. All major generic sources of risk and stress losses are covered by the desk’s limit structures, with granularity within these limit structures further enhanced through product-types, country risk and ratings requirements. Concentration limits may also exist by obligor name, depending on the business.

Stress testing is completed in various formats, including weekly stress tests via Citi’s Global Systemic Stress Testing (GSST) ‘top-down’ systemic stresses, monthly risk reports and annual exercises. In addition, Risk Management performs ad hoc stress tests when considered necessary.

For those risks not fully captured in VaR or the linear stresses, a Business Specific Stress Test (BSST) is developed and produced in conjunction with the linear stresses. The BSSTs are reviewed at least quarterly to ensure relevance and completeness.

Securitisation Exposures in the Non-Trading Book

Table 42: Securitisation Exposures in the Non-Trading Book

The following tables set out the aggregate amount of securitisation positions held in the banking book by CGML as at 31 December 2019.

	Institution acts as investor		
	Traditional Non-STS	Synthetic	Sub-total
	$ million	$ million	$ million
Retail (total), of which;	**53**	**-**	**53**
Residential mortgage	53	-	53
Credit card	-	-	-
Other retail exposures	-	-	-
Re-securitisation	-	-	-
Wholesale (total), of which;	**42**	**-**	**42**
Loans to corporates	-	-	-
Commercial mortgage	42	-	42
Lease and receivables	-	-	-
Other wholesale	-	-	-
Re-securitisation	-	-	-
Total as at 31 December 2019	**95**	**-**	**95**
Of which subject to the revised securitisation framework	-	-	-

Table 43: Securitisation Exposures in the Non-Trading Book – bank acting as investor

	Exposure values (by risk weight bands)					Exposure values	RWA	Capital charge after cap
	≤20% RW	>20% to <50% RW	>50% to <100% RW	>100% to <1250% RW	1250% RW			
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million
Commercial mortgages	2	-	3	14	23	42	53	4
Credit card receivables	0	-	-	-	-	-	-	-
Residential mortgages	43	1	1	2	6	53	17	1
Total as at 31 December 2019	**45**	**1**	**4**	**16**	**29**	**95**	**69**	**6**
Of which subject to the revised securitisation framework	-	-	-	-	-	-	-	-

Remuneration Statement

Citi's Compensation Philosophy

Employee compensation is a critical tool in the successful execution of Citi's corporate goals.

Citi's compensation policies and practices are designed to support achievement of business strategy whilst ensuring an effective risk management framework and incentivising appropriate behaviours.

The Compensation Philosophy describes Citi's approach to balancing the five primary objectives that Citi's compensation programs and structures are designed to achieve and is available online at:
https://www.citigroup.com/citi/investor/data/comp_phil_policy.pdf?ieNocache=805

Citi's Compensation Philosophy is closely linked to the ongoing work on embedding culture, including through the Citi Mission and Values Proposition and the Citi Leadership Standards. The Compensation Philosophy also sets out Citi's commitment to managing risk, and management receives clear direction from the Personnel and Compensation Committee (P&C Committee) of the Board of Directors of Citigroup Inc. to use discretion in awarding incentive compensation consistently with risk mitigation principles. Citi's Compensation Philosophy applies to all of its foreign subsidiaries and branches, save where exceptions are required by local law.

There were no significant changes introduced to Citi's Compensation Philosophy in 2019.

Remuneration Governance

Global Remuneration Committee

The P&C Committee oversees Citi's global remuneration policies and practices. It annually reviews the compensation structures for members of senior management and a number of highly compensated and/or regulated individuals, in accordance with guidelines established by the Committee, and provides oversight of the design and structure of incentive programs globally in the context of risk management.

The P&C Committee's terms of reference are documented in the P&C Committee Charter, which establishes the scope and mandate of the P&C Committee's responsibilities and the general principles governing the remuneration policy of the firm globally. The latest Charter is available online at: https://www.citigroup.com/citi/investor/data/percompcharter.pdf. There were no significant changes introduced to the Charter in 2020.

P&C Committee members are all independent non-executive directors, selected and appointed factoring in their background and experience in business generally and in compensation, corporate governance and/or regulatory matters specifically, and their capability to fulfil their responsibilities as P&C Committee members. For the 2019 performance year, the P&C Committee members were: Duncan Hennes (Chair), Diana Taylor, Gary Reiner and Lew (Jay) Jacobs, IV, as well as John Dugan who joined the P&C Committee as of 1 January 2019 replacing Michael O'Neill. Biographies and details of compensation paid to P&C Committee members for 2019 are available in the Citigroup 2020 Proxy Statement. The P&C Committee met 15 times in 2019 and each Director attended at least 75% of all meetings.

The P&C Committee is supported by Citi's Global Functions, including Human Resources, Independent Compliance and Risk Management and Legal.

The P&C Committee utilises the experience of the Non-Executive Directors of the Board of Citigroup Inc gained from their other Non-Executive Director undertakings. For example, the P&C Committee includes cross-membership with the Risk Management Committee, the Ethics & Culture Committee and the Audit Committee. It is also empowered to draw upon internal and external expertise and advice as it determines appropriate and Citi pays the fees of any such external advisors. In 2019 the P&C Committee appointed Frederic W Cook & Co ("FW Cook") to provide it with independent advice on Citi's compensation programs for senior management. FW Cook reports solely to the P&C Committee, conducts no other work for Citi other than providing advice to the Citigroup Board and the independence is reviewed annually by the P&C Committee.

The P&C Committee meets regularly with Citi's Chief Risk Officer (CRO) and other members of senior management to discuss and evaluate risk associated with Citi's compensation programs, thereby further integrating Citi's Independent Risk Function into compensation governance and oversight. The CRO reviews the key terms of Citi's overall compensation framework to help ensure that, consistent with Citi's Compensation Philosophy, it is aligned with long-term performance in a manner that does not encourage imprudent risk-taking.

CGML Remuneration Committee

The Citigroup Global Markets Limited Remuneration Committee (CGML RemCo) has the following objectives:

- To be responsible for the oversight of decisions taken by CGML regarding remuneration of CGML employees and CGML Material Risk Takers, including oversight of remuneration decisions which have implications for the risk management of CGML.
- In respect of those decisions, to ensure compliance by CGML with its obligations under the Prudential Regulatory Authority ('PRA') and Financial Conduct Authority ('FCA') Remuneration Codes and the European Banking Authority Guidelines on Sound Remuneration Policies ('EBA Guidelines'), and to take into account, where relevant, guidance and the long-term interests of shareholders, investors and other stakeholders in CGML and the public interest.

The CGML RemCo's remit within its Terms of Reference includes the following:

- To review and approve remuneration awards to Material Risk Takers of CGML;
- To review the achievement of performance targets and recommendations for ex post risk adjustment, including the application of malus and clawback arrangements for CGML (as appropriate);
- To review the mechanisms and systems adopted to ensure that the remuneration approach applicable to CGML properly takes into account all types of risks, liquidity and capital levels and that the overall remuneration policy is consistent with, and promotes sound and effective risk management, business strategy, objectives, corporate culture, values and the long-term interest of Citigroup including CGML;
- To support the CGML Board of Directors in overseeing the remuneration policies, practices and processes and compliance with the remuneration policy;

- To review scenarios to test how remuneration policies and practices applicable to CGML react to external and internal events, and back-test the criteria used for determining remuneration awards and ex ante risk adjustment based on the actual risk outcomes;
- To review the appointment of any external remuneration consultants that may be engaged by the CGML Board of Directors, including establishing the selection criteria, appointing and setting the terms of reference for any consultation work to be undertaken;
- To ensure the adequacy of information provided to CGML's shareholder(s) in respect of remuneration policies and practices, in particular on any proposal to increase the maximum level of the ratio between fixed and variable remuneration.

The CGML RemCo comprises independent Non-Executive Directors and, for 2019, these individuals were Diana Taylor, Cyrus Ardalan and Richard Goulding. Malcolm Basing stepped down after the CGML RemCo meeting dated 22 March 2019, following recommendations from PwC that every NED should not sit on every committee.

Diana Taylor is the Chair of the CGML RemCo and Senior Management Function (SMF12). She is also a Non-Executive Director for the CGML Board, a Non-Executive Director of the P&C Committee and of the Citigroup Board's Nomination, Governance & Public Affairs Committee, and the SMF who has been allocated the PRA Prescribed Responsibility in Allocation of Responsibilities 4.1(18) ('responsibility for overseeing the development of, and implementation of the firm's remuneration policies and practices in accordance with Remuneration').The CGML RemCo also includes cross-membership with the CGML Risk Committee.

The CGML RemCo met eight times in 2019 and each Director attended at least 75% of all meetings. The CGML RemCo does not engage independent consultants, but Clifford Chance has advised on remuneration matters for 2019 as required.

Material Risk Takers

In accordance with the PRA and FCA Remuneration Codes, Citi annually identifies its Material Risk Takers ('MRTs'). This process comprises the categories of staff whose professional activities are determined as having a material impact on the firm's risk profile, and maintains a record of such staff.

Citi identifies MRTs principally using Citi's understanding of the criteria for identifying staff as set out in Commission Delegated Regulation (EU) No 604/2014. Citi made a number of enhancements to the identification approach for 2019.

Design and Structure of Remuneration

Ratio of Fixed to Variable Remuneration

Citi seeks to balance the components of reward between fixed and variable and short- and long-term. Where required, an annual review of the balance between fixed and variable compensation takes place and, where required, adjustments are made to the fixed element of pay to ensure that an appropriate balance continues to be maintained. The aggregate of fixed remuneration paid to Material Risk Takers for 2019 is set out in the "Remuneration awarded to CGML MRTs for 2019 performance year" table 42.

Following the introduction of CRD IV, CGML annually seeks formal shareholder approval to apply a fixed-to-variable ratio of up to 1:2 for MRTs in all relevant business areas, with the most recent approval being granted on 23 October 2019 for the 2019 performance year. Approval of the ratio was sought from P&C Committee, which is the Board Committee of the parent company.

Fixed Remuneration – Salary, Role-based Allowances ("RBAs") and Benefits

Fixed remuneration primarily reflects an employee's professional experience and organisational responsibilities as set out in the employee's job description and terms of employment, and includes the following elements:

- Salary
- Standard Citi benefits including pension
- Role Based Allowances ('RBAs') for a limited number of roles

Pension and other non-cash benefits are offered to employees as part of an overall reward package. CGML aims to provide pension and other benefits across all units/business groups, which are competitive against the local external market.

RBAs have been assigned to a limited number of roles to reflect organisational responsibilities. The decision of whether a particular role is eligible for a RBA is subject to the approval of the appropriate Remuneration Committee (i.e. for CGML employees, the CGML RemCo). The rationale for granting a RBA is clearly articulated by reference to eligibility criteria, including specific details on the duties and responsibilities of the role.

Variable Compensation (Discretionary Incentive and Retention Award Plan)

Citi's Discretionary Incentive and Retention Award Plan (DIRAP) is Citi's variable discretionary incentive and retention plan. It is designed to incentivise, reward and retain employees based on their current and prospective performance and contribution. Citi operates a fully flexible remuneration policy, including the possibility to pay zero variable remuneration.

Deferrals and Retention Periods

Awards made under the DIRAP may be awarded in cash, deferred cash, Citi equity and/or deferred Citi equity.

Awards under DIRAP are subject to mandatory deferral where the individual's total annual variable compensation awarded under DIRAP exceeds globally-set thresholds. The Citi standard deferral policy period is four years. Typically, at least 50% of deferred awards are made in the form of Citi equity and are therefore inherently performance-based. Citi believes that awarding deferred equity and deferred cash are effective means of aligning employee interests with those of stockholders and other stakeholders.

MRTs are subject to deferral rates of between 40% to 100% of total variable compensation, with 60% deferral when total variable compensation is equal to or above £500k / €500K / or the local currency equivalent in line with regulatory requirements. The proportion of upfront and of deferred variable remuneration delivered in deferred equity is at least 50%[1].
Deferred awards to MRTs vest over at least three years; deferred awards to Risk Manager MRTs[2] vest over five years and deferred awards to UK-designated Senior Managers vest over seven years.

Deferred awards for MRTs are subject to a further retention period post-vesting. This is six months for deferred cash awards and typically twelve months for deferred equity awards; deferred equity awards to Risk Manager MRTs and UK-designated Senior Managers are subject to a six-month retention period (awards to MRTs identified under Regulatory Technical Standards criteria 3.1 (i.e. member of management body) and 3.3 (i.e. member of senior management) are subject to retention for 12 months).

In line with the EBA Guidelines, Citi has discontinued payment of dividends on deferred equity and of interest on deferred cash to Material Risk Takers.

Material Risk Takers who fall within *de-minimis*[3] thresholds are subject to Citi's mandatory deferrals.

Total variable remuneration to CGML MRTs and the composition between cash, equity and deferred elements are included in the "Remuneration awarded to CGML MRTs for the 2019 performance year" table 42.

Performance Based Vesting

Deferred awards for MRTs and Covered Employees are subject to Performance Based Vesting ('PBV') conditions as an additional ex-post adjustment mechanism. This structure further balances for risk and aligns the actual payout to employees with business performance.
The PBV for deferred equity awards is formulaic with the payout contingent on future performance. The trigger for application of a payout reduction is the emergence of pre-tax losses in the "reference business" for the calendar year ending immediately prior to the vesting date of a given tranche of deferred equity.

Deferred cash awards are subject to discretionary PBV, which may result in a reduction of unvested awards where an employee has significant responsibility for a material adverse outcome, such as events which lead to serious financial or reputational harm to Citi.

Malus and Clawback

Deferred remuneration is subject to pre-vesting adjustment provisions ("malus"). In line with requirements under the PRA and FCA Remuneration Codes, Citi's award documentation also provides that Citi can require the vested portion of awards made to MRTs to be repaid or otherwise recover an amount corresponding to some or all of awards received for up to seven years from the date of the award for affected MRTs (or potentially up to ten years for UK-designated Senior Managers).

Malus and clawback provisions capture circumstances outlined in the PRA and FCA Remuneration Codes, such as if there is reasonable evidence that an MRT was responsible for, or participated in, misconduct that resulted in significant losses to Citigroup or the business unit suffered a material failure of risk management.

Link between Pay and Performance

Remuneration is determined by a combination of factors which include firm, business and individual performance. Individual performance ratings reflect both 'what' outcomes have been achieved and 'how' they were achieved. Performance ratings then guide bonus decision-making.

Bonus pool decisions are based on many factors such as:

- Year over year business performance
- Performance compared with plan for the current year
- Performance against key risks (including conduct risk, operational risk) and controls objectives
- Performance relative to peers

Individual Performance

One of Citi's key compensation principles is to "promote meritocracy by recognising employee contributions".

The performance assessment of employees is based on individually tailored goals (the "What") and on how these have been achieved based on an assessment against Citi's Leadership Standards (the "How"). Employees receive two performance ratings, one for each of the 'What' and the 'How'.

Citi's Leadership Standards outline behavioural expectations for each employee to demonstrate leadership, reinforcing the work that Citi has done to create a culture that serves and protects clients and other shareholders in the economies and communities in which Citi operates:

Leadership Standard Statements	
Develops Our People	Builds talent and teams for Citi by creating a culture of meritocracy and transparency, and celebrating excellence, initiative and courage • Inspires and empowers the team to work collaboratively to achieve superior results • Creates an environment where people hold themselves to the highest ethical standards • Models personal growth and consistently provides coaching and feedback in support of ongoing development and retention

1 MRTs are eligible for a supplemental cash award.
2 Risk-Manager Material Risk Takers are identified by reference to particular qualitative criteria in Commission Delegated Regulation (EU) No 604/2014.
3 De-Minimis MRTs for 2019 were identified in line with UK regulation requirements, or otherwise local legislation

Leadership Standard Statements	
	• Attracts great talent, builds a diverse talent pipeline, and recognizes, rewards, promotes based on performance
Drives Value for Clients	Enables economic value and positive social impact for clients, companies, governments, and communities • Puts clients first by anticipating, understanding, and exceeding their expectations and needs • Acts as a trusted partner to clients by delivering superior advice, products and services • Brings the best of Citi and knowledge of global issues and market trends to create value and good will with clients • Drives innovation, competitive differentiation and speed to market by actively learning from others
Works as a Partner	Works collaboratively across the firm and encourages others to achieve the best results for Citi and our clients • Exemplifies global leadership by embracing unique perspectives from across Citi to achieve the best solutions • Challenges self and colleagues to higher levels of performance by actively listening and engaging in constructive dialogue • Treats people with respect and assumes the intentions of others are based on common goals and shared purpose
Champions Progress	Champions a culture of high standards, pushes for progress, embraces change and challenges the status quo in support of Citi's vision and global strategy • Communicates a vision that is forward looking and responsive to changes in the environment • Inspires enthusiasm and mobilizes resources for productive and innovative change • Exhibits confidence and agility in challenging times • Sets a positive tone when implementing Citi-wide change initiatives
Lives Our Values	Ensures systemically responsible outcomes while driving performance and balancing short and long-term risks • Sets the standard for the highest integrity in every decision • Leads by example; willing to make difficult choices in support of Citi and our stakeholders • Makes Citi better for all by putting the clients' and Citi's interests ahead of individual or team interests • Has the courage to always do what's right and the humility to learn from mistakes
Delivers Results	Sets high standards and achieves performance objectives by creating a clear path toward ethical and sustainable results • Translates Citi's strategy into effective business plans while proactively overcoming obstacles • Prioritises and provides a clear line of sight to the most critical work • Sets goals and measures progress to ensure the organization is focused on ethics, execution, and results • Expects self and team to consistently meet/exceed expectations

In 2019, Citi enhanced its ability to consider conduct and risk performance in the performance process, including strengthening the approach to identification, documentation and the alignment with performance compensation decisions.

Citi also conducts an annual independent review process pursuant to which the functions (Compliance, Finance, Independent Risk, Internal Audit and Legal) provide an evaluation of risk behaviours of MRTs. The risk behaviour rating from this independent review process is included in the performance evaluation system to inform the performance review conducted by the individual's manager. The performance evaluation system includes formal risk goals for all MRTs as well as a formal manager-provided risk rating.

UK-designated Senior Managers are also subject to an enhanced performance assessment approach capturing, for example, Voice of Employee scores and achievement of goals relating to regulatory priorities.

Remuneration of function employees

In terms of remuneration for employees in Independent Compliance and Risk Management, Finance, Human Resources and Legal, whilst remuneration levels are influenced by Citi's overall performance, individual compensation is determined within the function and pay decisions are based on assessments against measurable goals and targets which are set by each function.

Citi maintains the independence of key functions (e.g. Independent Compliance and Risk Management) to minimise any scope for potential conflicts of interests. Accordingly, there should be no conflict of interest on account of any business' potential to influence individual awards in the control function. Citi ensures performance management and compensation decisions for function personnel are directed by function management, and not the business unit.

Other Key Remuneration Policies

Guarantees, Buyouts and Retention Payments

Citi has guidelines in place with respect to guarantees that apply to all employees across the EMEA region, including employees of all UK-regulated entities. Citi's guidelines on guarantees provide that guaranteed incentive awards for employees can only be made in exceptional circumstances, in the context of recruitment, and with to reference the first year of service and provided the legal entity has a sound and strong capital base.

As part of the governance framework, HR regularly monitors the number of guarantees that are awarded by the business to new hires and the award of guarantees for CGML MRTs require CGML RemCo review and approval. The "Guaranteed bonus, sign-on and severance payments made to MRTs in 2019" table 43 includes 2019 guaranteed awards made to Material Risk Taker hires.

Awards which buyout equity or similar instruments which are forfeited as a result of resigning employment with another employer and joining Citi EMEA are generally permitted but must not be more generous in either amount or terms than that provided by the former employer, and be subject to appropriate retention, deferral, performance and clawback arrangements. These awards are included in "MRT Deferred remuneration" table 44.

Retention awards can only be made in exceptional circumstances, for example, during major restructuring, during a merger process, or where a business is winding down, such that particular staff need to be retained on business grounds.

Severance

Severance payments are subject to appropriate governance and approvals. Citi's severance payment guidelines are in line with the EBA Guidelines, and provide that severance:

- Should not provide for a disproportionate reward but should represent appropriate compensation for early termination of employment.
- Should not reward failure, misconduct or be paid where immediate termination of the employment contract is permitted.
- Are not paid to employees transferring between legal entities, unless required by law.

The "Guaranteed bonus, sign-on and severance payments made to MRTs in 2019" table 43 includes severance payments made to Material Risk Takers whose employment terminated in 2019.

Stockholding Requirements

Awards to certain members of Citigroup senior management are subject to an equity ownership commitment. In addition, executives' interests remain aligned with those of shareholders even after termination of employment. Vesting of deferred awards does not accelerate upon termination of employment except in the case of death.

Personal Hedging

Citi has trading policies that limit hedging strategies that might otherwise undermine the risk alignment effects of their remuneration arrangements. Citi's Code of Conduct applies to all Citi employees, executive officers and directors and states that, when considering personal investments in Citi securities, an individual must avoid any personal trade or investment in a security, derivative, futures contract, commodity, or other financial instrument if the trade or investment might affect or appear to affect the individual's ability to make unbiased business decisions for Citi.

Further, employees subject to the PRA and FCA Remuneration Codes are prohibited from engaging in personal hedging strategies or taking out remuneration or liability related contracts of insurance that undermine or may undermine any risk alignment effects of their remuneration arrangements. An annual attestation for anti-hedging is required as part of the Annual Certification process for MRTs.

In addition, Citi's Personal & Investment Trading Policy ("PTIP") prohibits "Covered Persons" (separately defined for this purpose) and related persons from hedging in any manner (other than currency hedges) unvested restricted equity or deferred equity awarded under Citi's Capital Accumulation Program.

Table 44: Remuneration Awarded to CGML MRTs for 2019 Performance Year (REM1)

			All other MRTs		
GBP millions (i)	**Management Body (ii)**	**Senior Management (iii)**	**Investment Banking**	**Independent Control Functions**	**All Other (iv)**
Number of employees (v)	7	8	485	6	13
Total fixed remuneration (vi)	**5.3**	**9.5**	**224.8**	**1.6**	**10.6**
Total variable remuneration (vii)	**3.4**	**9.6**	**249.3**	**1.0**	**14.8**
Of which: cash-based	**1.6**	**4.8**	**120.6**	**0.6**	**7.0**
Of which: deferred	**1.3**	**3.5**	**79.8**	**0.2**	**6.1**
Of which: shares or other share-linked instruments (viii)	**1.7**	**4.8**	**128.8**	**0.5**	**7.7**
Of which: deferred	**1.4**	**3.9**	**91.3**	**0.2**	**7.0**
Of which: other forms	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Of which: deferred	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Total remuneration	**8.7**	**19.1**	**474.1**	**2.6**	**25.4**

Additional Notes:
i. All non-GBP awards are converted using the European Commission exchange rate for financial programming and the budget for December 2019.
ii. Management Body as defined under articles 3(1) and 3(2) of the EBA regulatory technical standard on criteria to identify categories of staff whose professional activities have a material impact on an institution's risk profile under Article 94(2) of Directive 2013/36/EU.
iii. Senior Management as defined under article 3(3) of the EBA regulatory technical standard on criteria to identify categories of staff whose professional activities have a material impact on an institution's risk profile under Article 94(2) of Directive 2013/36/EU.
iv. All Other category includes all other employees who cannot be mapped into one of the other categories e.g. Operations & Technology, Retail Banking and Corporate Functions.
v. Number of employees reflects CGML employed MRTs as at 31 December 2019.
vi. Fixed remuneration includes salary, role based allowance and the value of pension and benefits.
vii. Variable remuneration awarded in respect of 2019 performance year. In accordance with the shareholder approval obtained in 2019, variable component of remuneration of an MRT for any one year can be set up to a maximum of 200% of the fixed remuneration.
viii. Share-based awards are made in Citi shares and represent value at grant.

Table 45: Guaranteed Bonus, Sign-on and Severance Payments Made to MRTs in 2019 (REM2)

	Guaranteed bonuses		Sign-on awards		Severance payments (ii)	
GBP millions (i)	**Number of employees**	**Total amount**	**Number of employees**	**Total amount**	**Number of employees**	**Total amount (iii)(iv)**
Management Body	0	0.0	0	0.0	0	0.0
Senior Management	0	0.0	0	0.0	1	0.2
Other MRTs	**0**	**0.0**	**0**	**0.0**	**29**	**4.3**
Investment Banking	0	0.0	0	0.0	29	4.3
Independent Control Functions	0	0.0	0	0.0	0	0.0
All Other	0	0.0	0	0.0	0	0.0

Additional Notes:
i. All non-GBP awards are converted using the European Commission exchange rate for financial programming and the budget for December 2019.
ii. Severance payments allocated to MRTs terminated during 2019, which include redundancy payments and statutory severance. None of these severance payments were included in the ratio of variable to fixed remuneration for 2019 performance year in line with the EBA Guidelines (paragraph 154 (a) – (c)).
iii. The highest severance in 2019 was a redundancy payment made to a UAE based employee for the equivalent amount of GBP 457k.
iv. The total amount of severance payments reflects final amounts paid out to individuals.

Table 46: MRT Deferred Remuneration (REM3)

GBP millions (i)	**Outstanding deferred and retained remuneration as at December 31, 2019 (ii), of which:**		**Of which: Total amount of outstanding deferred and retained remuneration exposed to ex post explicit and/or implicit adjustment**	**Total amount of amendment during the year due to ex post explicit adjustments**	**Total amount of amendment during the year due to ex post implicit adjustments**	**Total amount of deferred remuneration paid out in the financial year (v)**	**Total amount of deferred remuneration awarded in the financial year (vi)**
	Unvested	**Vested (iii)**					
Management Body	**9.5**	**0.4**	**9.9**	**0.0**	**0.0**	**2.2**	**3.3**
Of which: cash-based	4.0	0.0	4.0	**0.0**	**0.0**	0.5	1.5
Of which: shares or other share-linked instruments	5.5	0.4	5.9	**0.0**	**0.0**	1.7	1.8
Of which: other forms	0.0	**0.0**	0.0	**0.0**	**0.0**	0.0	0.0
Senior Management	**13.6**	**0.7**	**14.4**	**0.0**	**0.0**	**4.3**	**5.4**
Of which: cash-based	5.6	0.0	5.6	**0.0**	**0.0**	1.1	2.4
Of which: shares or other share-linked instruments (iv)	8.0	0.7	8.8	**0.0**	**0.0**	3.2	3.0
Of which: other forms	0.0	**0.0**	0.0	**0.0**	**0.0**	0.0	0.0
All other MRTs	**418.2**	**58.0**	**476.2**	**0.0**	**0.0**	**202.3**	**202.5**
Investment Banking	**387.8**	**56.3**	**444.0**	**0.0**	**0.0**	**190.5**	**190.0**
Of which: cash-based	160.8	0.0	160.8	**0.0**	**0.0**	53.2	77.3
Of which: shares or other share-linked instruments	227.0	56.3	283.3	**0.0**	**0.0**	137.3	112.6
Of which: other forms	0.0	**0.0**	0.0	**0.0**	**0.0**	0.0	0.0
Independent Control Functions	**0.2**	**0.0**	**0.2**	**0.0**	**0.0**	**0.1**	**0.1**
Of which: cash-based	0.0	0.0	0.0	**0.0**	**0.0**	0.0	0.0
Of which: shares or other share-linked instruments	0.2	0.0	0.2	**0.0**	**0.0**	0.1	0.1
Of which: other forms	0.0	**0.0**	0.0	**0.0**	**0.0**	0.0	0.0
All Other	**30.2**	**1.7**	**31.9**	**0.0**	**0.0**	**11.8**	**12.4**
Of which: cash-based	12.6	0.0	12.6	**0.0**	**0.0**	4.0	5.7
Of which: shares or other share-linked instruments	17.7	1.7	19.4	**0.0**	**0.0**	7.8	6.7
Of which: other forms	0.0	**0.0**	0.0	**0.0**	**0.0**	0.0	0.0

Additional Notes
i. Value of all non-GBP cash and share awards are converted using the European Commission exchange rate for financial programming and the budget for December 2019.
ii. Value of outstanding share awards is calculated using Citi closing share price as at December 31, 2019.
iii. Total outstanding deferred remuneration that has vested but is under restriction as at December 31, 2019. Value of shares has been calculated as of vest date.
iv. Includes both shares and any stock units granted
v. Shares are considered paid when vested. The Fair Market Value (FMV) is determined by the closing New York Stock Exchange stock price for Citigroup common stock on the trading day immediately prior to the award's vest date.
vi. Value of share-based awards made in 2019 represents value at grant.

Table 47: 2019 Remuneration Banding for Annual Compensation of Individuals Earning at Least €1 Million[1] (REM4)

Total Remuneration (in EUR)	Number of individuals(ii)
1,000,000 to 1,500,000	85
1,500,000 to 2,000,000	36
2,000,000 to 2,500,000	14
2,500,000 to 3,000,000	18
3,000,000 to 3,500,000	10
3,500,000 to 4,000,000	6
4,000,000 to 4,500,000	4
4,500,000 to 5,000,000	3
5,000,000 to 6,000,000	2
6,000,000 to 7,000,000	3
7,000,000 to 8,000,000	1
8,000,000 to 9,000,000	1
9,000,000 to 10,000,000	0
Greater than 10,000,000	3
Total	**186**

Additional Notes:
i. All non-EUR awards are converted using the European Commission exchange rate for financial programming and the budget for December 2019.
ii. The number of individuals reflects those remunerated over EUR 1 Million within the MRT population as at 31 December 2019.

Business Conduct

Conduct Risk Management

Citi has a commitment as well as an obligation to identify, assess, and mitigate conduct risks associated with its businesses and functions. Citi has a Conduct Risk Policy (the "Policy") to further the objectives of its enterprise-wide Conduct Risk Program (the "Program"), which was established in 2014 to enhance Citi's culture of compliance and control through the management, minimization and mitigation of Citi's conduct risks. Citi has developed a Conduct Risk Appetite Statement that sets forth the tolerable level of conduct risk that Citi's senior management is prepared to take while pursuing the firm's strategic goals consistent with Citi's Mission and Value Proposition and the Leadership Standards with the ultimate goal of delivering better outcomes for our clients and society. Citi's overall conduct risk appetite is "low" and is integrated into Citi business and legal entity risk appetite frameworks in accordance with the Citi Risk Appetite Policy.

The Program is overseen by the Ethics and Culture Committee of the Citigroup Inc.'s Board of Directors. Additionally, the Conduct Risk Steering Committee, which is comprised of representatives from Citi's major businesses and global functions, is set to provide governance and strategic direction for the Program; oversee the development, review, and discussion of conduct risk-related reports and metrics; and review selected risks, behaviours, and outcomes to identify ways to enhance Citi's culture.

Each business and function is also responsible for monitoring and reporting its significant conduct risks, issues and related trends to senior management and the appropriate governance forums. Such forums may include the Country Coordinating Committees, Business Risk, Compliance and Control Committees, and/or the Business Practices Committees. Finally, the Program reports at least annually to the Ethics and Culture Committee of the Citigroup Inc. Board of Directors.

The Policy lays out the minimum requirements of the Program for each business and function as well as related roles and responsibilities across the three lines of defence. Each of Citi's businesses (first line of defence) owns and manages the risks inherent in or arising from the business, including conduct risk, and is responsible for managing, minimising and mitigating those risks. The business – in partnership with in-business risk management – is responsible for identifying current and emerging significant conduct risks and managing those risks, in part through the implementation of mitigating controls to reduce the likelihood of harm to customers, clients, or the integrity of the markets, and thereby the integrity of the firm.

The second line of defence – comprised of Independent Compliance Risk Management, Finance, Human Resources, Legal, Risk, including Operational Risk Management, and other functions, as appropriate – takes a risk-based approach to assess, advise on, monitor and test current and emerging significant conduct risks across products, businesses, functions, countries, and regions and works to enhance the effectiveness of controls.

Internal Audit (third line of defence) provides independent risk-based assurance over the Program and Policy, based upon a risk-based audit plan and audit methodology as approved by the Citigroup Inc. Board of Directors.

All three lines of defence are also responsible for escalating significant current and emerging conduct risks, including to relevant governance or management committees or forums, consistent with the requirements of the Citi Escalation Policy and Citi Code of Conduct.

Conflict of Interest Policy

Citi's Code of Conduct (the "Code") sets forth expectations with regards to avoiding actual or perceived Conflicts of Interest. The Code highlights some of the most common potential conflicts of interest and provides guidance on how to manage, mitigate and wherever possible, avoid the conflict.

Citi's Employment of Relatives Policy establishes minimum standards regarding the employment of immediate family members and other relatives of Citi employees throughout every phase of the employment relationship, such as recruiting, hiring, and internal transfers, unless those standards would conflict with applicable law in any country. This is in conjunction with the Anti-Bribery and Policy and the Global Anti-Bribery Hiring Procedures.

The Code sets expectations as to personal and related-party business dealings. There are additional responsibilities for Senior Leaders. Directors and senior executives of the Citigroup Inc. legal entity must follow all additional rules regarding pre-approvals of business transactions, as included in the Citi Policy on Related Party Transactions. Additionally, certain executives must adhere to disclosure requirements and limitations on lending relationships with Citi, as included in the Insider Lending Policy.

There are mandatory requirements through Citi's Gifts and Entertainment Standard, Citi outside Directorships and Business Interests Policy, Personal Trading Policy for Citi Access Persons, the Employee Personal Trading and Investment Policy for Citi Brokerage and Advisory Persons, the Client Conflicts of Interest Management Policy, the Citi Anti-Tying Policy, the Bank Affiliate Transactions Policy and the Global Consumer Fairness Policy.

The firm has in place systems and controls concerning Information Barriers which are designed to prevent potential inside information received by workers engaged in lending, investment banking or merchant banking activities (private-side information) from being shared with those workers who trade or advise on trading in financial instruments based on publicly available information or who engage in investment management activities (public-side activities). We also use information barriers to address potential and actual conflicts of interest among business activities. Citi has established various information barriers and deal-team procedures within businesses engaging in certain private-side activities to prevent confidential information from being shared with individuals who are not authorized to know such information.

Internal Alerts and Reporting of Breaches

Citi's Code of Conduct affirms Citi's Mission and Value Proposition and sets forth Citi's minimum standards of ethics and professional behaviour. It provides an overview of key legal and regulatory requirements and select enterprise-wide policies that enforce those requirements, including the obligation of employees to promptly report and escalate concerns where they reasonably suspect or become aware of violations of law, regulation, rule, or breaches of internal policies as well as Citi's Code of Conduct. In addition, Citi's Escalation Policy explains what to escalate, when to escalate and to whom to escalate. It includes roles and responsibilities for the identification, investigation and resolution of these concerns, and for oversight of escalation requirements and processes.

Employees are encouraged to raise concerns to their managers in the first instance unless a potential conflict of interest exists. Employees may also raise concerns to any of the following:

- The appointed person under any applicable local disclosure procedure
- Human Resources (HR), employee, or labour relations representative
- Internal legal counsel
- Independent Compliance Risk Management (ICRM) Officer
- Citi Security and Investigative Services (CSIS)
- The Citi Ethics Office

The Citi Ethics Office is responsible for administering Citi's Ethics Hotline, which employees across Citi and other third-parties can use to raise concerns. Reports to the Citi Ethics Office can be made anonymously to the extent permitted by applicable laws and regulations. All contacts to the Citi Ethics Office and related investigations are treated as confidentially as possible, consistent with the need to investigate the matter, and subject to applicable laws and regulation.

Citi prohibits any form of retaliatory action against individuals who raise concerns or questions in good faith regarding ethics, discrimination, or harassment matters; request a reasonable accommodation for a disability; pregnancy, or religious belief; reports suspected violations of laws, regulations, rules, or breach of policies, procedure, or the Code; or participate in a subsequent investigation of such concerns. Employees who engage in retaliation against a colleague because he or she has raised a concern or question in good faith, asked for a reasonable accommodation, reported a violation, or has been involved in an investigation, are subject to disciplinary action, up to and including termination of employment or other relationship with Citi.

Nothing in the Code or Escalation Policy prohibits or restricts members of staff from raising a concern to any government, regulatory, or self-regulatory agency at any stage.

Business Continuity Management

Governance

In line with the requirements of the EBA Guidelines on internal governance under Directive 2013/36/EU (EBA/GL/2017/11), the following section provides an overview of CGML's Business Continuity Management Framework.

Citi's Continuity of Business (CoB) Policy and Standards require all Citi businesses, including those businesses under GCML, to implement a CoB Program that includes; Assessment processes, Crisis Management Plans, Recovery Planning, Testing, Maintenance, Quality Review, Monitoring and Reporting, as well as Training and Awareness.

The Citi Business Continuity Management organisation is responsible for developing and managing the enterprise-wide CoB policy, standards, tools and guidance. The organisation reports to management on a monthly basis and provides annual reporting of the effectiveness of and business compliance with this policy to the Audit Committees of Citigroup Inc. and Citibank, N.A.

The CoB Policy (section 2.1) requires each business to define a structure of CoB Entities, or business units, for purposes of CoB documentation and testing.

As stated in the CoB Policy, "Citi's CoB program facilitates the recovery of critical elements to: (i) minimize the effects of business disruptions, (ii) ensure the continuity of service and support for its customers, and (iii) maintain its resilience and viability before, during, and after an adverse event (e.g., natural or manmade disaster, technological failure)".

The following scenarios are considered as part of the CoB planning process and must be documented in the Business Recovery plan ; Denial of Access (loss of premises), Denial of Service (loss of technology) and unavailability of staff (inclusive of external third parties).
As defined in the CoB Standards, additional analysis and assessment is performed for all in-scope locations through Threat and Vulnerability Analysis and Proximity Risk Assessments. External third parties' resilience and recovery capabilities must also be assessed.

Contingency and Business Continuity Planning

Testing

Business and technology testing must verify that processes can be recovered in line with the business's continuity objectives, as defined by the Business Impact Analysis (BIA) process. Testing scenarios through Denial of Access (DoA), Denial of Service (DoS) and the unavailability of services provided by external third-parties ensure recovery strategies are in place. Business recovery teams, crisis management teams, infrastructure teams and application teams must participate in CoB testing, as appropriate. Detailed requirements for testing are defined in the CoB Testing Standards.

Maintenance

CoB documentation, including policy, standards, as well as recovery and crisis management plans are reviewed and approved at least annually, and refreshed more frequently as needed. The specific maintenance triggers for the CoB documentation are listed in the Standards. In addition, call trees are refreshed at least semi-annually.

Recovery Planning

Business units and technology organisations must document and maintain plans for recovery of their processes in the event of a business interruption or technology service disruption.

Business Recovery Plans (BRPs) are prioritised based on their Criticality Ratings, which are determined by the Criticality Rating of the highest rated process listed in the BIA. BRPs must be executable within the Recovery Time Objective (RTO) defined in the BIA.

Each CoB Entity must create and maintain a BRP specific to that CoB Entity. The BRPs must document recovery strategies to mitigate the effects of disruptions including DoS, DoA, and unavailability of staff (inclusive of external third parties).

The CoB Standards prescribes that the BIA must "define risk thresholds... and reflect local regulatory requirements as well as liquidity issues". The BIA must also "identify interdependencies between processes and the required resources to ensure acceptable levels of operation."

Documentation and Training

Citi's Business Continuity Planning tool – COB Trac – is the common repository used across the firm and by CGML for the documentation of CoB Plans and, by virtue of being an online application, CoB Trac is readily accessible by users in the case of a contingency.

- Citi's CoB Testing Standards defines the minimum testing required for business, application and technology recovery strategies. The resulting CoB testing programme ensures plans are regularly tested
- Citi Business Continuity Management makes available a set of core business continuity training activities and classes. All businesses must use the Corporate Training Program as a basis for providing CoB training for their staff
- All Business Recovery Coordinators (BRCs) entitled in CoB Trac must complete a minimum of one pre-approved training activity per year.

Other Risks

Non-trading Book Equity Exposures

CGML has a small number of equity investments which are held outside the trading book. This category includes investments in clearing houses, exchanges and other strategic investments which are required to be held for membership, access or relationship purposes, and which are otherwise not traded. They are carried on the balance sheet at fair value under the requirements of IFRS 9. The market price is deemed to be the fair value for exchange traded equities.

Table 48: Non-trading Book Equity Exposures

	31 December 2019 $ million	31 December 2018 [1] $ million
Investments Held at Fair Value	71	58
Investments Held at Cost	-	-
Total	**71**	**58**

[1] The Non trading book equity exposures for December 2018 have been amended to reflect the requirement to account for these investments at fair value.

Interest Rate Risk in the Non-Trading Book

One of Citi's primary business functions is providing financial products that meet the needs of its customers. Loans and deposits are tailored to the customer's requirements with regard to tenor, index and rate type. Net Interest Revenue (NIR) is the difference between the yield earned on the non-trading book portfolio assets (including customer loans) and the rate paid on the liabilities (including customer deposits or borrowings). The NIR is affected by changes in the level of interest rates.

Interest Rate Risk Governance

The risks in Citi's non-traded portfolios are estimated using a common set of standards that define, measure, limit and report the market risk. Each business is required to establish, with approval from independent Market Risk Management, a market risk limit framework that clearly defines approved risk profiles and is within the parameters of Citi's overall risk appetite. In all cases, the businesses are ultimately responsible for the market risks they take and for remaining within their defined limits. These limits are monitored by independent Market Risk Management and country and business ALCOs.

CGML's business is almost entirely trading book in nature and therefore does not give rise to any material accrual interest rate risk.

Appendix 1: UK Senior Management and Board Disclosures

The following senior management disclosures are made in accordance with CRR.

Recruitment and Diversity Policy for the CGML Board of Directors

Board Composition, Role and Effectiveness

The selection criteria for the Non-Executive Directors of CGML are designed to ensure their independence and the provision of robust challenge to their executive counterparts.

CGML has a combination of Non-Executive Directors who are either:

- UK based and independent from any of Citi's businesses; or
- On the parent company's Board (in order to provide direct linkage between the main and subsidiary boards), but who are independent within the standards applicable to the parent board.

All new Non-Executive Directors receive training on the senior manager regime and Companies Act responsibilities, as well as Citi familiarisation for independent Non-Executive Directors.

The selection process for Non-Executive Directors is rigorous and consists of several interviews. The interviewers include the CEO of the relevant legal entity, the EMEA Chief Administrative Officer and the EMEA Chief Legal Officer. All Board appointments are required to be formally recommended by the CGML Nominations Committee and approved by the CGML Board, followed by an application to the PRA and FCA ("UK Regulators") for regulatory approval.

The recruitment process aims to select Non-Executive Directors with significant financial regulatory and industry expertise. This expertise is outlined in further detail in the biographical summaries later in this appendix.

In order to meet the UK Regulators expectations for legal entity focus, Citi also appoints a Chief Executive Officer (CEO) for CGML.

All new Executive Directors of CGML are subject to but not limited to, the firm's interview selection criteria process pursuant to the firm's Leadership, Ethics and Culture, Competency and Technical Interview Guidelines standards. As with Non-Executive Directors of CGML, Executive Directors of CGML are subject to background screening pursuant to the FCA and PRA Fitness and proprietary requirements.

Executive Directors of CGML benefit from the firm's mandatory training requirements including Leadership training programs. All Directors of CGML received induction training on the UK Accountability Regime.

There are no foreseeable changes anticipated to the composition of the management body.

Distinction Between the Roles of Executive and Non-executive Directors

A fundamental distinction is drawn between the roles of Executive and Non-Executive Directors. Non-Executive Directors do not have any business line responsibility, but have oversight responsibilities consistent with the approach recommended in the Combined Code on Corporate Governance and the UK Regulators' Senior Managers Regime. The Non-Executive Directors chair the board, set the agendas for those Committee meetings and determine any follow up actions. The Non-Executive Directors are also not limited in their oversight to specific business operations.

The resources used by the Non-Executive Directors in their role of challenging the business include:

- full and unhindered access to the business, which involves the receipt of detailed presentations given by business or control functions;
- administrative support in the form of an assistant for the Chair and office facilities at Citigroup's London offices in Canary Wharf for UK-based Non-Executive Directors; and
- technical training in the form of Board tutorials. These regular tutorials cover a wide range of subjects including but not limited to capital and liquidity requirements, client money and assets regulations, anti-money laundering rules, regulation relating to anti-bribery and corruption, and recovery and resolution planning.

Diversity

The Board of Directors of Citigroup Global Markets Limited (Board) is committed to identifying and appointing the best qualified people to serve on the Board and to ensuring that the Board is comprised of individuals whose backgrounds reflect the diversity represented by our employees, customers and stakeholders. Effective December 2017 the CGML Diversity with the Management Body Policy was published and made publicly available through Citi's UK page as follows: http://www.citigroup.com/citi/about/countrypresence/united-kingdom.html

Table 49: Directorships held by Citigroup Global Markets Limited Board of Directors as of 31 December 2019

Name	Total Number of Directorships
Cyrus Ardalan	5
Malcolm Basing	10
Diana Taylor	4
Richard Goulding	6
James Bardrick	7
Leo Arduini	4
Frank Mannion	2
Deepak Jain	1
Total	39

Table 50: Membership held by Citigroup Global Markets Limited Board of Directors as of 31 December 2019

Name	Gender	Role	Duration of Board Membership
Cyrus Ardalan	Male	Non-Executive Director - Chair	2 yrs 4 mths
Malcolm Basing	Male	Non-Executive Director	1 yr 6 mths
Diana Taylor	Female	Non-Executive Director	9 yrs 11 mths
Richard Goulding	Male	Non-Executive Director	3 yrs 7 mths
James Bardrick	Male	Executive Director – Chief Executive Officer	6 yrs 3 mths
Leo Arduini	Male	Executive Director	3 yrs 9 mths
Frank Mannion	Male	Executive Director	6 mths
Deepak Jain	Male	Executive Director	4 mths

Cyrus Ardalan (Chair)

Cyrus Ardalan has worked in senior roles and has extensive financial services and regulatory experience extending over 40 years in the industry in both an executive and non - executive capacity.

Cyrus was appointed as Chair of CGML in 2017. In addition to his role at Citi, Cyrus has been Chairman of the Board for OakNorth Bank from 2015 to the present. Cyrus has also been a board member for the charity organisation International Finance Facility for Immunisation from 2012 to present and of Independent Portfolio Management from 2017 to the present. Previous board memberships include Dubai International Financial Centre from 2004 to 2009; and from 2011 to 2015 Cyrus was Chairman of the Board within the International Capital Markets Association.

Malcolm Basing

Malcolm Basing joined Citi in 2018 as Chair of the CGML Audit Committee.

Malcolm has extensive industry knowledge spanning 40 years in which he has had experience in both Executive and Non-Executive roles.

In addition to his role in Citi, Malcolm holds directorships which includes BASFAM Limited, RMBI Pension Trust Limited and Catrock LLP and also has charity appointments which include Isaac Newton University Lodge Benevolent Fund and Westerham Hall Management Committee (Charity).

Previous experience includes Independent Non-Executive Director and Chair, Audit Committee of Merrill Lynch International along with Chief Operating Officer, Americas for UBS AG.

Diana Taylor

Diana Taylor has been an independent director of Citigroup Inc. since July 2009. Diana also holds a directorship at Brookfield Asset Management.

From 2007 to 2014 Diana was managing director of Wolfensohn Fund Management L.P. Prior to this, from 2003 to 2007, she served as Superintendent of Banks of New York State Banking Department, where she also oversaw the regulation of the mortgage industry and money service businesses. Diana served as Governor Pataki's Deputy Secretary for Finance and Housing between 1996 and 1999. Other previous roles included several years in the energy business, first as Vice President of KeySpan Energy and then as Chief Financial Officer at the Long Island Power Authority. She was a founding partner and president of M.R. Beal & Company.

Diana started her career as an investment banker with Smith Barney, followed by roles with Lehman Brothers and Donaldson Lufkin & Jenrette.

Richard Goulding

Richard Goulding joined Citi as a non-executive director in 2016 as Chair of CGML Risk Committee.

In addition to his role at Citi, Richard is also a member of the Board of Zopa Group Limited, the UK-based financial group, and its subsidiary Zopa Bank Limited, where he Chairs the Board Risk Committee and is a member of the Audit, Remuneration and Nomination Committees. Furthermore, Richard is a director of the Governor and Company of the Bank of Ireland.

Richard is also principal of RFG Consulting Ltd, which provides advisory services in risk and financial management, including two fintech start-ups.

Previous experience includes Group Chief Risk Officer and Director at Standard Chartered Bank London and Singapore from 2002 to 2015. In this role Richard was responsible for managing Credit, Market and Operational Risk across the Group.

Executive Directors of CGML

James Bardrick (Director and Chief Executive Officer of CGML)

James is Citi's Country Officer for the UK and Cluster Head for the UK, Jersey and Israel. He is Chief Executive of Citigroup Global Markets Limited and a director of Citibank UK Limited.

James is also a supervisory board member of Citigroup Global Markets Europe AG in Frankfurt. He was Co-head of Citi's Corporate and Investment Banking business for EMEA from 2009 to 2014. James has been with the firm for 33 years and is a Senior Credit Officer.

James is a member of TheCityUK and FICC Markets Standards Board Advisory Councils and was until recently a Board member of UK Finance and the Banking Standards Board. He also sits on the Bank of England's PRA Practitioner Panel. James is Chairman and a trustee of the Coggeshall Youth Work Project. He is Deputy Chairman of the UK Career Ready charity helping less privileged young people increase their aspirations and enter the world of work and sits on the TeachFirst Business Leaders Council.

Prior to joining Citi, he worked as an engineer and in marketing for GKN plc.

Leo Arduini

Leo Arduini is EMEA Head of Markets & Securities Services. He has over 32 years of experience in Global Markets, spanning a variety of trading, coverage, sales and management roles in different jurisdictions. More recently, Leo was Global Head of Rates Sales in 2008–2010, was then appointed Citi Country Officer and Head of Markets for Italy in January 2010 and in March 2012 he became Head of Investor Sales, EMEA Markets, with responsibility for the sales coverage and distribution of Citi's global market product platform to Investor Clients across the EMEA region. He took on his current position as EMEA Head of Markets and Securities Services in March 2014, responsible for the overall strategy across the product platform of MSS jointly with the global products, and for the execution across the EMEA region, spanning over more than 40 countries.

Leo is a Board member of Citigroup Global Markets Limited UK, a Board member of AFME and a Board member of GFMA.

Prior to joining Citi, he has collaborated with Bocconi University and was Associate at Borsa Italiana (Italian Stock Exchange). He has also held positions in Fixed Income trading at San Paolo Finance (Now Banca Intesa Group), as a Board Member of MTS, as Head of Sales and Distribution at Caboto (Banca Intesa Group) and at Banca Monte Paschi Siena as General Manager of Finance and Global Markets. Leo took a degree cum laude in Business Administration, at Bocconi University Milan in 1987.

Frank Mannion

Frank Mannion has been EMEA Chief Financial Officer since January 2011. Frank is a qualified Chartered Accountant and has experience spanning over 30 years with Citi in various Finance roles, including Technology Finance Manager and Head of CMB EMEA Product Control. In September 2006, he was appointed CMB EMEA Regional Controller, responsible for Product Control, Controllers and Regulatory Reporting and subsequently in March 2008 he was appointed the Citi Regional Franchise Controller for EMEA with responsibility for over 800 people covering all the businesses. Frank is on the board of Bank Handlowy (Citi Handlowy) which is a Polish Bank based in Warsaw in the position of Vice Chairman of the Supervisory Board.

Deepak Jain

Deepak Jain was appointed the Regulatory Inventory Mapping Program Manager in October 2019. Prior to that he was Head of Operations & Technology (O&T) and Chief Information Officer for the EMEA region. Deepak has extensive experience of regional managerial positions including leading Operations and Technology teams in Australia, New Zealand and Japan spanning Corporate and Consumer businesses. Deepak was a senior technologist/CIO in Global Financial Markets / Banking with experience in London, New York, Hong Kong, Tokyo and Sydney. Prior to joining Citi in 2004, Deepak was the CIO of the Asia Pacific region for Dresdner Kleinwort Wasserstein. Deepak was previously a director of Citibank Europe PLC from September 2015 to September 2019 and Citibank UK Limited from April 2019 to September 2019.

Appendix 2: Unencumbered Assets

Asset encumbrance refers to the pledging or use of an asset as a means to secure, collateralise or credit-enhance any on-balance-sheet or off-balance-sheet transaction from which it cannot be freely withdrawn. The majority of our encumbrance is driven by secured financing activities, which include transactions in repo, facilitation of short positions (customer and firm), collateral swaps and derivatives trading related margin requirements. Asset encumbrance is an integral part of CGML's liquidity, funding and collateral management process.

CGML's asset encumbrance disclosure provides supervisory authorities and investors with the necessary information on the level of asset encumbrance of the firm enabling to compare the reliance on secured funding and the degree of structural subordination of unsecured creditors and depositors across institutions. In addition, it allows regulators and investors to assess the firm's ability to handle liquidity stressed scenarios (when switching to secured sources of funding would be required). Asset encumbrance reporting is based on the UK GAAP balance sheet as at 31 December 2019. This disclosure is being made in accordance with the format required by Regulatory Technical Standard EBA/RTS/2017/03 on the disclosure of encumbered and unencumbered assets. CGML discloses asset encumbrance on a consolidated entity level.

CGML does not issue covered bonds or asset back securities and therefore there is no incidence of over-collateralisation on the levels of encumbrance.

Table 51: Encumbered and Unencumbered Assets

		Carrying amount of encumbered assets		Fair value of encumbered assets[1]		Carrying amount of unencumbered assets		Fair value of unencumbered assets[1]	
As at 31 December 2019		Total $ million	of which notionally eligible EHQLA and HQLA $ million	Total $ million	of which notionally eligible EHQLA and HQLA $ million	Total $ million	of which EHQLA and HQLA $ million	Total $ million	of which EHQLA and HQLA $ million
010	**Assets of the reporting institution**	77,385	29,601	-	-	374,289	-	-	-
030	Equity instruments	15,415	-	-	-	4,776	-	-	-
040	Debt securities	41,427	29,601	41,427	16,892	1,836	-	1,836	-
050	of which: covered bonds	1,721	-	1,721	-	124	-	124	-
060	of which: asset-backed securities	321	-	321	-	173	-	173	-
070	of which: issued by general governments	34,133	29,601	34,133	16,892	-	-	-	-
080	of which: issued by financial corporations	2,410	-	2,410	-	876	-	876	-
090	of which: issued by non- financial corporations	2,842	-	2,842	-	662	-	662	-
120	Other assets [2, 4]	20,543	-	-	-	367,678	-	-	-

[1] Fair value is the same as carrying value for Equity Instruments and Debt Securities
[2] The majority of unencumbered Other Assets relate to derivative instruments and cash loaned on reverse repo, while encumbered Other Assets represent cash margin posted.
[3] The median exposure values have been derived by interpolating months between the quarters.
[4] Other assets include assets that are not deemed available for encumbrance in the normal course of business (e.g. derivative assets, brokerage receivables payables etc.)

		Carrying amount of encumbered assets		Fair value of encumbered assets[1]		Carrying amount of unencumbered assets		Fair value of unencumbered assets[1]	
As at 31 December 2018		Total $ million	of which notionally eligible EHQLA and HQLA $ million	Total $ million	of which notionally eligible EHQLA and HQLA $ million	Total $ million	of which EHQLA and HQLA $ million	Total $ million	of which EHQLA and HQLA $ million
010	**Assets of the reporting institution**	68,924	-	-	-	326,066	-	-	-
030	Equity instruments	15,023	-	-	-	4,737	-	-	-
040	Debt securities	35,749	-	35,749	-	2,088	-	2,088	-
050	of which: covered bonds	1,286	-	1,286	-	41	-	41	-
060	of which: asset-backed securities	139	-	139	-	305	-	305	-
070	of which: issued by general governments	29,419	-	29,419	-	-	-	-	-
080	of which: issued by financial corporations	2,819	-	2,819	-	1,110	-	1,110	-
090	of which: issued by non- financial corporations	2,086	-	2,086	-	631	-	631	-
120	Other assets [2, 4]	18,151	-	-	-	319,241	-	-	-

[1] Fair value is the same as carrying value for Equity Instruments and Debt Securities
[2] The majority of unencumbered Other Assets relate to derivative instruments and cash loaned on reverse repo, while encumbered Other Assets represent cash margin posted.
[3] The median exposure values have been derived by interpolating months between the quarters.
[4]Other assets include assets that are not deemed available for encumbrance in the normal course of business (e.g. derivative assets, brokerage receivables payables etc.)

The firm receives securities and cash collateral in respect of securities purchased under agreement to resell, secured borrowings, margin loans and derivatives. The tables below break down collateral received into the portion which has been treated as encumbered and the portion, which is available for encumbrance.

Table 52: Collateral Received

31 December 2019		Fair value of encumbered collateral received or own debt securities issued		Unencumbered Fair value of collateral received or own debt securities issued available for encumbrance	
		Total	of which notionally eligible EHQLA and HQLA	Total	of which EHQLA and HQLA
		$ million	$ million	$ million	$ million
130	**Collateral received by the reporting institution**	221,325	141,585	55,252	23,489
140	Loans on demand	-	-	-	-
150	Equity instruments	48,903	-	4,122	-
160	Debt securities	172,389	141,585	33,703	23,489
170	of which: covered bonds	1,860	-	751	-
180	of which: asset-backed securities	2,465	-	448	-
190	of which: issued by general governments	152,993	141,585	31,110	23,489
200	of which: issued by financial corporations	7,257	-	908	-
210	of which: issued by non-financial corporations	8,091	-	415	-
220	Loans and advances other than loans on demand [1]	-	-	17,414	-
230	Other collateral received	32	-	14	-
240	**Own debt securities issued other than own covered bonds or asset-backed securities**	-	-	-	-
241	**Own covered bonds and asset-backed securities issued and not yet pledged**	-	-	-	-
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	298,710	171,186	-	-

31 December 2018		Fair value of encumbered collateral received or own debt securities issued		Unencumbered Fair value of collateral received or own debt securities issued available for encumbrance	
		Total	of which notionally eligible EHQLA and HQLA	Total	of which EHQLA and HQLA
		$ million	$ million	$ million	$ million
130	**Collateral received by the reporting institution**	237,460	-	47,203	-
140	Loans on demand	-	-	-	-
150	Equity instruments	50,406	-	4,483	-
160	Debt securities	186,911	-	28,050	-
170	of which: covered bonds	2,036	-	772	-
180	of which: asset-backed securities	6,894	-	589	-
190	of which: issued by general governments	160,447	-	24,891	-
200	of which: issued by financial corporations	8,778	-	1,134	-
210	of which: issued by non-financial corporations	9,011	-	536	-
220	Loans and advances other than loans on demand [1]	-	-	14,588	-
230	Other collateral received	143	-	82	-
240	**Own debt securities issued other than own covered bonds or asset-backed securities**	-	-	-	-
241	**Own covered bonds and asset-backed securities issued and not yet pledged**		-	-	-
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	306,383	-		

Table 53: Sources of Encumbrance

31 December 2019		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
		$ million	$ million
010	Carrying amount of selected financial liabilities	461,019	297,135
011	of which: Derivatives	218,916	27,418
012	of which: Repurchase Agreements	110,349	135,712
013	of which: Fair value of securities borrowed with non cash-collateral	86,512	87,971
014	of which: other	45,242	46,034

31 December 2018		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
		$ million	$ million
010	Carrying amount of selected financial liabilities	433,201	311,530
011	of which: Derivatives	165,082	27,348
012	of which: Repurchase Agreements	124,897	137,926
013	of which: Fair value of securities borrowed with non cash-collateral	95,610	97,842
014	of which: other	47,613	48,414

Appendix 3: Scope of Consolidation (Entity by Entity)

Table 54: Outline of the Differences in the Scopes of Consolidation (Entity by Entity) (LI3)

		Method of Regulatory Consolidation				
Name of the Entity	**Method of Accounting Consolidation**	**Full Consolida-tion**	**Proportional Consolidat-ion**	**Neither Consolidat-ed Nor Deducted**	**Deducted**	**Description of the Entity**
Citigroup Global Markets Limited (CGML)	Full consolidation	X				Investment Firm
Citigroup Global Markets Europe AG	Full consolidation	X				Investment Firm
Citi Global Wealth Management Societe Anonyme Monegasque (SAM) (Monaco)	Deducted from own funds				X	Investment Firm
Citigroup Global Markets Luxembourg SARL	Deducted from own funds				X	Investment Firm
Citigroup Global Markets Funding Luxembourg SCA	Full consolidation	X				Investment Firm
Citigroup Global Markets Funding Luxembourg GP SARL	Deducted from own funds				X	Investment Firm

Appendix 4: Capital Instruments Main Features

The template is prepared using the format set out in Annex II of the final ‘Implementing technical standards with regard to disclosure of own funds requirements for institutions’ (Commission implementing regulation – EU 1423/2013).

Table 55: Capital Instruments main features

	Capital Instruments main features	CET1	AT1	Tier 2	Tier 2	Tier 2	Tier 2
1	Issuer	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited
2	Unique identifier (eg Committee on Uniform Security Identification Procedures (CUSIP), International Securities Identification Number (ISIN) or Bloomberg identifier for private placement)	Private Placement	Private Placement	Private placement	Private placement	Private placement	Private placement
3	Governing law(s) of the instrument	English Law	English Law	English Law	English Law	English Law	English Law
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved (for other TLAC-eligible instruments governed by foreign law)	NA	NA	NA	NA	NA	NA
4	Transitional Basel III rules	Common Equity Tier 1	Additional Tier 1	Tier 2	Tier 2	Tier 2	Tier 2
5	Post-transitional Basel III rules	Common Equity Tier 1	Additional Tier 1	Tier 2	Tier 2	Tier 2	Tier 2
6	Eligible at solo/group/group and solo	Solo and Group	Solo and Group	Solo and Group	Solo and Group	Solo and Group	Solo and Group
7	Instrument type (types to be specified by each jurisdiction)	Ordinary shares	Perpetual Notes	Subordinated Loans	Subordinated Loans	Subordinated Loans	Subordinated Loans
8	Amount recognised in regulatory capital (currency in millions, as of most recent reporting date)	US$1,500m	US$2,300	US$600m	US$2,000m	US$1,000m	US$1,000m
9	Par value of instrument	US$1.00	US$2,300	US$600m	US$2,000m	US$1,000m	US$1,000m
10	Accounting classification	Shareholder's equity	Liability – Fair value option	Liability – Amortised cost	Liability – Amortised cost	Liability – Amortised cost	Liability – Amortised cost
11	Original date of issuance	21/12/1995	20/06/2017	21/12/2018	21/12/2018	21/12/2018	21/12/2018
12	Perpetual or dated	Perpetual	Perpetual	Dated	Dated	Dated	Dated
13	Original maturity date	No Maturity	No Maturity	27/10/2028	29/09/2027	24/01/2039	25/07/2028
14	Issuer call subject to prior supervisory approval	No	No	No	No	No	No
15	Optional call date, contingent call dates and redemption amount	NA	NA	NA	NA	NA	NA
16	Subsequent call dates, if applicable	NA	NA	NA	NA	NA	NA
	Coupons / dividends						
17	Fixed or floating dividend/coupon	Floating	Floating	Floating	Floating	Floating	Floating
18	Coupon rate and any related index	Discretionary	7.30%	4.34% (3mth USD LIBOR + Sub fee + Tax Handling)	4.38% (3mth USD LIBOR + Sub fee + Tax Handling)	4.64% (3mth USD LIBOR + Sub fee + Tax Handling)	4.36% (3mth USD LIBOR + Sub fee + Tax Handling)
19	Existence of a dividend stopper	No	No	No	No	No	No
20	Fully discretionary, partially discretionary or mandatory	Fully discretionary	Fully discretionary	Mandatory	Mandatory	Mandatory	Mandatory
21	Existence of step-up or other incentive to redeem	No	No	No	No	No	No
22	Non-cumulative or cumulative	Non-cumulative	Non-cumulative	NA	NA	NA	NA
23	Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
24	If convertible, conversion trigger(s)	NA	NA	NA	NA	NA	NA
25	If convertible, fully or partially	NA	NA	NA	NA	NA	NA
26	If convertible, conversion rate	NA	NA	NA	NA	NA	NA
27	If convertible, mandatory or optional conversion	NA	NA	NA	NA	NA	NA
28	If convertible, specify instrument type convertible into	NA	NA	NA	NA	NA	NA
29	If convertible, specify issuer of instrument it converts into	NA	NA	NA	NA	NA	NA
30	Writedown feature	No	Yes	Yes	Yes	Yes	Yes
31	If writedown, writedown trigger(s)	NA	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.
32	If writedown, full or partial	NA	Full	Full	Full	Full	Full
33	If writedown, permanent or temporary	NA	Permanent	Permanent	Permanent	Permanent	Permanent
34	If temporary write-down, description of writeup mechanism	NA	NA	NA	NA	NA	NA
34a	Type of subordination	Contractual	Contractual	Contractual	Contractual	Contractual	Contractual
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned).	As common equity, immediately subordinate to the instrument in the following column (AT1).	Notes constitute direct, unsecured and subordinated obligations of the Issuer and are immediately subordinate to Tier 2 instruments.	Immediately subordinate to senior subordinated debt (Eligible liabilities)	Immediately subordinate to senior subordinated debt (Eligible liabilities)	Immediately subordinate to senior subordinated debt (Eligible liabilities)	Immediately subordinate to senior subordinated debt (Eligible liabilities)
36	Non-compliant transitioned features	No	No	No	No	No	No
37	If yes, specify non-compliant features	NA	NA	NA	NA	NA	NA

	Capital Instruments main features template	Eligible Liabilities	Eligible Liabilities	Eligible Liabilities	Eligible Liabilities	Eligible Liabilities	Eligible Liabilities
1	Issuer	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited	Citigroup Global Markets Limited
2	Unique identifier (eg Committee on Uniform Security Identification Procedures (CUSIP), International Securities Identification Number (ISIN) or Bloomberg identifier for private placement)	Private placement	Private placement	Private placement	Private placement	Private placement	Private placement
3	Governing law(s) of the instrument	English Law	English Law	English Law	English Law	English Law	English Law
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved (for other TLAC-eligible instruments governed by foreign law)	NA	NA	NA	NA	NA	NA
4	Transitional Basel III rules	Eligible Liability	Eligible Liability	Eligible Liability	Eligible Liability	Eligible Liability	Eligible Liability
5	Post-transitional Basel III rules	Eligible Liability	Eligible Liability	Eligible Liability	Eligible Liability	Eligible Liability	Eligible Liability
6	Eligible at solo/group/group and solo	Solo and Group	Solo and Group	Solo and Group	Solo and Group	Solo and Group	Solo and Group
7	Instrument type (types to be specified by each jurisdiction)	Senior Subordinated Loans	Senior Subordinated Loans	Senior Subordinated Loans	Senior Subordinated Loans	Senior Subordinated Loans	Senior Subordinated Loans
8	Amount recognised in regulatory capital (currency in millions, as of most recent reporting date)	US$1,500m	US$500m	US$500m	US$500m	US$1,500m	US$1,000m
9	Par value of instrument	US$1,500m	US$500m	US$500m	US$500m	US$1,500m	US$1,000m
10	Accounting classification	Liability – Amortised cost	Liability – Amortised cost	Liability – Amortised cost	Liability – Amortised cost	Liability – Amortised cost	Liability – Amortised cost
11	Original date of issuance	27/12/2018	27/12/2018	03/07/2019	27/12/2018	27/12/2018	27/12/2018
12	Perpetual or dated	Dated	Dated	Dated	Dated	Dated	Dated
13	Original maturity date	24/07/2028	29/09/2027	29/09/2027	26/10/2023	21/03/2023	27/10/2022
14	Issuer call subject to prior supervisory approval	No	No	No	No	No	No
15	Optional call date, contingent call dates and redemption amount	NA	NA	NA	NA	NA	NA
16	Subsequent call dates, if applicable	NA	NA	NA	NA	NA	NA
	Coupons / dividends						
17	Fixed or floating dividend/coupon	Floating	Floating	Floating	Floating	Floating	Floating
18	Coupon rate and any related index	4.23% (3mth USD LIBOR + Sub fee + Tax Handling)	4.29% (3mth USD LIBOR + Sub fee + Tax Handling)	3.27% (3mth USD LIBOR + Sub fee + Tax Handling)	3.54% (3mth USD LIBOR + Sub fee + Tax Handling)	3.49% (3mth USD LIBOR + Sub fee + Tax Handling)	3.45% (3mth USD LIBOR + Sub fee + Tax Handling)
19	Existence of a dividend stopper	No	No	No	No	No	No
20	Fully discretionary, partially discretionary or mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
21	Existence of step-up or other incentive to redeem	No	No	No	No	No	No
22	Non-cumulative or cumulative	NA	NA	NA	NA	NA	NA
23	Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
24	If convertible, conversion trigger(s)	NA	NA	NA	NA	NA	NA
25	If convertible, fully or partially	NA	NA	NA	NA	NA	NA
26	If convertible, conversion rate	NA	NA	NA	NA	NA	NA
27	If convertible, mandatory or optional conversion	NA	NA	NA	NA	NA	NA
28	If convertible, specify instrument type convertible into	NA	NA	NA	NA	NA	NA
29	If convertible, specify issuer of instrument it converts into	NA	NA	NA	NA	NA	NA
30	Writedown feature	Yes	Yes	Yes	Yes	Yes	Yes
31	If writedown, writedown trigger(s)	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.	Bank of England, Own Fund Instrument written off and Any resolution entity in Citi is under resolution.
32	If writedown, full or partial	Full	Full	Full	Full	Full	Full
33	If writedown, permanent or temporary	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent
34	If temporary write-down, description of writeup mechanism	NA	NA	NA	NA	NA	NA
34 a	Type of subordination	Contractual	Contractual	Contractual	Contractual	Contractual	Contractual
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned).	Immediately subordinate to senior unsecured obligations of the issuer	Immediately subordinate to senior unsecured obligations of the issuer	Immediately subordinate to senior unsecured obligations of the issuer	Immediately subordinate to senior unsecured obligations of the issuer	Immediately subordinate to senior unsecured obligations of the issuer	Immediately subordinate to senior unsecured obligations of the issuer
36	Non-compliant transitioned features	No	No	No	No	No	No
37	If yes, specify non-compliant features	NA	NA	NA	NA	NA	NA

Appendix 5: Countercyclical Capital Buffer

Under CRD IV, CGML is required to hold additional capital buffers including the institution-specific countercyclical buffer.

The following table sets out CGML's countercyclical buffer requirement for 31 December 2019 and 31 December 2018 in line with Article 440 of the CRR.

Table 56: Geographical Distribution of Countercyclical Capital Buffer

	General credit exposures	Trading book exposure		Securitisation exposure		Own funds requirements					
Breakdown by country	Exposure value for SA	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: Securitisation exposures	Total	Own funds requirement weights	Countercyclical capital buffer rate
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	%	%
Bulgaria	-	-	-	-	-	-	-	-	-	0.00%	0.50%
Czech Republic	24	-	10	-	-	1	1	-	2	0.05%	1.50%
Denmark	473	27	22	-	-	36	4	-	40	0.96%	1.00%
France	1,776	486	322	-	-	88	65	-	153	3.69%	0.25%
Hong Kong	1,858	96	-	-	-	125	8	-	133	3.20%	2.00%
Iceland	-	13	8	-	-	-	2	-	2	0.04%	1.75%
Ireland	2,172	314	58	-	-	162	30	-	192	4.63%	1.00%
Lithuania	-	-	-	-	-	-	-	-	-	0.00%	1.00%
Norway	58	-	20	-	-	3	2	-	4	0.10%	2.50%
Slovakia	-	-	8	-	-	-	1	-	1	0.01%	1.50%
Sweden	568	60	64	-	-	44	10	-	54	1.30%	2.50%
United Kingdom	14,192	1,648	729	-	-	1,036	190	-	1,226	29.56%	1.00%
All other countries	26,102	2,794	1,954	-	-	1,962	380	-	2,342	56.45%	0.00%
Total as at 31 December 2019	**47,223**	**5,438**	**3,195**	**-**	**-**	**3,459**	**691**	**-**	**4,150**	**100%**	

Institution-specific Countercyclical Capital Buffer	
Total Risk Exposure Amount	132,613
Institution Specific Countercyclical Buffer Rate	0.46%
Institution Specific Countercyclical Buffer Requirement	614

	General credit exposures	Trading book exposure		Securitisation exposure		Own funds requirements					
Breakdown by country	Exposure value for SA	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: Securitisation exposures	Total	Own funds requirement weights	Countercyclical capital buffer rate
	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	$ million	%	%
Czech Republic	55	-	-	-	-	3	-	-	3	0.07%	1.00%
Hong Kong	1,960	677	-	-	-	154	54	-	208	5.34%	1.88%
Iceland	-	21	-	-	-	-	2	-	2	0.04%	1.25%
Norway	93	1	6	-	-	5	1	-	5	0.14%	2.00%
Sweden	655	27	43	-	-	52	6	-	58	1.49%	2.00%
United Kingdom	13,715	1,147	578	-	-	960	138	-	1,098	0.00%	1.00%
All other countries	28,247	2,925	1,511	-	-	2,168	355	-	2,523	64.75%	0.00%
Total as at 31 December 2018	**44,725**	**4,798**	**2,138**	**-**	**-**	**3,342**	**555**	**-**	**3,897**	**100%**	

Institution-specific Countercyclical Capital Buffer	
Total Risk Exposure Amount	131,022
Institution Specific Countercyclical Buffer Rate	0.42%
Institution Specific Countercyclical Buffer Requirement	545

Appendix 6: Non-disclosed Tables

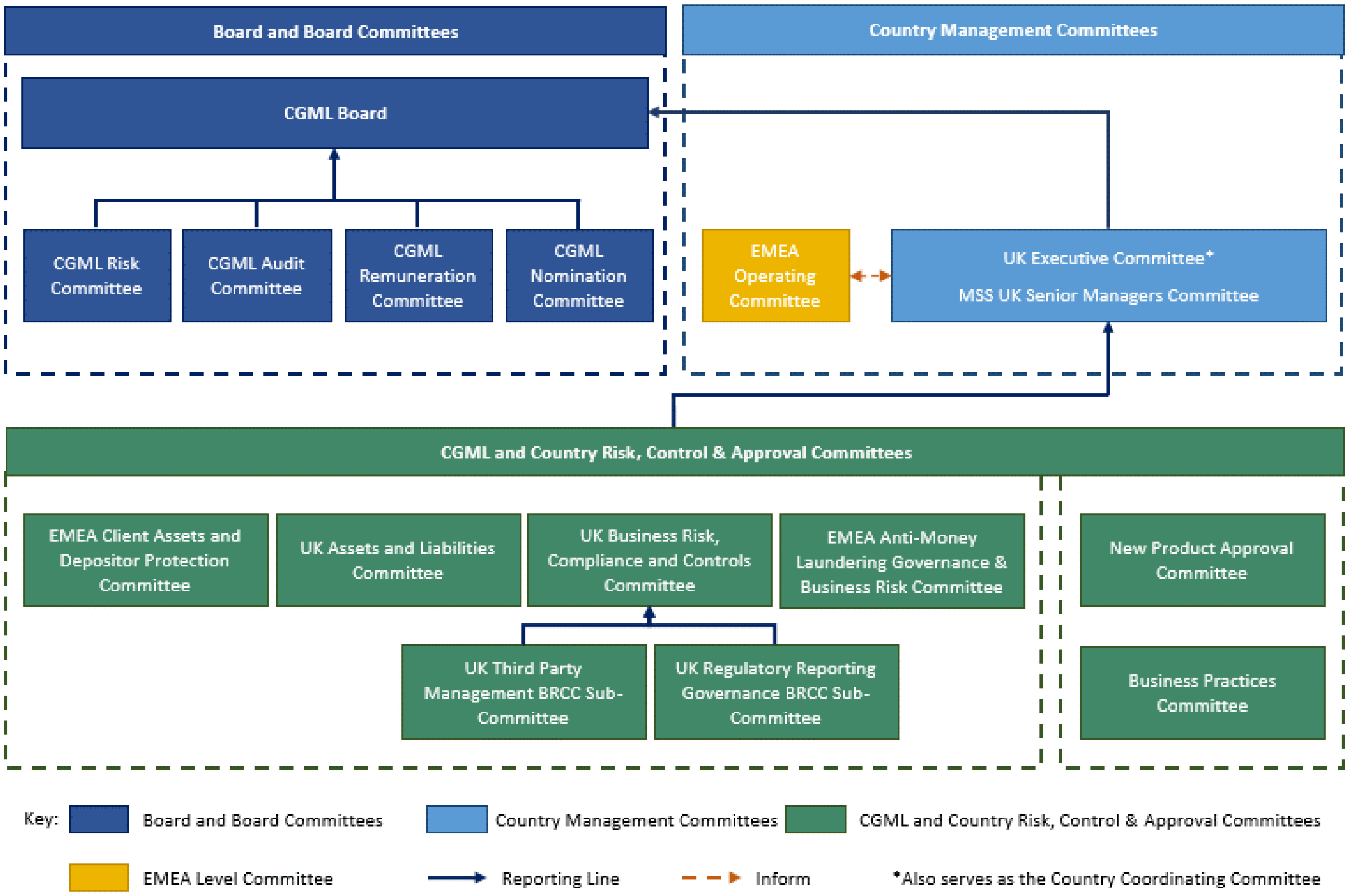
Table 57: Non-disclosed tables

Please see below a list of disclosure tables not included in CGML's Pillar 3:

Table	Rationale
Credit Quality of Forborne Exposures	Templates excluded on the basis of immateriality or non-applicability
Collateral obtained by taking possession and execution processes	
CR2-A: Changes in the Stock of General and Specific Credit Risk Adjustments	
CR2-B: Changes in the Stock of Defaulted and Impaired Loans and Debt Securities	
CR6: IRB – Credit risk exposures by exposure class and PD range	CGML does not have any credit or counterparty credit exposures under the IRB approach
CR7: IRB – Effect on RWA of credit derivatives used as CRM techniques	
CR8: RWA flow statements of credit risk exposures under IRB	
CR9: IRB – Backtesting of probability of default (PD) per exposure class	
CCR4: IRB – CCR exposures by portfolio and PD scale	

Appendix 7: Governance Forums and Committees

The chart below highlights the main components of CGML's governance structure, within Citi's regional and UK management and governance framework during 2019.



Glossary

ABS	Asset Backed Securities
ALCO	Asset and Liability Committee
AMA	Advanced Measurement Approach
BPC	Business Practices Committee
BRCC	Business Risk, Compliance and Control Committee
BSST	Business Specific Stress Test
CAP	Capital Accumulation Programme
CAT	Capital Action Trigger
CCP	Central Counterparty Clearing House
CCyB	Countercyclical buffer
CDS	Credit Default Swap
CEM	Current Exposure Method
CEO	Chief Executive Officer
CEP	Citigroup Europe PLC
CET 1	Common Equity Tier 1
CFO	Chief Finance Officer
CFP	Contingency Funding Plan
CFTC	Commodity Futures Trading Commission
CGML	Citigroup Global Markets Limited
CIC	Cyber Intelligence Centre
CMO	Capital Markets Origination
CORA	Credit and Operational Risk Analytics
CRD	Capital Requirements Directive
CRE	Commercial Real Estate
CRMR	Citi Risk Market Risk
CRO	Chief Risk Officer
CRR	Capital Requirements Regulation
CSA	Credit Support Annex
CVA	Credit Valuation Adjustment
DIRAP	Discretionary Incentive and Retention Award Plan
DPAC	Distribution Product Approval Committee
EAD	Exposure at Default
EBA	European Banking Authority
ECAI	External Credit Assessment Institution
EEA	European Economic Area
EMEA	Europe, Middle East and Africa
EMTN	Euro Medium Term Note
EPE	Expected Positive Exposure
ETDs	Exchange Traded Derivatives
EU	European Union
EUSTA	EU Short-term Award
FCA	Financial Conduct Authority
FLP	Funding and Liquidity Plan
FRR	Facility Risk Rating
FVA	Funding Valuation Adjustments
FX	Foreign Exchange
G10	Group of Ten (refers to the countries that have agreed to participate in the General Arrangements to Borrow (GAB))
GAAP	Generally Accepted Accounting Principles
GCB	Global Consumer Banking
GIS	Global Information Security
G-SIB	Global Systemically Important Bank
GSM	Global Securitised Markets
GSP	Global Securitised Products
GSST	Global Systemic Stress Test
IAS	International Accounting Standard
ICAAP	Internal Capital Adequacy Assessment Process
ICG	Institutional Clients Group
IFRS	International Financial Reporting Standards

ILAAP	Internal Liquidity Adequacy Assessment Process
ILG	Individual Liquidity Guidance
IM	Initial Margin
IMA	Internal Model Approach
IMM	Internal Models Method
IPB	International Personal Bank
IPR	Investments Products Risk
IRC	Incremental Risk Charge
IRE	Interest Rate Exposure
ISDA	International Swaps and Derivatives Association
KEPSP	Key Employee Profit Sharing Plan
KOR	Key Operational Risks
KRI	Key Risk Indicators
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
LIBOR	London Interbank Offered Rate
MCA	Manager's Control Assessment
MLE	Material Legal Entity
MREL	Minimum Requirement for Own Funds and Eligible Liabilities
MRNCCD	Margin requirement for Non centrally cleared derivatives
MRT	Material Risk Takers
NIR	Net Interest Revenue
NPAC	New Product Approval Committee
NRI	Non-Resident Indian
NSFR	Net Stable Funding Ratio
OCI	Other Comprehensive Income
OIS	Overnight Indexed Swap
ORM	Operational Risk Management
ORR	Obligor Risk Rating
O-SII	Other Systemically Important Institution
OTC	Over The Counter
P&C	Personnel and Compensation
PBV	Performance Based Vesting
PD	Probability of Default
PRA	Prudential Regulation Authority
PRR	Position Risk Requirement
PSE	Pre-Settlement Exposures
PSU	Performance Share Units
RBA	Role-Based Allowances
RemCo	Remuneration Committee
RLAP	Resolution Liquidity Adequacy Positioning
RMBS	Residential Mortgage Backed Securities
RWA	Risk Weighted Assets
SFT	Securities Financing Transaction
SVaR	Stressed Value at Risk
TFA	Total Facilities Amount
TLAC	Total Loss Absorbing Capacity
ToR	Terms of Reference
TTS	Treasury and Trade Solutions
VaR	Value at Risk
VM	Variation Margin
WWR	Wrong Way Risk