CITIGROUP GLOBAL MARKETS LIMITED

(Registered Number: 01763297)

UNAUDITED INTERIM REPORT AND FINANCIAL STATEMENTS

for the six months ended 30 June 2019

INTERIM MANAGEMENT REPORT
for the six months ended 30 June 2019

The Directors present their interim management report on Citigroup Global Markets Limited (CGML or the Company) for the six months ended 30 June 2019.

1. Introduction

CGML is a wholly owned, indirect subsidiary of Citigroup Inc. It is Citi's international broker-dealer, providing products and services for institutional clients. It is 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 30 June 2019, it had four active branch offices and five subsidiaries, listed below. On 1 March 2019 the staff and activities of CGML's branches in France, Italy and Spain began being transferred to branches of CGME in those countries as part of the Company's ongoing preparations following the UK's decision to leave the EU. Further details are included in the UK's withdrawal from the EU section of Management report below.

EU Branches	**Subsidiaries**
Czech Republic	Citigroup Global Markets Luxembourg S.a.R.L. (Luxembourg) (in liquidation)
	Citigroup Global Markets Funding Luxembourg SCA (Luxembourg)
Non-EU Branches	Citigroup Global Markets Funding Luxembourg GP S.a.R.L. (Luxembourg)
Israel	Citi Global Wealth Management S.A.M. (Monaco)
Switzerland	Citigroup Global Markets Europe AG
UAE	

CGML's key activities encompass capital markets origination, corporate and investment banking and cash, exchange traded and over-the-counter (OTC) derivative products in the following markets:

- G10 Rates
- Foreign Exchange
- Equities
- Credit Markets
- Securitised Markets
- Prime, Futures and Securities Services (comprising Prime Finance, Delta-One and Futures & OTC Clearing)
- Commodities

The above business areas variously include market making, facilitating client flow trading and providing tailored solutions to client financing, risk or investment needs. Further details of these areas can be found in the Strategic Report of the Company's financial statements for the year ended 31 December 2018.

A number of CGML's functional operations are carried out in locations outside London, including at Citi Service Centres (CSCs) in Belfast, Budapest and Warsaw. In addition, CGML makes use of a number of affiliated and third party outsourcing arrangements outside EMEA.

2. Mission and Strategy

CGML's mission, in line with that of Citi, is to serve as a trusted partner to its clients by responsibly providing financial services that enable growth and economic progress. Citi's core activities are safeguarding assets, lending money, making payments and accessing the capital markets on behalf of its clients, whilst ensuring that those actions are always in its clients' interests, create economic value and are systemically responsible.

CGML is Citi's international broker-dealer. Its business falls within the Institutional Clients Group (ICG) segment and is core to the accomplishment of Citi's mission. CGML is focused on building enduring and mutually valuable relationships with target market clients, such as:

- multinational and local corporations;
- financial institutions;
- governments and public sector bodies; and
- high net worth individuals.

The mission forms the framework for CGML's strategic goals. The strategy and its execution seeks to create sustainable, growing earnings and contribute to Citi's overall client franchise, allowing CGML to deliver returns consistent with the group's overall business strategy. CGML's 2019 objectives comprise the following:

- *Continuing to be the best for its clients by enhancing the depth and quality of its customer engagement and ensuring successful implementation of its plans to minimise disruption to clients following the UK's decision to leave the EU*

  Citi maintained its strong client rankings across Fixed Income products and continued its focus on improvement in Equities.

  Following Board and Regulatory approvals in the UK and Germany, CGML purchased a German Citi affiliate, CGME, to create an EEA Investment Firm. This represented a key milestone in CGML's planning to continue to deliver high standards of service to European clients following the UK's decision to leave the European Union.

- *Maintaining strong capital and liquidity levels, improvement in key financial performance indicators and continuous enhancement of the internal control infrastructure*

  Capital and liquidity levels are monitored on a daily basis and have been maintained at strong levels throughout 2019, while operating efficiency improved 2% compared to the first half of 2018.

- *Attraction, development and retention of talent including promotion of diversity and furtherance of equal employment opportunities*

  Commitment to Diversity is core to Citi's values. As part of its pledge to the Women in Finance Charter, Citi has set a goal to increase the number of senior management roles held by women. Citi is also focusing on ensuring a balanced gender intake to its graduate recruitment programmes. These developments are further supported by initiatives to identify and retain high performing employees.

INTERIM MANAGEMENT REPORT
for the six months ended 30 June 2019

3. Financial Highlights

Income Statement Summary

	2019	2018
	$ Million	**$ Million**
Commission income and fees	671	825
Net dealing income	1,126	1,213
Interest receivable	911	599
Interest payable	(1,026)	(833)
Gross profit	**1,682**	**1,804**
Operating expenses	(1,323)	(1,464)
Other income and expenses	19	5
Operating profit on ordinary activities before taxation	**378**	**345**

Gross Profit

Gross profit fell by $122 million, a 7% decrease on 2018.

Revenues fell year on year mainly due to low market sentiment particularly impacting Equities and Rates with client volumes falling as a result of the tensions between the US and China. Interest receivable grew in line with higher yields on European bonds together with an increase in secured financing transactions and trading inventory. The rise in interest payable reflected larger inter-company funding balances combined with higher US interest rates and an increase in secured financing transactions.

Operating Expenses

Operating expenses were $1,323 million with the largest costs being compensation, technology and transaction costs. The decrease in 2019 was mainly due to a weaker Sterling and a decrease in headcount leading to lower compensation expenses, and a decrease in client volumes leading to lower transaction expenses.

Profit for the Period

Net profit for the first six months was $294 million (2018*: $249 million), an 18% increase. This included a tax charge of $84 million for the period (2018*: $96 million).

*Tax on profits on ordinary activities as at 30 June 2018 has been restated in line with the requirements of IAS 12 amendments. The details of the amendments of the accounting standard and its impact on the Company is described in detail in Note 3 (b) Changes in accounting policy and disclosures.

3. **Financial Highlights** (continued)

Balance Sheet

	2019	2018
	$ Million	$ Million
Total assets	451,359	404,907
Total liabilities	433,260	386,827
Shareholders' funds	18,099	18,080

CGML's assets consist primarily of collateralised financing transactions, derivatives and trading inventory. Collateralised financing transactions include reverse repos and stock borrows; derivatives encompass interest rate credit, equity and commodity derivatives; whilst bonds and equities form the largest categories of trading inventory. The Company's liabilities predominantly comprise collateralised financing transactions, derivatives and securities sold not yet purchased.

Asset and liability growth in 2019 was largely a result of an increase in Derivative balances as yields fell during the year.

Shareholders' funds were $18,099 million (31 December 2018: $18,080 million) which represented an increase of $19 million. This included the profit for the period, mainly offset by the coupon payments on the Additional Tier 1 (AT1) notes and the revaluation losses recognised in equity reserve and comprehensive income. Further details of the current period movements are presented in the Statement of Changes in Equity.

4. Future Outlook

CGML's core strategic themes and operational priorities are defined in accordance with Citi's overall strategy. These themes are summarised below:

- *Use innovation to improve the client experience and deepen relationships with target clients*
- *Increase the Company's proportion of available client business in areas where we have a differentiated ability to serve our target clients*
- *Ensure sustainability of financial performance through the economic cycle*
- *Ensure continuity to clients following the UK's departure from the EU*
- *Prepare for future regulatory changes*
- *Maintain a robust internal control environment.*

4.1 The UK's withdrawal from the EU

Following the UK referendum on EU membership in June 2016, Citi established a formal programme ("Project Arch") to deliver a coordinated response to the UK's decision to leave the EU. Citi's Brexit contingency plans assume that the UK will lose its passporting abilities within the EEA and be required to operate under a third country regime post 31 October 2019, with no deal agreed in relation to financial services at the end of the exit negotiation period between the UK and EU.

The key objective of Project Arch is to design and implement a strategy that would allow Citi to continue servicing its clients in the EEA and UK with minimal disruption, whilst maintaining simplicity and transparency.

4. Future Outlook (continued)

4.1 The UK's withdrawal from the EU (continued)

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 licenses or license exemptions in certain EEA jurisdictions, where available.

Where such cross-border licenses and license 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 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 have commenced.

Further, as a part of Citi's Brexit Day 1 strategy, 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. The valuation and transaction terms for the transfer of Branch activities were formally approved by the CGML Board.

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. This typically include financial institutions, institutional and other investors, corporates, government and public sector entities and retail intermediaries.

4.2 Market Outlook

Looking forward, the Company is likely to be impacted by a number of developments with specific significance for its operations and strategy:

- **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 the second half of 2019.
- **Uncertainties in respect to Global Growth** both in advanced and emerging-market economies may have an impact on confidence and financial activity.
- **Political uncertainty** is expected to continue through 2019.
- **Technological Developments** within the finance industry have the potential to significantly change the current technological and operational infrastructure across financial institutions.
- **Pending local regulatory changes** will have an ongoing impact on the competitive environment, further electronification, margin compression and potentially business models.

Citi and CGML will continue to monitor and assess these developments in order to mitigate any impact to services offered to clients and to take advantage of any opportunities that they may create.

5. Key performance indicators

In addition to the financial results of the Company, senior management considers the monitoring of the following key financial and non-financial items critical to the Company's future: adequacy of regulatory capital and liquidity, external ratings and future regulatory developments. Please refer to the Strategic Report of the Company's financial statements for the year ended 31 December 2018 for further information.

6. Risk Management

The financial risk management objectives and policy and the exposure to market, liquidity, credit, country and operational risk have been disclosed in the risk management policies in the Strategic Report of the Company's financial statements for the year ended 31 December 2018 and have not materially changed in the reporting period.

7. Statement of Directors' responsibilities

The Directors are responsible for preparing the Interim Management Report and the financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law they have elected to prepare the financial statements in accordance with United Kingdom Accounting Standards and applicable law (United Kingdom Generally Accepted Accounting Practice), including FRS 101 *Reduced Disclosure Framework.*

Under company law, the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of CGML and of the profit or loss of CGML for the relevant period.

In preparing these financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgments and estimates that are reasonable and prudent;
- state whether applicable United Kingdom Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on a going concern basis unless it is inappropriate to assume that CGML will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain CGML's transactions, disclose with reasonable accuracy at any time the financial position of CGML, and enable them to ensure that the financial statements comply with the Companies Act 2006. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of CGML and to prevent and detect fraud and other irregularities. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Directors

The Directors who held office during the period ended 30 June 2019 were:

Non-Executive
C Ardalan (Chairman)
M P Basing
R F Goulding
D L Taylor

Executive
L Arduini
J D K Bardrick
J C Cowles (resigned on 30 April 2019)
P McCarthy

F M Mannion was appointed Executive Director on 16 July 2019. P McCarthy resigned with effect from 1 August 2019 and Deepak Jain was appointed with effect from 6 September 2019.

INTERIM MANAGEMENT REPORT
for the six months ended 30 June 2019

Directors' indemnity

Throughout the period and at the date of this report the Company is party to a group-wide indemnity policy which benefits all of its current directors and is a qualifying third party indemnity provision for the purpose of section 236 of the Companies Act 2006.

Political contributions

No political contributions were made during the period (2018: none).

Auditors

The Company has elected not to have an audit of these interim financial statements. A full audit will be performed at 31 December 2019.

By order of the Board

J Bardrick
Director

30 October 2019

Incorporated in England and Wales
Registered office: Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB
Registered Number: 01763297

CITIGROUP GLOBAL MARKETS LIMITED

INCOME STATEMENT
for the six months ended 30 June 2019

	Notes	30 June 2019	30 June 2018*
		$ Million	$ Million
Fee and commission income	5	671	825
Net dealing income		1,126	1,213
Interest receivable		911	599
Interest payable		(1,026)	(833)
Gross profit	15	1,682	1,804
Operating expenses		(1,323)	(1,464)
Net finance income on pension		7	6
Other income		12	(1)
Operating profit on ordinary activities before taxation		378	345
Tax on profits on ordinary activities	6	(84)	(96)
Profit after taxation for the financial year		294	249

*Tax on profits on ordinary activities as at 30 June 2018 has been restated in line with the requirements of IAS 12 amendments. The details of the amendments of the accounting standard and its impact on the Company is described in detail in Note 3 (b) Changes in accounting policy and disclosures.

The accompanying notes on pages 13 to 32 form an integral part of these financial statements.

CITIGROUP GLOBAL MARKETS LIMITED

STATEMENT OF COMPREHENSIVE INCOME

for the six months ended 30 June 2019

	30 June 2019 $ Million	30 June 2018 $ Million
Profit after taxation for the financial year	294	249
Other Comprehensive Income (Expense)		
Items that will not be reclassified subsequently to the income statement:		
Gross (losses)/gains on remeasurement of defined benefit pension asset	(35)	98
Deferred tax benefit/(charge) associated with remeasurement of pension asset	9	(26)
Items that will be reclassified subsequently to the income statement when specific conditions are met:		
(Losses)/gains on debt valuation adjustment (DVA)	(35)	42
Deferred tax benefit/(charge)associated with losses on DVA	9	(11)
Other comprehensive (expense)/income net of tax	(52)	103
Total comprehensive gain for the financial year	242	352

The net movement in the Statement of Comprehensive Income in respect of the pension scheme reflects changes in the actual and expected returns on scheme assets and liabilities and the related tax impact associated with the balance sheet valuation of the defined pension asset.

The accompanying notes on pages 13 to 32 form an integral part of these financial statements

CITIGROUP GLOBAL MARKETS LIMITED

STATEMENT OF CHANGES IN EQUITY
for the year ended 31 December 2019

	Share Capital $ Million	Other equity instruments $ Million	Capital reserve $ Million	Equity reserve $ Million	Retained earnings $ Million	Total $ Million
At 1 January 2018	**1,500**	**1,800**	**9,999**	**1,252**	**1,477**	**16,028**
Profit after taxation for the period*	-	-	-	-	249	249
Gross gains on remeasurement of defined benefit pension asset	-	-	-	-	98	98
Deferred tax charge associated with remeasurement of pension asset	-	-	-	-	(26)	(26)
Gains on debt valuation adjustment (DVA)	-	-	-	-	42	42
Deferred tax charge associated with gains on	-	-	-	-	(11)	(11)
Share based payment transactions	-	-	-	9	-	9
Deferred tax charge associated with share based	-	-	-	(2)	-	(2)
Capital contribution	-	-	1,000	-	-	1,000
Other equity instruments issued	-	500	-	-	-	500
Dividend on other equity instruments	-	-	-	-	(130)	(130)
Tax benefit associated with dividend on other equity instruments*	-	-	-	-	-	-
At 30 June 2018	**1,500**	**2,300**	**10,999**	**1,259**	**1,699**	**17,757**
At 31 December 2018	**1,500**	**2,300**	**10,999**	**1,307**	**1,974**	**18,080**
Profit after taxation for the year					294	294
Gross losses on remeasurement of defined benefit pension asset	-	-	-	-	(35)	(35)
Deferred tax benefit associated with remeasurement of pension asset	-	-	-	-	9	9
Losses on debt valuation adjustment (DVA)	-	-	-	-	(35)	(35)
Deferred tax benefit associated with losses on DVA	-	-	-	-	9	9
Share based payment transactions	-	-	-	(74)	-	(74)
Deferred tax benefit associated with share based payment transactions	-	-	-	18	-	18
Dividend on other equity instruments	-	-	-	-	(167)	(167)
At 30 June 2019	**1,500**	**2,300**	**10,999**	**1,251**	**2,049**	**18,099**

*The 2018 comparative of Profit after taxation for the period and the movement of Tax benefit associated with dividend on other equity instruments have been restated in line with the requirements of IAS 12 amendments. The details of the amendments of the accounting standard and its impact on the Company is described in detail in Note 3 (b) Changes in accounting policy and disclosures.

The capital reserve includes capital contributions from the parent company, which are distributable.

The equity reserve includes the fair value movement of the share based incentives issued, and other fair value movements captured in equity.

The accompanying notes on pages 13 to 32 form an integral part of these financial statements.

CITIGROUP GLOBAL MARKETS LIMITED

BALANCE SHEET
as at 31 December 2019

	Notes	30 June 2019 $ Million	31 December 2018 $ Million
Assets			
Financial assets at amortised cost			
- cash at bank and in hand		3,643	4,900
- collateralised financing transactions	7	67,454	82,920
Financial assets mandatorily at fair value through profit or loss			
- derivatives	7	214,385	156,991
- inventory	7	67,880	51,894
- equity securities held for investment		66	57
Financial assets designated at fair value through profit or loss	7	44,957	74,119
Investments in subsidiary and related undertakings	8	1,431	768
Pension asset		442	468
Other assets		51,101	32,789
Total Assets		**451,359**	**404,907**
Liabilities and Equity			
Financial liabilities at amortised cost			
- bank loans and overdrafts		10,119	4,997
- collateralised financing transactions	7	50,322	52,996
Financial liabilities mandatorily at fair value through profit or loss			
- derivatives	7	230,870	166,438
- securities sold but not yet purchased	7	48,737	52,031
Financial liabilities designated at fair value through profit or loss	7	37,778	66,999
Other liabilities		45,834	33,766
Subordinated loans	9	9,600	9,600
Total Liabilities		**433,260**	**386,827**
Capital and reserves			
Called up share capital		1,500	1,500
Other equity instruments	10	2,300	2,300
Capital reserve	11	10,999	10,999
Retained earnings and other reserves		3,300	3,281
Shareholders' funds		**18,099**	**18,080**
Total Liabilities and Shareholders' Funds		**451,359**	**404,907**

The accompanying notes on pages 13 to 32 form an integral part of these financial statements.
The financial statements on pages 9 to 32 were approved by the Directors on 30 October 2019 and were signed on their behalf by:

J D K Bardrick
Director
Registered Number: 01763297

CITIGROUP GLOBAL MARKETS LIMITED

NOTES TO THE FINANCIAL STATEMENTS

1. Reporting Entity

This report comprises the unaudited condensed interim financial statements of CGML as at and for the six months ended 30 June 2019.

The financial statements of the Company at the year ended 31 December 2018 are available upon request from the Company's registered office at Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB.

2. Statement of compliance

These condensed interim financial statements have been prepared and approved by the Directors in accordance with the EU Transparency Directive as implemented in the UK via the Disclosure and Transparency Rules issued by the FCA. They have been drawn up in compliance with IAS 34 'Interim Financial Reporting'. The condensed financial statements do not include all the information required for the full annual financial statements, and should be read in conjunction with the financial statements of the Company for the year ended 31 December 2018.

3. Principal accounting policies

(a) Basis of presentation

The financial statements of the Company have been prepared in accordance with Financial Reporting Standard 101, 'Reduced Disclosure Framework' (FRS 101). In preparing these financial statements, the Company applies the recognition, measurement and disclosure requirements of International Financial Reporting Standards as adopted by the EU, but makes amendments where necessary in order to comply with Companies Act 2006 and has set out below where advantage of the FRS 101 disclosure exemptions has been taken.

The Company has taken exemption available under FRS 101 not to disclose all transactions with other group companies and investees of the group qualifying as related parties. It has also taken the exemption available under FRS 101 not to prepare a cash flow statement.

The financial statements have been prepared in US Dollars, which is the functional and presentational currency of the Company, and any reference to $ in these financial statements refers to US Dollars. The Company has rounded figures to the nearest million $, unless otherwise stated.

As permitted under section 401 of the Companies Act 2006, consolidated financial statements have not been prepared because the Company is a wholly owned subsidiary of the ultimate parent Citigroup Inc. which prepares consolidated financial statements under US GAAP. The Company meets the criteria for exemption from the obligation to prepare and deliver group accounts that is available to a company included in non-EEA group accounts of a larger group. These financial statements therefore present information about the Company as an individual undertaking and not about its group. Citigroup Inc. makes its financial statements available to the public on a quarterly basis.

(b) Changes in accounting policy and disclosures

IFRIC Interpretation 23 – Uncertainty over Income tax treatment

IFRIC 23 clarifies the application of IAS 12 to accounting for income tax treatments that have yet to be accepted by tax authorities, in scenarios where it may be unclear how tax law applies to a particular transaction or circumstance, or whether a taxation authority will accept an entity's tax treatment. The effective date is 1 January 2019.

Application of IFRIC 23 has not had a material impact on the Company.

3. **Principal accounting policies** (continue)

(b) **Changes in accounting policy and disclosures** (continue)

Amendments to IAS 19: Plan Amendment, Curtailment or Settlement

These amendments specify how companies determine pension expenses when changes to a defined benefit pension plan occur. When a change to a plan—an amendment, curtailment or settlement—takes place, IAS 19 requires a company to remeasure its net defined benefit liability or asset.

The amendments require a company to use the updated assumptions from this remeasurement to determine current service cost and net interest for the remainder of the reporting period after the change to the plan. Until now, IAS 19 was not specific on this point.

The amendments are effective on or after 1 January 2019. The application of these amendments did not have a material impact on the Company.

IFRS 16 – Leases

In January 2016, the IASB issued IFRS 16 *Leases*, which replaced IAS 17 *Leases*, effective from 1 January 2019.

This standard did not have a material impact on the Company because the Company does not enter into lease arrangements that are in scope of the Standard.

Annual Improvements to IFRS Standards 2015–2017 Cycle

In December 2017, the IASB published Annual Improvements to IFRS Standards 2015–2017 Cycle, containing minor amendments to IFRS 3 *Business Combinations* and IFRS 11 *Joint Arrangements*, IAS 12 *Income Taxes*, and IAS 23 *Borrowing Costs*. These amendments are mandatory from 1 January 2019, and must be applied retrospectively from the earliest period presented in the financial statements.

The IAS 12 amendments clarify that all distributions of profit should be treated consistently for tax purposes, meaning that the impact of any associated tax deductions should be recognised in the income statement rather than within equity. These amendments impact the treatment of tax deductions on Additional Tier 1 ("AT1") Notes issued by the Company, reducing income statement income tax expenses by $45.3 million in the 6 months to June 2019 ($35.1 million for the 6 month period to 30 June 2018, restated retrospectively) and therefore reducing the income statement effective tax rate.

Otherwise, application of the Annual Improvements has not had a material impact on the Company.

There were no other material or amended standards or interpretations that resulted in a change in accounting policy for the period ended 30 June 2019.

4. **Use of assumptions, estimates and judgements**

The results of the Company are sensitive to the accounting policies, assumptions and estimates that underlie the preparation of its financial statements. The assumptions and estimates used in the preparation of the financial statements are described in detail in the Company's financial statements for the year ended 31 December 2018.

5. **Turnover and results**

As permitted by paragraph 4 of Schedule 1 to the Companies Act 2006 The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (SI 2008 No 410), the format of the income statement and the Balance sheet have been adapted to the circumstances of the Company. Instead of turnover, the Directors have reported fee and commission income, net dealing income and interest receivable less interest payable in determining the gross profit of the Company.

CITIGROUP GLOBAL MARKETS LIMITED

NOTES TO THE FINANCIAL STATEMENTS

6. Tax on profit on ordinary activities

	30 June 2019 $ Million	30 June 2018 $ Million
(a) Tax recognised in the Income statement		
UK corporation tax:		
Current tax on income for the period	66	65
Current tax on AT1 coupon*	(45)	(35)
Total current UK corporation tax	21	30
Overseas tax:		
Current overseas tax	53	61
Adjustments in respect of prior periods	-	-
Total current overseas tax	53	61
Total current tax	74	91
Deferred tax		
Brazil withholding tax	9	-
Origination and reversal of temporary differences	-	2
Overseas deferred tax in respect of foreign branch operations	1	2
Total deferred tax	10	4
Tax on profit on ordinary activities in the income statement	**84**	**95**
(b) Tax recognised in the Statement of changes in equity		
Deferred tax (benefit)/charge associated with remeasurement of pension asset	(9)	26
Deferred tax (benefit)/charge associated with share based payment transactions	(18)	2
Deferred tax (benefit)/charge associated with gains on debt valuation adjustment	(9)	11
Tax recognised in the Statement of changes in equity	**(36)**	**39**

6. Tax on profit on ordinary activities (continued)

(c) Factors that may affect future tax charges

The statutory UK tax rate applying to CGML in the year was 27% (30 June 2018: 27%). This includes a surcharge of 8% on the profits of banking companies applicable from 1 January 2016. Overseas branches provided for taxation at the appropriate rates for the countries in which they operate.

The corporation tax rate (excluding banking surcharge) will reduce from 19% to 17% from 1 April 2020.

The interim tax charge has been calculated based upon a forecast effective tax rate ("ETR") for the year of 30.22% (30 June 2018: 38%), before accounting for discrete items, such as the tax deduction of AT1 and Brazil deferred tax due on Withholding tax. This is higher than the statutory rate due to permanent differences, the main ones being bank levy and withholding tax which is not expected to be fully creditable. Following the amendment of IAS12 impacting the accounting treatment of tax deductions of Additional Tier 1 (AT1) notes issued by the company, these are now accounted for in the Income Statement whereas the coupon remains in Equity. This has reduced the 2019 income statement ETR to 22.28% (30 June 2018: 27.8%). The 2018 comparatives in these financial statements have been restated on a comparable basis with the 2019 figures.

(d) Deferred tax

	30 June 2019 $ Million	30 June 2018 $ Million
Deferred tax liability on pension asset (included within Other liabilities)	(111)	(143)
Deferred Tax asset on other temporary differences included in Other Assets	167	208

Deferred tax is recognised on the company's temporary differences as it is considered probable that taxable profits will arise against which these can be utilised.

The deferred tax asset is recognised at the tax rates at which the temporary differences are expected to reverse.

7. Financial assets and liabilities accounting classifications and fair values

The table below sets out the Company's classification of each class of financial assets and liabilities, and their fair values. Those measured at fair value, whether mandatorily or designated as such, are further allocated to levels in the fair value hierarchy in the table on the following page.

30 June 2019	Mandatorily at FVTPL $ Million	Designated at FVTPL $ Million	Amortised cost $ Million	Mandatorily at FVTPL - equity investments $ Million	Total carrying amount $ Million	Fair value $ Million
Cash	-	-	3,643	-	3,643	3,643
Derivatives	214,385	-	-	-	214,385	214,385
Inventory	67,880	-	-	-	67,880	67,880
Equity securities held for investment	-	-	-	66	66	66
Collateralised financing transactions	-	44,957	67,454	-	112,411	112,411
Cash collateral pledged	-	-	34,338	-	34,338	34,338
Trade debtors	-	-	16,204	-	16,204	16,204
Other debtors	-	-	169	-	169	169
	282,265	44,957	121,808	66	449,096	449,096
Bank loans and overdrafts	-	-	10,119	-	10,119	10,132
Derivatives	230,870	-	-	-	230,870	230,870
Securities sold but not yet purchased	48,737	-	-	-	48,737	48,737
Collateralised financing transactions	-	37,778	50,322	-	88,099	88,099
Cash collateral held	-	-	28,524	-	28,524	28,524
Trade creditors	-	-	15,527	-	15,527	15,527
Other creditors and accruals	-	-	1,631	-	1,631	1,631
Subordinated loans	-	-	9,600	-	9,600	11,580
	279,607	37,778	115,723	-	433,107	435,100

31 December 2018	Held for Trading $ Million	Designated at fair value $ Million	Amortised cost $ Million	Available for Sale $ Million	Total carrying amount $ Million	Fair value $ Million
Cash	-	-	4,900	-	4,900	4,900
Derivatives	156,991	-	-	-	156,991	156,991
Inventory	51,894	-	-	-	51,894	51,894
Financial assets classed as available for sale	-	-	-	57	57	57
Collateralised financing transactions	-	74,119	82,920	-	157,039	157,039
Cash collateral pledged	-	-	20,758	-	20,758	20,758
Trade debtors	-	-	11,521	-	11,521	11,521
Other debtors	-	-	148	-	148	148
	208,885	74,119	120,247	57	403,308	403,308
Bank loans and overdrafts	-	-	4,997	-	4,997	5,151
Derivatives	166,438	-	-	-	166,438	166,438
Securities sold but not yet purchased	52,031	-	-	-	52,031	52,031
Collateralised financing transactions	-	66,999	52,996	-	119,995	119,995
Cash collateral held	-	-	18,749	-	18,749	18,749
Trade creditors	-	-	13,332	-	13,332	13,332
Other creditors and accruals	-	-	1,486	-	1,486	1,486
Subordinated loans	-	-	9,600	-	9,600	11,071
	218,469	66,999	101,159	-	386,628	388,253

7. Financial assets and liabilities accounting classifications and fair values (continued)

The following table shows an analysis of financial assets and liabilities measured at fair value by level in the hierarchy:

30 June 2019	Level 1 $ Million	Level 2 $ Million	Level 3 $ Million	Total $ Million
Financial assets mandatorily at fair value				
Derivatives	47	212,379	1,959	214,385
Government bonds	33,191	4,641	127	37,959
Non-government bonds	769	7,079	327	8,175
Equities	19,585	774	7	20,366
Commodities	-	1,096	-	1,096
Commercial Paper	-	284	-	284
	53,592	226,253	2,420	282,265
Financial assets designated at fair value				
Collateralised financing transactions	65	44,786	106	44,957
Other financial assets at fair value through P&L				
Equity securities held for investment	-	-	66	66
	53,657	271,039	2,592	327,288
Financial liabilities mandatorily at fair value				
Derivatives	38	226,250	4,582	230,870
Securities sold but not yet purchased	42,991	5,588	156	48,737
	43,029	231,838	4,738	279,607
Financial liabilities designated at fair value				
Collateralised financing transactions	-	37,778	-	37,778
	43,029	269,616	4,738	317,385

31 December 2018	Level 1 $ Million	Level 2 $ Million	Level 3 $ Million	Total $ Million
Financial assets held for trading				
Derivatives	83	155,205	1,703	156,991
Government bonds	22,543	2,857	15	25,415
Non-government bonds	843	6,572	407	7,822
Equities	16,744	759	20	17,523
Commodities	-	889	-	889
Commercial Paper	-	245	-	245
	40,213	166,527	2,145	208,885
Financial assets designated at fair value				
Collateralised financing transactions	29	73,991	99	74,119
Other financial assets at fair value through P&L				
Equity securities held for investment	-	24	33	57
	40,242	240,542	2,277	283,061
Financial liabilities held for trading				
Derivatives	67	162,888	3,483	166,438
Securities sold but not yet purchased	46,597	5,192	242	52,031
	46,664	168,080	3,725	218,469
Financial liabilities designated at fair value				
Collateralised financing transactions	-	66,999	-	66,999
	46,664	235,079	3,725	285,468

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7. Financial assets and liabilities accounting classifications and fair values (continued)

For the six months ended June 2019, there was no significant transfer above $100 million between Level 1 and Level 2 categories.

The following table shows an analysis of financial assets and liabilities classified as held at amortised cost by level in the hierarchy:

30 June 2019	Level 1 $ Million	Level 2 $ Million	Level 3 $ Million	Total $ Million
Financial assets at amortised cost				
Cash	3,643	-	-	3,643
Collateralised financing transactions	-	67,454	-	67,454
Cash collateral pledged	-	34,338	-	34,338
Trade debtors	-	16,204	-	16,204
Other debtors	-	169	-	169
	3,643	118,165	-	121,808
Financial liabilities at amortised cost				
Bank loans and overdrafts	-	10,119	-	10,119
Collateralised financing transactions	-	50,322	-	50,322
Cash collateral held	-	28,524	-	28,524
Trade creditors	-	15,527	-	15,527
Other creditors	-	1,631	-	1,631
Subordinated loans	-	9,600	-	9,600
	-	115,723	-	115,723

31 December 2018	Level 1 $ Million	Level 2 $ Million	Level 3 $ Million	Total $ Million
Financial assets at amortised cost				
Cash	4,900	-	-	4,900
Collateralised financing transactions	-	82,920	-	82,920
Cash collateral pledged	-	20,758	-	20,758
Trade debtors	-	11,521	-	11,521
Other debtors	-	148	-	148
	4,900	115,347	-	120,247
Financial liabilities at amortised cost				
Bank loans and overdrafts	-	4,997	-	4,997
Collateralised financing transactions	-	52,996	-	52,996
Cash collateral held	-	18,749	-	18,749
Trade creditors	-	13,332	-	13,332
Other creditors	-	1,486	-	1,486
Subordinated loans	-	9,600	-	9,600
	-	101,160	-	101,160

7. Financial assets and liabilities accounting classifications and fair values (continued)

Given the short term nature and characteristics of collateralised financing transactions, trade debtors, other debtors, trade creditors, other creditors and accruals the fair value has been assumed to approximate the carrying value. The fair value of subordinated loans has been calculated using the present value of future estimated cash flows, discounted using a discount rate of USD 3 month Overnight Indexed Swap (OIS) plus the Company's credit spread as at 30 June 2019.

Fair Value Measurement

IFRS 13 – *Fair Value Measurement* defines fair value, establishes a framework for measuring fair value and requires disclosures about fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Among other things, the standard requires the Company to maximise the use of observable inputs and minimise the use of unobservable inputs when measuring fair value.

Under IFRS 13, the probability of default of a counterparty is factored into the valuation of derivative positions and includes the impact of the Company's own credit risk on derivatives and other liabilities measured at fair value.

Fair Value Hierarchy

The calculation of fair value incorporates the Company's estimate of the fair value of financial assets and financial liabilities. Other entities may use different valuation methods and assumptions in determining fair values, so comparisons of fair values between entities may not necessarily be meaningful.

The Company measures fair values using the following fair value hierarchy that indicates whether the inputs to those valuation techniques are observable or unobservable. Observable inputs denote market data obtained from independent sources, while unobservable inputs reflect the Company's market assumptions.

The types of inputs have created the following fair value hierarchy:

- Level 1: Quoted prices for identical instruments in active markets.

- Level 2: Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets.

- Level 3: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

The Company considers relevant and observable market prices in its valuations where possible. The frequency of transactions and the size of the bid-ask spread when comparing similar transactions are factors that are driven by the liquidity of markets and determine the relevance of observed prices in those markets.

Financial instruments may move between levels in the fair value hierarchy when factors such as the observability of pricing information, or of market input parameters, change. The Company's policy with respect to transfers between levels of the fair value hierarchy is to recognise transfers into and out of each level as of the end of the reporting period.

7. Financial assets and liabilities accounting classifications and fair values (continued)

Determination of Fair Value

These financial statements, when available, the Company generally uses quoted market prices in an active market to calculate the fair value of a financial asset or liability and classifies such items as Level 1. In some specific cases where a market price is available, the Company will make use of alternative pricing techniques, such as matrix pricing, whereby a similar instrument is used as a proxy, to calculate more appropriate fair value for the instrument being valued, in which case the items are classified as Level 2.

If quoted market prices are not available, fair values are based upon internally developed valuation techniques that use, where possible, current market-based or independently sourced market input parameters such as interest rates, foreign exchange rates and option volatilities. Instruments valued using such internally generated valuation techniques are classified according to the significance of the inputs to the valuation. Thus an instrument may be classified in Level 3 even though there may be other significant inputs that are readily observable. Similarly, an instrument may be classified in Level 2, if the unobservable inputs are not deemed significant to the valuation.

Where available, the Company may also make use of quoted prices for recent trading activity in positions with the same or similar characteristics to that being valued. The frequency and size of transactions are among the factors considered in determining the relevance of prices observed from those markets. If relevant and observable prices are available for all significant pricing inputs, those instruments would be classified as Level 2. If relevant and observable market information is not available for significant pricing inputs, other valuation techniques would be used and the item would be classified as Level 3. Fair value estimates from internal valuation techniques are verified, where possible, to prices obtained from independent vendors or brokers. Vendors' and brokers' valuations may be based on a variety of inputs ranging from observed prices to proprietary valuation models, and the Company assesses the quality and relevance of this information in determining the fair value measurement and disclosure of each instrument if such information is used as part of that determination.

Set out below is a description of the procedures used by CGML to determine the fair value of financial assets and financial liabilities irrespective of whether they are measured at fair value mandatorily or have been designated as such. This description includes an indication of the level in the fair value hierarchy in which each financial instrument is generally classified. Where appropriate, it also includes details of the valuation models, the key inputs to those models and any significant assumptions.

Market valuation adjustments
Market valuation adjustments are applied to items in Level 2 and Level 3 of the fair value hierarchy to ensure that the fair value reflects an exit price. These valuation adjustments therefore take into account bid-ask and, where relevant to fair value, additional liquidity considerations.

Credit valuation adjustments
Counterparty credit-risk adjustments are applied to derivatives, such as over-the-counter uncollateralised derivatives, where the base valuation uses market parameters based on the relevant base interest rate curves. Not all counterparties have the same credit risk as that implied by the relevant base curve, so it is necessary to consider the market view of the credit risk of a counterparty in order to estimate the fair value of such an item.

Bilateral or "own" credit-risk adjustments are applied to reflect the Company's own credit risk when valuing derivative liabilities and other liabilities measured at fair value. Counterparty and own credit adjustments consider the expected future cash flows between the Company and its counterparties under the terms of the instrument and the effect of credit risk on the valuation of those cash flows, rather than a point-in-time assessment of the current recognised net asset or liability. Furthermore, the credit-risk adjustments take into account the effect of credit-risk mitigants, such as pledged collateral and any legal right of offset (to the extent such offset exists) with a counterparty through arrangements such as netting agreements.

7. Financial assets and liabilities accounting classifications and fair values (continued)

Derivatives
Exchange-traded derivatives in active markets are generally fair valued using quoted market prices (i.e. exchange prices) and are therefore classified as Level 1 of the fair value hierarchy.

The majority of derivatives entered into by the Company are executed over the counter and are valued using a combination of external prices and internal valuation techniques, including benchmarking to pricing vendor services. The valuation techniques and inputs vary according to the type of derivative and the nature of the underlying instrument. The principal methods used to value these instruments are those adopted industry wide and include discounted cash flows, modelling and numerical approaches.

The type of inputs may include interest rate yield curves, credit spreads, foreign exchange rates, volatilities and correlations.

The Company discounts future cash flows using appropriate interest rate curves. In the case of collateralised interest rate derivatives the Company follows the terms in the collateral agreement governing the transaction. The agreements generally provide that an OIS curve is used. The OIS curves reflect the interest rate paid on the collateral against the fair value of these derivatives. Citi uses the relevant benchmark curve for the currency of the derivative (e.g., the U.S. Dollar London Interbank Offered Rate (LIBOR) for U.S. dollar derivatives) as the discount rate for uncollateralized derivatives.

Government bonds, corporate bonds and equities
CGML uses quoted market prices to determine the fair value of government bonds and exchange traded equities; such items are typically classified as Level 1 of the fair value hierarchy.

For government bonds, corporate bonds and equities traded over the counter, for which a quoted price is not available, CGML generally determines fair value utilising internal valuation techniques. Fair value estimates from internal valuation techniques are verified, where possible, to prices obtained from independent vendors. Vendors compile prices from various sources and may apply alternative pricing techniques, such as matrix pricing, whereby a similar instrument is used as a proxy for similar bonds or loans where no price is observable. If available, the Company may also use quoted prices for recent trading activity of assets with similar characteristics to the bond being valued. Government bonds, corporate bonds and equities priced using such methods are generally classified as Level 2. However, when less liquidity exists for government bonds, corporate bonds or equities, a quoted price is stale or prices from independent sources vary, they are generally classified as Level 3.

Collateralised financing transactions
No quoted prices exist for such financial instruments and so fair value is determined using a discounted cash-flow technique. Cash flows are estimated based on the terms of the contract, taking into account any embedded derivative or other features. Expected cash flows are discounted using market rates appropriate to the maturity of the instrument as well as the nature and amount of collateral taken or received. Generally, when such instruments are held at fair value, they are classified within Level 2 of the fair value hierarchy as the inputs used in the valuation are readily observable.

7. Financial assets and liabilities accounting classifications and fair values (continued)

Changes in Level 3 Fair Value Category

The following tables present the changes in the Level 3 fair value category for the six months ended 30 June 2019 and 31 December 2018. Gains and losses presented below include changes in the fair value related to both observable and unobservable inputs. CGML often hedges positions with offsetting positions that are classified in a different level.

2019	At 1 January $ Million	Gain/(loss) recorded in the profit and loss statement: Realised $ Million	Gain/(loss) recorded in the profit and loss statement: Unrealised $ Million	Purchases $ Million	Sales $ Million	Issuances $ Million	Settlements $ Million	Transfers into Level 3 $ Million	Transfers out of Level 3 $ Million	At 30 June $ Million
Financial assets mandatorily at fair value										
Derivatives	1,703	(224)	354	132	(23)	9	141	199	(333)	1,959
Government bonds	15	0	2	118	(7)	-	-	0	(1)	127
Non-government bonds	407	(13)	20	278	(325)	-	-	26	(66)	327
Equities	20	1	(3)	3	(5)	-	-	1	(10)	7
Commodities	-	-	-	-	-	-	-	-	-	-
Financial assets designated at fair value										
Collateralised financing transactions	99	(4)	9	95	-	-	(94)	-	-	106
Other assets at fair value through P&L										
Equity securities held for investment	33	-	33	-	-	-	-	-	0	66
	2,277	(240)	415	626	(360)	9	47	226	(410)	2,592

Financial liabilities held for trading	At 1 January $ Million	(Gain)/loss recorded in the profit and loss statement: Realised $ Million	(Gain)/loss recorded in the profit and loss statement: Unrealised	Purchases $ Million	Sales $ Million	Issuances $ Million	Settlements $ Million	Transfers into Level 3 $ Million	Transfers out of Level 3 $ Million	At 30 June $ Million
Derivatives	3,483	(38)	(307)	(3)	11	1,610	93	527	(793)	4,582
Securities sold but not yet purchased	242	2	(26)	(0)	1	-	(2)	38	(97)	156
Financial liabilities designated at fair value										
Collateralised financing transactions	-	-	-	-	-	-	-	-	-	-
	3,725	(36)	(333)	(3)	12	1,610	91	565	(890)	4,738

2018	At 1 January $ Million	Gain/(loss) recorded in the profit and loss statement: Realised $ Million	Gain/(loss) recorded in the profit and loss statement: Unrealised $ Million	Purchases $ Million	Sales $ Million	Issuances $ Million	Settlements $ Million	Transfers into Level 3 $ Million	Transfers out of Level 3 $ Million	At 31 December $ Million
Financial assets held for trading										
Derivatives	1,859	(245)	(71)	71	(8)	3	272	478	(656)	1,703
Government bonds	16	8	(10)	40	(31)	-	-	5	(13)	15
Non-government bonds	244	(14)	(8)	412	(243)	-	-	169	(153)	407
Equities	72	44	7	66	(150)	-	-	22	(41)	20
Commodities	-	-	-	-	-	-	-	-	-	-
Financial assets designated at fair value										
Collateralised financing transactions	29	541	(42)	94	-	-	(45)	50	(528)	99
Financial assets available for sale										
Equity securities held for investment	-	-	30	-	-	-	-	3	-	33
	2,220	334	(94)	683	(432)	3	227	727	(1,391)	2,277

Financial liabilities held for trading	At 1 January $ Million	(Gain)/loss recorded in the profit and loss statement: Realised $ Million	(Gain)/loss recorded in the profit and loss statement: Unrealised	Purchases $ Million	Sales $ Million	Issuances $ Million	Settlements $ Million	Transfers into Level 3 $ Million	Transfers out of Level 3 $ Million	At 31 December $ Million
Derivatives	3,621	410	(179)	-	48	7	1,249	1,354	(3,027)	3,483
Securities sold but not yet purchased	234	88	(17)	-	6	-	(71)	91	(89)	242
Financial liabilities designated at fair value										
Collateralised financing transactions	70	-	-	-	-	-	-	-	(70)	-
	3,925	498	(196)	-	54	7	1,178	1,445	(3,186)	3,725

Included in the Level 3 balance at 30 June 2019 above are intercompany assets of $733 million (2018: $1,025 million) and liabilities of $3,908 million (2018: $2,782 million).

7. Financial assets and liabilities accounting classifications and fair values (continued)

During 2019 there has been a $1.3 billion increase in total Level 3 balances. The Level 3 financial instruments assets increased mainly due to unrealised gains and purchases on Level 3 positions while increase on liabilities was driven by issuances.

The Level 3 asset inventory increase was driven by $213 million on Interest Rate Derivatives mainly on cancellable swaps and by $107 million on Equity Derivatives mainly on equity swaps. Increase on liability issuances of $1.6 billion was driven by $1.3 billion on new trades in callable range accruals with risk on several unobservable parameters. The increase of Level 3 liability positions was partially offset by $310 million gains on Equity Derivatives driven by new Callable Range Accrual deals.

Valuation process for Level 3 Fair Value Measurements

Price verification procedures and related internal control procedures are governed by the Citi Pricing and Price Verification Policy and Standards, which are jointly owned by Finance and Risk Management. Finance has implemented the Pricing and Price Verification Standards and Procedures to facilitate compliance with this policy.

For fair value measurements of substantially all assets and liabilities held by CGML, individual business units are responsible for valuing the trading account assets and liabilities, and Product Control within Finance performs independent price verification procedures to evaluate those fair value measurements. Product Control is independent of the individual business units and reports into the Global Head of Product Control, who ultimately reports to the Citi Chief Financial Officer. Fair value measurements of assets and liabilities are determined using various techniques including, but not limited to, discounted cash flows and internal models, such as option and correlation models.

Based on the observability of inputs used, Product Control classifies the inventory as Level 1, Level 2 or Level 3 within the fair value hierarchy. When a position involves one or more significant inputs that are not directly observable, additional price verification procedures are applied. These procedures may include reviewing relevant historical data, analysing profit and loss, valuing each component of a structured trade individually and benchmarking, amongst others.

Reports of Level 3 inventory of each business line of the Company are distributed to senior management in Finance, Risk and the individual business lines. Reports are also discussed in monthly meetings with Senior Management. Whenever a valuation adjustment is needed to bring the price of an asset or liability to its exit price, Product Control reports it to management along with other price verification results.

In addition, the pricing models used in measuring fair value are governed by an independent control framework. Although the models are developed and tested by the individual business units, they are independently validated by the Model Validation Group and reviewed by Finance with respect to their impact on the price verification procedures. The purpose of this independent control framework is to assess model risk arising from models' theoretical soundness, calibration techniques where needed, and the appropriateness of the model for a specific product in a defined market. To ensure their continued applicability, models are subject to independent annual model review.

Transfers from Level 2 to Level 3 arise when the availability of observable independent market data or pricing information for the significant valuation inputs of an instrument reduces. Transfers from Level 3 to Level 2 can occur when observability of the independent market data or pricing information for significant valuation inputs improves, or where the significance of the unobservable inputs reduces sufficiently.

7. Financial assets and liabilities accounting classifications and fair values (continued)

Unobservable inputs

During the year, total changes in fair value, representing a gain of $544 million (2018: $62 million loss) were recognised in the income statement relating to items where fair value was estimated using a valuation technique that incorporated one or more significant inputs based on unobservable market data. As these valuation techniques were based upon assumptions, changing the assumptions would change the estimate of fair value. The potential impact of using reasonably possible alternative assumptions for the valuation techniques for both observable and unobservable market data has been quantified as approximately $448 million downside and $413 million upside (2018: $428 million downside and $390 million upside). The main contributors to this impact are Equity Markets, Credit Trading and Interest Rates Derivatives businesses.

Valuation uncertainty is computed on a quarterly basis. The methodology used to derive the impact across each product is determined by applying adjustments to the price or significant model input parameters used in the valuation.

The adjustments are typically computed with reference to proxy analysis using third party data. Examples of the approach used to derive sensitivity adjustments are outlined below:

- Equity Markets: Valuation uncertainty is computed from a combination of consensus market data and proxy analysis using third party data providers.
- Credit Trading and Securitised Markets: Valuation uncertainty is computed from a combination of consensus market data, broker data and proxy analysis using third party data providers.
- Commodity Markets: Valuation uncertainty is computed from a combination of consensus market data and proxy analysis using third party data providers.

7. Financial assets and liabilities accounting classifications and fair values (continued)

Valuation Techniques and Inputs for Level 3 Fair Value Measurements

The following tables present the valuation techniques covering the majority of Level 3 inventory and the most significant unobservable inputs used in Level 3 fair value measurements as of 30 June 2019 and 31 December 2018. Note that these tables represent key drivers by disclosures line and may not agree back to the Changes in Level 3 Fair Value Category table.

2019	Fair Value $ million	Methodology	Input	Range of Inputs Min	Max	Unit
Assets						
Derivative assets	1,959					
Interest Rate Derivatives		Model-based	IR Normal Volatility	18.4	55.1	%
		Price-based	Price	-	1,127.4	$
Equity Derivatives		Model-based	Equity-FX Correlation	-75.0	37.3	%
		Price-based	Price	-	2,164.2	$
Commodity Derivatives		Model-based	Forward Price	26.2	343.4	%
		Model-based	Commodity Volatility	10.1	93.2	%
		Model-based	Commodity Correlation	-40.6	89.5	%
Inventory						
Government bonds	127	Model-based	Price	-	2,164.2	$
		Price-based	Price	-	2,164.2	$
Non-government bonds	327	Price-based	Price	-	1,127.4	$
Equity	7	Model-based	Price	-	865.9	$
		Price-based	Price	-	2,164.2	$
Liabilities						
Derivative liabilities	4,582					
Commodity Derivatives		Model-based	Forward Price	26.2	343.4	%
		Model-based	Commodity Volatility	10.1	93.2	%
		Model-based	Commodity Correlation	-40.6	89.5	%
Equity Derivatives		Model-based	Equity Volatility	2.9	88.3	%
		Model-based	Forward Price	59.6	129.8	%
		Model-based	Forward Price	26.2	343.4	%
		Model-based	Price	-	2,164.2	$
		Model-based	Equity-IR Correlation	20.0	35.0	%
		Model-based	Commodity Volatility	10.1	93.2	%
		Model-based	Equity-Equity Correlation	-48.6	98.1	%
		Model-based	Commodity Correlation	-40.6	89.5	%
		Model-based	Equity-FX Correlation	-75.0	37.3	%
		Price-based	Price	-	2,164.2	$
Interest Rate Derivatives		Price-based	Price	-	1,127.4	$
Securities sold but not yet purchased	156	Model-based	Price	-	2,164.2	$

7. Financial assets and liabilities accounting classifications and fair values (continued)

2018	Fair Value $ million	Methodology	Input	Range of Inputs Min	Max	Unit
Assets						
Derivative assets	1,703					
Interest Rate Derivatives		Model-based	Equity Volatility	3.0	78.4	%
		Model-based	Price	-	1,022.6	$
		Model-based	Equity-Equity Correlation	- 81.4	100.0	%
		Price-based	Price	-	1,022.6	$
Equity Derivatives		Model-based	Equity Volatility	3.0	78.4	%
		Model-based	Forward Price	64.7	144.4	%
		Model-based	Equity-Equity Correlation	- 81.4	100.0	%
		Model-based	Equity-FX Correlation	- 86.3	70.0	%
Commodity Derivatives		Model-based	Forward Price	15.3	585.1	%
		Model-based	Commodity Volatility	8.9	59.9	%
		Model-based	Commodity Correlation	- 51.9	92.1	%
Inventory						
Government bonds	15	Price-based	Price	-	865.9	$
		Price-based	Price	-	1,022.6	$
Non-government bonds	407	Model-based	Price	-	1,022.6	$
		Price-based	Price	-	1,022.6	$
Equity	20	Model-based	Price	-	865.9	$
		Price-based	Price	-	865.9	$
Liabilities						
Derivative liabilities	3,483					
Commodity Derivatives		Model-based	Forward Price	15.3	585.1	%
		Model-based	Commodity Volatility	8.9	59.9	%
		Model-based	Commodity Correlation	- 51.9	92.1	%
Equity Derivatives		Model-based	Equity Volatility	3.0	78.4	%
		Model-based	Forward Price	15.3	585.1	%
		Model-based	Forward Price	64.7	144.4	%
		Model-based	Equity-IR Correlation	- 40.0	70.4	%
		Model-based	Equity-Equity Correlation	- 81.4	100.0	%
		Model-based	Commodity Correlation	- 51.9	92.1	%
		Model-based	Equity-FX Correlation	- 86.3	70.0	%
Interest Rate Derivatives		Model-based	Equity Volatility	3.0	78.4	%
		Model-based	Price	-	1,022.6	$
		Model-based	Equity-Equity Correlation	- 81.4	100.0	%
		Price-based	Price	-	1,022.6	$
Securities sold but not yet purchased	242	Model-based	Price	-	865.9	$
		Price-based	Price	-	865.9	$
		Price-based	Equity-FX Correlation	- 86.3	70.0	%

7. Financial assets and liabilities accounting classifications and fair values (continued)

Sensitivity to unobservable inputs and interrelationships between unobservable inputs

The impact of key unobservable inputs on the Level 3 fair value measurements may not be independent of one another. In addition, the amount and direction of the impact on a fair value measurement for a given change in an unobservable input depends on the nature of the instrument as well as whether the Company holds the instrument as an asset or a liability. For certain instruments, the pricing, hedging and risk management are sensitive to the correlation between various inputs rather than on the analysis and aggregation of the individual inputs.

The following section describes the sensitivities and interrelationships of the most significant unobservable inputs used by the Company in Level 3 fair value measurements.

Yield
Adjusted yield is generally used to discount the projected future principal and interest cash flows on instruments, such as loans. Adjusted yield is impacted by changes in the interest rate environment and relevant credit spreads.

In some circumstances, the yield of an instrument is not observable in the market and must be estimated from historical data or from yields of similar securities. This estimated yield may need to be adjusted to capture the characteristics of the security being valued. In other situations, the estimated yield may not represent sufficient market liquidity and must be adjusted as well. Whenever the amount of the adjustment is significant to the value of the security, the fair value measurement is classified as Level 3.

Recovery
Recovery is the proportion of the total outstanding balance of a bond or loan that is expected to be collected in a liquidation scenario. For many credit securities (such as asset-backed securities), there is no directly observable market input for recovery, but indications of recovery levels are available from pricing services. The assumed recovery of a security may differ from its actual recovery that will be observable in the future. The recovery rate impacts the valuation of credit securities. Generally, an increase in the recovery rate assumption increases the fair value of the security. An increase in loss severity, the inverse of the recovery rate, reduces the amount of principal available for distribution and, as a result, decreases the fair value of the security.

Credit Spread
Credit spread is a component of the security's yield representing its credit quality. Credit spread reflects the market perception of changes in prepayment, delinquency and recovery rates. Changes in credit spread affect the fair value of securities differently depending on the characteristics and maturity profile of the security. For example, credit spread is a more significant driver of the fair value measurement of a high yield bond as compared to an investment grade bond. Generally, the credit spread for an investment grade bond is also more observable and less volatile than its high yield counterpart.

Volatility
Volatility represents the speed and severity of market price changes and is a key factor in pricing options. Typically, instruments can become more expensive if volatility increases. For example, as an index becomes more volatile, the cost to Citi of maintaining a given level of exposure increases because more frequent rebalancing of the portfolio is required. Volatility generally depends on the tenor of the underlying instrument and the strike price or level defined in the contract. Volatilities for certain combinations of tenor and strike are not observable. The general relationship between changes in the value of a portfolio to changes in volatility also depends on changes in interest rates and the level of the underlying index. Generally, long option positions (assets) benefit from increases in volatility, whereas short option positions (liabilities) will suffer losses. Some instruments are more sensitive to changes in volatility than others. For example, an at-the-money option would experience a larger percentage change in its fair value than a deep-in-the-money option. In addition, the fair value of an option with more than one underlying security (for example, an option on a basket of bonds) depends on the volatility of the individual underlying securities as well as their correlations.

7. Financial assets and liabilities accounting classifications and fair values (continued)

Correlation
Correlation is a measure of the co-movement between two or more variables. A variety of correlation-related assumptions are required for a wide range of instruments, including equity baskets, foreign-exchange options and many other instruments. For almost all of these instruments, correlations are not observable in the market and must be estimated using historical information. Estimating correlation can be especially difficult where it may vary over time. Extracting correlation information from market data requires significant assumptions regarding the informational efficiency of the market (for example, swaption markets). Changes in correlation levels can have a major impact, favorable or unfavorable, on the value of an instrument, depending on its nature.

Qualitative discussion of the ranges of significant unobservable inputs

The following section describes the ranges of the most significant unobservable inputs used by the Company in Level 3 fair value measurements. The level of aggregation and the diversity of instruments held by the Company lead to a wide range of unobservable inputs that may not be evenly distributed across the Level 3 inventory.

Price
The price input is a significant unobservable input for certain fixed income instruments. For these instruments, the price input is expressed as a percentage of the notional amount, with a price of 100 meaning that the instrument is valued at par. For most of these instruments, the price varies between zero and slightly above 100. Relatively illiquid assets that have experienced significant losses since issuance, such as certain asset-backed securities, are at the lower end of the range, whereas most investment grade corporate bonds will fall in the middle to the higher end of the range. The price input is also a significant unobservable input for certain equity securities; however, the range of price inputs varies depending on the nature of the position, the number of shares outstanding and other factors.

Yield
Ranges for the yield inputs vary significantly depending upon the type of security. For example, securities that typically have lower yields, such as German or U.S. government bonds, will fall on the lower end of the range, while more illiquid securities or securities with lower credit quality, such as certain residual tranche asset-backed securities, will have much higher yield inputs.

Credit Spread
Credit spread is relevant primarily for fixed income and credit instruments; however, the ranges for the credit spread input can vary across instruments. For example, certain fixed income instruments, such as certificates of deposit, typically have lower credit spreads, whereas certain derivative instruments with high-risk counterparties are typically subject to higher credit spreads when they are uncollateralized or have a longer tenor. Other instruments, such as credit default swaps, also have credit spreads that vary with the attributes of the underlying obligor. Stronger companies have tighter credit spreads, and weaker companies have wider credit spreads.

Volatility
Similar to correlation, asset-specific volatility inputs vary widely by asset type. For example, ranges for foreign exchange volatility are generally lower and narrower than equity volatility. Equity volatilities are wider due to the nature of the equities market and the terms of certain exotic instruments. For most instruments, the interest rate volatility input is on the lower end of the range; however, for certain structured or exotic instruments (such as market-linked deposits or exotic interest rate derivatives), the range is much wider.

Correlation
There are many different types of correlation inputs, including credit correlation, cross-asset correlation (such as equity-interest rate correlation), and same-asset correlation (such as interest rate-interest rate correlation). Correlation inputs are generally used to value hybrid and exotic instruments. Generally, same-asset correlation inputs have a narrower range than cross-asset correlation inputs. However, due to the complex nature of many of these instruments, the ranges for correlation inputs can vary widely across portfolios.

8. Investments in subsidiary and related undertakings

	30 June 2019 $ Million	31 December 2018 $ Million
Cost		
At 1 January	769	4
Additions	650	767
Transfer of branches	12	-
Disposals	-	(1)
At 30 June	1,431	769

On 14 February 2019 CGML made a capital contribution of $650 million to its subsidiary, CGME.

During 2018 Citigroup Global Markets Europe AG was purchased from a Citi affiliate as part of Citi's strategy to continue serving its European clients following the UK's decision to leave the European Union.

Details of all related undertakings held at 30 June 2019 as required by CA2006 SI 2008 No 410 Sch 4 Para 1 are set out below. All undertakings have a year end of 31 December and all of the Company's holdings are of ordinary shares.

Directly held subsidiary undertakings (all 100% owned)

Name	Registered address
Citigroup Global Markets Europe AG	16 Reuterweg, Frankfurt am Main 30323, Germany
Citigroup Global Markets Luxembourg S.a.R.L.	31, Z.A. Bourmicht, L-8070 Bertrange, Luxembourg
Citigroup Global Markets Funding Luxembourg SCA	31, Z.A. Bourmicht, L-8070 Bertrange, Luxembourg
Citigroup Global Markets Funding Luxembourg GP S.a.R.L.	31, Z.A. Bourmicht, L-8070 Bertrange, Luxembourg
Citi Global Wealth Management S.A.M.	Monte Carlo Palace, 7-9 Boulevard des Moulins, MC98000 Monaco

9. Subordinated loans

The subordinated loans form part of the Company's regulatory capital resources held to meet the capital adequacy requirements of the PRA and can only be repaid with their consent. The loans, on which interest is payable at market rates, are due to other group undertakings. The following amounts were included within subordinated loans:

Subordinated Loans	Currency	$ Million	Average Interest Rate	Weighted Average Maturity (Years)
30 June 2019	USD	9,600	4.74%	8.41
31 December 2018	USD	9,600	4.70%	8.91

Subordinated loans consists of $5 billion of Total Loss Absorbing Capacity (TLAC) subordinated loan borrowings from Citicorp LLC and $4,600 million of Tier 2 subordinated loan borrowings from Citicorp LLC.

9. Subordinated loans (continued)

The TLAC loans rank as senior subordinated claims, which are subordinate to the claims of senior creditors, but rank ahead of Own Funds Instruments, which comprise Common Equity Tier 1 instruments, Additional Tier 1 instruments (see Note 28) and Tier 2 instruments.

The Tier 2 loans rank as subordinated claims, which are subordinated to senior creditors but rank ahead of Common Equity Tier 1 instruments and Additional Tier 1 instruments.

In the event that the Company's Own Funds Instruments have been written down, or if the Company or certain of its direct or indirect parent entities are subject to Resolution Proceedings in the UK or elsewhere, then all or a portion of the subordinated loans and/or interest on them shall be reduced or cancelled as instructed by the UK Resolution Authority (Bank of England).

There are no other circumstances under which early repayment may be demanded by the lender. There are no provisions whereby the loans may be converted into capital or any other form of liability.

10. Other equity instruments

The Company did not issue any additional notes during the period ended 30 June 2019. During 2018 CGML issued $500 million of Additional Tier 1 Notes and during 2017 the company issued $1,800 to Pipestone LLC, another Citi entity

The notes are perpetual with no fixed redemption date, and are redeemable at the issuer's option subject to approval from the PRA. Interest is fixed every 5 years, interest payments are not cumulative and the issuer may cancel any interest payment at its sole discretion. The notes do not confer any voting rights.

In the event that CGML's Common Equity Tier 1 (CET1) ratio falls below 7.0%, the notes will be written down to zero. If a winding up occurs under these circumstances, no payment will be made to the noteholders. If a winding up takes place under any other circumstances, the noteholders will rank *pari passu* with the holders of the most senior class(es) of preference shares (if any) and ahead of all other classes of issued shares, but junior to the claims of senior creditors, for the amount of the principal and any accrued but unpaid interest on the notes.

11. Capital reserve

The Company did not receive any capital contribution during the period ended 30 June 2019. During 2018 CGML received 1$ billion from its parent, Citigroup Global Markets Holdings Bahamas Limited.

12. Financial instruments and risk management

All aspects of the Company's financial risk management objectives and policies are consistent with those disclosed in the financial statements as at and for the year ended 31 December 2018.

13. Events after the reporting period

On 3 July 2019 CGML drew down $500 million of Total Loss Absorbing Capacity (TLAC) subordinated loan borrowings from Citicorp LLC.

On 17 September 2019 the Board has provided approval for a capital contribution of $400 million to its subsidiary, CGME, in line with CGME's capital requirements.

At the date on which these financial statements were approved, there were no other significant events affecting the Company since the period end.

14. Group structure

The Company's immediate parent undertaking is Citigroup Global Markets Holdings Bahamas Limited (CGMHBL), a company registered at Ocean Centre, Montagu Foreshore, East Bay Street, and P.O. Box N3247, Nassau, Bahamas. The Company's ultimate parent company and ultimate controlling party is Citigroup Inc., registered at 1209 Orange Street, Wilmington, DE 19801 United States of America.

The audited consolidated financial statements of Citigroup Inc. are made available to the public annually in accordance with Securities and Exchange Commission regulations and may be obtained from http://www.citigroup.com/citi/investor/overview.html

15. Revenue analysis

As outlined in the Strategic Report, the Company is Citi's international broker-dealer and management reviews its performance by geography in the same way as Citigroup Inc. reports its performance.

Citi is organised into four regions, Asia Pacific, EMEA, Latin America and North America.

	Asia Pacific	EMEA	Latin America	North America	Total Regional	Other / Corp	Total
Revenue by Region	**$ Million**	**$ Million**	**$ Million**	**$ Million**	**$ Million**	**$ Million**	**$ Million**
30 June 2019	189	1,211	3	(49)	1,354	328	1,682
30 June 2018	233	1,296	(4)	110	1,635	169	1,804
Increase (decrease) compared to prior year	(44)	(85)	7	(159)	(281)	159	(122)

Other / Corporate items relate to certain transfer pricing revenues and expenses. These form part of intercompany pricing arrangements between affiliated Citi entities, to ensure that entities are appropriately compensated for the use of their resources.