

# Basel III 2017 Pillar 3 Disclosures

Credit Suisse International



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#### Cautionary statement regarding forward-looking information

This report contains statements that constitute forward-looking statements. In addition, in the future we, and others on our behalf, may make statements that constitute forward-looking statements. Such forward-looking statements may include, without limitation, statements relating to the following:

- our plans, objectives or goals;
- our future economic performance or prospects;
- the potential effect on our future performance of certain contingencies; and
- assumptions underlying any such statements.

Words such as "believes," "anticipates," "expects," "intends" and "plans" and similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements. We do not intend to update these forward-looking statements except as may be required by applicable securities laws.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and risks exist that predictions, forecasts, projections and other outcomes described or implied in forward-looking statements will not be achieved. We caution you that a number of important factors could cause results to differ materially from the plans, objectives, expectations, estimates and intentions expressed in such forward-looking statements. These factors include:

- the ability to maintain sufficient liquidity and access capital markets;
- market volatility and interest rate fluctuations and developments affecting interest rate levels;
- the strength of the global economy in general and the strength of the economies of the countries in which we conduct our operations, in particular the risk of continued slow economic recovery or downturn in the US or other developed countries or in emerging markets in 2018 and beyond;
- the direct and indirect impacts of deterioration or slow recovery in residential and commercial real estate markets;
- adverse rating actions by credit rating agencies in respect of sovereign issuers, structured credit products or other credit-related exposures;
- the ability to achieve our strategic objectives, including cost efficiency, net new asset, pre-tax income/(loss), capital ratios and return on regulatory

- capital, leverage exposure threshold, risk-weighted assets threshold, and other targets and ambitions;
- the ability of counterparties to meet their obligations to us;
- the effects of, and changes in, fiscal, monetary, exchange rate, trade and tax policies, as well as currency fluctuations;
- political and social developments, including war, civil unrest or terrorist activity;
- the possibility of foreign exchange controls, expropriation, nationalization or confiscation of assets in countries in which we conduct our operations;
- operational factors such as systems failure, human error, or the failure to implement procedures properly;
- the risk of cyber-attacks on our business or operations;
- actions taken by regulators with respect to our business and practices and possible resulting changes to our business organization, practices and policies in countries in which we conduct our operations;
- the effects of changes in laws, regulations or accounting policies or practices in countries in which we conduct our operations;
- the potential effects of proposed changes in our legal entity structure;
- competition in geographic and business areas in which we conduct our operations;
- the ability to retain and recruit qualified personnel;
- the ability to maintain our reputation and promote our brand;
- the ability to increase market share and control expenses;
- technological changes;
- the timely development and acceptance of our new products and services and the perceived overall value of these products and services by users;
- acquisitions, including the ability to integrate acquired businesses successfully, and divestitures, including the ability to sell non-core assets;
- the adverse resolution of litigation, regulatory proceedings, and other contingencies; and
- other unforeseen or unexpected events and our success at managing these and the risks involved in the foregoing.

We caution you that the foregoing list of important factors is not exclusive. When evaluating forward-looking statements, you should carefully consider the foregoing factors and other uncertainties and events, including the information set forth in our Annual Report 2017.

## Introduction

This document comprises the Pillar 3 disclosures for Credit Suisse International ('CSi' or 'the Bank') as at 31 December 2017. It should be read in conjunction with CSi's 2017 Annual Report which can be found at: www.credit-suisse.com

These Pillar 3 disclosures are prepared to meet the regulatory requirements set out in Part Eight of the Capital Requirements Regulation ('CRR'). Pillar 3 aims to promote market discipline and transparency through the publication of key information on capital adequacy, risk management and remuneration.

CSi is authorised by the Prudential Regulation Authority ('PRA') and regulated by the Financial Conduct Authority ('FCA') and the PRA.

## BASIS AND FREQUENCY OF DISCLOSURES

Where disclosures have been withheld, as permitted, on the basis of confidentiality, immateriality, or being proprietary in nature, this is indicated. Pillar 3 disclosures are published annually, although key capital adequacy ratios are disclosed more frequently and may be found on the Credit Suisse website at www.credit-suisse.com

The Annual Report is prepared under International Financial Reporting Standards ('IFRS') and accordingly, certain information in the Pillar 3 disclosures may not be directly comparable.

This Pillar 3 document has been verified and approved in line with internal policy. It has not been audited by CSi's external auditors.

#### **BASIS OF CONSOLIDATION**

These Pillar 3 disclosures are prepared on a solo basis. CSi prepares its IFRS financial statements on a consolidated basis ('CSi group'), including a number of subsidiaries that do not fall within the regulatory scope of consolidation per the CRR.

## RESTRICTIONS ON TRANSFER OF FUNDS OR REGULATORY CAPITAL WITHIN THE CSI GROUP

In general, the restrictions around the repayment of liabilities and transfer of regulatory capital within the CSi group are related to constraints that are imposed on entities by local regulators. The movement of capital may also be subject to tax constraints where there are cross-border movements or thin capitalisation rules.

### REMUNERATION DISCLOSURES

The remuneration disclosures required by CRR Article 450 can be found in a separate document ('Pillar 3 – UK Remuneration Disclosures 2017') on the Credit Suisse website at: www.credit-suisse.com.

## Capital management

### **OVERVIEW**

The Credit Suisse group ('CS group') considers a strong and efficient capital position to be a priority. Consistent with this, CSi closely monitors its capital adequacy position on a continuing basis to ensure ongoing stability and support of its business activities. This monitoring takes account of the requirements of the current regulatory regime and any forthcoming changes to the capital

Multi-year business forecasts and capital plans are prepared by CSi, taking into account its business strategy and the impact of known regulatory changes. These plans are subjected to various stress tests as part of the Internal Capital Adequacy Assessment Process ('ICAAP'). Within these stress tests, potential management actions, that are consistent with both the market conditions implied by the stress test and the stress test outcome, are identified. The results of these stress tests and associated management actions are updated, as part of the ICAAP, with

results documented and reviewed by the Board of Directors. The ICAAP is used for the SREP ('Supervisory Review and Evaluation Process') that the PRA conducts when assessing an institution's level of regulatory capital.

#### **OWN FUNDS**

Article 437 of the CRR requires disclosure of the main features of Common Equity Tier 1 ('CET1'), Additional Tier 1 ('AT1') and Tier 2 instruments. CSi's CET1 comprises permanent share capital of ordinary shares and reserves. The ordinary shares carry voting rights and the right to receive dividends. CSi has no AT1 capital and the terms of its Tier 2 capital instruments are disclosed in Appendix 1.

CSi's capital composition and principal capital ratios are presented in the tables below, together with a reconciliation to CSi's 2017 Statement of Financial Position. No amount shown in 'own funds' is subject to CRD IV transitional provisions.

### Capital composition

end of				2017	2016
			Statement of Financial		
	Note	Own funds	Position (1)	Difference	Own funds
USD million					
Tier 1 (and CET1) capital					
Ordinary shares		12,366	12,366	-	12,366
Share premium		12,704	12,704	-	12,704
Retained earnings		(2,537)	(2,537)	-	(2,336)
Accumulated other comprehensive income		-	-	-	(2)
Tier 1 (and CET1) before prudential filters and regulatory adjustments		22,533	22,533	-	22,732
Prudential filters and regulatory adjustments					
Cash flow hedge reserve		-	-	-	_
Elimination of losses / (gains) on fair valued liabilities	(2)	19	_	_	5
Elimination of losses / (gains) on derivative liabilities	(3)	(90)	-	-	(172)
Prudent valuation adjustments	(4)	(768)	_	-	(1,017)
Intangible assets	(5)	(454)	_	_	(404)
Excess of expected losses over credit risk adjustments	(6)	(121)	_	_	(121)
Securitisation positions (Trading Book)	(7)	(38)	_	_	_
DTA on non temporary differences	(8)	(1)	_	_	_
Total Tier 1 (and CET1) capital		21,080	22,533	(1,453)	21,023
Tier 2 capital					
Subordinated loans	(9)	2,629	3,084	(455)	5,717
General credit risk adjustments	(10)	6	_	6	1
Total Tier 2 capital		2,635	-	2,635	5,718
Total capital ('own funds')		23,715	22,533	1,182	26,741

## Capital ratios

end of	2017	2016
Common Equity Tier 1	20%	17%
Tier 1	20%	17%
Total Capital	23%	21%

#### Notes:

- 2017 Statement of Financial Position for (i) Total Equity and
   (ii) subordinated debt amounts prepared under IFRS.
- (2) Represents losses on liabilities that are valued at fair value resulting from changes in CSi's credit standing [CRR Article 33(1)(b)].
- (3) Represents gains on derivative liabilities that result from changes in CSi's credit standing [CRR Article 33(1)(c)].
- (4) A prudent valuation adjustment is applied in respect of fair valued instruments as required under CRDIV regulatory capital rules [CRR Articles 34, 105].
- (5) Intangible assets and goodwill do not qualify as capital for regulatory purposes under CRDIV [CRR Articles 36(1)(b), 37].
- (6) For institutions using the AIRB Approach, represents shortfall of credit risk adjustments to expected losses.
- (7) Securitisation positions which can alternatively be subject to a 1,250% risk weight [CRR Articles 36(1)(k)(ii), 243(1)(b), 244(1)(b),258].
- (8) Deferred tax assets that rely on future profitability and do not arise from temporary differences net of associated tax liabilities are to be reduced from regulatory capital under Articles 36(1) point (c) and 38 of CRR.
- (9) Subordinated debt is either accrual accounted or fair valued under IFRS (eg. including accrued interest) whereas 'own funds' recognises it at nominal value.
- (10) General credit risk provision for standardised counterparties is added back to Tier 2 capital [CRR Article 62 (c)].

## COUNTERCYCLICAL CAPITAL BUFFER

The Financial Policy Committee ('FPC') of the Bank of England is responsible for setting the UK Countercyclical Capital Buffer ('CCB') rate, ie. the CCB rate that applies to UK exposures of banks, building societies and large investment firms incorporated in the UK. In setting the CCB, the FPC considers a number of core indicators such as credit to GDP ratios. CRD IV , as implemented in the UK, includes a transitional period, during which the FPC is responsible for deciding whether CCB rates set by EEA States should be recognised and for taking certain decisions about third country rates, including whether a higher rate should be set for the purposes of UK institutions calculating their CCBs.

CCBs can be applied at a CS group, sub-consolidated or legal entity basis. CRD IV also includes the potential for a Systemic Risk Buffer ('SRB') which could be similarly applied.

No CCB rates were set for 2017 by the FPC to apply to UK exposures. CCB rates have been set by Hong Kong, Norway, Sweden, Czech Republic, Iceland & Slovakia for 2017 that apply to exposures to those countries. No further disclosures are made on CCB on the basis of materiality.

### CAPITAL RESOURCES REQUIREMENT

The Pillar 1 capital requirements of CSi are summarised below, along with the relevant risk-weighted asset ('RWA') values. Credit risk capital requirements and RWAs are further broken down by risk-weight methodology and exposure class

## OV1 - Overview of RWAs

		RWAs re	Minimum capital equirements
end of	2017	2016	2017
USD million			
Credit risk (excluding CCR)	7,638	11,307	611
Of which the standardised approach	1,243	2,696	99
Of which the foundation IRB (FIRB) approach	_	_	-
Of which the advanced IRB (AIRB) approach	6,257	8,520	501
Of which equity IRB under the simple risk-weighted approach or the IMA	138	91	11
Counterparty credit risk	62,136	74,716	4,971
Of which mark to market	41,550	47,070	3,324
Of which original exposure	_		
Of which the standardised approach	_	_	
Of which internal model method (IMM)	_	_	-
Of which risk exposure amount for contributions to the default fund of a CCP	341	335	27
Of which CVA	20,245	27,311	1,620
Settlement risk	7	62	1
Securitisation exposures in the banking book (after the cap)	797	844	64
Of which IRB approach	796	816	64
Of which IRB supervisory formula approach (SFA)	1	28	0
Of which internal assessment approach (IAA)	_		-
Of which standardised approach	_		
Market risk	21,710	24,441	1,737
Of which the standardised approach	320	223	26
Of which IMA	21,390	24,218	1,711
Large exposures	9,044	11,533	724
Operational risk	2,669	2,962	214
Of which basic indicator approach	2,669	2,962	214
Of which standardised approach	_	_	
Of which advanced measurement approach	_	_	
Amounts below the thresholds for deduction (subject to 250% risk weight)	870	860	70
Floor adjustment	- · · · · · · · · · · · · · · · · · · ·	_	-
Total	104,871	126,725	8,390

The decrease in RWA over the year was a result of business reduction in the Strategic Resolution Unit (SRU) and an increase in collateral from Credit Suisse AG offsetting OTC derivative exposures in SRU and Asia Pacific divisions.

## Risk management

### **OVERVIEW**

CSi's risk management framework is based on transparency, management accountability and independent oversight. Risk management plays an important role in CSi's business planning process and is strongly supported by senior management and the Board of Directors. The primary objectives of risk management are to protect CSi's financial strength and reputation, while ensuring that capital is well deployed to support business activities and increase shareholder value. CSi has implemented risk management processes and control systems and it works to limit the impact of negative developments by monitoring all relevant risks including credit, market, liquidity, operational and reputational as well as managing concentrations of risks.

### **BOARD OF DIRECTORS**

The Directors are responsible for reviewing the effectiveness of CSi's risk management and systems of financial and internal control. These are designed to manage rather than eliminate the risks of not achieving business objectives, and, as such, offer reasonable but not absolute assurance against fraud, material misstatement and loss. The Board of Directors considers that adequate systems and controls are in place with regard to CSi's risk profile and strategy and an appropriate array of assurance mechanisms, properly resourced and skilled, have been established to avoid or minimise loss.

In addition, the Board of Directors has established a Board Risk Committee, as discussed below. Ordinary meetings of the Board Risk Committee are required to take place at least four times each year.

Recruitment to CSi's Board of Directors is governed by a nominations policy that is applied consistently to all subsidiaries within the CS group. At local level, this policy is implemented by a nominations committee that is required to evaluate the balance of skills, knowledge and experience of the Board of Directors by reference to the requirements of the Bank, and similarly to consider the skills, knowledge and experience of individual candidates

for appointment. Consistent with the fact that the Bank is an Equal Opportunities Employer, recruitment at all levels is based on consideration of a diverse range of candidates without discrimination or targets on the basis of any protected category. In addition the CSi Board has adopted a Diversity Policy, setting out the approach to diversity, including consideration of differences in skills, regional and industry experience, background, race, gender and other distinctions between Directors. Details of directorships held by Board Members are shown in Appendix 2.

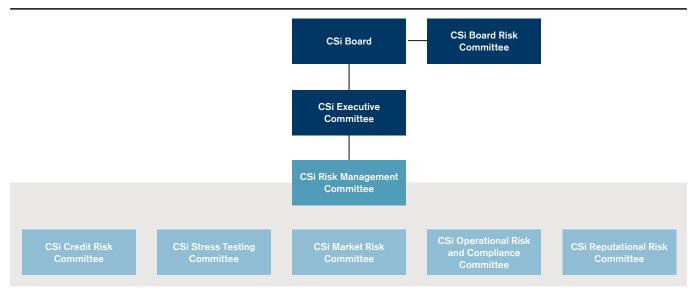
#### **RISK ORGANISATION AND GOVERNANCE**

Risks are monitored and managed as part of the Risk Appetite Framework. CSi's risk management organisation reflects its risk profile to ensure risks are managed in a transparent and timely manner. CSi's independent risk management function is headed by CSi's Chief Risk Officer ('CRO'), who reports jointly to CSi's CEO and the CRO of the CS group.

The CRO is responsible for overseeing CSi's risk profile and for ensuring that there is an adequate independent risk management function. This responsibility is delegated from the Board of Directors, via the ExCo, to the CRO, who in turn has established a risk governance framework and supporting organisation.

- The CSi Board of Directors: responsible to shareholders for the strategic direction, supervision and control of the entity and for defining the overall tolerance for risk;
- The CSi Board Risk Committee: responsible for assisting the Board of Directors in fulfilling their oversight responsibilities by providing guidance regarding risk governance and the development of the risk profile and capital adequacy, including the regular review of major risk exposures and recommending approval by the Board of overall risk appetite limits; and
- The CSi Executive Committee: this is the primary management committee of CSi and is charged with managing all aspects including strategy, culture, revenue, risk and control, costs and employees.

## Committee Hierarchy



The Board of Directors approves the overall framework for risk appetite. The authority to establish more granular limits within the bounds of the overall risk appetite is delegated to the CSi Risk Management Committee ('RMC'), which is chaired by CSi's CRO and comprises members of senior risk and business managers. The purpose of the RMC is to:

- Ensure that proper standards for risk oversight and management are in place;
- Make recommendations to the CSi Board on risk appetite;
- Review the Internal Capital Adequacy Assessment Process ('ICAAP') and the Individual Liquidity Adequacy Assessment Process ('ILAAP') and make recommendations to the CSi Board:
- Define and establish risk limits for individual businesses and at the portfolio level within authorities delegated by the CSi Board:
- Review and implement appropriate controls over remote booking risk relating to CSi.

In addition to this, and aligned with the organisation structure, CSi's CRO has implemented several sub-committees of the RMC:

- The CSi Credit Risk Committee: chaired by the CSi Chief Credit Officer, defines and implements the CSi Credit Risk Framework. It is responsible for reviewing emerging risks and assessing the impact of any issues that impact the UK IB credit portfolio including counterparty, sector, and concentration. This process is supported by the Credit Risk Management department, which is responsible for approving credit limits, monitoring and managing individual exposures, and assessing and managing the quality of credit portfolios and allowances;
- The CSi Market Risk Committee: chaired by the CSi Head of Market Risk, defines and implements the CSi Market Risk Framework. It is responsible for reviewing emerging risks and assessing any issues that impact on the CSi market risk profile. This process is supported by the Market & Liquidity

Risk Management department ('MLRM') which is responsible for assessing and monitoring the market and liquidity risk profile of the Bank and recommends corrective action where necessary;

- The CSi Operational Risk & Compliance Committee: co-chaired by the CSi Head of Enterprise & Operational Risk Management with the CSi Chief Compliance Officer, is responsible for ensuring that proper standards for management of operational, conduct and compliance risks are established for CSi and provide effective oversight over the risk profiles. It is also responsible for defining and implementing operational risk management strategies. This process is supported by the Enterprise & Operational Risk Management ('EORM') department which is responsible for the identification, assessment, and monitoring of operational risks;
- The CSi Stress Testing Committee: chaired by the CSi Head of Enterprise & Operational Risk, is responsible for identifying, developing and maintaining appropriate stress scenarios which are relevant for CSi based on material risk factors. This process is supported by the Enterprise & Operational Risk Management ('EORM') department which is responsible for covering cross-divisional and cross-functional approaches towards identifying and measuring risks as well as defining and managing risk appetite levels;
- The CSi Reputational Risk Committee: co-chaired by the CSi CRO, CSi Chief Compliance Officer and CSi Deputy CEO, is responsible for reviewing and approving transactions that pose a material risk to the bank's reputation and are escalated as having potential to have a negative impact on CSi's reputation. This process is supported by the Reputational Risk Management ('RRM') department which is responsible for assessing actions or transactions which may pose a reputational risk to the Bank's reputation as escalated by both the First and Second Lines of Defence, providing independent appraisal and facilitating the calibration of such risk.

The departments which support the CSi Risk Heads form part of a matrix management structure with reporting lines into both the CSi CRO and the relevant Global Risk Head. Furthermore, these departments are supported by a global infrastructure and data process which is maintained by the central Risk and Finance Data and Reporting ('RFDAR') group as well as the CRO Change team which is responsible for the delivery of the strategic and regulatory change portfolio sponsored by the Risk division. Support is also provided by the Global Risk functions in areas such as model development and credit analytics.

### **RISK APPETITE**

Risk appetite represents the aggregate level and types of risk CSi is willing to assume to achieve the strategic objectives and business plan. The Risk Appetite Framework is the overall approach including policies, processes and controls through which risk appetite is established, communicated and monitored. This includes:

- Risk Appetite Statements;
- Risk limits and/or metrics: and
- Roles and responsibilities of those overseeing the implementation and monitoring of the Risk Appetite Framework.

The Risk Appetite Framework incorporates all material risks facing CSi and aligns to the strategy through use of the forward-looking business plan and is owned by the Board. In order to ensure alignment to the strategy CSi uses the following processes:

- Risk Capacity (capital and liquidity) is evaluated and quantified;
- Risks arising from the business strategy are identified (quantitative and qualitative) and assessed;
- Board Tolerance for these risks is defined using both enterprise-wide and individual measures; and
- Should the business strategy result in risk outside of Board tolerance, there is a feedback loop into the business planning process to ensure corrective action is taken.

The Risk Appetite is approved by the Board of Directors on an annual basis as part of the strategic planning process. The Risk Appetite is expressed through both qualitative statements and quantitative measures. It is underpinned by the strategic risk objectives which include:

- Managing and controlling Conduct Risk: Conduct business practices in line with the Credit Suisse code of conduct and proactively identify sources of risk that may negatively impact clients or markets and/or lead to reputational risk and/or regulatory sanctions;
- Capital Adequacy: Sufficient capital must be held to maintain capital ratios above both regulatory and stressed capital requirements;
- Earnings Stability: Limit earnings volatility to support the ability to achieve stated financial objectives;
- Sound management of Funding Liquidity Risk: Manage liquidity and funding liquidity risk by maintaining sufficient funds to meet all obligations on both a BAU basis, and in periods of liquidity stress;
- Minimizing Reputational Risk: Avoid any transaction or service that brings with it the risk of an unacceptable level of damage to our reputation;

- Managing Operational Risk: Ensure sustainable performance through the sound management ERCF Risks (including Operational, Compliance and other non-financial risks) in our day to day operations and forward looking business strategy; and
- Controlling Concentration Risk: Proactively control concentrations within risk positions or revenues which pose a material risk to Firm-wide capital adequacy and/or earnings stability while maintaining a well diversified funding base.

#### **RISK LIMITS**

Based on these principles, the Board approves limits by key risk type. These limits are then used as a basis for defining a more granular framework of risk limits. The RMC and CRO are responsible for setting specific limits deemed necessary to manage the risk within individual lines of business and across counterparties as follows:

- Enterprise risk limits are based on portfolio level measures (RWA etc) and are calibrated for both normal and stressed conditions. The overall risk limit calibration is recommended by the Head of Enterprise & Operational Risk who has responsibility for development and calibration of the full suite of enterprise risk limits;
- Market risk limits are based on a variety of sensitivity, portfolio and stress measures including, for example, VaR and portfolio stress loss metrics. The overall market risk limit calibration is recommended by the Head of Market Risk who has responsibility for development and calibration of the full suite of market risk limits:
- Credit risk limits are based on a variety of exposure and stress measures including, for example, counterparty exposure and portfolio loss stress metrics. The overall credit risk limit calibration is recommended by CSi's Chief Credit Officer and is designed to control overall credit quality and mitigate concentration risks (such as single name and industry type) within the portfolio:
- Operational risk thresholds are based on a series of metrics designed to assess control effectiveness. The overall calibration is recommended by the Head of Enterprise & Operational Risk and is designed to identify areas of potential control weakness and drive development of programmes to reduce operational risk. These thresholds are set in both quantitative (considering historical losses and gains) and qualitative (CS group-wide statements linked to risk and control indicators) terms; and
- Liquidity risk limits are based on regulatory and internal requirements for monitoring funding under a range of conditions. The overall liquidity risk limit calibration is recommended by the Head of Liquidity Risk who has responsibility for development and calibration of the full suite of liquidity risk limits.

The limits define CSi's maximum risk appetite given management resources, the market environment, business strategy and financial resources available to absorb potential losses.

CSi's financial risk management objectives and policies and the exposure of CSi to market risk, credit risk, liquidity risk and

Risk management

currency risk are also considered in the 2017 Annual Report, Note 41 - 'Financial Risk Management'.

## STRESS TESTING

These individual risk type limits are supplemented by an enterprise-wide stress testing programme which is designed to provide an aggregate view of CSi's financial risks. The enterprise-wide stress testing process begins with a scenario setting process,

with the choice of scenarios being approved by the Stress Testing Committee. The scenarios are designed to be severe, but plausible, and relevant to CSi's business. The stress test process is based on both models and expert judgement. These stress test results are reported to the Board Risk Committee at each meeting and form a key input to the ICAAP and Internal Liquidity Adequacy Assessment Process.

## **Current and emerging Risks**

CSi has a global portfolio with exposures driven by a number of businesses across diverse industries, and is therefore exposed to risks from a broad range of sources. The strength of the Bank's credit portfolio has been supported by changes in the CSi Credit Risk Framework. Some of the events and risk areas which could potentially have an impact on the credit portfolio of the Bank are discussed further below.

The main drivers of credit risk in CSi are trading in OTC derivatives and lending activity. Bilateral derivatives exposure in CSi to counterparties outside the CS Group decreased significantly in 2017 driven by several factors, including the mandatory posting of initial margin for uncleared derivatives, increased clearing, strategic transfer of activity from CSi to other entities in the CS Group (e.g. to CS AG, Singapore Branch as part of the APAC strategy), and through the disposal of legacy positions in the Strategic Resolution Unit. Further exposure reductions were seen in the Fund Linked Products business, where the majority of the portfolio has been transferred to CS AG.

#### **EUROPE**

Despite widespread concern in early 2017 that elections in several large and influential European countries would see a wave of populist anti-EU leaders voted into power, promoting fears over the long-term future of the EU. The outlook for the Europe in general is positive and economic forecasts have been revised upwards. In contrast, the UK's decision to leave the EU has resulted in a weaker outlook for economic growth. While the initial shock from the June 2016 vote has diminished, there remains significant uncertainty around future trade and political relationships after the UK leaves the EU. CSi has a material UK credit portfolio which continues to perform, and we have not observed any deterioration in credit quality as a result of the Brexit vote. However, the Bank remains vigilant in considering the impact of Brexit in all credit decisions.

#### **EMERGING MARKETS**

CSi undertakes business in emerging markets in all regions, with large notional exposures in Turkey and Russia. In Turkey the April 2017 constitutional referendum saw the abolition of the office of prime minister, consolidating power in the presidency. The President is expected to focus on improving the economy, while

maintaining a firm grip on power before 2019 elections, however geopolitical risks remain elevated. CSi has a portfolio of funding trades with Turkish counterparties which are subject to structural risk mitigants. Overall exposure to Turkish counterparties is closely managed under a portfolio limit framework which is subject to regular review and challenge by the CSi Credit Risk Committee. Russia has benefitted from higher energy and commodity prices, but sanctions against it remain in place, and investment activity is being constrained by economic uncertainty. CSi's portfolio in Russia consists mainly of short-term repo and derivatives, and traded debt held in inventory. Elsewhere in emerging markets we have seen tensions rise in the Middle East as a boycott was launched against Qatar, and there were some notable country rating agency downgrades (including Nigeria, Bahrain and South Africa). CSi does not have significant concentrations in these countries.

## LEVERAGED FINANCE

In 2017 the European Leveraged Finance market saw record issuance, increased leverage, and enterprise value levels at all-time highs. Market growth was fuelled by borrowers seeking to take advantage of the favourable interest-rate environment, while investors have entered the market in search of yield. With strong macro conditions and increased Eurozone momentum, market growth is expected to continue into 2018, despite a reduction in quantitative easing. As the market has grown, borrowers have entered larger transactions with longer tenors, lower pricing and more aggressive credit terms, however, default rates remain low. As at year-end 2017 gross European non-investment grade exposure was just 1.8% of total credit exposure in CSi on a Potential Exposure basis.

### **CYBER RISK**

The financial industry continued facing rapidly evolving cyber threats from a variety of actors who are driven by monetary, political and other motivations. The Bank continues to invest significantly in our information and cybersecurity program to strengthen our ability to anticipate, defend, detect and recover from cyber-attacks. CSi regularly assesses the effectiveness of key controls and conducts ongoing employee training and awareness activities in order to embed a strong cyber risk culture.

## Linkages between financial statements and regulatory exposures

LI1 - Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories

						Carrying v	alues of items
end of 2017	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework		Not subject to capital requirements or subject to deduction from capital
Assets (USD million)							
Cash and due from banks	4,971	4,931	4,931	_	_	-	_
Interest-bearing deposits with banks	4,187	4,187	4,187	-		-	-
Securities purchased under resale agreements and securities borrowing transactions	17,052	17,052	_	17,052	-	_	-
Trading financial assets at fair value through profit or loss	174,555	174,353	257	144,040	325	173,919	177
Financial assets designated at fair value through profit or loss	11,130	11,422	814	8,489	- · · · · · · · · · · · · · · · · · · ·	863	1,256
Other loans and receivables	3,331	3,331	2,819	512		512	
Investment property	131					-	
Current tax assets	5	5	5	-	-	-	-
Deferred tax assets	349	349	349	-	-	-	1
Other assets	32,957	32,957	1,238	31,712		3,661	-
Property and equipment	157	157	157		_	-	-
Intangible assets	454	454	-	_	_	-	454
Assets held for sale	161	161	46	115		115	-
Total assets	249,440	249,359	14,803	201,920	325	179,070	1,888
Liabilities (USD million)							
Deposits	188	188	_	_	_	_	188
Securities sold under repurchase agreements and securities lending transactions	7,193	7,193	_	7,193	_	_	_
Trading financial liabilities at fair value through profit or loss	149,505	149,505	1,208	146,103		148,297	-
Financial liabilities designated at fair value through profit or loss	22,899	22,899	13	11,830		8,414	2,642
Short-term borrowings	5,940	5,940	-	-	-	-	5,940
Current tax liabilities	91	91	-	-		-	91
Other liabilities	24,176	24,176		21,910		410	2,266
Provisions	6	6					6
Long term debt	16,847	16,710		_		_	16,710
Total liabilities	226,962	226,825	1,221	187,153	-	157,238	27,843

## LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements

				Ite	ms subject to
end of	Total	Credit risk framework	CCR : framework	Securitisation framework	Market risk framework
2017 (USD million)					
Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	247,472	14,803	201,920	325	179,070
Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	198,983	1,221	187,153	-	157,238
Total net amount under regulatory scope of consolidation	48,489	13,582	14,767	325	21,832
Off-balance sheet amounts	11,035	5,187			
Differences in valuations due to standardised approach (SA)	_	-	-	-	-
Differences due to different netting rules due to standardised approach (SA), other than those already included in row 2	-	_	_	_	_
Differences due to consideration of provisions	_	-	-		-
Differences due to application of potential future exposures	_				
Derivative transactions – Differences due to application of Standard Rules (SR)	80,488	-	80,488	-	-
SFT – differences due to application of Standard Rules (SR) (Repo-Var)	(2,474)		(2,474)		-
Other Differences not classified above		(1,067)	- · · · · · · · · · · · · · · · · · · ·	220	(21,832)
Exposure amounts considered for regulatory purposes	137,538	17,702	92,781	545	- · · · · · · · -

The reasons for differences between accounting and regulatory exposures are as follows:

- Notional for sold CDS trades are off balance sheet items as per accounting rules, however for regulatory purposes, sold CDS trades in the regulatory banking book are considered as regulatory exposures for credit risk;
- (2) The accounting balance sheet only records the default fund deposited with central counterparties, whereas for regulatory
- purposes, RWA is calculated in line with the prescribed regulatory default fund calculation;
- (3) Regulatory exposures are calculated on a net delta basis, as compared to gross exposures shown in the accounting balance sheet;
- (4) The regulatory exposure for certain loan positions is dependent on the market/present value, as compared to the gross exposure that is shown in the accounting balance sheet.

## LI3 - Outline of the differences in the scopes of consolidation (entity by entity)

		Method of regulatory consolidation				Description of the entity
end of 2017	Method of accounting consolidation	Full consolidation	Proportional consolidation	Neither consolidated nor deducted	Deducted	
Name of the entity						
AHL Investment Strategies PCC –	Full consolidation			X		Special purpose entity
Class K1 AHL Global Futures 7 EUR Shares						
AHL Investment Strategies PCC – Class L1 AHL Global Futures 8 EUR Shares	Full consolidation			X		Special purpose entity
Al3 Segregated Portfolio	Full consolidation			Х		Special purpose entity
Andrea Investments (Jersey) PCC – Cell Series 1000 EUR	Full consolidation			Х		Special purpose entity
Andrea Investments (Jersey) PCC – Cell Series 1000 USD	Full consolidation			Х		Special purpose entity
Global Bond Fund	Full consolidation			Х		Special purpose entity
Mistral SPC – Long/Short Equity	Full consolidation			Х		Special purpose entity
Simplon Capital Ltd. SPC – AlphAlgo Segregated Fund Portfolio	Full consolidation			X		Special purpose entity
Xanthos Holding - Segregated Portfolio	Full consolidation			Х		Special purpose entity
YI Active Spezial ESPA Fund.	Full consolidation			X		Special purpose entity
LHI Mid Market Buy-Out Europe LP	Full consolidation			Х		Special purpose entity
AZ Pure China – Equity Strategy	Full consolidation			X		Special purpose entity
Ajanta Limited	Full consolidation			X		Special purpose entity
Andrea Investments (Jersey) PCC	Full consolidation			Χ		Special purpose entity
Andrea Investments (Jersey) PCC – Cell Series 1000 PC	Full consolidation			X		Special purpose entity
Argentum Capital Series 2015-5	Full consolidation			X		Special purpose entity
Arundel (International) Limited	Full consolidation			X		Special purpose entity
Bellingham Properties Limited	Full consolidation			X		Special purpose entity
Boats Investments (Jersey) Ltd Series 551,557,562,564,565,567,568,577,587,590	Full consolidation			X		Special purpose entity
Boats Investments (Jersey) Ltd Series 592,600,603,605,608,612,613	Full consolidation			X		Special purpose entity
Bondstreet 2 GmbH	Full consolidation			X		Special purpose entity
CARMF Alternative 1	Full consolidation			X		Special purpose entity
Carmil Properties Limited	Full consolidation			X		Special purpose entity
Cepheus Holdings Limited	Full consolidation			X		Special purpose entity
Coxaro Holdings Limited	Full consolidation			Χ		Special purpose entity
Credit Suisse Backwardation Fund	Full consolidation			Χ		Special purpose entity
Credit Suisse Bond Fund	Full consolidation			Χ		Special purpose entity
Credit Suisse Global Carry selector Fund II	Full consolidation			Χ		Special purpose entity
Custom Markets QIF PLC	Full consolidation			Χ		Special purpose entity
Dutch Holding Rembrandt B.V.	Full consolidation			Χ		Special purpose entity
Dutch Property Company Rembrandt BV Entities 1 – 9	Full consolidation			Х		Special purpose entity
HOLT Emerging Markets Equity Fund	Full consolidation			X		Special purpose entity
Interleuvenlaan 15 Real Estate Ltd	Full consolidation			Χ		Special purpose entity
Kaylen Properties Limited	Full consolidation			X		Special purpose entity
Mistral SPC	Full consolidation			Χ		Special purpose entity
New Jersey S.A.	Full consolidation			X		Special purpose entity
RPM SPC – Global Futures Selection Enhanced Risk Segregated Portfolio	Full consolidation			X		Special purpose entity
SAPIC Global Macro Master Fund Ltd.	Full consolidation			X		Special purpose entity
Ecureuil Vie – Separate Account (EV) Segregated Portfolio	Full consolidation			X		Special purpose entity
Silver Hake Limited	Full consolidation			X		Special purpose entity
Sontex (International) Limited	Full consolidation			X		Special purpose entity
Weiveldlaan 41 Real Estate Ltd	Full consolidation			X		Special purpose entity
Westwood S.A	Full consolidation			X		Special purpose entity
Zephyros Limited	Full consolidation			X		Special purpose entity

## Credit risk

### **OVERVIEW**

For regulatory purposes, exposures to borrowers or counterparties are categorised into exposure classes according to the framework set out in the CRR.

The majority of Pillar 1 credit and counterparty risk capital requirements are calculated using the Advanced Internal Ratings Based Approach to risk weights ('AIRB'). Certain exposure classes are treated under the Standardised Approach to risk weights

Credit risk in CSi is managed by the CSi Credit Risk Management department, which is headed by the CSi Chief Credit Officer, who in turn reports to the CSi Chief Risk Officer. CSi Credit Risk Management is a part of the wider Credit Risk Management department, which is an independent function with responsibility for approving credit limits, monitoring and managing individual exposures and assessing and managing the quality of the segment and business areas' credit portfolios and allowances. CSi Credit Risk Management's processes and policies cover credit risk arising from exposures to borrowers and counterparty credit risk. Counterparty credit risk arises from OTC and exchange-traded derivatives, repurchase agreements, securities lending and borrowing and other similar products and activities. The related credit risk exposures depend on the value of underlying market factors (e.g. interest rates and foreign exchange rates), which can be volatile and uncertain in nature. CSi enters into derivative contracts in the normal course of business principally for market-making and positioning purposes, as well as for risk management needs, including mitigation of interest rate, foreign currency, credit and other risks.

Effective credit risk management is a structured process to assess, quantify, measure, monitor and manage risk on a consistent basis. This requires careful consideration of proposed extensions of credit, the setting of specific limits, monitoring during the life of the exposure, active use of credit mitigation tools and a disciplined approach to recognising credit impairment.

Credit limits are used to manage concentration to individual counterparties. A system of limits is also established to address concentration risk in the portfolio, including country limits, industry limits and limits for certain products. In addition, credit risk concentration is regularly supervised by credit and risk management committees, taking current market conditions and trend analysis into consideration.

A primary responsibility of CSi Credit Risk Management is to monitor the exposure to and creditworthiness of a counterparty, both at the initiation of the relationship and on an ongoing basis. Part of the review and approval process is an analysis and discussion to understand the motivation of the client and to identify the directional nature of the trading in which the client is engaged. Credit limits are agreed in line with CSi's Risk Appetite Framework, taking into account the strategy of the counterparty, the level of disclosure of financial information and the amount of risk mitigation that is present in the trading relationship (e.g. level of collateral). All credit exposure is approved, either by approval of an individual transaction or facility (e.g. lending facilities), or under a system of credit limits (e.g. OTC derivatives). Credit exposure is monitored daily to ensure it does not exceed the approved credit

limit. These credit limits are set either on a potential exposure basis or on a notional exposure basis. Potential exposure means the possible future value that would be lost upon default of the counterparty on a particular future date, and is taken as a high percentile of a distribution of possible exposures computed by CSi's internal exposure models. Secondary debt inventory positions are subject to separate limits that are set at the issuer level.

A system of limits is also established to address concentration risk in the portfolio, including country limits, industry limits and limits for certain products. In addition, credit risk concentration is regularly supervised by credit and risk management committees, taking current market conditions and trend analysis into consideration. A credit quality review process provides an early identification of possible changes in the creditworthiness of clients and includes regular asset and collateral quality reviews, business and financial statement analysis and relevant economic and industry studies. Regularly updated watch lists and review meetings are used for the identification of counterparties where adverse changes in creditworthiness could occur.

Counterparty credit limits are governed by the Credit Risk Appetite Framework, which establishes a set of ratings-based appetite limits for specific counterparty classes. Appetite limits have been calibrated to the Bank's capital through scenario-based approach which serves the dual purpose of protecting the strategic diversification of the portfolio while promoting an efficient usage of the available capital. Credit Risk Management does not explicitly manage internal capital at the level of individual counterparties. However, all counterparty limits are managed within the Credit Risk Appetite Framework. Credit Risk Management reviews CSi's credit risk appetite at least annually and considers historical information, forward-looking risk assessments, stress-testing results as well as business and capital plans when proposing or affirming appetite limits. The formulation of appetite is anchored to the capital base of CSi in order to protect the firm's capital resources in the event of large credit losses. An on-going risk identification process includes regular review and challenge of portfolio MI, credit officer interviews, review of business strategy and new business proposals, and may result in the development of new operating limits to protect CSi's capital resources. The CSi Credit Risk Committee monitors compliance with the Credit Risk Appetite Framework and reports any appetite breaches to the CSi Risk Management Committee on a monthly basis and, as needed, to the CSi Board Risk Committee.

## **CREDIT HEDGES AND RISK MITIGATION**

Counterparty credit risk may be reduced through various forms of mitigation, including: credit default swaps, third-party guarantees, credit insurance, letters of credit and other written assurances (unfunded credit risk mitigation); and collateral or fully-collateralised derivatives (forms of funded protection).

For risk management purposes, the use of unfunded credit risk mitigation is subject to a risk transference guideline which sets out the roles and responsibilities of Credit Risk Management, General Counsel, and the Regulatory Reporting function in ensuring risk

mitigation is effective and is given the correct capital treatment. In circumstances where the borrower is heavily reliant on the protection provider in order to secure the credit, Credit Risk Management will require the protection provider to be internally-rated higher than the borrower. The main types of guarantors are investment-grade rated insurers, mainly A-rated and above, that are active providers of risk mitigation to the CS Group on a global basis. The providers of credit default swap ('CDS') contracts for risk mitigation are mainly investment-grade rated international banks and CCPs. On a semi-annual basis, the residual risk associated with risk transference and concentration to specific protection providers is considered within the Risk Management Framework. The amount of credit risk arising from the concentration to protection providers is not considered to be material.

Taking of financial collateral is a key risk management tool for securities financing transactions, derivatives, FX, other OTC products and share-backed financing. Subject to legally enforceable agreements, collateral may be accepted in many different currencies and jurisdictions, and the collateral process creates potentially significant legal, tax, credit, regulatory and operational issues, in addition to the liquidity issues involved in running a large portfolio of collateral assets and liabilities. CSi's strategy with respect to collateral is subject to a robust collateral policy, which details standards of acceptable collateral (including collateral type, liquidity, quality and jurisdiction), valuation frequency, haircuts and agreement type (most agreements are two-way arrangements, meaning CSi may post as well as receive collateral). Additionally, limits and thresholds are established for the management of collateral concentrations to ensure there is no significant build-up of specific collateral types on a portfolio basis.

However, concentration with respect to cash collateral in major currencies is deemed acceptable from a risk management perspective. Similarly, high-quality liquid sovereign bonds are preferred over other less liquid or less stable collateral types. The majority of CSi's collateral portfolio is made up of cash and liquid securities which are subject to daily valuations.

The policies and processes for collateral valuation and management are driven by a legal document framework that is bilaterally agreed with clients, and a collateral management risk framework enforcing transparency through self-assessment and management reporting. For portfolios collateralised by marketable securities, the valuation is performed daily. Exceptions are governed by the calculation frequency described in the legal documentation. The mark-to-market prices used for valuing collateral are a combination of internally-modelled and market prices sourced from trading platforms and service providers, where appropriate. The management of collateral is standardised and centralised to ensure complete coverage of traded products.

#### **WRONG-WAY EXPOSURES**

Wrong-way risk arises when CSi enters into a financial transaction in which exposure is adversely correlated to the creditworthiness of the counterparty. In a wrong-way trading situation, the exposure to the counterparty increases while the counterparty's financial condition and its ability to pay on the transaction diminishes. Capturing wrong-way risk ('WWR') requires the establishment of basic assumptions regarding correlations for a given trading product. The management of WWR is integrated within CSi's overall credit risk assessment approach and is subject to a framework for identification and treatment of WWR, which includes governance, processes, roles and responsibilities, methodology, scenarios, reporting, review and escalation.

A conservative treatment for the purpose of calculating exposure profiles is applied to material trades with WWR features. The WWR framework applies to OTC, securities financing transactions and centrally cleared trades.

In instances where a material WWR presence is detected, limit utilisation and default capital are accordingly adjusted through more conservative exposure calculations. These adjustments cover both transactions and collateral and form part of the daily credit exposure calculation process, resulting in correlated transactions utilising more of the counterparty credit limit. In addition, WWR is considered in both the country and scenario risk reporting processes as follows:

- Country exposure reporting: exposure is reported against country limits established for emerging market countries. Exposures that exhibit wrong-way characteristics are given higher risk weighting than non-correlated transactions, resulting in a greater amount of country limit usage for these trades;
- Scenario risk reporting: in order to identify areas of potential WWR within the portfolio, a set of defined scenarios is run on a monthly basis by RFDAR. The scenarios are determined by Credit Risk Management for each counterparty, taking into account aspects such as revenue sources, systemic relevance of the counterparty and other considerations.

Scenario analysis is also produced for hedge funds which are exposed to particular risk sensitivities and also may have collateral concentrations due to a specific direction and strategy. The Front Office is responsible as a first line of defence for identifying and escalating trades that could potentially give rise to WWR. Any material WWR at portfolio or trade level would be escalated to senior Credit Risk Management executives and risk committees.

## CREDIT RISK REPORTING AND MEASUREMENT

The Credit Risk Reporting group is responsible for the production of regular and ad hoc reporting of credit and counterparty risk, country, industry and scenario exposures, in support of internal clients such as the senior management of the Bank, CRO management, and various risk management committees, as well as external stakeholders such as regulators.

CSi's credit exposures are captured in its INSIGHT system, where exposures are calculated from various inputs including trade data, mark-to-market valuations, economic sensitivities, legal documentation and jurisdiction, collateral and other forms of risk mitigation. The Credit Analytics group is responsible for the development and maintenance of exposure calculation methodologies.

## **EFFECT OF A CREDIT RATING DOWNGRADE**

CSi is subject to contractual and contingent commitments in derivative documentation which can be triggered by a credit rating downgrade. The additional collateral calls or settlement payments arising from ratings downgrade (2 or 3 notch) are quantified according to the terms included in the respective legal agreements. Downgrades under market, idiosyncratic and combined scenarios are considered in the stress assumptions. A liquidity pool made up of 'high quality liquid assets' ('HQLA') is held to mitigate these risks. Collateral outflows are based on CSA thresholds and individual terms agreed with counterparts and SPVs.

#### **NETTING**

Credit risk mitigation processes under the AIRB and Standardised Approaches include on- and off-balance sheet netting and utilising eligible collateral, as defined in the CRR.

CSi transacts bilateral OTC derivatives mainly under ISDA master agreements. These agreements provide for the net settlement of all transactions under the agreement through a single payment in the event of default or termination.

Reverse repurchase and repurchase agreements are generally covered by global master repurchase agreements with netting terms similar to ISDA master agreements. In addition, securities lending and borrowing transactions are generally executed under global master securities lending agreements, with netting terms also similar to ISDA master agreements. In certain situations, for example in the event of default, all contracts under the agreements are terminated and are settled in one single net payment.

### **EQUITY TYPE EXPOSURES IN THE BANKING BOOK**

The classification of equity type exposures into Trading Book and Banking Book is made for regulatory reporting purposes. The Banking Book includes all items that are not classified in the Trading Book, for example, on the basis that there is no trading intent or on the basis of valuation approach or frequency.

For equity type exposures in the Banking Book, risk weights are determined using the IRB Simple Risk Weight Approach, which differentiates by equity sub-asset types (qualifying private equity, listed equity and all other equity positions). The significant majority of CSi's Banking Book equity exposures are in the Fund-Linked Product ('FLP') business area. These instruments are fair valued for accounting purposes, but fall within the regulatory Banking Book category as valuations are not available sufficiently frequently to meet the standards required for Trading Book eligibility. In the context of business objectives and trading activity, the Banking Book positions are indistinguishable from FLP instruments that fall within the regulatory Trading Book category, and the positions are actively traded and risk-managed.

No further disclosure is made concerning cumulative realised gains or losses from sales or liquidations in the period and total latent revaluation gains or losses on the basis of materiality.

### STANDARDISED APPROACH TO RISK WEIGHTS

Under the Standardised Approach to risk weights, ratings published by External Credit Assessment Institutions ('ECAls') are mapped to Credit Quality Steps ('CQS') according to mapping tables laid down by the European Banking Authority ('EBA'). The CQS value is then mapped to a risk weight percentage.

The ECAIs used by CSi are Standard & Poor's and Moody's.

#### INTERNAL RATINGS BASED APPROACH

The Basel Framework permits banks a choice between two broad methodologies in calculating their capital requirements for credit risk by exposure class, the IRB Approach (within which there are two variants, Foundation and Advanced) or the Standardised Approach, and CSi has received approval from the PRA to use the AIRB Approach.

Under the AIRB Approach, risk weights are determined using internal models and risk parameters, whereas under the Standardised Approach, the risk weights are based on regulatory prescribed parameters. Credit risk models are reviewed and updated on an ongoing basis, reflecting more recent data, changes to methodologies, and updated regulatory requirements. For those portfolios where CSi has not received approval from the PRA to use the AIRB approach, the Standardised Approach is applied.

Currently, the AIRB Approach is used for the majority of exposures whereby internal estimates for probability of default ('PD') and loss given default ('LGD') are used when calculating credit risk capital requirements. As prescribed in its AIRB permission, CSi calculates the credit risk capital requirement for equity exposures using the Simple Risk Weight Approach.

#### **RATING MODELS**

The majority of the credit rating models used by CSi are developed internally by Credit Analytics, a specialised unit within CS Group Credit Risk Management. These models are independently validated by Model Risk Management prior to use in the regulatory capital calculation and thereafter on a regular basis (see below). CSi also uses models purchased from recognised data and model providers (eg. credit rating agencies).

All new or material changes to rating models are subject to a robust governance process. After development and validation of a rating model or model change, the model is reviewed by a number of committees where model developers, validators and users of the models consider the technical and regulatory aspects of the model. The relevant committees consider the information provided and decide to either approve or reject the model or model change.

### **MODEL DEVELOPMENT**

The techniques to develop models are carefully selected by Credit Analytics to meet industry standards in the banking industry as well as regulatory requirements. The models are developed to exhibit 'through-the-cycle' characteristics, reflecting a probability of default in a 12-month period across the credit cycle.

All models have clearly defined model owners who have primary responsibility for development, enhancement, review, maintenance and documentation. The models are required to pass statistical performance tests, where feasible, followed by usability tests by designated Credit Risk Management experts to proceed to formal approval and implementation. The development process of a new model is documented and foresees a separate schedule for model updates.

The level of calibration of the models is based on a range of inputs, including internal and external benchmarks where available. Additionally, the calibration process ensures that the estimated calibration level accounts for variations of default rates through the economic cycle and that the underlying data contains a

representative mix of economic states. Conservatism is incorporated in the model development process to compensate for any known or suspected limitations and uncertainties.

### MODEL VALIDATION

Model validation within CSi is performed by an independent function subject to clear and objective internal standards as outlined in the validation policy. This ensures a consistent and meaningful approach for the validation of models across all areas within CSi and over time. All models whose outputs fall into the scope of the Basel internal model framework are subject to regular independent model validation. Where used, externally developed models are subject to the same governance and validation standards as internal models.

Newly-developed models in scope for the Basel internal model framework must be validated and approved before 'go-live'; a similar process is followed for changes to an existing model. Existing models are subject to a regular review process which requires each model to be periodically revalidated and its performance to be monitored at least annually. Each validation review is a comprehensive quantitative and qualitative assessment aiming:

- to confirm that the model remains conceptually sound and the model design is suitable for its intended purpose;
- to verify that model assumptions are still supported and that limitations are known and mitigated;
- to confirm that model outputs are in line with realised outcomes;
- to establish whether the model is accepted by the users and is used as intended;
- to check whether a model is implemented correctly; and
- to ensure that the model is sufficiently transparent and is well documented.

To meet these goals, models are validated against a series of quantitative and qualitative criteria, and each validation is reviewed by the model governing committees. Quantitative analyses may include a review of model performance (comparison of model output against realised outcome), calibration accuracy against appropriate time series, assessment of a model's ability to rank order risk and performance against available benchmarks. Qualitative assessment includes a review of the appropriateness of the key model assumptions, the identification of the model limitations and their mitigation, and further review to ensure appropriate model use. The modelling approach is reassessed in light of developments in the academic literature and industry practice.

Results and conclusions are presented to senior risk management; shortcomings and required improvements identified by the independent validation process must be remediated within an agreed deadline.

### **DESCRIPTIONS OF THE RATING PROCESSES**

Credit Risk Management policy requires that all credit-bearing transactions are approved by Credit Risk Management prior to trading. Generally, this approval takes the form of a credit analysis of the counterparty, which includes the assignment of a credit rating. In some cases Credit Risk Management approval may take the form of a transaction approval, which may include an indicative rating or no rating. At the time of initial credit approval and review, relevant quantitative data (such as financial statements and financial projections) and qualitative factors relating to the counterparty are used by Credit Risk Management in the models and result in the assignment of a credit rating or PD, which measures the counterparty's risk of default over a one-year period.

## **COUNTERPARTY AND TRANSACTION RATING PROCESS**

Where rating models are used, the models are an integral part of the rating process, and the outputs from the models are complemented with other relevant information from credit officers via a model-override framework. CSi has a PD model (PD-Masterscale), which applies to the following types of exposure: Banking Book bonds, commercial lending, exchange-traded derivatives, OTC derivatives, secured financing, open trades, and uncollateralised loans. The Masterscale PDs are estimated through reference to an external database, which contains the rating history of issuers over 30 years to the present. Annual default rates are calculated for each rating category, with default rates forming the basis of the PD calculation. For higher quality ratings, where there is relatively little default experience on which to base estimates, a low default portfolio ('LDP') estimator is used. All PDs are floored at 0.03% for all exposure classes with the exception of central governments and central banks, where no floor applies. The overrides by credit officers are intended to incorporate information not captured by the approved counterparty rating models. In addition to the information captured by the rating models, credit officers make use of peer analysis, industry comparisons, external ratings and research and the judgment of credit experts to support their fundamental credit analysis and determine model inputs. This analysis emphasises a forward-looking approach, concentrating on economic trends and financial fundamentals. Where rating models are not used, the assignment of credit ratings is based on a well-established expert judgement process which captures key factors specific to the type of counterparty.

The exposures in scope of CSi's LGD model are the same as those in the PD model. The main sources of information for LGD estimation purposes are data on experienced losses and recoveries. The CS group participates in data-pooling in which lending institutions contribute historical information on defaulted loans. LGDs are discounted and therefore reflect economic losses. They also include recovery cost and downturn effects. LGD estimates are annually backtested against internal experience.

EAD for loan products is calculated following the CCF approach. In particular, the scope of the CCF model is irrevocable commitments under regular loans. Under this approach, a scalar CCF is used to convert an undrawn but committed amount into a loan equivalent. Specifically, EAD is modelled for each facility as the sum of the drawn exposure at reference date plus a percentage (CCF) of the undrawn portion of the commitment. The CCF estimate is obtained using historical information on realised CCFs. This type of calculation requires information on exposures for defaulted counterparties both at default and at a given date prior to default (ie. 12 months prior to default). This information is sourced from CSi's default and loss database. CCFs include downturn and conservative add-ons. CCF estimates are annually backtested against recent internal experience.

For PD, LGD and CCF parameters, there are no deviations from the Regulatory definition of default and all are applied in the same way for central banks and central governments, institutions and corporates.

Credit Risk Management has established guidelines for the analysis and rating of all significant counterparty types. Analysis guidelines include the following requirements for specific IRB exposure classes:

- Central governments and central banks: the analysis of central governments and central banks must consider the connection to the sovereign. The legal enforceability, economic structure and level of development can vary vastly from one country to another, in addition to other factors that can drive the credit risk of an individual sovereign counterparty. Credit analysis includes an assessment of connection to the sovereign (for central banks), the legal basis on which the counterparty is established, the level of sovereign support (implicit or explicit), and a discussion of economic factors, including revenue generation (both current and future), the ability to collect additional revenue, current and future financial liabilities, access to capital markets, and quality of governance and administration. Analysis must also include a review of the current credit portfolio, including a summary of risk mitigation used to reduce credit exposure.
- Institutions: analysis of institutions is founded on a review of capital adequacy, asset quality, management, earnings, liquidity and funding. Analysis must also consider the counterparty's risk management (eg. credit, market, interest rate and operational risk), the counterparty's industry and franchise, and its operating environment, including regulatory environment. The credit review must include both quantitative and qualitative factors. The review must cover reported financials, ratios, and financial trends both in relation to historical performance and relative to peers. Peer analysis provides context for the analysis and is required in all reviews unless suitable peers are unavailable. Banks and bank holding companies are generally reviewed at the consolidated entity level, as well as at the legal entity level with which CSi is trading. This approach helps to uncover any particularly strong or weak entities within a group. To the extent that external ratings and research exist (rating agency and/or fixed income and equity), these must be reflected in the assessment if relevant. The analysis must also encompass relevant media information. As part of the counterparty review, Credit Risk Management is responsible for classifying whether certain institutions are 'regulated' per specific regulatory definitions and, if so, for capturing the financial institution's group asset value.
- Corporates: analysis of corporates includes an overview of the company including main business segments, sources of revenue, and financial sponsor ownership. Corporate credit analysis is a function of the industry in which a company operates. Therefore industry and peer analysis is to be included in the review; if the counterparty competes in a global industry, global competitors may be the most appropriate. The comparisons should include credit ratings as well as financial metrics appropriate for the industry. Analysis must also include an assessment of specific financial factors, including profitability, cash flow adequacy, capital structure (leverage) and liquidity. As a minimum, review and peer analyses must

include the following ratios: debt to earnings before interest, taxation, depreciation and amortisation ('EBITDA'), senior debt to EBITDA (if applicable) and net debt to EBITDA; interest coverage based on industry; and debt to capitalisation or debt to assets. Finally, where CSi extends loan facilities containing financial covenants, the review must include an analysis of those covenants.

For structured and asset finance deals, the focus is on the performance of the underlying assets which represent the collateral of the deal. The ultimate rating is dependent upon the expected performance of the underlying assets and the level of credit enhancement of the specific transaction. Additionally, a review of the originator and/or servicer is performed. External ratings and research (rating agency and/or fixed income and equity), where available, are incorporated into the rating justification, as is any available market information (eq. bond spreads, equity performance).

Transaction ratings are based on the analysis and evaluation of both quantitative and qualitative factors. The specific factors analysed include seniority, industry and collateral. The analysis emphasises a forward-looking approach.

### **USE OF INTERNAL RATINGS**

Internal ratings play an essential role in the decision-making and credit approval processes. CSi's internal counterparty ratings system has a 22-grade ratings scale. Ratings are reviewed regularly (at least annually), and consideration is given to external credit ratings during the review process. The portfolio credit quality is set in terms of the proportion of investment and non-investment grade exposures. Investment or non-investment grade is determined by the internal rating assigned to a counterparty.

Internal counterparty ratings (and associated PDs), transaction ratings (and associated LGDs) and CCFs for loan commitments are inputs to RWA calculations. Model outputs are the basis for risk-adjusted pricing or assignment of credit competency levels.

The internal ratings are also integrated into CSi's risk management reporting infrastructure and are reviewed in senior risk management committees.

To ensure ratings are assigned on a consistent basis, the Credit Risk Review function, which is an independent team, performs periodic portfolio reviews which cover, inter alia:

- accuracy and consistency of assigned counterparty/transaction ratings:
- transparency of rating justifications (both the counterparty rating and transaction rating);
- quality of the underlying credit analysis and credit process; and
- adherence to CSi and CS group policies, guidelines, procedures, and documentation checklists.

Credit Risk Review is an independent control function of the Board of Directors Risk Committee of the CS Group. Credit Risk Review presents the findings of its reviews of the CSi portfolio to the CSi Risk Committee at least semi-annually.

## CREDIT EXPOSURES RWAS AND CAPITAL REQUIREMENTS

The tables in this section contain analyses of credit exposures in both the Trading Book and Banking Book

## CRB-B - Total and average net amount of exposures

		201
	Net value of exposures at the end of the period	Average ne exposure over th perio
JSD million		
Central governments or central banks	833	1,08
Institutions	1,213	1,18
Corporates	10,670	7,97
Of which: Specialised lending	-	
Of which: SMEs	-	
Retail	-	
Secured by real estate property	-	
SMEs	_	
Non-SMEs	_	
Qualifying revolving	-	
Other retail	-	
SMEs		
Non-SMEs		
Equity	41	
otal IRB approach	12,757	10,28
Central governments or central banks		86
Regional governments or local authorities		
Public sector entities		
Multilateral development banks	14	
International organisations	···········	
Institutions	261	
Corporates	1,966	3,63
Of which: SMEs	1,300	
Retail		
Of which: SMEs	·····	
Secured by mortgages on immovable property  Of which: SMEs		
Exposures in default	117	19
Items associated with particularly high risk		
Covered bonds		
Claims on institutions and corporates with a short-term credit assessment	1	
Collective investments undertakings		
Equity exposures		
Other exposures	349	268
otal standardised approach	2,708	4,498
otal	15,465	14,787

CRB-C – Geographical breakdown of exposures

			of which			Africa &	
end of 2017	UK	Europe	France e	Americas	Asia	Middle East	Total
Net value (USD million)							
Central governments or central banks	47	558	262	23	82	123	833
Institutions	90	519	13	451	134	19	1,213
Corporates	5,213	4,232	1,694	914	91	220	10,670
Retail	_	-					-
Equity	20	18	-	3	-	_	41
Total IRB approach	5,370	5,327	1,969	1,391	307	362	12,757
Central governments or central banks	-	-	_	_	_	_	_
Regional governments or local authorities	-	-	_		-	-	-
Public sector entities	_	_	_	_	_	_	-
Multilateral development banks	_	_	_	_	14	_	14
International organisations	-	-	-		-		-
Institutions	143	113	-	_	5	_	261
Corporates	169	1,451	389	263	75	8	1,966
Retail	-	_	-		-	_	-
Secured by mortgages on immovable property		-	-	-	-	_	-
Exposures in default		117	_	_	_	-	117
Items associated with particularly high risk	_	-	-	_	-	-	-
Covered bonds	_	-	-		-	_	-
Claims on institutions and corporates with							
a short-term credit assessment		<del>.</del> .	· · · · · · · · · · · · · · · · · · ·	<del>.</del>		· · · · · · · · · · · · · · · · · · ·	1
Collective investments undertakings		<del>.</del> .					
Equity exposures			· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	
Other exposures	348	_	_	1	_	_	349
Total standardised approach	660	1,681	389	264	95	8	2,708
Total	6,030	7,008	2,358	1,655	402	370	15,465

 $<sup>^{\</sup>mathbf{e}}\,$  All regions are shown plus any individual country where its exposure is greater than 10% of the total

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Credit risk

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## CRB-D - Concentration of Exposures by Industry or Counterparty types

end of 2017	Agriculture, forestry and fishing	Mining and quarrying	Manu- facturing	Electricity, gas, steam and air conditioning supply	Water supply	Construction	Wholesale and retail trade	
USD million								
Central governments or central banks	-	_	_	-	-	_	_	
Institutions	_	-	-		-		_	
Corporates	114	404	2,924	9	- -	5	375	
Retail		<del>.</del> .	<del>.</del> .		<del>.</del>			
Equity	_	_	17	3	_	_	_	
Total IRB approach	114	404	2,941	12	_	5	375	
Central governments or central banks				_	_			
Regional governments or local authorities	-	-	-	-	-	-	-	
Public sector entities	-		-	-	-	-	-	
Multilateral development banks	_	- · · · · · · · · · · · · · · · · · · ·	-	_	- · · · · · · · · · · · · · · · · · · ·	-	_	
International organisations	-	- · · · · · · · · · · · · · · · · · · ·	-	-	- · · · · · · · · · · · -	-	-	
Institutions	-	- · · · · · · · · · · · · · · · · · · ·	-	-	- · · · · · · · · · · · -	-	-	
Corporates	_	3	397	429	5	1	411	
Retail	-	- · · · · · · · · · · · · · · · · · · ·	-	_	- · · · · · · · · · · · · · · · · · · ·	-	_	
Secured by mortgages on immovable property  Exposures in default				-	- - -		-	
Items associated with particularly high risk	_	- · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	_	_	- · · · · · · · · · · · · · · · · · · ·	_	
Covered bonds	_	- · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	_	_	- · · · · · · · · · · · · · · · · · · ·	_	
Claims on institutions and corporates with a short-term credit assessment	_	_	1	_	_	_	_	
Collective investments undertakings	_	_			- · · · · · · · · · · · · · · · · · · ·		_	
Equity exposures	_	_	- · · · · · · · · · · · · · · · · · · ·	_			_	
Other exposures	_	_			- · · · · · · · · · · · · · · · · · · ·		_	
Total standardised approach	-	3	398	429	5	1	411	
Total	114	407	3,339	441	5	6	786	

22	63	1,373	580	54	51	1,284	_	71	933	5,936	_	15,465
7	5	160	227	32	2		_	1	8	568	_	2,708
 		-				348				1		349
 - · · · · · · · · · · · · · · · · · · ·	_	-		-	-		-	- · · · · · · · · · · · · · · · · · · ·		_	_	
_	_	_	_	_	_	_	_	_	_	_	_	1
 · · · · · · · · · · · · · · · · · · ·	<u> </u>	_			-			- · · · · · · · · · · · · · · · · · · ·		_		· · · · · · · · · · · · · · · · · · ·
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 _	-		112	-	· · · · · · · · · · · · · · · · · · ·	-	-	· · · · · · · · · · · · · · · · · · ·	_	5	_	117
 · · · · · · · · · · · · · · · · · · ·											· · · · · · · · · · · · · · · · · · ·	
 		100	115	32	2	103				201		1,900
 _ 	- - 5	160	- 115	32	- 	103	· · · · · · · · · · · ·		_ 	261 287	· · · · · · · · · · · · · · · · · · ·	261 1.966
 										-		-
 				_		_				14	-	14
 										_		
 _	_	-		_	_	_	-	_	_	_	_	
		-	_			_	_		_	-		,
15	58	1,213	353	22	49	833		70	925	5,368		12,757
 <del>.</del>	· · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · ·		· · · · · · · · · · · ·	<del>.</del> .	21	· · · · · · · · · · · · · · · ·	 41
 15		1,213	353				· · · · · · · · · · · ·		925	4,134	· · · · · · · · · · · · · · · · · · ·	10,670
 	<del></del> .	· · · · · · · · · · · · ·								1,213	<del>.</del> .	1,213
 						833				_		833
and storage	activities	cation	activities	activities	activities	security	Education	activities	recreation	activities	services	Total
Transport	and food service	and communi-	Real estate activities		service	compulsory social	Education.	and social work-	entertain- ment and	and insurance	Other	T-4-1
	Accom- modation	Information		Professional,	strative	and defence,		services	Arts,	Financial		
	A				A almaini	Public ad- ministration		Human health				

## **CRB-E – Maturity of exposures**

			> 1 year		No stated	
end of 2017	On demand	<= 1 year	<= 5 years	> 5 years	maturity	Total
Net exposure value (USD million)						
Central governments or central banks	_	84	544	166	39	833
Institutions	1,006	110	97		_	1,213
Corporates	114	1,422	7,431	1,601	102	10,670
Retail		-				-
Equity		-	· · · · · · · · · · · · · · · · · · ·		41	41
Total IRB approach	1,120	1,616	8,072	1,767	182	12,757
Central governments or central banks	_	_	_	_	_	_
Regional governments or local authorities	_	_				-
Public sector entities	_	_	-		_	-
Multilateral development banks	_	_	8	6	_	14
International organisations	_	-				
Institutions	111	141	9			261
Corporates	18	801	912	235		1,966
Retail	_	_				
Secured by mortgages on immovable property	_		-			-
Exposures in default		117				117
Items associated with particularly high risk	· · · · · · · · · · · · · · · · · · ·					
Covered bonds	- · · · · · · · · · · · · · · · · · · ·	-				-
Claims on institutions and corporates with a short-term credit assessment	· · · · · · · · · · · · · · · · · · ·	1	· · · · · · · · · · · · · · · · · · ·			1
Collective investments undertakings	· · · · · · · · · · · · · · · · · · ·	_				
Equity exposures	· · · · · · · · · · · · · · · · · · ·			_		_
Other exposures	· · · · · · · · · · · · · · · · · · ·	349		_		349
Total standardised approach	129	1,409	929	241	-	2,708
Total	1,249	3,025	9,001	2,008	182	15,465

CR1-A - Credit quality of exposures by exposure class and instrument

	Gross carryi	ng values of					Net values
end of 2017	Defaulted exposures	Non- defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	
USD million							
Central governments or central banks	_	833	_	_	_	_	833
Institutions	_	1,213	-	-	_	-	1,213
Corporates	39	10,643	1	11		12	10,670
Of which: Specialised lending	_	-	-	-	_	-	-
Of which: SMEs	_	_	_	-	_	_	-
Retail	_	-	-			-	-
Secured by real estate property				-		-	-
SMEs	_	-	-	-		-	-
Non-SMEs							
Qualifying revolving		- · · · · · · · · · · · · · · · · · · ·			_	_	
Other retail		_	· · · · · · · · · · · · · · · · · · ·		_	_	
SMEs		-				-	-
Non-SMEs			· · · · · · · · · · · · · · · · · · ·				-
Equity		41		-	_	_	41
Total IRB approach	39	12,730	1	11	_	12	12,757
Public sector entities  Multilateral development banks		14		· · · · · · · · · · · · · · · · · · ·			14
International organisations		_	· · · · · · · · · · · · · · · · · · ·		_	_	-
Institutions	_	261	-	-	_	-	261
Corporates	117	1,972	-	6		6	1,966
Of which: SMEs		_	_	-		_	-
Retail	_	_	_	-		_	-
Of which: SMEs							-
Secured by mortgages on immovable property						-	-
Of which: SMEs	-	-	-	-		-	-
Exposures in default	117						117
Items associated with particularly high risk	-						
Covered bonds	_	-	-	-		-	
		1					
Claims on institutions and corporates with a short-term credit assessment							
Claims on institutions and corporates with a short-term credit assessment  Collective investments undertakings			_	-	_	_	-
Collective investments undertakings	- · · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · ·			- - -
		349	- - -	- - -			- - 349
Collective investments undertakings Equity exposures Other exposures	- 117	349 <b>2,597</b>	- - - -	- - - - 6		- - - 6	349 <b>2,708</b>
Collective investments undertakings Equity exposures							
Collective investments undertakings Equity exposures Other exposures Total standardised approach	117	2,597	-	6		6	2,708
Collective investments undertakings Equity exposures Other exposures Total standardised approach Total	117 156	2,597 15,327	1	6 17	-	6 18	2,708 15,465

## CR1-B - Credit quality of exposures by industry or counterparty types

	Gross carry	ing values of					Net values
end of 2017	Defaulted exposures	Non- defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	
USD million							
Agriculture, forestry and fishing	_	114	_	_	-	_	114
Mining and quarrying	11	397	1	-	_	1	407
Manufacturing	2	3,349		12		12	3,339
Electricity, gas, steam and air conditioning supply	_	441	-	-	_	-	441
Water supply	_	5	_	-	_	_	5
Construction	_	6		-	_	_	6
Wholesale and retail trade	_	789	_	3	_	3	786
Transport and storage	_	22	_	-	_	_	22
Accommodation and food service activities	26	37		-	_	-	63
Information and communication	_	1,374		1	_	1	1,373
Real estate activities	119	468	_	-	_	_	580
Professional, scientific and technical activities	_	54		-	_	-	54
Administrative and support service activities	-	51	-	-	_		51
Public administration and defence, compulsory social security	_	1,284	_	-	_	-	1,284
Education	_	-		-	_	_	-
Human health services and social work activities	_	72		1	_	1	71
Arts, entertainment and recreation	_	933	_	-	_	_	933
Financial and insurance activities	5	5,931	-	-	_		5,936
Other services							-
Total	156	15,327	1	17	_	18	15,465

## CR1-C - Credit quality of exposures by geography

	Gross carry	ing values of					Net values
end of 2017	Defaulted exposures	Non- defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	
USD million							
UK	_	6,031	_	1	_	1	6,030
Europe	145	6,879	_	16	_	16	7,008
of which France <sup>e</sup>		2,367	_	9		9	2,358
Americas	_	1,655	_	_			1,655
Asia	2	400	_	_		_	402
Africa & Middle East	9	362	1	_	· · · · · · · · · · · · · · · · · · ·	1	370
Other geographical areas	_	-	_	_			_
Total	156	15,327	1	17	_	18	15,465

 $<sup>^{\</sup>rm e}\,$  All regions are shown plus any individual country where its exposure is greater than 10% of the total

## CR1-D – Ageing of past-due exposures

							Gross carrying values
	(USD million)	≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
1	Loans	_	-	-	-	-	823
2	Debt securities	-	-	-	-	-	
3	Total exposures	_	-	-	-	-	823

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Credit risk

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## CR1-E - Non-performing and forborne exposures

		Of which performing but past due > 30 days and <= 90 days	Of which performing forborne		
(USD million)					Of which defaulted
	010		020	060	090
10 Debt securities	22,566	-	-	-	-
20 Loans and advances	4,943	-	-	-	823
30 Off-balance-sheet exposures – (Loan commitments given)	690	-	-	-	-

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Credit risk

cial guarantees received	Collaterals and financ	d impairment and provisions djustments due to credit risk	Accumulated i d negative fair value adju		Gross carrying amount of performing and non-performing exposures		
Of which forborne exposures	On non-performing exposures	n non-performing exposures	On n	On performing exposures	C	Of which non-performing	(
		Of which forborne		Of which forborne		Of which forborne	Of which impaired
170 + 180		140		130	120	110	100
-	-		-	-	-	-	-
-	127	0 -	680	-	-	-	-
-	-		-	-	-	-	-

## CR2-A - Changes in the stock of general and specific credit risk adjustments

(USD million)	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
1 Opening balance	586.17	3.00
2 Increases due to amounts set aside for estimated loan losses during the period	30.52	-
3 Decreases due to amounts reversed for estimated loan losses during the period	(4.67)	-
4 Decreases due to amounts taken against accumulated credit risk adjustments	(0.98)	-
5 Transfers between credit risk adjustments	-	-
6 Impact of exchange rate differences	79.61	
7 Business combinations, including acquisitions and disposals of subsidiaries	-	-
8 Other adjustments	(8.54)	4.00
9 Closing balance	682.11	7.00
10 Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	(1.41)	-
11 Specific credit risk adjustments directly recorded to the statement of profit or loss	24.44	-

## CR2-B - Changes in the stock of defaulted and impaired loans and debt securities

	Gross carrying
end of 2017	value defaulted exposures
USD million	
Opening balance	380
Loans and debt securities that have defaulted or impaired since the last reporting period	
Returned to non-defaulted status	_
Amounts written off	
Other changes	(224)
Closing balance	156

## CR3 - CRM techniques - Overview

				Exposure	es secured by
end of 2017	Exposures unsecured – Carrying amount	Exposures secured – Carrying amount	Collateral	Financial guarantees	Credit derivatives
USD million					
Total loans	2,098	2,818	2,490	328	
Total debt securities	141	1	1	-	-
Total exposures	2,239	2,819	2,491	328	
Of which defaulted	156	_	_	_	

## CR4 - Standardised approach - Credit risk exposure and CRM effects

	before (	Exposures CCF and CRM		Exposures F and CRM	RWAs and RWA density	
Exposure classes			On-balance- O sheet amount sh		RWAs R	WA density
end of 2017 (USD million, except where indicated)						
Central governments or central banks	-	_	-	_	-	_
Regional government or local authorities			-	· · · · · · · · · · · · · · · · · · ·	_	-
Public sector entities			_	- · · · · · · · · · · · · · · · · · · ·	_	-
Multilateral development banks		14	_	· · · · · · · · · · · · · · · · · · ·	_	-
International organisations	-	-			_	
Institutions	252	9	252	530	108	14%
Corporates	484	1,488	640	577	1,017	83%
Retail		· · · · · · · · · · · · · · · · · · ·	_	· · · · · · · · · · · · · · · ·	_	
Secured by mortgages on immovable property	_	-	_	-	_	
Exposures in default	117	-	117	-	117	100%
Higher-risk categories		-			_	-
Covered bonds	_	· · · · · · · · · · · · · · · · · · ·	_	-	_	
Institutions and corporates with a short-term credit assessment	1	-	1	_	1	100%
Collective investment undertakings					_	
Equity			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	_	
Other items	349	- · · · · · · · · · · · · · · · · · · ·	349	- · · · · · · · · · · · · · · · · · · ·	870	249%
Total	1,203	1,511	1,359	1,107	2,113	86%

## CR5 – Standardised approach – Exposures by asset classes and risk weights

Exposure classes	0%	2%	4%	10%	20%	35%	
2017 (USD million)							
Central governments or central banks	_	-	_	-	-	-	
Regional government or local authorities	<del>-</del>	_	_	_	-	-	
Public sector entities	<del>-</del>	-	-	_	_	-	
Multilateral development banks	<del>-</del>	_	_	_	-	_	
International organisations	<del>-</del>	_	_	_	-	_	
Institutions	<del>-</del>	521	_	_	111	-	
Corporates	<del>-</del>	_	_	_	173	-	
Retail	<del>-</del>	_	_	_	-	_	
Secured by mortgages on immovable property	<del>-</del>	_	_	_	-	-	
Exposures in default	<del>-</del>	_	_	_	-	_	
Higher-risk categories	<del>-</del>	_	_	_	_	-	
Covered bonds		_	_	_	_	_	
Institutions and corporates with a short-term credit assessment	_	_	_	_	_	_	
Collective investment undertakings	_	_	_	_	_	_	
Equity	_		_	_	_	_	
Other items	_		_	_	_	_	
Total	_	521	-	_	284	_	

Credit risk

	Risk weight									
Of which Total unrated	Deducted	Others	1250%	370%	250%	150%	100%	75%	70%	50%
	-	-	-	-	-	-	-	-	-	-
	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	- · · · · · · · · · · · · · · · · · · ·	_	_	_	_	_
782 526	_	_	_	_	- · · · · · · · · · · · · · · · · · · ·	_	_	_	_	150
1,217 661	_	_	_	_	- · · · · · · · · · · · · · · · · · · ·	72	775	_	_	197
	_	_	_	_	- · · · · · · · · · · · · · · · · · · ·	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
117 117	_	_	_	_	- · · · · · · · · · · · · · · · · · · ·	_	117	_	_	_
	- · · · · · · · · · · · · · · · · · · ·	_	_	_	- · · · · · · · · · · · · · · · · · · ·	_	- · · · · · · · · · · · · · · · · · · ·	_	_	_
	- · · · · · · · · · · · · · · · · · · ·	_	_	_	- · · · · · · · · · · · · · · · · · · ·	_	- · · · · · · · · · · · · · · · · · · ·	_	_	_
1 -	- · · · · · · · · · · · · · · · · · · ·	_	_	_	- · · · · · · · · · · · · · · · · · · ·	1		_	_	_
	_	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_	_
349 -	_	_	_	_	348	_	1	_	_	_
2,466 1,304	_	_	_	_	348	73	893	_	_	347

### CR6 – IRB approach – Credit risk exposures by portfolio and PD range

1.0047	Original on-balance	Off-balance sheet		EAD post-CRM	4 55
end of 2017	sheet gross exposure	exposures pre CCF	Average CCF	and post-CCF	Average PD
(USD million, except where indicated	·				
CENTRAL GOVERNMENTS & CENTR					
0.00% to <0.15%	47	500	1.00	511	0.03
0.15% to <0.25%	39			39	0.22
0.25% to <0.50%	<del>-</del>	64	1.00	64	0.37
0.50% to <0.75%	<del>-</del>				
0.75% to <2.50%	<del>-</del>	12	1.00	20	1.44
2.50% to <10.00%	94			12	9.58
10.00% to <100.00%	_	_	_	_	_
100.00% (Default)	_	_	_	_	_
Sub-total	180	653	1.00	646	0.30
INSTITUTION					
0.00% to <0.15%	996	64	0.94	1,154	0.13
0.15% to <0.25%	13	22	1.00	29	0.22
0.25% to <0.50%	23	_	_	23	0.37
0.50% to <0.75%	_	_		<u> </u>	0.64
0.75% to <2.50%	49	_	_	49	1.10
2.50% to <10.00%	34	12		34	3.88
10.00% to <100.00%	_	_		<del>-</del>	<del>-</del>
100.00% (Default)	_	_	_	_	_
Sub-total	1,115	98	0.95	1,289	0.27
CORPORATES					
0.00% to <0.15%	2,732	2,297	0.53	1,514	0.09
0.15% to <0.25%	135	260	0.57	247	0.22
0.25% to <0.50%	21	557	0.56	322	0.37
0.50% to <0.75%	23	127	0.55	97	0.64
0.75% to <2.50%	317	1,008	0.56	826	1.14
2.50% to <10.00%	179	2,974	0.55	1,845	6.46
10.00% to <100.00%	6	7	0.55	11	23.95
100.00% (Default)	39	_	0.55	39	100.00
Sub-total	3,452	7,230	0.55	4,901	3.54
Total (all portfolios)	4,747	7,981	0.58	6,836	2.62

Credit risk

Value adjustments and provisions	EL	RWA density	RWAs	Average maturity	Average LGD	Number of obligors
-		26%	131	1,064	0.6120	8
-		43%	17	479	0.5200	2
<del>.</del> <del>.</del>	<del>-</del>	137%	87	835	1.0000	3
-		0%		<del>-</del>		<del>-</del>
-	_	192%	39	365	1.0000	5
-	1	407%	50	376	1.0000	4
_	_	0%	_	_	_	_
-	_	0%	_	_	_	_
-	1	50%	324	971	0.6644	22
	<del>-</del>	24%	278	496	0.5533	72
	_	90%	26	1,123	0.5550	9
	_	94%	22	365	0.8425	6
	_	101%	_	365	0.5550	2
	_	116%	57	365	0.6112	5
	1	159%	54	365	0.5550	3
	_	0%	_	_	_	_
	_	0%	_	_	_	_
	1	34%	437	499	0.5608	97
					2.55.10	
-	1	60%	908	1,097	0.5542	202
<u> </u>		103%	254	1,305	0.6755	49
	1	91%	294	1,127	0.5832	42
_	1	147%	144	1,239	0.7618	18
_	5	100%	825	1,318	0.4240	32
-	41	130%	2,402	948	0.3488	188
-	1	158%	17	1,097	0.2790	18
		100%	39	712	0.6737	13
12	50	100%	4,883	1,090	0.4674	562
12	52	83%	5,644	968	0.5037	681

RWAs as at the end of the reporting period

		2017
1 (4100 - 31: )	Pre-credit	A
end of (USD million)  Exposures under FIRB	derivatives RWA	Actual RVVA
Central governments and central banks Institutions		
Corporates – SMEs		
Corporates – Specialised lending		
Corporates – Other		
Exposures under AIRB		
Central governments and central banks	396	324
Institutions	437	437
Corporates – SMEs		-
Corporates – Specialised lending	-	
Corporates – Other	5,158	4,883
Retail – Secured by real estate SMEs	-	
Retail – Secured by real estate non- SMEs	- · · · · · · · · · · · · · · · · · · ·	-
Retail – Qualifying revolving	-	
Retail – Other SMEs	- · · · · · · · · · · · · · · · · · · ·	-
Retail – Other non-SMEs	- · · · · · · · · · · · · · · · · · · ·	-
Equity IRB	138	138
Other non credit obligation assets	613	613
Total	6,742	6,395
CR8 – RWA flow statements of credit risk exposures under the	RWA	Capita requirement
USD million	amounto	- roquiromonia
RWAs as at the end of the previous reporting period	8,611	689
Asset size	(2,057)	(165)
Asset quality	(144)	(11)
Model updates		· · · · · · · · · · · · · · · · · · ·
Methodology and policy	(16)	(1)
Acquisitions and disposals		
Foreign exchange movements		-
Other	-	-
DWA a contable and of the reporting ported	6 205	E 10

6,395

512

CR9 - IRB approach - Backtesting of PD per exposure class

					Numbe	r of obligors
		External	Weighted	Arithmetic average PD		
0047	PD range	rating	average PD	by obligors	End of	End of
2017 CENTRAL GOVERNMENTS & CENTRAL BANKS	(%)	equivalent	(%)	(%)	previous year	the year
CENTRAL GOVERNMENTS & CENTRAL BANKS	0.00 to <= 0.021	AAA	0.02%	0.02%	2	1
	> 0.00 to <= 0.027		0.02%	0.02%	2	
•••••	> 0.027 to <= 0.034		0.03%	0.03%	2	
•••••	> 0.034 to <= 0.044		0.04%	0.04%	3	2
• • • • • • • • • • • • • • • • • • • •	> 0.044 to <= 0.056		0.00%	0.00%	· · · · · · · · · · · · · · · · · · ·	
•••••	> 0.056 to <= 0.068		0.00%	0.00%	<u> </u>	
• • • • • • • • • • • • • • • • • • • •	> 0.068 to <= 0.097	A-	0.00%	0.00%		
•••••	> 0.097 to <= 0.167	BBB+	0.13%	0.13%	1	2
•••••	> 0.167 to <= 0.285	BBB	0.22%	0.22%	3	2
•••••	> 0.285 to <= 0.487	BBB-	0.37%	0.37%	4	3
•••••	> 0.487 to <= 0.839	BB+	0.00%	0.00%		
•••••	> 0.839 to <= 1.442	BB	1.10%	1.10%		2
	> 1.442 to <= 2.478	BB-	1.89%	1.89%	2	3
	> 2.478 to <= 4.259	B+	3.25%	3.25%	2	1
	> 4.259 to <= 7.311	В	0.00%	5.58%	2	1
	> 7.311 to <= 12.550	B-	9.58%	9.58%	1	2
	> 12.550 to <= 21.543	CCC+	0.00%	0.00%		_
	> 21.543 to <= 100	CCC to C	0.00%	0.00%		
INSTITUTIONS						
	0.00 to <= 0.021	AAA	0.00%	0.00%	2	5
	> 0.021 to <= 0.027	AA+	0.00%	0.00%		_
	> 0.027 to <= 0.034	AA	0.00%	0.03%	1	1
	> 0.034 to <= 0.044	AA-	0.04%	0.04%	11	12
	> 0.044 to <= 0.056	A+	0.05%	0.05%	8	10
	> 0.056 to <= 0.068	A	0.06%	0.06%	28	25
	> 0.068 to <= 0.097	<u></u>	0.07%	0.07%	5	10
	> 0.097 to <= 0.167	BBB+	0.13%	0.13%	9	9
	> 0.167 to <= 0.285	BBB	0.22%	0.22%	10	
	> 0.285 to <= 0.487	BBB-	0.37%	0.37%	4	6
	> 0.487 to <= 0.839	BB+	0.64%	0.64%		2
	> 0.839 to <= 1.442 > 1.442 to <= 2.478	BB	1.10% 1.89%	1.10% 1.89%	2	3 2
	> 1.442 to <= 2.478 > 2.478 to <= 4.259	BB- B+	3.25%	3.25%	4	2
	> 4.259 to <= 7.311	 В	0.00%	0.00%		
	> 7.311 to <= 12.550		9.58%	9.58%		
	> 12.550 to <= 21.543	CCC+	0.00%	0.00%	· · · · · · · · · · · · · · · · · · ·	· · · · · · <u> </u>
•••••	> 21.543 to <= 100	CCC to C	0.00%	0.00%	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · <u>·</u>
CORPORATES	7 2 110 10 to 1 100	000 10 0	0.0070	0.0070		
ON ONAILS	0.00 to <= 0.021	AAA	0.00%	0.00%		
•••••	> 0.021 to <= 0.027		0.00%	0.00%	· · · · · · · · · · · · · · · · · · ·	· · · · · · · <u> </u>
•••••	> 0.027 to <= 0.034	· · · · · · · · · · · · · · · · · · ·	0.03%	0.03%	15	· · · · · · · · · · · · · · · · · · ·
•••••	> 0.034 to <= 0.044		0.04%	0.04%	35	13
•••••	> 0.044 to <= 0.056		0.05%	0.05%	52	33
• • • • • • • • • • • • • • • • • • • •	> 0.056 to <= 0.068		0.06%	0.06%	74	36
•••••	> 0.068 to <= 0.097		0.07%	0.07%	112	49
• • • • • • • • • • • • • • • • • • • •	> 0.097 to <= 0.167	BBB+	0.13%	0.13%	82	64
• • • • • • • • • • • • • • • • • • • •	> 0.167 to <= 0.285	BBB	0.22%	0.22%	59	49
•••••	> 0.285 to <= 0.487	BBB-	0.37%	0.37%	43	42
•••••	> 0.487 to <= 0.839	BB+	0.64%	0.64%	18	18
•••••	> 0.839 to <= 1.442	BB	1.10%	1.10%	21	17
•••••	> 1.442 to <= 2.478	· · · · · · · · · · · · · · · · · · ·	1.89%	1.89%	23	15
•••••	> 2.478 to <= 4.259	B+	3.25%	3.25%	29	48
•••••	> 4.259 to <= 7.311	B	5.58%	5.58%	88	89
	> 7.311 to <= 12.550	B-	9.58%	9.58%	33	51
	> 12.550 to <= 21.543	CCC+	16.44%	16.44%	3	16
	> 21.543 to <= 100	CCC to C	89.45%	90.43%	21	15

In the year 2017, there were 15 defaulted obligors out of which 1 was a new defaulted obligor.

#### CR10 - IRB (specialised lending and equities)

end of 2017 (USD million, except where indicated)	On-balance- sheet amount		Risk weight	Exposure amount	RWAs	Capital requirements
Equities under the simple risk-weighted approach						
Regulatory categories						
Private equity exposures	_	_	190%	-	_	_
Exchange-traded equity exposures	17	-	290%	17	50	4
Other equity exposures	24	-	370%	24	88	7
Total	41	-	-	41	138	11

# Counterparty credit risk

#### **OVERVIEW**

Counterparty credit risk arises from OTC and exchange-traded derivatives, repurchase agreements, securities lending and borrowing and other similar products and activities. The related credit risk exposures depend on the value of underlying market factors (eg. interest rates and foreign exchange rates), which can be volatile and uncertain in nature. CSi enters into derivative contracts in the normal course of business principally for market-making and positioning purposes, as well as for risk

management needs, including mitigation of interest rate, foreign currency, credit and other risks.

CSi calculates Exposure at Default ('EAD') for derivatives under the Counterparty Credit Risk Mark-to-market Method ('CCRMTM') approach. The CCRMTM calculation takes into account potential future credit exposure ('PFCE') and thus may generate exposures greater than the derivative net replacement

#### CCR1 – Analysis of CCR exposure by approach

end of 2017	Notional	Replacement cost/current market value	Potential future-credit exposure	EEPE	Multiplier	EAD post-CRM	RWAs
(USD million, except where indicated)					· ·		
Mark to market	_	28,299	59,986	_	-	63,571	39,810
Original exposure	-	-			_	· · · · · · · · · · · · · · · · · · ·	-
Standardised approach		-	-		_	· · · · · · · · · · · · · · · · · · ·	-
IMM (for derivatives and SFTs)	-	_			_	- · · · · · · · · · · · · · · · · · · ·	
Of which securities financing transactions	-	_	_	_	_	_	_
Of which derivatives and long settlement transactions				<del>-</del>		- · · · · · · · · · · · · · · · · · · ·	<del>-</del>
Of which from contractual cross- product netting		- · · · · · · · · · · · · · · · · · · ·		- · · · · · · · · · · · · · · · · · · ·	<u>-</u>	- · · · · · · · · · · · · · · · · · · ·	<del>-</del>
Financial collateral simple method (for SFTs)	-	_	_	_	_	_	_
Financial collateral comprehensive method (for SFTs)		-	-		_	4,649	1,023
VaR for SFTs		-			_	- · · · · · · · · · · · · · · · · · · ·	
Total	-	-	-	-	_	-	40,833

#### CCR2 - CVA capital charge

		2017
end of 2017	Exposure value	RWAs
USD million		
Total portfolios subject to the advanced method	_	_
(i) VaR component (including the 3× multiplier)		-
(ii) SVaR component (including the 3× multiplier)	_	
All portfolios subject to the standardised method	45,402	20,245
Based on the original exposure method	_	
Total subject to the CVA capital charge	45,402	20,245

### CCR3 - Standardised approach - CCR exposures by regulatory portfolio and risk

Total	484	26,493	4,582	-	5,928
Other items	_				
Institutions and corporates with a short-term credit assessment	_				2,755
Retail	<del>-</del>				
Corporates	<del>-</del>				914
Institutions	<del>-</del>	26,493	4,582		2,232
International organisations	17				
Multilateral development banks	377				27
Public sector entities	<del>-</del>				
Regional government or local authorities	<del>-</del>				
Central governments or central banks	90	<del>.</del>	<del>-</del>	<del>-</del>	<del></del>
2017 (USD million)					
Exposure classes	0%	2%	4%	10%	20%

#### Basel III – 2017 Pillar 3 Disclosures (Credit Suisse International) 43

Counterparty credit risk

		Risk weight					
Of which unrated	Total	Others	150%	100%	75%	70%	50%
	90						_
_	_	_	_	-	_	-	-
200	200		_	200	_	_	_
_	450		_	_	_	_	46
17	17	_	_	_	_	_	_
28,628	40,053	_	_	23	_	_	6,723
2,010	3,123	_	65	2,065	_	_	79
_	_	_	_	_	_	_	_
_	2,755	_	_	_	_	_	_
_	_	_	_	_	_	_	_
30,855	46,688	-	65	2,288	-	-	6,848

CCR4 – IRB approach – CCR exposures by portfolio and PD scale

	EAD	Average	Number	Average	Average		RWA
end of 2017 (USD millions, unless otherwise indicated)	post-CRM	PD	of obligors	LGD	maturity	RWAs	density
CENTRAL GOVERNMENTS & CENTRAL BANKS							
PD scale							
0.00% to <0.15%	306	0.02	18	0.52	1,283	63	0.20
0.15% to <0.25%	1,345	0.22	2	0.52	846	734	0.55
0.25% to <0.50%	-	_		_	_	_	_
0.50% to <0.75%	1	0.64	1	0.52	810	1	0.91
0.75% to <2.50%	_	-	-	-	_	-	-
2.50% to <10.00%	_	-			_	-	-
10.00% to <100.00%	-	_			_	-	_
100.00% (Default)	_	_	- · · · · · · · · · · · · · · · · · · ·		_	_	_
Sub-total	1,652	0.18	21	0.52	927	798	
INSTITUTIONS							
0.00% to <0.15%	28,536	0.07	230	0.56	1,144	13,820	0.48
0.15% to <0.25%	2,038	0.22	37	0.56	1,483	2,140	1.05
0.25% to <0.50%	1,269	0.30	35	0.58	879	732	0.58
0.50% to <0.75%	84	0.64	17	0.57	876	103	1.22
0.75% to <2.50%	255	1.33	30	0.88	1,103	648	2.54
2.50% to <10.00%	93	8.53	18	0.55	948	231	2.49
10.00% to <100.00%	38	28.23	3	0.56	1,821	136	3.54
100.00% (Default)	_	_			_	-	_
Sub-total Sub-total	32,313	0.15	370	0.56	1,154	17,810	0.55
CORPORATES							
0.00% to <0.15%	10,437	0.06	3,001	0.56	1,049	4,072	0.39
0.15% to <0.25%	794	0.22	498	0.55	857	526	0.66
0.25% to <0.50%	933	0.37	192	0.50	1,359	845	0.91
0.50% to <0.75%	1,338	0.64	141	0.55	688	1,484	1.11
0.75% to <2.50%	4,395	1.42	405	0.53	905	6,817	1.55
2.50% to <10.00%	697	4.90	286	0.52	913	1,436	2.06
10.00% to <100.00%	2	16.44	3	0.46	776	4	2.42
100.00% (Default)	8	100.00	1	1.00	365	8	1.00
Sub-total	18,604	0.67	4,527	0.55	6,912	15,192	0.82
Total (all portfolios)	52,569	0.34	4,918	0.56	8,993	33,800	0.64

#### CCR5-A - Impact of netting and collateral held on exposure values

Total	545,723	393,927	151,796	65,460	91,753
Cross-product netting	_	_	-	_	_
SFTs	40,692	6,817	33,875	29,604	4,513
Derivatives	505,031	387,110	117,921	35,856	87,240
2017 (USD million)					
	Gross positive fair value or net carrying amount	Netting of benefits	Netted current credit exposure	Collateral held	Net credit exposure

#### CCR6 - Credit derivatives exposures

	Credit deriv	ative hedges	
end of 2017	Protection bought	Protection sold	Other credit derivatives
Notionals (USD billion)			
Single-name credit default swaps	7,584	2,576	434,485
Other	8,087	_	138,641
Total notionals	15,671	2,576	573,126
Fair values (USD billion)			
Positive fair value (asset)	10	35	11,001
Negative fair value (liability)	(139)	(3)	(11,305)

#### **CCR8 – Exposures to CCPs**

		2017
	EAD	
	post-CRM	RWA
USD million		
Exposures to QCCPs (total)	<del>-</del>	1,058
Exposures for trades at QCCPs (excluding initial margin and default fund contributions)	26,988	717
of which OTC derivatives	4	4
of which exchange-traded derivatives	26,878	711
of which SFTs	106	2
of which netting sets where cross-product netting has been approved	_	_
Initial margin	4,092	
Pre-funded default fund contributions	806	341
Alternative calculation of own funds requirements for exposures	_	_
Exposures to non-QCCPs (total)	-	_
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions)	_	_
of which OTC derivatives		
of which exchange-traded derivatives		
of which SETs		
of which netting sets where cross-product netting		
has been approved		
Initial margin		
Pre-funded default fund contributions		
Unfunded default fund contributions	_	-

# **Securitisation**

#### **OVERVIEW**

A traditional securitisation is a structure where an underlying pool of assets is sold to a special purpose entity ('SPE') which issues tranched securities that are collateralised by, and which pay a return based on the underlying asset pool.

A synthetic securitisation is a tranched structure where the credit risk of an underlying pool of exposures is transferred, in whole or in part, through the use of credit derivatives or guarantees that serve to hedge the credit risk of the portfolio. In both traditional and synthetic securitisations, risk is dependent on the seniority of the retained interest and the performance of the underlying asset pool.

# OBJECTIVES IN RELATION TO SECURITISATION ACTIVITY AND CSI'S ROLE

CSi acts as derivative counterparty for securitisation SPEs. Additionally, CSi holds securitisation positions in its Trading Book. CSi's key objective in relation to Trading Book securitisation is to meet clients' investment and divestment needs through its market making role in securitised products across all major collateral types.

CSi's exposure resulting from continuing involvement in transferred financial assets is generally limited to beneficial interests typically held in the form of instruments issued by SPEs that are senior, subordinated or equity tranches or derivative instruments.

Beneficial interests, which are valued at fair value, include rights to receive all or portions of specified cash inflows received by an SPE, including, but not limited to, senior and subordinated shares of interest, principal, or other cash inflows to be 'passed through' or 'paid through' residual interests, whether in the form of debt or equity. Any changes in the fair value of these beneficial interests are recognised in CSi's financial statements.

#### RISKS ASSUMED AND RETAINED

The key risks retained are related to the performance of the underlying assets. These risks are summarised in the securitisation pool level attributes: PDs of underlying loans (default rate), severity of loss (LGD) and prepayment speeds.

The transactions may also be exposed to general market risk, credit spread and counterparty credit risk (see below).

Financial models project risk drivers based on market interest rates and volatility and macro-economic variables.

For re-securitisation risk, models take a 'look through' approach where they model the behaviour of the underlying securities based on their own collateral and then transmit that to the re-securitised position.

The impact of liquidity risk for securitisation products is embedded within CSi's historical simulation model through the incorporation of market data from stressed periods, and in the scenario framework through the calibration of price shocks to the same period.

Correlation and first-to-default products are valued using a correlation model which uses the market implied correlation and detailed market data such as constituent spread term structure

and constituent recovery. The risks embedded in securitisation and re-securitisations are similar and include spread risk, recovery risk, default risk and correlation risk. The risks for different seniority of tranches will be reflected in the tranche price sensitivities to each constituent in the pools. The complexity of the correlation portfolio's risk lies in the level of convexity and inherent cross risk, for example, the risk of large spread moves, and the risk of spread and correlation moving together. The risk limit framework is designed to address the key risks for the correlation trading portfolio.

#### MANAGEMENT OF CREDIT AND MARKET RISK

CSi has in place a comprehensive risk management process whereby the Front Office and Risk monitor positions and position changes, portfolio structure and trading activity and calculate a set of risk measures on a daily basis using risk sensitivities and loss modelling methodologies.

CSi has set limits for the purpose of managing its risk in relation to securitisations and re-securitisations. These limits cover exposure measures, risk sensitivities, VaR and capital measures with the majority monitored on a daily basis.

Retained Banking Book exposures for transactions are risk managed on the same basis as similar Trading Book transactions. Other transactions are managed in line with their individual structural or parameter requirements.

Where counterparty credit risk exposure is identified for a particular transaction, there is a requirement for it to be approved through normal credit risk management processes with collateral taken as required. CSi may also use various proxies including corporate single name and index hedges to mitigate the price and spread risks to which it is exposed. Hedging decisions are made by the trading desk based on current market conditions and will be made in consultation with Risk, requiring approval under CSi's pre-trade approval governance process.

Risk monitors portfolio composition by capital structure and collateral type on a daily basis with subordinate exposure and each collateral type subject to separate risk limits. In addition, the internal risk methodology is designed such that risk charges are based on the seniority the particular security holds in the capital structure, the less senior the bond the higher the risk charges.

#### **CREDIT RISK MITIGATION**

There are no instances where CSi has applied credit risk mitigation approaches to Banking Book securitisation or re-securitisation exposures. CSi does not typically retain material servicing responsibilities from securitisation activities.

In the normal course of business, CSi may hold tranches which have a monoline guarantee. No benefit from these guarantees is currently included in the calculation of regulatory capital.

#### **CALCULATION OF RWAS**

Securities are classified by the nature of the collateral (eg. commercial mortgages and corporate loans) and the seniority each security has in the capital structure (eg. senior, mezzanine,

subordinate), which in turn will be reflected in the transaction risk assessment

For Trading Book securitisations, specific risk of securitisation transactions is calculated using the IRB or Standardised Approach as applicable to the underlying asset type of the securitisation position; general market risk of securitisations is captured in market risk models.

For Banking Book securitisations, the RWAs are calculated under the available IRB approaches.

#### **ACCOUNTING POLICIES**

The accounting policy with respect to special purpose entities and recognition of gains on sale for securitisations is described in the Significant Accounting Policies Note of the CSi 2017 Annual Report, with further information provided in the Interests in Other Entities Note.

The accounting policy with respect to valuation of securitisation positions is described in the Financial Instruments Note of the CSi 2017 Annual Report. The valuation of assets awaiting securitisation follows the same policies as for other assets, as described in the above Note. The assignment of those assets awaiting securitisation to the banking or trading book follows the same policies as for other assets, further described in the Notes to the CSi 2017 Annual Report.

The policies for recognising liabilities on the balance sheet for arrangements that could require the institution to provide financial support for securitised assets follow the same policies as for other provisions and financial guarantees. These policies are described in the Significant Accounting Policies Note of the CSi 2017 Annual Report.

#### TRADING BOOK SECURITISATION EXPOSURES

There was USD 73m of synthetic securitisation positions outstanding at 31 December 2017 that are held in the Trading Book at that date. These were classified as loans to corporates or SMEs. They were all unrated positions and an amount of USD 38m was deducted from capital.

There were no losses, impairments or past due items in relation to securitisation positions in the Trading Book exposures as at 31 December 2017.

#### Outstanding exposures securitised – Banking Book

			Other role	
end of 2016	Sponsor	Traditional	Synthetic	Total
USD million				
Commercial mortgages	_	387	-	387
Loans to corporates or SMEs	-	-	_	-
Covered bonds	-		_	-
Total	0	387	0	387

#### Securitisation exposures purchased or retained – Banking Book

end of 2016	Traditional	Synthetic
USD million		
Residential mortgages	408	_
Commercial mortgages	13	
Loans to corporates or SMEs	54	-
Consumer loans	16	-
Other assets	53	-
Total	544	_

#### Securitisation and re-securitisation exposures by regulatory capital approach - Banking Book

	Securitisati	ion exposure	Re-securitisatio	Re-securitisation exposure		ritisation exposure T		Total
end of 2016	EAD – purchased or retained	RWAs	EAD – purchased or retained	RWAs	EAD – purchased or retained	RWAs		
USD million								
Ratings-based approach (RBA)	477	140	57	656	534	796		
Supervisory formula approach (SFA)	10	1	_	_	10	1		
Total IRB approaches	487	141	57	656	544	797		
Standardised approach	-	-	_	_	-			
Total	487	141	57	656	544	797		

#### Securitisation and re-securitisation exposures under RBA by rating grade – Banking Book

	Securitisat	ion exposure	Re-securitisation	n exposure		Total
end of 2016	EAD – purchased or retained	RWAs	EAD – purchased or retained	RWAs	EAD – purchased or retained	RWAs
USD million						
AAA	21	2	-	_	21	2
AA	120	13	4	· · · · · · · · · · · · · · ·	124	13
A	321	42	1	· · · · · · · · · · · · · · · ·	322	42
BBB	4	2		· · · · · · · · · · · · · · · ·	4	2
BB	7	25		2	7	27
B or lower or unrated	4	56	52	654	56	710
Total	477	140	57	656	534	796

#### Securitisation and re-securitisation exposures under SFA by risk weight band – Banking Book

	Securitisa	tion exposure	Re-securitisation exposure		re <b>Tot</b> a	
end of 2016	EAD - purchased or retained	RWAs	EAD – purchased or retained	RWAs	EAD – purchased or retained	RWAs
USD million						
0% – 10%	_	_	_	_	-	_
>10% - 50%	10	1		_	10	1
>50% – 100%	_			_	· · · · · · · · · · · · · · · · · · ·	
>100% – 650%	_	- · · · · · · · · · · · · · · · · · · ·		_	- · · · · · · · · · · · · · · · · · · ·	-
> 650% – 1250%	_	-	_	_	-	-
Total	10	1	_	-	10	1

# Market risk

#### **OVERVIEW**

CSi has policies and processes in place to ensure that market risk is captured, accurately modelled and reported, and effectively managed. Trading and non-trading portfolios are managed at various organisational levels, from the overall risk positions at entity level down to specific portfolios. CSi uses market risk measurement and management methods in line with industry standards. These include general tools capable of calculating comparable exposures across CSi's many activities and focused tools that can specifically model unique characteristics of certain instruments or

portfolios. The tools are used for internal market risk management, internal market risk reporting and external disclosure purposes. The principal measurement methodologies are VaR and scenario analysis. The risk management techniques and policies are regularly reviewed to ensure they remain appropriate.

#### MARKET RISK CAPITAL REQUIREMENTS

The following table details the components of CSi's capital requirement for market risk (Trading Book unless otherwise stated):

#### MR1 - Market risk under standardized approach

		Capital
end of	RWAs requ	
Risk-weighted assets (USD million)		
Outright products		
Interest rate risk (general and specific)	_	_
Equity risk (general and specific)	_	
Foreign exchange risk	320	26
Commodity risk		
Options		
Simplified approach	_	_
Delta-plus method	· · · · · · · · · · · · · · · · · · ·	
Scenario approach	· · · · · · · · · · · · · · · · · · ·	
Securitisation (specific risk)	_	-
Total risk-weighted assets	320	26

#### MR2-A - Market risk capital requirements under IMA

		2017		2016
(USD million)	RWAs re	Capital	Capita RWAs requirement	
1 VaR (higher of values a and b)	1,093	87	1,528	122
(a) Spot VaR	329	26	534	43
(b) Average of the daily VaR preceding 60 business days * multiplication factor	1,093	87	1,528	122
2 SVaR (higher of values a and b)	1,803	144	3,520	282
(a) Spot SVaR	543	43	2,436	195
(b) Average of the daily SVaR preceding 60 business days * multiplication factor	1,803	144	3,520	282
3 IRC (higher of values a and b)	5,398	432	2,270	182
(a) Spot IRC	4,257	341	1,857	149
(b) Average of the IRC number over the preceding 12 weeks	5,398	432	2,270	182
4 Other <sup>1</sup>	13,096	1,048	16,900	1,352
5 Total	21,390	1,711	24,218	1,937

<sup>1</sup> Risk not in VaR addon

The following tables detail the RWA flow statement of market risk exposures (Trading Book unless otherwise stated):

MR2-B - RWA flow statements of market risk exposures under the IMA

				Compre-			
				hensive			Total capital
(USD million)	VaR	SVaR	IRC	risk measure	Other	Total RWAs	requirements
1 RWAs at previous year end	1,528	3,520	2,270	n/a	16,900	24,218	1,937
(1a) Regulatory adjustment	182	4,275	(413)	n/a	-	4,044	324
(1b) RWAs at the previous year-end (end of the day)	1,710	7,795	1,857	n/a	16,900	28,262	2,261
2 Movement in risk levels	166	(5,213)	2,544	n/a	(1,717)	(4,220)	(338)
3 Model updates/changes	(592)	1,588	-	n/a	-	995	80
4 Methodology and policy	(229)	(2,431)	(144)	n/a	(2,088)	(4,892)	(391)
5 Acquisitions and disposals	-	-	-	n/a	-	-	-
6 Foreign exchange movements	-	-	-	n/a	-	-	-
7 Other	-	-	-	n/a	-	-	-
(8a) RWAs at the end of the reporting period (end of the day)	1,054	1,739	4,257	n/a	13,096	20,146	1,612
(8b) Regulatory adjustment	39	65	1,141	n/a	-	1,245	100
8 RWAs at the end of the reporting period	1,093	1,803	5,398	n/a	13,096	21,390	1,711

#### **RISK MEASUREMENT AND MANAGEMENT**

Internal Models Approach ('IMA') models are used to quantify market risk capital requirements in the trading portfolio which includes those financial instruments treated as part of the Trading Book for regulatory capital purposes. The trading portfolio includes a majority of trading assets and liabilities, selected fair-valued positions of investment securities, other investments, other assets (mainly derivatives used for hedging, loans and real estate held-for-sale), short-term borrowings, long-term debt and other liabilities (mainly derivatives used for hedging).

CSi is active in most of the principal trading markets of the world, using the majority of common trading and hedging products, including derivatives such as swaps, futures, options and structured products (some of which are customised transactions using combinations of derivatives and executed to meet specific client or proprietary needs). CSi conducts its Trading Book activities primarily through the Global Markets, Asia Pacific and Investment Banking & Capital Markets divisions.

CSi provides listed and vanilla OTC options, structured OTC derivatives on indices, single stocks and hybrid underlyings and hedging equity products to clients globally. It participates as a market maker in the investment grade credit default swaps and secondary loans markets, trades in mortgage-backed and asset-backed products and provides underwriting services on loans. It trades local FX spot, bonds, interest rates derivatives and structured notes products for the developed markets currencies. It also provides client advisory services on M&A and conducts underwriting transactions across all main industry sectors in APAC and EMEA locations.

As a result of CSi's broad participation in products and markets, trading strategies are correspondingly diverse and exposures are generally spread across a range of risk factors and locations. Risks associated with the embedded derivative elements of CSi's structured products are actively monitored and managed on a portfolio basis as part of the overall trading portfolio and are reflected in all IMA-based measures.

#### SCOPE OF IMA CALCULATIONS: CRITERIA FOR INCLUSION IN THE TRADING BOOK

CSi falls within the scope of the CS group's Trading Book Policy. The policy sets out the principles for the classification of products between Trading and Banking Book for the purpose of regulatory capital and market risk measurement. Specifically, it sets out the criteria which must be met in order to allocate positions to the Trading Book. The policy is common to all entities within the CS group and adherence to its requirements is mandatory.

The criteria for Trading Book classification are, broadly, that the position must be a transferable or hedgeable financial instrument; that there must be trading intent or a hedging relationship with another Trading Book item; and that daily fair value methodology must be applied for regulatory and risk management purposes. The fair value methodology is itself the subject of policies, procedures and controls that exist separately as part of the overall valuation process operated across the CS group.

In addition to the policy document, the governance arrangements relating to the Trading Book classification, management and control incorporate a number of components. These include a Trading Book Eligibility Committee which is responsible for i) reviewing and approving (or rejecting) proposed transfers between Trading and Banking Books, and ii) reviewing complex Trading/Banking Book classification decisions. Trading Book status is subject to re-validation by Product Control each year, and additionally on an ad-hoc basis when required.

Trading Book classification is one of the criteria for inclusion of positions in the scope of calculations for regulatory capital requirements under the IMA as defined in the IMA waiver.

#### INTERNAL MODELS APPROACH (IMA) FRAMEWORK

The key components of the market risk IMA framework are VaR (intended as both regulatory VaR and Stressed VaR) and IRC. This is complemented by a Risks Not In VaR ('RNIV') Framework.

Within CSi's model-based calculations of market risk, values measured during the period are summarised as follows:

MR3 - Regulatory VaR, stressed VaR and **Incremental Risk Charge** 

in / end of	2017	2016
(USD million)		
Regulatory VaR (10 day 99%)		
Maximum value	47	85
Average value	26	49
Minimum value	16	27
Period end	26	43
Stressed VaR (10 day 99%)		
Maximum value	200	195
Average value	42	103
Minimum value	17	49
Period end	43	195
IRC (99.9%)		
Maximum value	532	566
Average value	323	199
Minimum value	149	80
Period end	341	149

CSi received permission from the PRA to use internal models to calculate Trading Book market risk capital requirements under the IMA permission. CSi applies the IMA models to the majority of the positions in its Trading Book. CSi continues to seek regulatory approval for ongoing enhancements to the IMA methodologies where applicable. The VaR model does not cover all identified market risk types, and as such CSi also captures RNIV through capital add-ons. Credit correlation products (including ABS positions) are not fully covered by the VaR model approval. These positions are permitted to remain in VaR, but CSi is additionally required to hold capital under standard rules for specific risk as set out in the CRR.

CSi uses a historical simulation approach in modelling VaR. The VaR model used for both Regulatory and Risk Management purposes is calculated as a 99th percentile measure using a 10-day holding period. Both measures use a 2-year data period which is updated weekly and apply exponential weighting with a time decay factor of 0.994 to provide sufficient responsiveness to market regime changes. For Regulatory Stressed VaR (SVaR), CSi uses a 99th percentile, one tailed confidence interval for a 1-year data period of financial stress without a time decay factor. No difference exists between the SVaR model used for management purposes and the model used for regulatory purposes.

The 10-day VaR is modelled directly using overlapping 10-day returns. There are two approaches used to incorporate Specific Risk:

- Full Simulation approach: This approach uses an individual risk factor for each security. Therefore, for each security, this approach incorporates both Specific Risk and General Risk within the same risk factor.
- Regression approach: This approach uses a common risk factor across related securities in conjunction with additional specific risk add-ons for each security. This modelling approach divides historical price variations into Specific and General market risk components.

Under the Full Simulation approach, scenario P&Ls incorporating both specific and general risk are aggregated in the Historical Simulation VaR. Under the Regression approach, scenario P&Ls corresponding to general risk are aggregated in the Historical Simulation VaR, while for each specific risk, a VaR is calculated by applying either a 1st or a 99th percentile historical move (depending on the direction of the position). Specific risk VaR components are aggregated with Historical Simulation VaR under a zero correlation assumption (square root sum of squares).

The CSi VaR model uses Full Revaluation, Partial Revaluation or Taylor Series approximation, depending on the individual portfolios and their respective degree of non-linearity. Full Revaluation and Partial Revaluation are the most accurate approaches and use the same Front Office valuation models that are used for fair value

- Under Full Revaluation, scenario P&L is calculated by reevaluation for every historical scenario. Given the resulting computational cost, Full Revaluation is generally reserved for non-linear products with material dependence on multiple risk factors, or vanilla hedges against such products.
- Under Partial Revaluation, P&L is calculated by re-evaluation at the nodes of a grid of possible market moves. Scenario P&L is then calculated by interpolation over the grid. Partial Revaluation is an efficient and accurate approach for products with low dimensionality (in terms of the number of material risk drivers). Typically the grid has two dimensions, representing spot price and volatility.

The methods used to simulate the potential movements in risk factors are primarily dependent on the risk types. For risk types pertaining to equity prices, FX rates and volatilities, the returns are modelled as a function of proportional historical moves. For certain spread risks, the returns are modelled as a function of absolute historical moves. For some risk types, such as interest rates, swap spreads and EM credit spreads, a mixed approach is used.

The SVaR is calculated as a 10-day 99th percentile with no time decay factor and uses a 1-year time period corresponding to significant financial stress for the legal entity's current portfolio. The SVaR measure is identical to the Regulatory VaR in the following aspects:

- 10-day VaR is modelled directly using overlapping 10-day
- Use of the same individual VaR risk types and aggregation methodology.
- The same coverage of the positions/underlying securities using time series market data.
- The same set of relevant trading book positions.
- The same IT infrastructure.
- The same valuation approach.

The stress period chosen is reviewed on a monthly basis and includes all possible SVaR windows from 2006 on, staggered by one month. Regulatory SVaR is maximised for the average of the preceding 60 days of actual positions for all stressed windows within the review. The valuation approach used in selecting the maximising SVaR window is generally the same as for calculating Regulatory VaR. The only exception concerns Equity positions

where the Regulatory VaR calculation uses Full Revaluation. Given the computational cost of calculating Full Revaluation over the twelve-year period from 2006 during SVaR window selection, Full Revaluation is used for the most recent two-year period and also a two-year period around the current SVaR window, and a sensitivity-based approximation is used in other periods. The appropriateness of this approach is monitored on a monthly basis by calculating the Full Revaluation and sensitivity-based approaches over the full twelve-year history for a single portfolio date.

The SVaR window for the CSi legal entity as of the December 2017 month-end assessment is 'December 2007 – November 2008'.

CSi imposes robust requirements around minimum data standards which ensure the accuracy and reliability of data and parameters used in the VaR model. CSi operates a global function responsible for data validation, aggregation & reporting, and has established operational procedures which are based on the policies outlined in the Market Risk and Operational Risk Framework. The procedures describe the business process and controls applied to verify the completeness and accuracy of the system feeds received for sensitivities and key risk data attributes. These controls include verifying the Market Risk data inputs received from upstream systems, validating the Market Risk sensitivities and performing reconciliations. The controls include automated reviews for data completeness, validation checks to ensure report completeness and accuracy, including review of breaches, back testing exception process review, large moves analysis, and report review. The controls are identified, documented, and are subjected to ongoing monitoring for effectiveness including supervisory oversight and control governance.

For any implementation of new/changed models, CSi relies on the standard change control processes overseen by a dedicated change function to review and sign-off changes to impacted systems prior to release.

CSi executes a T+1 process for validating data. Data delivery agreements are monitored by the Risk and Finance IT teams. The global data validation, aggregation & reporting function may modify the risk data to normalise it across the sources, enrich the data to infer internal model parameter inputs or additional attributes for reporting and MI purposes, etc. The function also makes adjustments for misbooking or valuation errors from front office valuation systems.

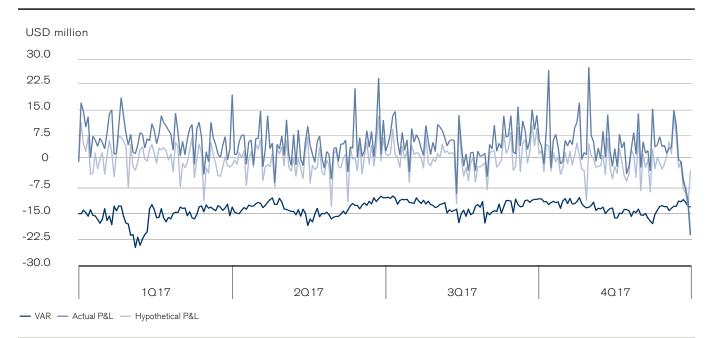
CSi employs a range of different control processes to help ensure that the models used for market risk remain appropriate over time. As part of these control processes, both the Market Risk Quant Steering Committee and the UK Model Performance Committee review model performance and approve any new or amended models.

#### **VALUE AT RISK BACKTESTING**

Various techniques are used to assess the accuracy of the VaR model used for trading portfolios, including backtesting. In line with industry practice, CSi undertakes backtesting using actual and hypothetical daily trading revenues. Actual and hypothetical daily trading revenues are compared with a regulatory 99% VaR calculated using a one-day holding period. A backtesting exception occurs when the daily trading loss exceeds the daily VaR estimate.

For capital purposes, a backtesting multiplier is added for every backtesting exception over four in the prior rolling 12-month period. This is calculated using the higher number of exceptions under either actual or hypothetical daily trading revenues. The backtesting multiplier is equal to zero as CSi had one backtesting exception in 2017 (2016: one).





Date	Actual P&L	Hypothetical P&L	VaR	Exception Category	Exception Summary
28 Dec 2017	\$(11.4)m	\$(13.0)m	\$12.9m	Hypothetical P&L	The Hypothetical P&L losses were due to unexpected co-movements of rates and equity risk factors in the Asia Pacific and Global Markets divisions. This resulted into correlation break across businesses with respect to the empirical correlations captured by the historical simulation model used to estimate VaR.
29 Dec 2017	\$(21.1)m	\$(2.7)m	\$13.0m	Actual P&L	The Actual P&L losses were due to month-end valuation adjustments within the Asia Pacific and Global Markets divisions.

#### Incremental risk capital charge

The Incremental Risk Charge (IRC) capitalizes issuer default and migration risk in the trading book, such as bonds or credit default swaps, but excludes securitizations and correlation trading. CSi has received PRA approval to use the IRC model within the Specific Risk Capital Framework for the bank. CSi continues to hold regulatory approval for ongoing enhancements to the IRC methodology, and the IRC model is subject to regular reviews by PRA.

The IRC model assesses risk at a 99.9% confidence level over a one year time horizon assuming that positions are sold and replaced one or more times, depending on their liquidity which is modelled by the liquidity horizon.

The IRC portfolio model is a Merton-type portfolio model designed to calculate the aggregate loss at the 99.9% confidence level based on aggregated exposures that are obtained from individual transactions according to an aggregation model. Key model feature is that defaults and rating migrations are correlated using a Gaussian copula. The model's design is based on the same principles as industry standard credit portfolio models including the Basel II AIRB model.

IRC parameters are based either on i) the AIRB reference data sets used for the PD and LGD estimation (migration matrix including PDs, LGDs, LGD correlation and volatility), or ii) data used for indices published by CSi.

To achieve the required soundness standard, i.e. comparable to those under the IRB approach, CSi uses AIRB LGD parameters calibrated to a downturn. The conservatism of this choice is being monitored and reported on a quarterly basis.

The liquidity horizon represents time required to sell the positions or hedge all material risk covered by the IRC model in a stressed market. Liquidity horizons are modelled according to current regulatory requirements.

The IRC model and liquidity horizon methodology have been validated by the Model Risk Management team in accordance with the firm's Model Risk Model Risk Management - Model Validation policy.

As an outcome of these validation reviews CSi decided to adopt the Constant Position Assumption, i.e. a single liquidity horizon of one year; this corresponds to the most conservative assumption on liquidity horizons that is available under current IRC regulatory rules. Following regulatory approval, the Constant Position Assumption has been implemented in 2017 for CSi.

The IRC model is implemented within the same Market Risk infrastructure that is used for VaR; this in particular ensures a consistent treatment of source data between VaR and IRC.

#### **SCENARIO ANALYSIS**

Stress testing complements other risk measures by capturing CSi's exposure to unlikely but plausible events, which can be expressed through a range of significant moves across multiple financial markets. The majority of scenario analysis calculations performed are specifically tailored toward the risk profile of particular businesses, and limits may be established if they are considered the most appropriate control. In addition, to identify areas of risk concentration and potential vulnerability to stress events at entity level, a set of scenarios is consistently applied across all businesses to assess the impact of significant, simultaneous movements across a broad range of markets and exposure classes.

Stress testing is a fundamental element of CSi's risk control framework, with results used in risk appetite discussions and strategic business planning, and to support the internal capital adequacy assessment ('ICAAP'). Stress test scenarios are conducted on a regular basis and the results, trend information and supporting analysis are reported to the Board of Directors, senior management and business lines.

CSi's stress testing framework is governed through a dedicated steering committee that operates across the CS group. Scenarios can be defined with reference to historic events or based on forward-looking, hypothetical events that could impact CSi's positions, capital, or profitability. The scenarios are reviewed and updated as markets and business strategies evolve, and new scenarios are designed by the Risk division in collaboration with Global Research and business divisions.

# Operational risk

#### **OVERVIEW**

The Operational Risk Policy sets out the principles and components for managing operational risk in CSi as part of the Enterprise Risk and Control Framework (ERCF). The ERCF provides a systematic and integrated approach to the management of operational risk, including compliance risk. The ERCF comprises a series of interrelated components that CSi uses to identify, measure, monitor and control risks in line with its risk appetite across all divisions, regions and legal entities. These components include policies, systems, processes, measurement techniques, reporting mechanisms and governance arrangements that have been designed to provide a robust and comprehensive approach to managing operational risks. The ERCF components are periodically updated and enhanced to ensure they remain effective and that the components work well together.

#### **RISK APPETITE**

The ERCF Risk Appetite is a forward-looking view of risk acceptance that articulates the nature, types and levels of operational risk that the Bank is willing to assume in pursuit of its business activities. It sets out the boundaries within which senior management is required to operate when pursuing CSi's strategy. The Risk Appetite is expressed in both quantitative and qualitative terms where quantitative tolerance levels are based on operational risk incidents and qualitative statements cover risk outcomes that should be avoided. The tolerance levels and statements for CSi are approved by the Board. Any breaches of the Operational Risk Appetite trigger actions under the Responses Framework (described below).

#### **RISK REGISTER**

The ERCF Risk Register comprises a catalogue of inherent operational risks arising as a consequence of business activities and is the most granular classification of operational risks used by CSi. It provides a standardised terminology of inherent risks across CSi covering inherent operational risks on a front-to-back basis, ie. risks inherent in business divisions and Corporate Functions. It also provides the basis to identify, assess, mitigate and monitor operational risk throughout the CS group, as well as providing the capability to aggregate and report residual operational risk exposure. As such, it also constitutes the basis for conducting Risk and Control Self-Assessments and identification of Top ERCF Risks.

#### **INTERNAL CONTROLS**

Internal controls are designed to ensure that the Bank's processes follow agreed policies, these processes operate as intended and that associated risks within CSi are appropriately mitigated. ERCF defines the guidance to ensure that controls are executed, assessed and evidenced on a consistent and comprehensive basis, with a focus on CSi's key risks and controls. Certain key controls are subject to independent testing to evaluate their effectiveness. The results of these tests are considered in other ERCF components, such as in the Risk and Control Self-Assessment process.

#### **METRICS**

Metrics are risk and control indictors that provide information on operational risk exposures and the effectiveness of controls, respectively. From their monitoring, trends in indicator performance can be used to assess whether risks or controls are improving or deteriorating. Metrics form a part of measuring ERCF Risk Appetite and assessing the Top ERCF Risks, as well as being used by business divisions and Corporate Functions to inform the Risk and Control Self-Assessment process.

#### **INCIDENT DATA**

CSi uses the output of investigations into internal and relevant external incidents to inform its risk measurement and management processes. This includes both incidents that result in economic losses or those which provide information on potential control gaps, even if no losses occurred. Internal and external incidents are subject to separate review and assessment processes that reflect differences in the amounts of available information and degree of applicability to CSi.

#### **RISK AND CONTROL SELF-ASSESSMENT PROCESS**

The Risk and Control Self-Assessment (RCSA) process is a comprehensive, bottom-up assessment of the key operational risks in each business division and Corporate Function. It comprises a self-assessment for all applicable inherent risks, an evaluation of the effectiveness of the controls in place to mitigate these risks and a decision to either accept or remediate any residual risks. The RCSA process utilises other components of the ERCF, such as metrics and incident data, and generates outputs that are used to manage and monitor CSI's residual risks. The self-assessments are subject to rigorous second line review and challenge by the independent risk oversight functions, inclduing Operational Risk Management, along with quality assurance to ensure that they have been conducted appropriately. At a minimum, business divisions and Corporate Functions must conduct an RCSA within each calendar year though more frequent updates may be triggered by material changes to the business environment or risk profile.

#### **REVERSE STRESS TESTING**

Reverse stress testing is a complementary tool that introduces a more forward-looking element into the RCSA process. It assumes that a business has suffered an adverse outcome, such as a large operational risk loss, and requires consideration of the events that could have led to the result. As such, it allows for the consideration of risks beyond normal business expectations and it challenges common assumptions about the risk profile, the emergence of new risks or interactions between existing risks, as well as the performance of expected control and mitigation strategies.

#### TOP OPERATIONAL RISKS AND REMEDIATION PLANS

Top ERCF Risks are defined as the most significant residual operational risks that require executive level management oversight to avoid occurrence or prevent re-occurrence of significant incidents, significant regulatory scrutiny, enforcement or legal action,

substantial damage to CSi's reputation or franchise or significant unmitigated risk in excess of Risk Appetite. Top ERCF Risks are generated using both a top-down assessment by senior management and a bottom-up process that collates the main themes arising from the RCSA process.

#### CAPITAL MODELLING AND SCENARIOS

CSi uses the Basic Indicator Approach to determine its Pillar 1 capital requirement in respect of operational risk.

Incremental capital requirements are determined as part of Pillar 2A through the use of an internal model which is based on the Advanced Measurement Approach used by CS Group. The operational risk ICAAP model estimates the capital required for operational risk at the 99.9% confidence level over a one-year period using a combination of internal loss data, external loss data, business environment and internal control factors, and scenario analysis. This scenario analysis includes an evaluation of CSi's potential exposure to infrequent but high-severity 'tail' events, such as unauthorised trading or severe business disruption.

The results from the model provide management with a more forward looking view of the operational risk profile in order to determine capital adequacy.

#### ISSUES AND ACTIONS MANAGEMENT

The Issues and Actions Management component within ERCF provides a governance structure and process for how CSi responds to operational risk incidents and breaches of risk appetite. The purpose of Issues and Actions Management is to ensure that operational risk incidents and risk appetite breaches of various types and severity are reviewed at appropriate levels of governance and to provide guidance on the range of possible management responses.

#### **CHANGE ASSESSMENTS**

Operational risks associated with major change initiatives are identified, assessed and managed throughout the life of each program using the relevant components of the ERCF. These assessments also consider the fact that even initiatives that are expected to deliver operational risk benefits upon completion may result in increased risks during the implementation phase. Outsourcing initiatives may be considered for assessment where Operational Risk Management has determined that certain materiality criteria are met.

#### **CONDUCT AND ETHICS**

The six Conduct and Ethics Standards establish group-wide standards and further embed clear expectations of Conduct and

Ethics in Credit Suisse's employees. They ensure that the right things are done in the right way. The global, divisional, Corporate Functions and Legal Entity Conduct and Ethics Boards (CEBs) provide oversight and drive the implementation of the standards within their corresponding areas.

#### **TECHNOLOGY RISK**

Ensuring that the confidentiality, integrity and availability of information assets are protected is critical to the Bank's operations, given the complex technological landscape that covers the CSi business model.

Technology risk is the risk that technology-related failures, such as service outages or information security incidents, may disrupt business. As a component of operational risk, technology risk is inherent not only in the Bank's IT assets, but also in the people and processes that interact with them including through dependency on third party suppliers and the worldwide telecommunications infrastructure. The Bank seeks to ensure that the data used to support key business processes and reporting is secure, complete, accurate, available, timely and meets appropriate quality and integrity standards. The Bank requires critical IT systems to be identified, secure, resilient and available and support our ongoing operations, decision making, communications and reporting. CSi systems must also have the capability, capacity, scalability and adaptability to meet current and future business objectives, the needs of the Bank's customers and regulatory and legal expectations. Failure to meet these standards and requirements may result in adverse events that could subject CSi to reputational damage, fines, litigation, regulatory sanctions, financial losses or loss of market share.

Cyber risk, which is part of technology risk, is the risk that the Bank will be compromised as a result of cyber-attacks, security breaches, unauthorized access, loss or destruction of data, unavailability of service, computer viruses or other events that could have an adverse security impact. Any such event could subject the Bank to litigation or cause a financial loss, a business disruption, a liability to clients, regulatory intervention or reputational damage. The Bank could also be required to expend significant additional resources to modify protective measures or to investigate and remediate vulnerabilities or other exposures.

Technology risks are managed through the technology risk management program, business continuity management plan and business contingency and resiliency plans and feature in the Bank's overall operational risk assessment.

# Reputational risk

#### **OVERVIEW**

The Credit Suisse ('CS') Code of Conduct states that 'Our most valuable asset is our reputation'. CS' reputation is driven by the perception of key stakeholders such as clients, shareholders, the media and the public. The CS Global Policy on Reputational Risk ('the Policy') states that each employee is responsible for assessing the potential reputational impact of all businesses in which they engage, and for determining whether any actions or transactions should be formally submitted through the Reputational Risk Review Process ('RRRP') for review.

Reputational risk may arise from a variety of sources, including, but not limited to, the nature or purpose of a proposed transaction, action or client relationship, the identity or nature of a potential client, the regulatory or political climate in which the business will be transacted or significant public attention surrounding the transaction itself.

#### PROCESS AND GOVERNANCE

The CSi Board has formally delegated reputational risk issues to the Bank's global RRRP which includes an overview of the

transaction or action being considered, the risks identified and relevant mitigating factors and views from internal subject matter experts. All formal submissions in the RRRP require review by the UK Senior Manager in the relevant division, and assuming they are supportive of the proposal are then subsequently referred to one of CSi's Reputational Risk Approvers ('RRA'), each of whom is independent of the business divisions and has the authority to approve, reject, or impose conditions on the Bank's participation. If the RRA considers there to be a material reputational risk associated with a submission, it is escalated to the CSi Reputational Risk Committee ('the Committee') for further discussion, review and final decision. The Committee is comprised of senior Bank entity management across divisions and corporate functions.

Reputational risk is assessed on an entity based approach whereby the region of the RRRP submission is driven by the location of the booking entity. Where a submission relates to a Remote Booking, a submission will be made through to CSi RRRP and the RRAs in other regions will be consulted as appropriate, which may include escalation to the Committee.

# **Liquidity Risk**

#### **OVERVIEW**

Liquidity Risk is referred to in this document as the risk that the Bank will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial condition of the firm. Liquidity at Credit Suisse is managed primarily by Treasury with independent oversight by MLRM Liquidity Risk.

#### **RISK APPETITE**

The following Strategic Risk Objective has been approved by the management body.

Sound management of Funding Liquidity Risk: Manage liquidity and funding liquidity risk by maintaining sufficient funds to meet all obligations on both an ongoing business as usual basis, and in periods of liquidity stress.

The CSi Risk Management Committee (RMC) has approved quantitative controls and qualitative statements to complement this strategic objective.

The overall liquidity risk limit calibration is recommended by the UK Head of Treasury and Liquidity Risk who has responsibility for development and calibration of the full suite of liquidity risk limits.

#### THE ADEQUACY OF LIQUIDITY RISK MANAGEMENT

An Internal Liquidity Adequacy Assessment Process (ILAAP) document sets out CSi's approach to liquidity and funding and is approved by the management body. The assessment of the liquidity needs of CSi has been made in consideration of the relevant guidance and requirements set out by regulatory bodies, in particular the PRA Supervisory Statement SS24/15 and Internal Liquidity Adequacy Assessment part of the PRA Rulebook (ILAA rules). The most recent assessment concludes that CSi was in compliance with the internal controls in place and with the Board approved Risk Appetite.

The entity was also in compliance with the regulatory minimum liquidity requirements under the Liquidity Coverage Requirement (LCR) and held surplus liquidity above both the Board approved LCR Risk Appetite and internal risk controls.

#### STRATEGIES AND PROCESSES IN THE MANAGEMENT OF THE LIQUIDITY RISK

The liquidity and funding strategy is approved by the Capital Allocation & Risk Management Committee (CARMC) and overseen by the Board of Directors. The implementation and execution of the liquidity and funding strategy is managed by Treasury. Treasury ensures adherence to the funding policy and the efficient coordination of the secured funding desks. This approach enhances Treasury's ability to manage potential liquidity and funding risks and to promptly adjust the entity's liquidity and funding levels to meet stress situations. The liquidity and funding profile are regularly reported to CARMC and the Board of Directors, who set parameters for the balance sheet and funding usage of the businesses. The Board of Directors is responsible for defining the Bank's overall risk tolerance in the form of a risk appetite statement.

CSi has a liquidity and funding policy which is designed to ensure that funding is available to meet all obligations in times of stress, whether caused by market events or issues specific to CSi. This is achieved through a conservative asset/liability management strategy aimed at maintaining long-term funding, including stable deposits, in excess of illiquid assets. To address short-term liquidity stress, a liquidity pool is maintained, that covers unexpected outflows in the event of severe market and idiosyncratic stress.

The liquidity risk controls set by MLRM Liquidity Risk and approved by the CSi Risk Management Committee, reflect various liquidity stress assumptions that are conservative. Treasury manages the liquidity profile at a sufficient level such that, in the event that CSi was unable to access unsecured funding, there would be sufficient liquidity to sustain operations for a period of time in excess of the minimum limit. This includes potential currency mismatches, which are not deemed to be a major risk but are monitored and subject to limits, particularly in the significant currencies of US Dollar, Euro, Pound Sterling, Swiss Franc and Japanese Yen.

#### STRUCTURE AND ORGANISATION OF THE LIQUIDITY RISK MANAGEMENT FUNCTION

The MLRM Liquidity Risk function is part of the overall Global MLRM Liquidity organisation with supporting functions from the Global MLRM Liquidity roles to oversee and manage liquidity risk for CSi. It is led by the UK Head of Treasury & Liquidity Risk with dual reporting lines to the Global Head of Treasury & Liquidity Risk and UK Chief Risk Officer ("CRO").

The three lines of defence model is adopted by the firm for managing liquidity risks. The current operating model for liquidity risk establishes a clear delineation between Treasury and LMR as the 1st line of defence and MLRM Liquidity Risk as the 2nd line of defence.

MLRM Liquidity Risk challenges CSi Treasury, Liquidity Measurement and Reporting (LMR) as well as the business divisions for their liquidity risk measurement and management responsibilities.

#### Liquidity Risk Management Local Governance

Each committee within the governance structure has terms of reference, which lays out its roles and responsibilities and outlines membership, quorum and documentation requirements.



#### **Committee Descriptions**

Committee	Key Liquidity Risk Mandate
CSi BoD/Board Risk Committee	<ul> <li>Review and approve the liquidity risk appetite</li> <li>Review and approve the liquidity and funding position of CSi</li> <li>Consider and assess the systems and controls in relation to the incurring of risk on behalf of CSi</li> <li>Review and assess the integrity, independence and adequacy of the liquidity risk management function</li> </ul>
UK IB Capital Allocation and Risk Management Committee (CARMC) – Monthly	<ul> <li>Monitor and challenge liquidity positions vs internal and external regulatory limits</li> <li>Monitor and challenge the impact of current and future regulatory changes on the liquidity positions</li> <li>Monitor and challenge the adequacy of the systems and controls related to the ALM management framework</li> </ul>
CSi Risk Management Committee – Monthly	<ul> <li>Define liquidity risk appetite framework and approve liquidity risk limits</li> <li>Ensure that risk controls standards for liquidity risk are established</li> </ul>

# CENTRALISATION OF LIQUIDITY MANAGEMENT AND INTERACTION BETWEEN THE GROUP'S UNITS

#### Overview of the liquidity management function

All liquidity management functions have regional presence outside head offices to ensure regional liquidity risk requirements are met.

The regional liquidity management functions have dual reporting lines to the regional treasurers and functionally to the Global Head of Liquidity management. The teams are responsible for managing liquidity positions at the local level in conjunction with regulatory and senior management requirements.

#### Overview of the Group governance structure

All functions involved in the liquidity risk management governance and risk management framework have regional presence to ensure liquidity risk management governance is implemented locally and satisfies local liquidity requirements, local rules and regulations.

The Regional and Global committee governance are aligned in terms of the firm's operating model. This setup is mirrored locally in the regions. This application ensures that risk control frameworks are developed and adhered to consistently at the Group and local entity levels while allowing for a nuanced approach to region specific business lines and regulations.

#### LIQUIDITY RISK REPORTING AND MEASUREMENT SYSTEMS

The CRR, as supplemented by the Commission Delegated Regulation (EU) 2015/61 (CDR), defines the liquidity regulatory requirement, including the calculation methodology for a Liquidity Coverage Ratio (LCR) and a Net Stable Funding Ratio (NSFR) and additional liquidity monitoring metrics.

The LCR addresses liquidity risk over a 30 day period. The LCR aims to ensure the bank/firm has unencumbered high quality liquid assets (HQLA) available to meet short term liquidity needs under a stress scenario. The LCR is comprised of two components, the value of HQLA in stressed conditions and the total net outflows calculated according to specified scenario parameters. Under the CDR, the ratio of liquid assets over net cash outflows shall be maintained at a minimum of 80% (90% for PRA) rising to 100% in 2018.

The NSFR establishes criteria for a minimum amount of stable funding based on the liquidity of the bank/firm's on and off balance sheet activities over a one year horizon. The NSFR is a complementary measure to the LCR and is structured to ensure that illiquid assets are funded with an appropriate amount of stable long term funds. The NSFR is defined as the ratio of available stable funding over the amount of required stable funding and, once in effect, should be at least 100%.

The LCR is used as one of the bank's primary tools, in parallel with the internal liquidity model (referred to as Barometer), and the Net Stable Funding Ratio, to monitor the structural liquidity position and plan funding.

The internal liquidity model is used to manage liquidity to internal targets and as a basis to model both the bank specific and market-wide stress scenarios and their impact on liquidity and funding. The internal Barometer framework supports the management of the bank's/firm's funding structure. It allows the management of the time horizon over which the stressed market value of unencumbered assets (including cash) exceeds the aggregate value of contractual outflows of unsecured liabilities plus a conservative forecast of anticipated contingent commitments. This

internal Barometer framework allows the management of liquidity to a desired profile under stress in order to be able to continue to pursue activities for a period of time without changing business plans during times of bank/firm specific or market-wide stress. Under this framework, there are also short-term targets based on additional stress scenarios to ensure uninterrupted liquidity for short time frames.

#### PROCESSES FOR HEDGING AND MITIGATING LIQUIDITY RISK

The internal Barometer framework supports the management of the firm's funding structure. It allows Treasury to manage the time horizon over which the stressed market value of unencumbered assets (including cash) exceeds the aggregate value of contractual outflows of unsecured liabilities plus a conservative forecast of anticipated contingent commitments.

The internal Barometer framework also allows Treasury to manage liquidity to a desired profile under stress in order to be able to continue to pursue activities for a period of time, without changing business plans during times of stress.

Under this framework, Treasury also has short-term targets based on additional stress scenarios to ensure uninterrupted liquidity for short time frames.

The Barometer and LCR are produced and reviewed on a daily basis. These daily reports are available to be compared versus forecasts, ensuring ongoing monitoring of the liquidity position of the entities.

#### LCR DISCLOSURE TEMPLATE

The table in this section discloses level and components of the

LIQ1: LCR

		Total	unweighted va	lue (average)		To	tal weighted va	lue (average)
Scope of consolidation (solo/consolidated)			-				-	
USD million								
Quarter ending on (DD Month YYY)	31.03.17	30.06.17	30.09.17	31.12.17	31.03.17	30.06.17	30.09.17	31.12.17
Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
HIGH-QUALITY LIQUID ASSETS								
Total high-quality liquid assets (HQLA)	_	_		_	23,987	21,028	18,853	17,810
CASH - OUTFLOWS								
Retail deposits and deposits from small business customers,	-		-				· · · · · · · · · · · · · · · · · · ·	-
of which stable deposits	_	-		_	_	_	· · · · · · · · · · · · · · · · · · ·	-
of which less stable deposits	_					· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	-
Unsecured wholesale funding	115	149	150	246	115	149	150	246
Operational deposits (all counterparties) and deposits in networks of cooperative banks	_	_	_	_	_	_	_	_
Non-operational deposits (all counterparties)	115	149	150	246	115	149	150	246
Unsecured debt		_	-		_	_	_	-
Secured wholesale funding					518	464	297	326
Additional requirements	21,783	21,337	21,333	21,792	17,342	16,251	15,553	15,170
Outflows related to derivative exposures								
and other collateral requirements	11,438	12,226	13,476	14,795	10,102	10,404	11,089	11,882
Outflows related to lossof funding on debt products	1,281	1,137	1,125	1,131	1,281	1,137	1,125	1,131
Credit and liquidity facilities	9,064	7,974	6,732	5,866	5,958	4,710	3,339	2,157
Other contractual funding obligations	2,319	2,495	3,004	3,231	101	111	151	147
Other contingent funding obligations	1,709	1,787	1,789	1,726	1,147	1,163	1,163	1,174
TOTAL CASH OUTFLOWS					19,223	18,139	17,314	17,063
CASH - INFLOWS								
Secured lending (e.g. reverse repos)	21,520	20,723	19,859	19,261	1,945	2,338	2,720	2,416
Inflows from fully performing exposures	3,789	4,079	4,107	4,140	3,766	4,062	4,094	4,127
Other cash inflows	2,450	2,621	2,685	2,817	2,450	2,621	2,685	2,817
(Difference between total weighted inflows and total weighted ou from transactions in third countries where there are transfer restri are denominated in non-convertible currencies)	itflows arising ictions or whice —	ch _	_	_	_	_	_	-
(Excess inflows from a related specialised credit institution)				-		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	-
TOTAL CASH INFLOWS	27,759	27,424	26,650	26,218	8,162	9,021	9,498	9,359
Fully exempt inflows	_	_	_	_	_	_	_	_
Inflows subject to 90% cap	-	-	-	-	-	-	-	-
Inflows subject to 75% cap	26,378	26,186	25,458	25,048	8,162	9,021	9,498	9,359

#### LIQ1: LCR

31.03.17	30.06.17	30.09.17	31.12.17
12	12	12	12
23,987	21,028	18,853	17,810
11,061	9,117	7,815	7,704
238%	247%	252%	237%
	12 23,987 11,061	12 12 23,987 21,028 11,061 9,117	12 12 12 23,987 21,028 18,853 11,061 9,117 7,815

There are elements of liquidity risk management that are not covered in the LCR disclosure template. The Pillar 2 framework considers the liquidity risks not captured, or not fully captured, under Pillar 1. For example debt buyback risk that may arise in the absence of a contractual buyback obligation, intraday liquidity risk and the risk from early termination of non-margined derivatives.

The internal liquidity model, Barometer, adequately addresses those risks not captured by the LCR. The Individual Liquidity Adequacy Assessment Process (ILAAP) document details how and why these risks are considered and how they are modelled.

#### CONCENTRATION OF FUNDING AND LIQUIDITY SOURCES

Funding is managed by EMEA Treasury and the structure is designed to ensure that funding is available to meet all obligations under both business as usual (BAU) and stressed market conditions. CSi has a conservative asset / liability management strategy aimed at maintaining a funding structure with long-term funding consistent with the CSi Board Risk tolerance.

#### Funding profile

CSi holds a mix of term unsecured funding supplied by CS AG London Branch, which mitigates its short-term funding risk. The entity also has a diverse funding strategy through structured notes, equity and subordinated debt. A mix of 120-day and 400-day evergreen funding is also employed. EMEA Treasury review the funding profiles on a regular basis and manage the funding accordingly.

#### **Funding Concentration Framework**

Concentration risk is addressed in the Liquidity Risk Control Framework. The funding strategy is to ensure that there is access to a diversified range of funding sources. For example, by customer base and geography, to cover short-term and medium to long-term requirements, without any significant reliance on a particular funding source, counterparty, tenor or product.

The established governance supports the identification of concentration risks, as well as a forward-looking approach to concentration risk management. Limits and/or tolerances are defined by Risk governance bodies or its delegated authority e.g. Head of CSi Treasury & Liquidity Risk. Concentration risk exposures are discussed, at the CSi RMC when relevant, Liquidity Review Board and Treasury UK Liquidity Committee meetings.

# DERIVATIVE EXPOSURES AND POTENTIAL COLLATERAL CALLS

The LCR is used as one of the primary tools, in parallel with the internal liquidity Barometer and the Net Stable Funding Ratio, to monitor CSi's structural liquidity position and to plan funding. The internal liquidity Barometer is used to manage liquidity to internal targets and as a basis to model both the CSi specific and marketwide stress scenarios and their impact on liquidity and funding.

The internal Barometer framework supports the management of the funding structure. It allows Treasury to manage the time horizon over which the stressed market value of unencumbered assets (including cash) exceeds the aggregate value of contractual outflows of unsecured liabilities plus a conservative forecast of anticipated contingent commitments. This internal Barometer framework further allows Treasury to manage liquidity to a desired profile under stress in order to be able to continue to pursue activities for a period of time without changing business plans during times of bank/firm specific or market-wide stress. Under this framework, there are short-term targets based on additional stress scenarios to ensure uninterrupted liquidity for short time frames.

Derivatives exposure and collateral calls are part of this overarching framework and cover anticipated mark to market (MtM) changes and collateral calls related to this (variation and initial margin) and other items (such as downgrade/additional termination events).

#### **CURRENCY MISMATCH IN THE LCR**

Currency coverage is monitored locally for CSi via an internal measure based on the LCR, the currency coverage ratio (CCR).

Internal risk controls by currency have been set in order to control liquidity risks by material currency. The CCR is based on an LCR calculation, with the main difference, however, that FX swaps are treated on a contractual unwind basis without capping the inflows.

The setting of the currency risk controls has been based on the balance sheet size of underlying currency positions (material currencies), with a risk control set for any balance >5% (as per EBA requirements). MLRM Liquidity Risk has the right to determine currencies below 5% as material. The defined material currencies for CSi are US Dollar, Euro, Pound Sterling, Swiss Franc and Japanese Yen.

# Interest rate risk in the banking book

#### **OVERVIEW**

CSi manages the interest rate risk in the Banking Book which includes monitoring the potential impact of changes in interest rates. CSi's interest rate risk exposures in non-trading positions arise primarily from treasury and funding activity, with the majority of interest rate risk transferred to and centrally managed by CS Group Treasury on a portfolio basis within approved limits using appropriate hedging instruments. The CS Group Board of Directors defines interest rate risk appetite for the group and its subsidiaries, including CSi, on an annual basis. Furthermore, the CSi Board of Directors and the Risk Management Committee set risk limits for interest rate risk the banking book which are monitored on at least a monthly basis.

#### **RISK MEASUREMENT**

The risks associated with the non-trading interest rate-sensitive portfolios are measured using a range of tools, including the following key metrics:

- interest rate sensitivity ('DV01'): expresses the linear approximation of the impact on a portfolio's fair value resulting from a one basis point (0.01%) parallel shift in yield curves, where the approximation tends to be closer to the true change in the portfolio's fair value for smaller parallel shifts in the yield curve. The DV01 is a transparent and intuitive indicator of linear directional interest rate risk exposure, which does not rely on statistical inference. The interest rate sensitivity is measured and reported on a daily basis;
- VaR: a statistical indicator of the potential fair value loss, taking into account the observed interest rate moves across yield curve tenors and currencies. In addition, VaR takes into account yield curve risk, spread and basis risks, as well as foreign exchange and equity risk; and

economic value scenario analysis: expresses the impact of a pre-defined scenario (eg. instantaneous changes in interest rates) on a portfolio's fair value. This metric does not rely on statistical inference.

These measures focus on the impact on a fair value basis, taking into account the present value of all future cash flows associated with the current positions. More specifically, the metrics estimate the impact on the economic value of the current portfolio, ignoring dynamic aspects such as the time schedule of how changes in economic value materialise in profit and loss (since most non-trading books are not marked-to-market) and the development of the portfolio over time.

CSi's Banking Book does not include any replicated non-maturing deposits or loans with replicated prepayment options.

#### **MONITORING AND REVIEW**

The economic impacts of adverse parallel shifts in interest rates of 200 basis points were significantly below the threshold of 20% of eligible regulatory capital used by regulators to identify excessive levels of non-trading interest rate risk. This risk is not capitalised within the Pillar 1 regime, rather, it is analysed within the ICAAP and addressed in the PRA's determination of CSi's Pillar 2 capital requirement.

Despite the low interest rate environment, the full downward shock is applied resulting in more conservative impact estimates compared to flooring the downward shocks at zero.

Limits and other interest rate risk metrics are monitored by the Risk division at least monthly or more frequently as deemed necessary with any limit breaches escalated appropriately.

The following tables show the fair value impact of yield curve changes, by currency:

# One-basis-point parallel increase in yield curves by currency – non-trading positions (USD million equivalent)

As at 31 December	USD	GBP	EUR	CHF	Other	Total
Fair value impact of a one-basis-point parallel increase in yield curves	0.1	-	_	-	(0.1)	_

#### Fair value impact of change in interest rates on non-trading positions (USD million equivalent)

As at 31 December	USD	GBP	EUR	CHF	Other	Total
Basis points movement + / (-)						
200	18.2	(6.5)	(4.8)	(2.2)	(12.1)	(7.4)
100	10.3	(3.4)	(0.2)	(1.1)	(6.0)	(0.4)
-100	(12.8)	3.7	(4.2)	1.1	6.0	(6.2)
-200	(28.1)	7.6	(12.7)	2.2	12.1	(18.9)

# Leverage

#### **OVERVIEW**

The leverage ratio was introduced by the CRR from 2014, although prescribed regulatory requirements are not binding on financial institutions at this point in time. Subsequent amendments to the leverage ratio calculation methodology (including treatment of securities financing transactions, cash variation margin and credit default swap notional values) were proposed by BCBS and reflected in the amended CRR.

In conjunction with other regulatory and capital metrics such as RWA levels, leverage ratios are actively monitored and managed within CSi's capital management governance processes. Similar to the CS group level, internal targets (including the setting of internal management buffers where required) are developed and monitored and this process is flexible, reflecting changing regulatory expectations.

Consideration is given to the leveraging or deleveraging impacts resulting from both business development and the impact of future regulatory change to ensure CSi continues to meet external and internal expectations. CSi's stress testing framework will consider the impact on leverage ratios of both internal and regulator-prescribed stress tests. The impact on the leverage ratio is also consider as part of the ICAAP.

# FACTORS IMPACTING THE LEVERAGE RATIO DURING THE PERIOD

CSi's leverage ratio improved to 11.7% by 31 December 2017 from 9.2% at 31 December 2016. This increase is primarily attributable to decreases in the replacement cost of on balance sheet assets derivatives.

#### Table LRSum: Summary reconciliation of accounting assets and leverage ratio exposures

		Applicable Amounts
1	Total assets as per published financial statements	249,440
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	(81)
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR")	_
4	Adjustments for derivative financial instruments	(48,487)
5	Adjustments for securities financing transactions "SFTs"	1,019
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	4,467
	(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	_
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No	575/2013) –
7	Other adjustments	(25,094)
8	Total leverage ratio exposure	181,264

#### Table LRCom: Leverage ratio common disclosure

		CRR leverage ratio exposures
On-ba	lance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	55,654
2	(Asset amounts deducted in determining Tier 1 capital)	(1,454)
3	Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)	54,200
Deriva	tive exposures	
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	13,935
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	76,018
EU-5a	Exposure determined under Original Exposure Method	
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	
8	(Exempted CCP leg of client-cleared trade exposures)	(2,522)
9	Adjusted effective notional amount of written credit derivatives	8,607
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	
11	Total derivative exposures (sum of lines 4 to 10)	96,038
Secur	ities financing transaction exposures	
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	25,420
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	
14	Counterparty credit risk exposure for SFT assets	1,139
EU-14	a Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	_
15	Agent transaction exposures	
EU-15	a (Exempted CCP leg of client-cleared SFT exposure)	
16	Total securities financing transaction exposures (sum of lines 12 to 15a)	26,559
Other	off-balance sheet exposures	
17	Off-balance sheet exposures at gross notional amount	8,800
18	(Adjustments for conversion to credit equivalent amounts)	(4,333)
19	Other off-balance sheet exposures (sum of lines 17 to 18)	4,467
Exemp	oted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)	
EU-19	a (Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance shee	et)) –
EU-19	b (Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	_
Capita	al and total exposures	
20	Tier 1 capital	21,080
21	Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	181,264
Levera	age ratio	
22	Leverage ratio	11.6%
Capita	al and total exposures	
	Choice on transitional arrangements for the definition of the capital measure	
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	

#### Table LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

	CRR leverage ratio
	exposures
EU-1 On-balance sheet items (excluding derivatives and SFTs, but including collateral)	55,654
EU-2 Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	4,577
EU-3 Add-on amounts for PFE associated with all derivatives transactions	51,077
EU-4 Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	k –
EU-5 Deductions of receivables assets for cash variation margin provided in derivatives transactions	4,169
EU-6 Exempted CCP leg of client-cleared trade exposures	_
EU-7 Adjusted effective notional amount of all written credit derivatives	18,424
EU-8 Adjusted effective notional offsets and add-on deductions for written credit derivatives	_
EU-9 Derivative Exposures	_
EU-10 Securities financing transaction exposures (USD million)	27,726
EU-11 Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	6
EU-12 Netted amounts of cash payables and cash receivables of gross SFT assets	752

## Asset encumbrance

#### **OVERVIEW**

The main source of asset encumbrance within CSi relates to securities lending and derivatives transactions. Securities lending transactions encumber assets through a combination of repo and stock loan/borrow activity, with derivatives transactions causing encumbrance through collateralisation of derivative transaction exposures.

# COLLATERALISATION AGREEMENTS ENTERED INTO FOR SECURING LIABILITIES

Secured lending and stock borrow/loan transactions are principally governed by Global Master Repurchase Agreements ('GMRAs') and Global Master Stock Lending Agreements ('GMSLAs'). These agreements generally focus on the mechanism of collateral delivery, income on the collateral positions and other impacts (eq. corporate actions occurring on collateral or failure to deliver).

#### **COLLATERAL**

Collateral postings on derivatives transactions are principally governed by ISDA agreements, including Credit Support Annex ('CSA') documentation. These agreements determine the asset type used to satisfy collateral obligations and any re-hypothecation restrictions related to derivatives collateralisation. Collateral pledged to CSi in excess of the minimum requirement, and collateral owed by CSi to counterparties which has not yet been called is considered as part of the internal monitoring procedures for the management of asset encumbrance.

#### **UNENCUMBERED ASSETS**

The amount reported in the first table below as 'other assets' within 'carrying amount of unencumbered assets' comprises mainly derivative assets, intangible assets, deferred tax, tangible fixed assets and various receivable balances (both trade and non-trade). None of these asset types is considered available for encumbrance in the normal course of business.

#### Assets – encumbered and unencumbered asset analysis

	Carrying		Carrying	Fair value		
	amount of		amount of un-		Total asset	Total
	encumbered		encumbered		carrying	fair value
end of 2017	assets	assets	assets	assets	amount	of assets
USD million						
Assets						
Loans on demand	27,545		13,412	_	40,957	-
Equity instruments	3,841	3,841	2,926	2,926	6,767	6,767
Debt securities	14,486	14,486	9,261	9,261	23,747	23,747
Loans and advances other than loans on demand	7	-	26,798	-	26,805	-
Other assets	23	_	151,060	_	151,083	-
Total assets	45,902	18,327	203,457	12,187	249,359	30,514

#### Collateral received

end of 2017	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
USD million		
Collateral received		
Equity instruments	16,167	2,989
Debt securities	51,679	16,892
Other collateral received	_	3,907
Total collateral received	67,846	23,788
Own debt securities issued other than own covered bonds or ABSs		_
Total	67,846	23,788

#### Carrying amount of encumbered assets and collateral received and associated liabilities

end of 2017	Carrying amount
USD million	
Matching liabilities, contingent liabilities or securities lent <sup>e</sup>	51,839
Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered	53,775

e Placeholder for example footnote

# **Appendix 1: Tier 2 instruments**

#### Credit Suisse International - Tier 2 instruments as at 31 December 2017

No. Term					Tier 2 instruments
1 Date of Agreement	17.08.01	17.08.01	17.08.01	15.03.06	15.03.06
2 Original date of issuance	20.08.01	31.01.03	19.09.05	15.03.06	16.11.06
3 Tranche	20.00.01	21.01.03	3	10.00.00	10.11.00
4 Issuer/Lender	Credit Suisse PSL GmbH	Credit Suisse PSL GmbH	Credit Suisse PSL GmbH	Credit Suisse PSL GmbH	Credit Suisse PSL Gmbh
5 Governing Law	English	English	English	English	English
Regulatory treatment					
6 Transitional CRR Rules	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2
7 Post-transitional CRR Rules	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2
8 Eligible at solo and / or consolidated basis?	Solo	Solo	Solo	Solo	Solo
9 Instrument type	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated deb
10 Amount recognised in regulatory capital (million)	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1
11 Nominal amount of instrument (million)	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1
12 Issue price	Par	Par	Par	Par	Pa
13 Redemption price	Par	Par	Par	Par	Pa
14 Accounting classification	Liability - amortised cost	Liability - amortised cost	Liability - amortised cost	Liability - amortised cost	Liability -
15 Perpetual or dated	Perpetual	Perpetual	Perpetual	Perpetual	Perpetua
16 Original maturity date	N/A	N/A	N/A	N/A	N/A
17 Repayment option	Optional, subject to prior PRA approval	Optional, subject to prior PRA approval			
Coupons					
18 Fixed or floating dividend/coupon	Floating	Floating	Floating	Floating	Floating
19 Coupon rate and any related index	USD 3-month Libor + 150bps	USD 3-month Libor + 150bps	USD 3-month Libor + 150bps	USD 3-month Libor + 150bps	USD 3-month Libor + 125bps
20 Optional Deferral	Yes, indefinitely, subject to arrears pusher – ordinary shares	Yes, indefinitely, subject to arrears pusher – ordinary shares	arrears pusher -	Yes, indefinitely, subject to arrears pusher – ordinary shares	Yes, indefinitely subject to arrears pusher - ordinary shares
21 Existence of step-up or other incentive to redeen	n No	No	No	No	No
22 Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
23 Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Junior subordinated	Junior subordinated	Junior subordinated	Junior subordinated	Junior subordinated
24 Non-compliant transitional features	No	No	No	No	No

#### Credit Suisse International – Tier 2 instruments as at 31 December 2017

No. Term		
1 Date of Agreement	16.02.01	16.02.01
2 Original date of issuance	17.06.03	17.06.03
3 Tranche	1	2
4 Issuer/Lender	CSFB (Cayman) Ltd	CSFB (Cayman) Ltd
5 Governing Law	English	English
Regulatory treatment		
6 Transitional CRR Rules	Tier 2	Tier 2
7 Post-transitional CRR Rules	Tier 2	Tier 2
B Eligible at solo and / or consolidated basis?	Solo	Solo
9 Instrument type	Subordinated debt	Subordinated debt
10 Amount recognised in regulatory capital (million)	\$0.1	\$0.1
11 Nominal amount of instrument (million)	\$0.1	\$0.1
2 Issue price	Par	Par
3 Redemption price	Par	Par
14 Accounting classification	Liability - amortised cost	Liability - amortised cost
15 Perpetual or dated	Dated	Dated
16 Original maturity date	31.03.26	31.03.26
17 Repayment option	Optional, subject to prior PRA approval	Optional, subject to prior PRA approval
Coupons		
18 Fixed or floating dividend/coupon	Floating	Floating
19 Coupon rate and any related index	USD 3-month Libor + 75bps	USD 3-month Libor + 75bps
20 Optional Deferral	None	None
21 Existence of step-up or other incentive to redeem	No	No
22 Convertible or non-convertible	Non-convertible	Non-convertible
23 Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Unsecured and subordinated to the claims of unsubordinated creditors	Unsecured and subordinated to the claims of unsubordinated creditors
24 Non-compliant transitional features	No	No

						Tier 2 instruments
16.02.01	16.02.01	16.02.01	16.11.05	16.11.05	16.11.05	31.01.07
23.12.03	19.10.04	08.11.04	17.11.05	23.08.06	09.05.07	09.05.07
3	4	5	1	2	3	1
CSFB (Cayman) Ltd	CSFB (Cayman) Ltd	CSFB (Cayman) Ltd	CSFB Finance BV	CSFB Finance BV	CSFB Finance BV	CSFB Finance BV
English	English	English	English	English	English	English
Tier 2	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2
Tier 2	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2
Solo	Solo	Solo	Solo	Solo	Solo	Solo
Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt
\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.5	\$0.5
\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.5	\$0.5
Par	Par	Par	Par	Par	Par	Par
Par	Par	Par	Par	Par	Par	Par
Liability -	Liability -	Liability -	Liability -	Liability -	Liability -	Liability -
amortised cost	amortised cost	amortised cost	amortised cost	amortised cost	amortised cost	amortised cost
Dated	Dated	Dated	Dated	Dated	Dated	Dated
31.03.26	31.03.26	31.03.26	17.11.30	23.08.31	09.05.32	09.05.32
Optional, subject	Optional, subject to prior PRA approval	Optional, subject	Optional, subject	Optional, subject	Optional, subject	Optional, subject
to prior i TCA approvar	to prior i TA approvar	to prior i TA approvai	to prior i TA approvai	to prior i TCA approvar	to prior i TCA approvar	to prior i TA approvai
Floating	Floating	Floating	Floating	Floating	Floating	Floating
USD 3-month Libor	USD 3-month Libor	USD 3-month Libor	USD 3-month Libor	USD 3-month Libor	USD 3-month Libor	USD 3-month Libor
+ 75bps	+ 75bps	+ 75bps	+ 90bps	+ 80bps	+ 70bps	+ 70bps
None	None	None	None	None	None	None
No	No	No	No	No	No	No
Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
Unsecured	Unsecured	Unsecured	Unsecured	Unsecured	Unsecured	Unsecured
and subordinated to the claims of	and subordinated to the claims of	and subordinated to the claims of	and subordinated to the claims of	and subordinated to the claims of	and subordinated to the claims of	and subordinated to the claims of
unsubordinated	unsubordinated	unsubordinated	unsubordinated	unsubordinated	unsubordinated	unsubordinated
creditors	creditors	creditors	creditors	creditors	creditors	creditors
No	No	No	No	No	No	No

#### Credit Suisse International – Tier 2 instruments as at 31 December 2017

No. Term	
1 Date of Agreement	31.01.07
2 Original date of issuance	10.07.07
3 Tranche	2
4 Issuer/Lender	CSFB Finance BV
5 Governing Law	English
Regulatory treatment	<u> </u>
6 Transitional CRR Rules	Tier 2
7 Post-transitional CRR Rules	Tier 2
8 Eligible at solo and / or consolidated basis?	Solo
9 Instrument type	Subordinated debt
10 Amount recognised in regulatory capital (million)	\$0.5
11 Nominal amount of instrument (million)	\$0.5
12 Issue price	Par
13 Redemption price	Par
14 Accounting classification	Liability - amortised cost
15 Perpetual or dated	Dated
16 Original maturity date	10.07.32
17 Repayment option	Optional, subject to prior PRA approval
Coupons	
18 Fixed or floating dividend/coupon	Floating
19 Coupon rate and any related index	USD 3-month Libor + 70bps
20 Optional Deferral	None
21 Existence of step-up or other incentive to redeem	No
22 Convertible or non-convertible	Non-convertible
23 Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Unsecured and subordinated to the claims of unsubordinated creditors
24 Non-compliant transitional features	No

Tier 2 instruments					
44.00.00	00.00.40	05.00.40	04.04.00	20.00.00	04.04.05
11.02.98	26.06.13	27.03.13	04.04.08	28.03.08	31.01.07
16.02.98	27.06.13	05.04.13	04.04.08	28.03.08	22.10.07
N/A	N/A	N/A	N/A	N/A	3
Market Issuance	Credit Suisse AG	DLJ UK Holding	CSFB Finance BV	CSFB Finance BV	CSFB Finance BV
English	English	English	English	English	English
Tier 2	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2
Tier 2	Tier 2	Tier 2	Tier 2	Tier 2	Tier 2
Solo	Solo	Solo	Solo	Solo	Solo
Subordinated deb	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt	Subordinated debt
\$0.5	\$1,100.0	\$1,524.8	\$0.1	\$0.1	\$0.5
DM29.4	\$1,100.0	\$1,524.8	\$0.1	\$0.1	\$0.5
97.85 per cen	Par	Par	Par	Par	Par
Pa	Par	Par	Par	Par	Par
Liability amortised cos	Liability - amortised cost	Liability - amortised cost	Liability - amortised cost	Liability - amortised cost	Liability - amortised cost
Dated	Dated	Dated	Dated	Dated	Dated
16.02.18	27.06.23	05.04.23	15.03.38	15.03.38	22.10.32
Tax call only, subjec to prior PRA approva	Optional, not before 27 June 2018, regulatory call and tax call, subject to prior PRA approval	Optional, not before 5 April 2018, regulatory or tax call, subject to prior PRA approval	Optional, subject to prior PRA approval	Optional, subject to prior PRA approval	Optional, subject to prior PRA approval
Fixed	Floating	Floating	Fixed	Fixed	Floating
6.0% Fixed Rate	USD 3-month Libor + 300bps	USD 3-month Libor + 262bps	8.6% Fixed Rate	8.6% Fixed Rate	USD 3-month Libor + 75bps
None	None	None	None	None	None
No	No	No	No	No	No
Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
Unsecured, ranking pari passu with the claims of othe subordinated holders	Unsecured, ranking pari passu with the claims of other subordinated holders	Unsecured and subordinated to the claims of unsubordinated creditors	Unsecured and subordinated to the claims of unsub- ordinated creditors		
No	No	No	No	No	No

# **Appendix 2: Directorships**

CSi's Board Members hold the following number of directorships as at 30 March 2018:

#### **Directorships**

J Devine																							4
M Diiorio	 		 		 •		٠		٠	 	٠		 	•		٠		•	 		•	 	2
N Doyle	 		 		 •		٠		•	 	•		 	•		٠		•	 		•	 	3
R Endersby	 		 		 •		٠		٠	 	٠		 	•		٠		•	 		•	 	4
A Gottschling	 		 				٠		•	 	٠		 			٠	 	٠	 		•	 	4
A Halsey	 		 				٠		•	 	٠		 			٠	 	٠	 		•	 	3
C Horne	 		 		 ٠		٠		•	 	٠		 			٠	 	٠	 		•	 	5
P Ingram	 		 				٠		٠	 	٠		 			٠	 	٠	 		•	 	2
D Mathers	 		 		 ٠		٠		٠	 	٠		 			٠	 	٠	 		•	 	4
J Moore	 		 		 ٠		٠		٠	 	٠		 	•		٠	 	٠	 		•	 	3
C Waddington	 		 				٠		•	 	٠		 	٠		٠	 	٠	 		•	 	7

# Appendix 3: List of abbreviations and glossary

Term	Definition	Term	Definition
Α		L	
AIRB	Advanced Internal Ratings-Based: the AIRB Approach is a method of deriving risk weights using internally assessed, rather than	Leverage ratio	A calculation prescribed under Basel III (and CRD IV ) to measure the ratio of total exposures to available Tier 1 capital.
ABS	supervisory, estimates of risk parameters (eg. for PD, LGD).  Asset-backed security.	LGD	Loss given default: the estimated ratio of loss to the amount outstanding at default (EAD) as a result of any counterparty default.
AT1	Additional Tier 1 capital: a form of capital eligible for inclusion in	M	
	Tier 1, but outside the definition of CET1.	Master	An agreement between two counterparties who have multiple
B Banking	Classification of assets outside the definition of Trading Book	netting agreement	contracts with each other that provides for the net settlement of all contracts in the event of default on, or termination of any one contract.
Book	(also referred to as the 'Non-Trading Book').	P	
BCBS	Basel Committee on Banking Supervision.	PD	Probability of default: is the probability of an obligor defaulting
С			within a one-year horizon.
CCB	Countercyclical capital buffer: prescribed under Basel III and CRD IV	PFCE	Potential future credit exposure.
	and aims to ensure that capital requirements mitigate potential future losses arising from excess credit growth and hence increased system-wide risk.	Pillar 1	Minimum regulatory capital requirements to be held by a bank or investment firm as prescribed by Basel III (and CRD IV).
CCF	Credit conversion factor: represents an estimate of undrawn	Pillar 2	Regulator imposed risk-based capital requirements to be held in excess of Pillar 1.
CCP	commitments drawn down at the point of default.  Central counterparty.	Pillar 3	CRD IV prescribed capital, risk and remuneration disclosure requirements.
CCR	Counterparty credit risk.	PRA	Prudential Regulation Authority.
CCRMTM	Counterparty credit risk mark-to-market method: a regulatory	R	
	prescribed method for calculating exposure values in respect of counterparty credit risk.	RBA	Ratings-Based Approach: an AIRB approach to securitisations using risk weights derived from ECAI ratings.
CDO	Collateralised debt obligation.	RCSA	Risk and control self-assessment.
CET1	Common Equity Tier 1: the highest quality level of regulatory capital	RFDAR	Risk and Finance Data and Reporting.
OFT 1	prescribed under Basel III (and by CRD IV in the EU).	RMC	Risk Management Committee.
CET 1 ratio	CET1 expressed as a percentage of RWAs.	RNIV	Risks not in VaR.
CQS	Credit quality step: a supervisory credit quality assessment scale, based on the credit ratings of ECAIs, and used to assign risk	RWA	Risk-weighted asset: derived by assigning risk weights to an exposure value.
	weights under the Standardised Approach.	S	
CRD	Capital Requirements Directive: EU legislation implementing Basel III (and previously Basel II) in the EU.	SFA	Supervisory Formula Approach.
CRM CRR	Credit Risk Mitigation  Capital Requirements Regulation: EU legislation implementing	SFT	Securities financing transaction: lending or borrowing of securities (or other financial instruments), a repurchase or reverse repurchase transaction, or a buy-sell back or sell-buy back transaction.
CIXIX	Basel III in the EU.	SME	Small and medium-sized enterprise.
CVA	Credit valuation adjustment: a capital charge under Basel III (CRD IV) covering the risk of mark-to-market losses on expected counterparty	SRB	Systemic risk buffer: a capital buffer under CRD IV deployed by EU member states to reduce build-up of macro-prudential risk.
	risk on derivative exposure arising from deterioration in a counterparty's credit worthiness.	SREP	Supervisory Review and Evaluation Process.
E	1 7	Stressed	A market risk capital charge derived from potential market
EAD	Exposure at default: the net exposure prior to taking account of any credit risk mitigation at the point of default.	VaR	movements applied over a continuous one-year period of stress to a trading book portfolio.
EBITDA	Earnings before interest, taxation, depreciation and amortisation.	SRW	Supervisory Risk Weights Approach
ECAI	External Credit Assessment Institutions.	T	
Expected	The downturn loss on any exposure during a 12-month time horizon	Tier 1 capital	A component of regulatory capital, comprising CET1 and AT1 capital.
loss	calculated by multiplying EAD by PD and LGD.	Tier 1	The ratio of Tier 1 capital to total RWAs.
FLP	Fund-linked product.	capital ratio	The falls of file is capital to total films.
I		Tier 2	A lower quality of capital (with respect to 'loss absorbency')
ICAAP	Internal capital adequacy assessment process: a risk-based assessment of the level of regulatory capital to be held by a bank	capital Trading	also known as 'gone concern' capital.  Positions held with intent to trade or to hedge other items
	or firm. This may exceed the Pillar 1 capital requirement.	Book	in the Trading Book.
IFRS	International Financial Reporting Standards.	V	
IMA 	Internal Models Approach: used in the calculation of market risk capital requirements.	VaR	Value-at-risk: loss estimate from adverse market movements over a specified time horizon and confidence level.
IRC	Incremental risk charge: a capital add-on to VAR calculated in respect of the potential for direct loss due to an internal or external rating downgrade (or upgrade) as well as the potential for indirect losses arising from a credit mitigation event.	W WWR	Wrong-way risk: risk exposure to a counterparty is adversely correlated with a counterparty's credit quality.
ISDA ISDA master agreement	International Swaps and Derivatives Association. Standardised contract developed by ISDA to facilitate bilateral derivatives trading.		

agreement



#### CREDIT SUISSE INTERNATIONAL

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