

# 2017





# RISK REPORT **2017**



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# 1 MANAGEMENT DECLARATION<sup>1</sup>

The Board of Directors assesses that the Group's risk management framework including liquidity risk management described in section 12.4 is adequate in relation to the Group's risk profile and strategy, and that it complies with the applicable regulation. Furthermore, it is the Board of Directors' assessment that the following description of the Group's overall risk profile associated with the Group's business strategy and business model reflects the actual risks. In addition, this Risk

Report provides a relevant and a comprehensive review of the Group's risk management. Information in this report has been prepared in accordance with the internal control processes of the Group.

The Group's Board of Directors and Board of Management have approved the Risk Report for 2017 in accordance with article 435 in the CRR<sup>2</sup>.

## BOARD OF DIRECTORS

Henrik Normann  
Chairman

Asiff Hirji  
Board Member

Wikawi Oei  
Board Member

Thomas Plenborg  
Board Member

Jacob Polny  
Board Member

## BOARD OF MANAGEMENT

Kim Fournais  
CEO

Søren Kyhl  
COO

Steen Blaafook  
CFO/CRO

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1 This declaration is given according to CRR art. 435 (f) and Annex I – Table EU LIQA on liquidity risk management of EBA/GL/2017/01: declaration approved by the management body on the adequacy of liquidity risk management arrangements of the institution  
2 Capital Requirement Regulation 575/2013.

## 2 INTRODUCTION

Saxo Bank A/S (the Bank) is a licensed Danish bank with headquarters in Copenhagen. The Bank and the Saxo Bank Group (the Group) are therefore subject to the Capital Requirements Directive and Capital Requirements Regulation (CRR) jointly CRD-IV<sup>2</sup>.

The information in the Risk Report has not been audited by the Group's internal or external auditors.

## 3 SCOPE OF APPLICATION

This report is drafted on Group level covering the entire Saxo Group. I.e. the report covers:

Saxo Bank A/S, Philip Heymans Allé 15, DK-2900 Hellerup, company registration no. 15 73 12 49 and all subsidiaries hereof including Saxo Privatbank A/S.

A formal policy has been drafted according to CRR art. 431 (3) prescribing a balanced approach to publication of information according to Part Eight of CRR whereby the Group publishes information according to Part Eight at least annually with ICAAP information being published quarterly. The Risk Report is drafted on Group level and subject to Board approval.

Additional Pillar III disclosure requirements are covered by an Excel appendix with tables published separately – "Risk Report 2017 – Additional Pillar III Disclosures". Together, the report and the additional Pillar III requirements cover the CRD IV disclosure requirements with the below exceptions.

The following information is not covered in this report:

Information according to CRR article 450 (remuneration), 442 (a) (accounting definitions of "past due" and "impaired") and information on management systems is given in the Group's Remuneration report and in the Annual Report: <https://www.home.saxo/about-us/investor-relations>.

The Group does not use securitisations and does not disclose information related to securitisation activities. The Group uses the Standard Method on credit risk and does not disclose information on the IRB approach.

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3 Directive 2013/36/EU together with Capital Requirement Regulation 575/2013 jointly referred to as CRD-IV.

## 4 RISK MANAGEMENT OBJECTIVES AND POLICIES

### 4.1 GOVERNANCE AND RISK MANAGEMENT FRAMEWORK

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The Group's overall risk management framework and governance structure is established by the Board of Directors, based on recommendations from the Board Risk Committee.

The Board of Directors have in the Board Instructions laid out a set of instructions to the Board of Management on how to manage the day-to-day business of the Group.

The Board Instructions are supplemented by the Group Risk Management Governance & Policy and Risk Appetite Statements, which define the Group's risk management framework and articulate the Group's risk appetite, including specific limits for the Group's risk taking activities.

The Group Chief Risk Officer (CRO) has the overall responsibility for maintaining and developing the risk management framework, as well as, controlling and reporting of the Group's risk profile.

### 4.2 LINES OF DEFENCE

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In order to ensure adequate oversight, the Group utilises the generally accepted industry standard "Three lines of defence" approach to its risk management framework. The "Three lines of defence" approach creates clarity in regards to roles and responsibility related to risk ownership, oversight and the management of the Group's risk exposures.

The first line of defence actively takes risks as part of the daily operations, and as risk owners they are responsible and accountable for the ongoing management of such risks. They make the primary risk-return trade-off decisions within the risk framework and limits determined and approved by the relevant executive bodies and governed by the second line of defence. The first line of defence is the Business Units and Group Treasury (in capacity of being owner of the Group's investment risks and structural financial risks).

The objective of the second line is to align Strategy, Risk appetite and Group Policy. The second line of defence shall design policies, provide oversight, guidance, review (and potentially approval when needed) along with advice, facilitation, and challenge to the first line in their risk management activities and risk-return considerations. Furthermore the second line shall introduce best practice and ensure compliance. Group Risk and Capital Management and Group Compliance constitute the second line of defence risk functions in the Group.

Third line of defence is Internal Audit. Third line of defence shall independently evaluate the adequacy and effectiveness of the governance, risk management and control processes that are implemented by first and second line of defence.

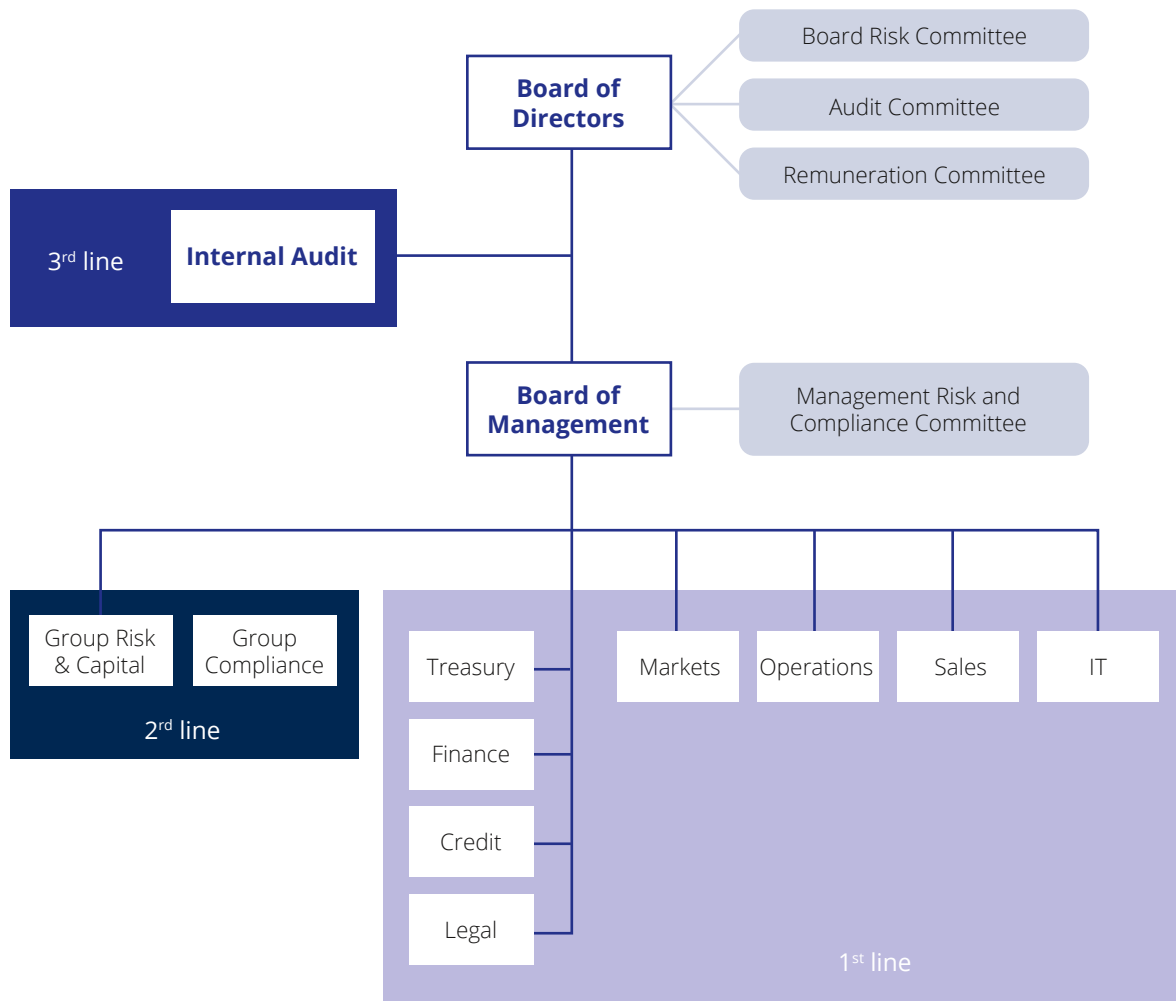
An organisational overview of the three lines of defence can be found in the figure below.







**FIGURE 1: THREE LINES OF DEFENCE**



#### 4.3 RISK COMMITTEES

In order to strengthen the risk governance and to foster transparency, accountability and ownership of risk oversight and management, the Group has established the following committees:

**TABLE 1: EXTERNAL EXECUTIVE BODIES**

Governing Body	Members	Responsibilities, which are further detailed in the respective Committee charters:	No. of meetings in 2017
Board Risk Committee	Henrik Normann (Chair) Asiff Hirji Lone Fønss Schrøder	<ul style="list-style-type: none"> <li>• Advise the Board of Directors regarding current and future risk appetite and risk strategy.</li> <li>• Assist the Board of Directors in overseeing the Board of Management's implementation of the strategy.</li> <li>• Provide recommendations and oversee the Risk Management functions.</li> <li>• Review incentive schemes pertaining to risk, capital and liquidity.</li> <li>• Prepare the Group's Risk Management Framework and Risk Appetite Statements for the Board of Directors' review and approval.</li> </ul>	6
Audit Committee	Thomas Plenborg (Chair) Lone Fønss Schrøder Jacob Polny	<ul style="list-style-type: none"> <li>• Supervise the preparation of financial statements.</li> <li>• Supervise and assess the effectiveness of the Group's internal controls, risk management and internal audit.</li> <li>• Supervise the statutory audit of the annual financial statements.</li> <li>• Supervise the Group's external auditors</li> </ul>	3
Remuneration Committee	Thomas Plenborg (Chair) Jacob Polny	<ul style="list-style-type: none"> <li>• Establish and review the overall remuneration philosophy of the Bank and approve guidelines for incentive programs</li> <li>• Review the compensation level of the Bank's employees</li> <li>• Review the list of Risk Takers</li> <li>• Review succession planning</li> </ul>	2

**TABLE 2: INTERNAL MANAGERIAL BODIES**

Governing Body	Members	Responsibilities, which are further detailed in the respective Committee charters:	Minimum Meeting Frequency
Management Risk and Compliance Committee	GCRO (Chair) CEO COO CRO Head of Compliance CHRO CIO Global Head of Sales	<ul style="list-style-type: none"> <li>• Review the reporting on the risks engaged by the Group</li> <li>• Develop and update the Group's Risk Management Framework including governance, risk policies, the Risk Appetite Statements etc. to be presented to the Board of Directors for approval.</li> </ul>	Monthly
Client Risk Management Committee	CRO (Chair) Head of Markets Head of Market Risk Management Head of Financial Risk Deputy Head of Markets COO Sales Head of Markets GST Deputy CRO	<ul style="list-style-type: none"> <li>• Monitor and assess the aggregated client credit risk exposure profile, related critical risk issues, potential emerging risks, and initiate actions as appropriate (Risk Profile Review).</li> <li>• Support development, stakeholder coordination, decision making, alignment and prioritization of the Margin Trading Client Risk Management Framework</li> </ul>	Weekly
Information Security Risk Committee	CRO (Chair) Head of Operational Risk Management Principal Information Security- Manager Head of Enterprise Architecture Head of IT(SRC)	<ul style="list-style-type: none"> <li>• Establish targets for information and IT security governance and make principle decisions on methods for implementation, monitoring and enforcement.</li> <li>• Review and provide input on information security and IT security initiatives, including prioritising resources for maintenance and investments based on security analysis, business and risk requirements. - Coordinate information security activities across the Group's organisation. - Provide recommendations to the MRCC concerning the Group's stance on principle information security issues (not addressed in internal/external requirements)</li> </ul>	Quarterly

Governing Body	Members	Responsibilities, which are further detailed in the respective Committee charters:	Minimum Meeting Frequency
Operational Risk Committee	CRO (Chair) Head of Operational Risk Management Head of Finance, Head of Legal Head of Compliance Senior Management Team members in Operations, Markets, Sales, and IT	<ul style="list-style-type: none"> <li>• Endorse operational risk management policies prior to them being endorsed by the Board of Management, Board Risk Committee, and approved by the Board of Directors.</li> <li>• Endorse risk identification and assessments and agree on the Group's key risks identified through the risk control and assessment process</li> <li>• Monitor the operational risk profile and material exposures to losses for the Group and subsidiaries and escalate as appropriate. The operational risk profile includes proactive and reactive measures performed by the business and support areas to mitigate operational risk.</li> <li>• Promote a sound risk culture and open discussion on operational risk matters throughout the Group.</li> <li>• Monitor and endorse the New Product and Services approval and Vendor Management frameworks</li> </ul>	Quarterly
Product & Services Committee (PSCO)	CRO (Chair) Deputy CRO Senior Management Team members in COO, Markets, Sales, and IT	<ul style="list-style-type: none"> <li>• The objective of the PSCO is to ensure a comprehensive, effective and prudent oversight of new Products and Services being manufactured and/or distributed by the Saxo Bank Group.</li> <li>• The role and responsibility of the PSCO is to review, challenge and provide input to the NPS Proposal along with other relevant project deliverables.</li> <li>• Assess and provide input during two stages of the product or service development process: Preliminary review and NPS approval.</li> </ul>	Quarterly
Outsourcing Committee*	General Counsel / Head of Group Legal (Chair) CIO Global Head of Operations Head of Operational Risk CPO (Chief Procurement Officer) Deputy Head of Markets Head of White Label Product Head of Compliance	<ul style="list-style-type: none"> <li>• The Outsourcing Committee is responsible for reviewing all critical outsourcing agreements and pre-approving all outsourcing and 3rd party arrangements which affect 'critical' functions.</li> <li>• Evaluation of outsourcing proposals received from Executive Sponsors or Service Delivery Managers and request any clarifications required.</li> </ul>	Quarterly
Model Risk Management Committee (Established June 2017)	CRO (Chair) Head of Quantitative Optimization and Deputy Head of Markets (Deputy-Chair), Chief Quant Head of Big Data and Artificial Intelligence	<ul style="list-style-type: none"> <li>• The Model Risk Management Committee is responsible for Coordination, alignment and approval of new model development initiatives.</li> <li>• Further the committee approves the use of new models or model changes within a specified scope as well as the attendant control, valuation adjustment and monitoring regime hereof.</li> </ul>	Quarterly
Client Approval Committee (Established December 2017)	GFRO (Chair) COO Head of Compliance CHRO CIO Global Head of Sales Global Head of Markets	<ul style="list-style-type: none"> <li>• The Client Approval Committee is responsible for approving and endorsing the Risk Appetite Statement prior to being endorsed by the Board of Management, Board Risk Committee, and approved by the Board of Directors.</li> <li>• Further the Committee shall approve, deny or make requests for additional information regarding new client applications and existing client reviews as appropriate.</li> </ul>	Twice a month

\* From 2018 replaced by the Vendor Review Committee

The Executive Team and/or CRO designate the members of internal managerial bodies, which shall be relevant employees within business units, support and second line of defence functions and further detailed

within the respective committee charters. Though members bring knowledge from specific areas of the Group, members represent the entire Group when performing committee work.

#### 4.4 RISK DEFINITIONS

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The Group is exposed to a number of risks, which can be categorised as follows:

**General Credit risk:** The potential risk that a borrower or counterparty will fail to meet its obligations in accordance with agreed terms.

**Counterparty Credit risk:** Counterparty credit risk is the risk of losses resulting from a customer's default on derivatives contracts.

**Settlement risk:** The risk of a counterparty failing to deliver money or securities according to contractual terms at the time of settlement.

**Market risk:** The risk of loss in value as a result of changes in market rates and parameters that affect the market values, e.g. interest rates, credit spreads, FX rates, equity prices, commodity prices and option volatilities.

**Operational risk:** The risk of direct or indirect financial losses or damaged reputation due to failure attributable to technology, employees, procedures or external events. Operational risk includes legal, compliance risk, and model risk, but excludes strategic risk.

**Liquidity risk:**

- The risk that the Group's cost of funding rises to disproportionate levels or in worst case prevents the Group from continuing as a going concern under its current business model.
- The risk that the Group does not have sufficient liquidity to fulfil its payment obligations as and when they fall due.
- The risk that the Group does not comply with regulatory liquidity requirements, e.g. liquidity coverage ratio.

**Business risk:** The risk of a direct or an indirect loss, or damaged reputation as a result of changes in external circumstances or events.

## 5 CAPITAL REQUIREMENTS AND CAPITAL MANAGEMENT

The purpose of the Group's capital management is to ensure that the Group has sufficient capital at all times to cover its risk profile. The framework for the capital management is rooted in the CRD IV Pillars I, II and III, and the primary capital management tool is the Group's Internal Capital Adequacy Assessment Process (ICAAP).

### 5.1 CAPITAL POSITION

As of 31 December 2017, the Group's CET1 and Total Capital ratio was 18.1 % and 22.7 % both up by 3.2 % compared to last year. The capital requirement was 12.6 % of REA, equivalent to DKK 1,880 million including the Combined Buffer Requirement of DKK 188 million. The Common Equity Tier 1 excess capital (including effects of trigger capital) was DKK 1,516 million corresponding to 10.1 % of REA. As such, the Group's capital position was strong at the end of the year<sup>4</sup>.

Additional information on the capital position is found in the Group's ICAAP report available at [www.home.saxo/about-us/investor-relations](http://www.home.saxo/about-us/investor-relations).

The Group is continuously monitoring the regulatory landscape and takes the potential capital effects into consideration when estimations are possible with a certain confidence and impact deemed relevant.

### 5.2 TOTAL CAPITAL

The Group's Total Capital is given by the Common Equity Tier 1 (CET1), Additional Tier 1 and Tier 2 capital instruments calculated in accordance with CRR and takes into account Danish transition rules. At the end of 2017, Total Capital amounted to DKK 3,396 million.

The amounts recognised in Total Capital are based on accounting values in accordance with the Danish Executive Order on financial reporting for credit institutions and investment companies. Reconciliation with the balance sheet can be found in the Additional Pillar III disclosure.

The Group redeemed a nominal amount of EUR 25 million Tier 2 (grandfathered) capital during 2017. The redemption had no effect on the Total Capital due to transitional rules.

Additional own funds disclosures requirements, according to Commission Implementation Regulation No 1423/2013 laying down implementing technical standards with regard to disclosure of own funds requirements for institutions according to CRR are disclosed in the Additional Pillar III disclosure.

#### 5.2.1 COMMON EQUITY TIER 1 CAPITAL

The CET1 capital is calculated as shareholder's equity per accounting rules subject to certain deductions in accordance with CRR and the Danish Executive Order concerning transitional rules in accordance with CRR. Main deductions are listed below:

- Expected dividend
- Intangible assets, including goodwill
- Deferred tax assets
- Prudent valuation adjustment (AVA adjustment)

On Prudent valuation adjustments the Group has implemented the Simplified Approach.

<sup>4</sup> As of the disclosure date of the Risk Report, Saxo Bank A/S and Saxo Privatbank A/S have not received their MREL requirement.



### 5.2.2 ADDITIONAL TIER 1 AND TIER 2 CAPITAL INSTRUMENTS

The Group's Additional Tier 1 capital amounted to DKK 335 million and Tier 2 Capital to DKK 351 million at the end of 2017.

The issue of Additional Tier 1 capital includes a level (trigger level) at which a write-down of the Additional Tier 1 would take effect. Likewise, the Tier 2 issuance has a trigger level at which a conversion to equity is effected. Both instrument's trigger level is set at 7 % CET1 ratio for both the Bank and the Group. Guidelines issued by the Danish FSA allow the Group to utilise any excess capital with a write-down or conversion trigger to cover the Pillar II add-on requirement. This allows the Group to free up some of the CET1 capital consequently increasing the excess CET1 capital. Specifications of the capital instruments are disclosed in the Additional Pillar III disclosure.

### 5.2.3 CONSOLIDATION METHODS

The Group's financial statement is consolidated in accordance with IFRS<sup>5</sup>, while the prudential consolidation of the statement of capital is based on CRR. The Group's subsidiaries are fully owned and fully consolidated under CRR with exception of Saxo Privatbank A/S. Saxo Privatbank A/S external capital is consolidated according to CRR rules on capital consolidation. Saxo Payments is consolidated according to the ownership share of the Group.

More information regarding the consolidation methods for accounting purposes can be found in the Group's Annual Report 2017 available at [www.home.saxo/about-us/investor-relations](http://www.home.saxo/about-us/investor-relations).

## 5.3 CAPITAL PLANNING

The goal of the capital planning is to ensure that the Group always has enough capital to meet its capital requirements and support its risk profile and strategic aims. For this, it takes into consideration both short-term and long-term effects of changes to the risk profile. As such, the Group's capital plan includes expectations to regulations, strategic initiatives and any other potential major changes to the risk profile, and thereby the future solvency needs. The capital plan is revisited on quarterly basis, or upon need, to ensure that the Group's projected capital adequacy is up-to-date.

## 5.4 MINIMUM CAPITAL REQUIREMENT

The CRR regulation's Pillar I minimum capital requirement is set as 8 % of the Risk Exposure Amounts (REA), calculated in accordance with the standard methods. The Group's applied methodologies to calculate REA concerning Market Risk, Credit Risk and Operational Risk are found in section 6 to 9.

**TABLE 3: RISK EXPOSURE AMOUNTS**

<b>Risk Exposure Amounts, end-of-year (DKK million)</b>	<b>2017</b>
Credit Risk	5,897
Market Risk	3,953
Operational Risk	5,100
Total Risk Exposure Amounts	14,950

## 5.5 ICAAP

The calculation of the ICAAP is based on an internal process in which the Board of Management, supported by Group Risk & Capital Management (GRCM),

5 International Financial Reporting Standards

assesses the Group's risks. A full ICAAP is performed when required, but at least once a year. Capital adequacy levels are assessed and approved by the Board of Directors on a quarterly basis. The Capital adequacy levels are reported to the Danish FSA on a quarterly basis.

Group Risk & Capital Management is responsible for the preparation of the ICAAP Report, by collecting, simulating and aggregating relevant information from stakeholders and experts across all business units in the Group. The ICAAP follows the following five steps:

Step 1. Minimum capital requirement (Pillar I)

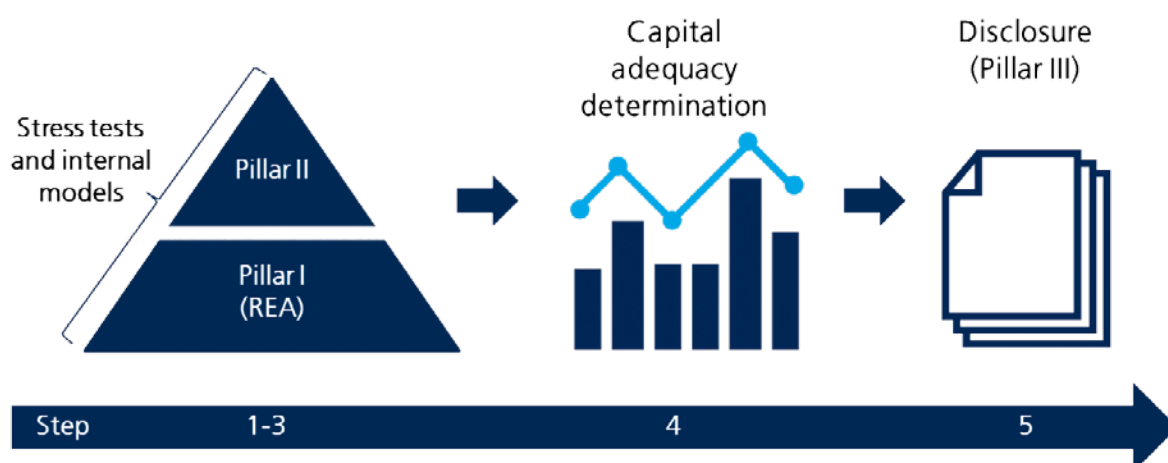
Step 2. Internal assessment of whether additional capital requirements are needed above and over Pillar I using quantitative approaches and/or management judgement (Pillar II)

Step 3. Stress testing of different risk items under each risk category using internal approach, sensitivity and scenario analysis; if vulnerabilities, not covered in step 2 and 3, are found with sufficient plausibility and severity, an assessment is made whether an add-on (Pillar II) has to be made or addressed in the capital planning

Step 4. Capital adequacy determination based on the three previous steps

Step 5. Disclosure (Pillar III)

**FIGURE 2: ASSESSMENTS AND DISCLOSURE ELEMENTS IN THE ICAAP**



Part of the ICAAP is identifying the risks associated with the activities of the Group. The primary business activity of the Group is facilitating online trading in financial

instruments. In addition, the Group has retail banking activities in Denmark. The activities are further described below.

**TABLE 4: OVERVIEW OF ACTIVITIES AND RISK RELATION**



Activities/Risk categories	Credit Risk	Market Risk	Operational Risk	Business Risk	Liquidity Risk	Leverage Risk
Trading activities	✓	✓	✓	✓	✓	✓
Retail Banking activities	✓	✓	✓	✓	✓	✓

- Online trading, investment and other investment services within capital markets to private, corporate institutional clients including white label clients. These activities are driven through Saxo Bank A/S and a number of subsidiaries in 17 countries.
- Retail banking services in Denmark are offered to retail and small and medium sized corporates through the subsidiary Saxo Privatbank A/S. Saxo Privatbank A/S activities also include professional portfolio management to the same client segments.

The above mentioned activities involve different types of risk and concern different risk categories as in the table below.

Risks are identified within each of the six main categories for each activity. For each identified risk, it is assessed by the Group whether the risk is covered by Pillar I and, if so, whether it is sufficiently conservative. It is based on internal, quantitative approaches and, if relevant, internal expert input and management judgments.

**FIGURE 3: OVERVIEW OF PILLAR II AND CAPITAL REQUIREMENT ADEQUACY TESTING METHODS**

	Risk category	Internal assessment method	
Pillar I and internal assessment	• Market	• Internal approach • Standard approach for interest rate risk on the banking book	 Stress testing
	• Credit	• Internal approach • Standard approach	
	• Operational	• Internal expert input	
Internal assessment	• Liquidity	• Standard approach	
	• Leverage	• Standard approach	
	• Business	• Internal approach	

- Stress testing

The ICAAP stress testing ensures that the assessed adequate capital level for the Group is sufficient to withstand unlikely, but plausible, stress scenarios. Stress testing results are considered both with regards to capital requirement and capital planning.

A number of stress scenarios have been outlined in the various single risk areas. Furthermore, a reverse stress scenario has been implemented to create a very severe and highly unlikely stress-scenario. Management mitigating actions, like contingency plans and insurance coverage, are considered. The Group also conducts an income sensitivity analysis to ensure that business risks are covered adequately in the budgeted income.

As of 31 December 2017 the stress testing did not result in an additional capital requirement.

## 5.6 ADDITIONAL CAPITAL BUFFER REQUIREMENTS

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According to CRD IV the Group is required to hold a capital conservation buffer and a countercyclical capital buffer, commonly referred to as the Combined Buffers. The capital conservation buffer is designed to

absorb losses and conserve capital outside a period of stress. The countercyclical capital buffer is designed to ensure that financial institutions in times of high economic growth will accumulate sufficient capital to enable it to continue being a stable source of credit in a subsequent downturn. If the Group does not meet the buffer-criteria, restrictions will be placed on the Group's ability to pay out dividends until the buffers are rebuilt and a capital conservation plan will have to be submitted to the Danish FSA.

The countercyclical capital buffer rate is calculated as the weighted average of the countercyclical buffer rates set by jurisdictions of where the relevant credit exposures are located. The weight for each jurisdiction's set capital buffer is given by the credit exposure (including trading book) to the jurisdiction divided by the total credit exposure across jurisdictions. As of 31 December 2017, the countercyclical buffer requirement for the Group is immaterial relative to the total capital requirement. The level of the countercyclical buffer is disclosed in the Additional Pillar III disclosure.

The capital conservation buffer phase-in started in 2016 with the first annual 0.625 % of REA increment and will reach 2.5 % in 2019. The Group already meets the fully phased-in requirement of 2.5 % (applicable from 2019) with the Group's current capital-level.



SAXO







BANK

15:06 01	17:06 01	22:06 01	22:06 01	23:06 01	01:06 01
Local CPH	Moscow	Hong Kong	Singapore	Tokyo	Seoul



## 6 CREDIT RISK

The Board of Directors has defined the Group Credit Risk Policy, and articulated the Group's Credit Risk Appetite Statement and approved specific limits for the Group's largest clients and counterparties as well as industry sector limits. The Group Credit Policy, Risk Appetite Statements and the specific limits are reviewed continuously and at minimum annually.

The Board of Directors has issued a credit granting authority to the Board of Management. Based on a water fall principle the Board of Management has reallocated this authority to the Head of Group Credit and specific subsidiaries within the Group.

### 6.1.1 CREDIT ORGANISATION

The Head of Group Credit reports to the Chief Financial Officer, who reports to the Group Chief Financial and Risk Officer, who is a member of the Board of Management. The Board of Directors is the highest credit authority in the Group, responsible for the overall credit risk management and credit related principles.

Group Credit acts as first line of defence in relation to all credit risk in the capacity of being mandated to grant credit limits and assign Client classifications. Furthermore Group Credit acts as Second line of defence where Credit Authorities have been delegated to specific subsidiaries.

### 6.1.2 CREDIT POLICY

The Group Credit Policy is an integrated part of the Group's enterprise management framework and supplements the Risk Management Governance and Policies. The Group Credit Policy applies to the entire Group, including subsidiaries, business units and departments, and is supplemented by local policies and business procedures.

To contribute to the successful fulfilment of the Group's strategy and profitability and to ensure and

support a strong, effective and disciplined credit culture in the Group, the Group assumes credit risk based on a balanced risk taking to secure a low level of non-performing clients.

To support a strong credit culture the Group has established:

- an integrated credit risk management framework
- a credit authority framework with clear procedures for delegation of approval authority
- a clear separation, or other satisfactory compensating controls apart from separation, of the credit function from the business function and other monitoring functions
- a diversified approach to avoid concentration risks

In the Group, excluding the subsidiary retail bank Saxo Privatbank A/S, the collateral requirements, which act as the primary credit loss buffer, have been calibrated in a way that the Group should not incur losses under normal and also more volatile conditions. The investment activity is terminated before the client's loss exceeds the cash and/or collateral posted by the client.

In the Group credit risk occurs on the following areas:

- Customers trading on margin:

Credit Risk can occur from customers trading on margin in the event of losses exceeding the collateral value of the customers. Due to the nature of the financial products offered and the leverage possibility on the Group's online trading platform, collateral is requested by the Group to allow clients to engage in margin trading. Cash, bonds and equities are the main sources of collateral pledged. It is a requirement that the types of collateral can be valued and haircuts are applied when assessing the collateral value. See also further under section 7.2.1 Market Price Gaps.

- Credit Risk from derivatives exposures (Counterparty Credit Risk):

Counterparty Credit Risk occurs as a result of transactions with the Groups' counterparties to derivatives transactions (see further under section 7).

- Saxo Privatbank A/S (traditional credit risk from retail banking activity):

The subsidiary, Saxo Privatbank A/S, has established a local Credit Policy which supplements the Group Credit Policy. Saxo Privatbank A/S offers traditional banking products with a focus on investment products to primarily private clients, but traditional banking products are also offered to corporate clients with a satisfactory portfolio diversification. Investment credits are offered on collateralized basis only. The local Credit Policy includes portfolio limits on client segments and industries.

### 6.1.3 CREDIT AUTHORITY

A Credit Authority Policy has been established and constitutes the Group's policy for approving, maintaining and reviewing credit exposure to clients and Groups of mutually connected clients, to which a business relationship has been established.

The Credit Authority Policy sets out the framework on which basis the Board of Directors delegates Credit Authority to the Board of Management and on which basis the Board of Management may further delegate Credit Authority to the Head of Group Credit and specific subsidiaries within the Group.

Furthermore, the Credit Authority Policy sets out the reporting requirements and frequency of reporting of Credit Authority utilization and credit approvals to the Board of Directors and Board of Management. The Credit Authority Policy is maintained by Group Credit.

### 6.1.4 CREDIT EXPOSURE MANAGEMENT

All Clients are monitored and managed on the basis of the total credit exposure to a Client and mutually connected Clients. Credit exposure is defined as the aggregated credit exposure to a Client and mutually connected Clients consisting of utilized and unutilized credit products such as credit lines, multi option limits, trading lines, settlement lines and guarantees. In Saxo Privatbank A/S the credit products include loans, overdraft facilities, business credits, construction and housing credits, investment credits and guarantees.

Lines are granted on client level and may be allocated to subsidiaries or sub-groups of the Client on the basis of a credit risk assessment and in accordance with the governance structure, delegated Credit Authority and Risk Appetite Statements.

The Saxo Rating is an integrated part of the credit exposure management for the Group and is used to classify clients as an important part of the credit assessment and credit management. A Saxo Rating is assigned to all clients where Saxo Bank A/S incurs a credit risk, as set out in the Group Credit Policy, and reflects the probability of default. Clients are monitored on an ongoing basis and credit ratings as well as credit exposures are subject to annual risk reassessment at a minimum.

In order to avoid risk concentration the Group has implemented internal risk appetite limits towards Client segments as well as overall portfolio limits.

### 6.1.5 IMPAIRMENTS

According to the International Accounting Standards (IFRS), it is a requirement that financial assets are tested for objective evidence of impairment individually or collectively. Requirements are further set out in detail in the guidelines from the Danish Financial Supervisory Authorities.

It is instrumental to the Group that objective indication of impairment is identified without undue delay. The Group has established a specific business procedure on the impairment process in which relevant financial assets are subject to an impairment review and impairment tested ongoing and at least quarterly, which is applicable to the Group, including all subsidiaries.

If objective evidence of impairment of a loan, an advance or amount receivable is identified, the Group calculates an impairment charge. Loans, advances and amounts due covering weak clients are tested individually for impairment at the end of each reporting period.

The impairment charge equals the difference between the carrying amount and the present value of the expected future cash flows from the loan including realization value of any collateral.

Clients incurring potential losses related to trading activities are impaired automatically based on client specific key figures. The impairments are calculated at the end of each reporting period.

Loans and advances without objective evidence of impairment are included in an assessment of collective impairment on a portfolio basis. Collective impairment may be calculated for portfolios of loans and advances with similar credit characteristics.

#### **6.1.6 REPORTING AND CONTROL**

Group Credit and Group Risk and Capital management report the status and development of the credit portfolio ongoing to the Board of Directors and Board of Management. In addition, Group Credit is responsible for the day-to-day preparation and follow-up on credit reports, which makes it possible to perform control of credit exposures and limit breaches for a Client and Mutually Connected Clients as well as on a credit portfolio level.

The Group closely monitors all credit exposures through frequent reporting with the purpose of being proactive in respect of the credit quality of the credit portfolio at any time, and with the purpose of being able to act immediately in case the credit portfolio or individual Clients or Mutually Connected Clients show signs of weaknesses.

Independent internal controls of all significant lending activities are administrated, reported and documented on a regular basis to ensure compliance with Group Credit Policy.

### **6.2 CREDIT RISK MITIGATION**

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The Group uses the Financial Collateral Comprehensive Method to calculate the effects of credit risk mitigation. Under the Financial Collateral Comprehensive Method collateral values are adjusted for currency and volatility mismatch with haircuts set out in CRR.

As of 31 December 2017, the Group held credit derivatives, namely Credit Default Swaps (CDS), for hedging and managing credit risk in the Trading Book of notional value of DKK 62 million.

### **6.3 EXTERNAL CREDIT RATING AGENCIES (ECAI)**

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The Group has nominated Standard & Poor's Financial Services LLC (S&P) as ECAI for credit exposures. The Group previously used Fitch Rating Ltd. but has retracted the nomination due to S&P's broader coverage. The change of credit rating agency caused an increase in REA. The Group is not rated by a credit rating agency.

The conversion of credit ratings to credit quality steps is based on the mapping tables issued by the EBA<sup>6</sup>. The individual credit quality steps are accorded a weighting to be used for the exposures on the individual credit quality steps when calculating the total risk exposure according to the standardized approach for credit risks.

**TABLE 5: ECAI MAPPING FOR INSTITUTIONS, LONG-TERM**

Credit Quality Step	S&P Rating	Risk Weight	
		Maturity above 3 months	Maturity 3 months or less
1	AAA to AA	20%	20%
2	A	50%	20%
3	BBB	50%	20%
4	BB	100%	50%
5	B	100%	50%
6	CCC and below	150%	150%

**TABLE 6: ECAI MAPPING FOR INSTITUTIONS, SHORT-TERM**

Credit Quality Step	S&P Rating	Risk Weight
1	A-1+	20%
2	A-1	50%
3	A-2 to A-3	100%
4	B and below	150%
5		150%
6		150%

**TABLE 7: ECAI EXPOSURE BEFORE AND AFTER RISK-WEIGHTING**

(DKK million)	Exposure	Exposure after ECAI risk-weighting
Institutions	1,914	418

**TABLE 8: RISK EXPOSURE AMOUNT BY EXPOSURE CLASS, ULTIMO 2017**

Exposure Class (DKK million)	Risk Exposure Amount
Central governments and central banks	1
Institutions	1,412
Corporates	1,783
Retail	1,403
Secured by mortgages on immovable property	145
Exposures in default	79
Equity	107
Other items	967
Total	5,897

## 6.4 OTHER CREDIT RISKS

Equities outside the Trading Book are valued at fair value, with a prudential value adjustment in Total Capital. These equity exposures are primarily related to stocks in the Danish banking-infrastructure. Investment securities are measured according to the equity method.

It is not a part of the Group's strategy to increase investment in this type of assets. The balance sheet value is risk weighted with 100 %-150 % in the Risk Exposure Amounts for credit risk.

**TABLE 9: EXPOSURES TO EQUITIES INCLUDED IN THE BANKING BOOK**

(DKK million)	Balance sheet value
Unlisted equities: Investment securities	37
Total	37

## 6.5 UPCOMING REGULATION

For upcoming regulation which is expected to have impact on the Group see the Group's Annual Report.



## 7 COUNTERPARTY CREDIT RISK

The Group takes on counterparty credit risk through its main business activity. Counterparty Credit Risk in the Group occurs on two fronts:

1. When facilitating margin trades to the Group's clients
2. When trading clients' positions with the Group's financial counterparties (Brokers).

For regulatory purposes the Group applies the mark-to-market method (MtM) to calculate the REA exposure. MtM is a regulatory methodology that, in addition to current market value of the exposure, includes potential future exposure (PFE).

### 7.1 COUNTERPARTY CREDIT RISK AGAINST THE GROUP'S CLIENTS (MARGIN TRADING)

When facilitating margin trades to the Group's clients the Group is prepared to take credit risk against collateral to support non-institutional<sup>7</sup> clients' margin trading within the leverage limits offered by the Group. The primary buffer against unwanted losses is thus margin posted to the Group by its clients. To control margin setting an overall policy across products and jurisdictions has been defined; and to enforce the Margin Policy the Group has risk management procedures in place which are further described below.

For margin-instrument-transactions the Group is acting as a Principal, meaning the Group is the client's legal counterparty in the transaction. Trading for normal clients can only be initiated subject to the client's acceptance of the Group's General Business Terms including close-out and collateral netting agreements or other standard legal terms for trading.

### 7.2 COUNTERPARTY CREDIT RISK AGAINST THE GROUP'S BROKER COUNTERPARTIES

To facilitate margin trading to its clients the Group provides liquidity to the market via its Broker Counterparties by trading clients' positions with its Brokers. To manage credit risk from these transactions the Group has defined credit limits on individual counterparties. Moreover, to further limit counterparty credit risk, the Group uses (standard) netting and collateral agreements in the form of ISDA<sup>8</sup> Master Agreements with Credit Support Annexes limiting risk to daily margin calls. Collateral posted by the Group as initial margin is pledged via a tri-party setup at a custodian, which protects the Group from credit risk when pledging collateral.

#### 7.2.1 MARKET PRICE GAPS

Market Price Gap-risk is the main financial risk in the Group's business model. A "Market price gap" occurs when there is no market liquidity to support trading at a price level close to the most recently traded level. Consequently on such situations the Group is not able to execute the standard client exposure liquidation procedures ("Stop Out"), which normally prevents client credit risk exposures to exceed posted collateral. "Market price gaps" may occur due to unexpected events or unforeseen circumstances e.g. geo-political events, political intervention, natural disasters etc.

The risk of observing "market price" gaps is in general highest when:

- The market has been closed for a period of time (e.g. overnight or over the weekend)
- Central Banks communicate decisions on economic policy

7 To clients other than Broker counterparties and WLC (White Label clients). WLCs are financial intermediaries, which offer the Group's products and the Group's trading-platform to their own clients in their own name.

8 International Swaps and Derivatives Association-agreements

- Political uncertainty
- Release of certain economic data

Large market movements (or volatility in general) is not problematic for the Group's business model as long as there is continuous trading in the market with sufficient liquidity enabling the Group to execute trades on behalf of clients at price levels close to recently traded price levels. In this environment the Group's stop-out procedure enables the Group to stop out clients before uncollateralised exposures can occur. However, a market price gap may lead to a credit loss where clients' pledged collateral is insufficient to offset a loss following a market price gap. The credit risk from such an event cannot be hedged, but the Group has defined an overall loss-willingness in the event of a large market price gap and to enforce its risk appetite on the Counterparty Credit Risk area the Group has its risk management framework in place which rests on:

1. **The Client's acceptance of the Bank's Legal Terms prior to trading.**

Trading can only be initiated subject to the client's acceptance of the Group's General Business Terms including close-out and collateral netting agreements or other standard legal terms for trading.

2. **The Group's clear and stated Risk Appetite.**

To address the Group's market price gap risks, the BoD (Board of Directors) has set out a number of Risk Appetite Statements (RAS), which define the overall loss-willingness in the event of large market price gap.

3. **The Group's Real time Margin Requirement Enforcement.**

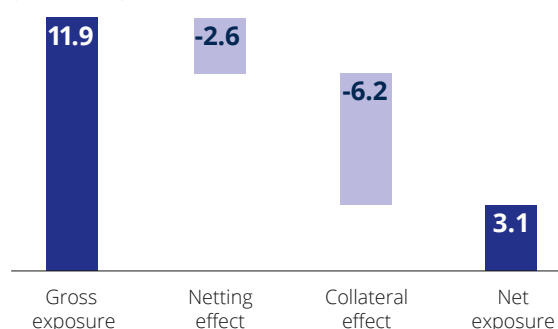
The Group calculates and monitors client's margin requirements in realtime, and clients must all times meet their margin requirement.

4. **The Group's ongoing Risk Monitoring and Discussions among key stakeholders.**

Key stakeholders meet on a weekly basis to address risk concentrations and pro-actively put in place risk mitigants when necessary. To address e.g. unusual geo-political risks, the Group pre-emptively sets up ad-hoc committees to coordinate and discuss the necessity of imposing further risk mitigants and risk monitoring.

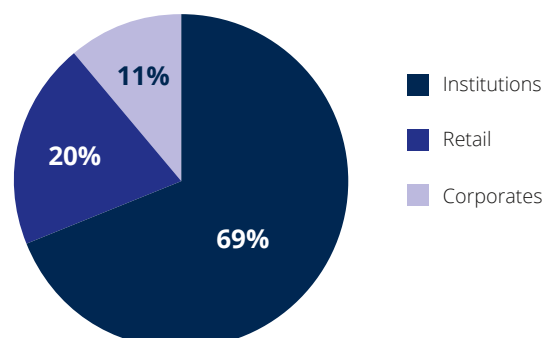
**FIGURE 4: EXPOSURE AT DEFAULT, END-OF-YEAR 2017**

**Counterparty Credit Risk Exposure, ultimo 2017**  
(DKK billions)



**FIGURE 5: COLLATERAL EFFECT**

**Counterparty Credit Risk Exposure by Exposure Class, ultimo 2017**



### 7.2.2 STRESS TESTING AND WRONG WAY RISK

In addition to the above framework, daily stress testing is conducted on all clients. The stress tests are performed on a daily basis and the results of the tests are sent daily to the Board of Management and other key stakeholders. Via stress tests the Group calculates client losses and the Group's uncollateralised exposure in every scenario in the Risk Appetite Statement.

Furthermore, the Group's large product offering means that the Group is exposed to tail-event risks across its product range during normal market conditions and on a daily basis. The Group sets out stress levels to reflect these extreme tail events and to reflect the tail-event risk, the Group has defined its risk appetite based on the largest 15-minute price gaps during the past 10 years.

Wrong-way risk is the risk of increased credit exposure to a counterparty as that counterparty's creditworthiness deteriorates. The Group does not have any appetite for specific wrong-way risk.

### 7.3 CREDIT VALUATION ADJUSTMENT (CVA)

The Group applies the standardised method for calculating the own funds requirements of CVA risk. CVA risk is defined as the risk of losses from adjustment to the mid-market valuations to reflect credit risk of the counterparty, when measuring fair value of derivatives or similar fair value measured financial assets.

The Group has limited exposure to CVA risk since most counterparties over-collateralise their positions and the average maturity of counterparties is only rarely higher than 1 year. The main part of the CVA risk is against prime brokers who all have investment grade ratings and diversified exposures with the Group. EU regulation exempts non-financial counterparties with various exceptions for large non-financial counterparties, from CVA risk calculations. As of 31 December 2017 the CVA risk in the Group amounted to DKK 249 million in Risk Exposure Amounts and DKK 20 million in minimum capital requirement.

## 8 MARKET RISK

The Group's market risks can be grouped into the following three main categories:

1. Trading market risk exposures relating to the Market Making of Markets supporting the Group's on-line trading and investment services.
2. Investments/liquidity buffer related market risk exposures in Group Treasury.
3. Structural market risk exposures in the Group's balance sheet.

### 8.1 MARKET RISK POLICY

The Board of Directors has defined the overall Group Market Risk Policy, articulated the Group's market risk appetite and set limits for the different types of market risk. Based on this, market risk limits are delegated to the organisation, i.e. Markets and Group Treasury. Market risk exposures are monitored by the Group Risk & Capital Management-department, and the limit utilisation is reported to all governing levels of the Group, including the Board of Directors on a regular basis.

The overall Board policies and limits are supplemented by sub policies, business procedures, work instructions and more detailed risk limits. The Group Market Risk Policy, the Market Risk Appetite Statements and the limits are reviewed as often as needed and as a minimum once a year.

### 8.2 MARKET RISK EXPOSURE METHODS

In order to calculate the minimum capital requirements, Pillar I, the Bank and the Group apply the following methodology in accordance with CRR to calculate the Risk Exposure Amounts for market risk.

#### Market Risk: Standard Methods<sup>9</sup>,

- Equity Price Risk: The Standardised Approach<sup>10</sup>
- Foreign-exchange Risk: The Standardised Approach<sup>11</sup>
- Interest Rate Risk: The Standardised Approach<sup>12</sup>
- Option Risk, non-delta (gamma, vega): The Scenario Approach<sup>13</sup>
- Commodity Risk: The Maturity Ladder Method<sup>14</sup>

#### The Risk Exposure Amounts related to market risk consist of:

- Interest rate risk regarding positions in the Trading Book
- Equity price risk regarding positions in the Trading Book
- Commodity risk regarding all commodity positions excluding gold positions
- Foreign-exchange risk regarding all foreign-exchange positions including gold positions

The Group's interest rate risk and equity price risk in the Banking Book is disclosed in section 8.5.

<sup>9</sup> Title IV in CRR

<sup>10</sup> Title IV, section 3 in CRR (art. 341-344)

<sup>11</sup> Title IV, chapter 3 in CRR (art.351-356)

<sup>12</sup> Title IV, section 2 in CRR, hereof duration-based calculation of general risk according to article 340 in CRR (art. 334-339, 340)

<sup>13</sup> COMMISSION DELEGATED REGULATION (EU) No 528/2014 of 12 March 2014 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for non-delta risk of options in the standardised market risk approach and the following issued corrigendum. (art. 329).

<sup>14</sup> Article 361 in CRR (§ 357-361)

### 8.3 MARKET RISK EXPOSURE AMOUNTS

Exposures to various types of market risk for the Bank and the Group end of 2017 are disclosed below as well as the minimum capital requirements corresponding to 8 % of the Risk Exposure Amounts. According to regulatory requirements the Market Risk Exposure Amounts for each risk category shall be aggregated to a total exposure amount. Hence any diversification effects between the risk categories are disregarded. Table 10 presents the Risk Exposure Amounts and the minimum capital requirement corresponding to 8 % of the Risk Exposure Amounts for market risk as per end of 2017.

**TABLE 10: RISK EXPOSURE AMOUNTS**

DKK 1,000	Saxo Bank Group	
	Risk Exposure Amount	Minimum Capital requirement
Risk Category		
Foreign Exchange Risk	672,730	53,818
<i>hereof non-delta risk</i>	251,610	20,129
Interest Rate Risk	2,786,326	222,906
<i>hereof specific Interest Rate Risk</i>	885,519	70,842
Equity Risk	46,047	4,433
<i>hereof specific Equity Risk</i>	9,585	767
Commodity Risk	447,846	35,828
<i>hereof non-delta risk</i>	0	0

### 8.4 FOREIGN-EXCHANGE RISK

The Group's Foreign-exchange risk is divided into two measures: Delta risk and non-delta risk. The delta risk represents the largest of all net long or short positions per currency summarized. The delta risk is mainly driven by the Group's role as liquidity provider in the market for FX spot, forwards and options whereas the daily liquidity management is a minor contributor to the total Foreign-exchange risk. Table 11 shows the

composition of the largest net long and net short FX positions end 2017.

**TABLE 11: NET FX POSITION BY CURRENCY**

DKK 1,000	Net Long	Net Short
EUR	310,693	
USD	38,512	
XAU	19,893	
GBP		32,256
SGD		19,715
NOK		18,956
Other currencies	71,915	61,948
<b>Total</b>	<b>441,013</b>	<b>132,875</b>

The non-delta risk represents an additional option risk related to the Group's positions in FX Options. The non-delta risk is calculated per currency pair and the largest contributors end year is stated below.

**TABLE 12: NON-DELTA FX RISK BY CURRENCY PAIR**

DKK 1,000	Risk Exposure
EURHUF	65,904
AUDJPY	33,351
EURNOK	30,135
USDCHF	23,224
Other currency pairs	98,996
<b>Total</b>	<b>251,610</b>

### 8.5 INTEREST RATE RISK

The Group's interest rate risk in the Trading and Banking book is determined by the standard interest rate risk measure modified duration, i.e. change of market value when the yield is changed by a certain



percentage. The Group applies a +100 bps change of the yield curves. Any negative interest rate risk is netted with positive interest rate risk when calculating the net interest rate risk and amounts expressed in foreign currencies is converted into DKK.

In the table shown below an overview of Group's net interest rate risk divided into instrument type and currency is shown.

**TABLE 13: NET INTEREST RISK DISTRIBUTION**

<b>DKK 1,000</b>	<b>Net Interest Risk</b>
<b>By instrument type</b>	
Bonds	147,000
Financial Derivatives	5,573
Banking Book	-27,389
<b>Total</b>	<b>125,184</b>
<b>By currency</b>	
DKK	59,273
USD	41,188
EUR	20,109
Other currencies	4,614
<b>Total</b>	<b>125,184</b>

## 8.6 INTEREST RATE RISK IN THE BANKING BOOK

On Group level the interest rate risk in the Banking Book comes from: The subsidiary Saxo Privatbank A/S, the financing of the headquarter domicile and issued subordinated debt.

The total interest rate position in the Banking Book is a net short position in both the Bank and the Group.

**TABLE 14: EXPOSURES IN INTEREST RATE RISK INCLUDED IN THE BANKING BOOK**

<b>DKK 1,000</b>	<b>Saxo Bank Group</b>
<b>Net Exposures Banking Book</b>	<b>1,664,414</b>
DKK	1,310,044
EUR	351,586
Other	2,784
<b>Interest rate risk</b>	<b>27,389</b>
DKK	20,299
EUR	7,087
Other	3



## 9 OPERATIONAL RISK

Operational risk is defined as the risk of loss due to inappropriate or inadequate internal procedures, human errors and system errors or as a result of external events. The definition includes legal, compliance risk, and model risk, but excludes strategic risk, business and reputational image risk.

Operational risk is inherent in all products, processes, systems and activities within the organisation, in outsourced activities and in all interactions with external parties.

The Board of Directors has defined the Group Operational Risk Policy, covering also Information Security Risk and Contingency Risk, which consists of Crisis Risk, Business Continuity Risk, and the Group's Insurance policy, and articulated the Group's operational risk appetite. The Policy and Risk Appetite Statements are reviewed as often as needed and as a minimum once a year.

The overall objective of the operational risk management framework is to define standards, tools and processes to support the organisation in proactively identifying, assessing, monitoring and managing/mitigating operational risks. Operational risks are not desired risks and we seek to proactively and reactively mitigate such risks in adherence with the Group's risk appetite, and ensure risk management efforts are aligned with the Group's risk culture objectives.

To support the desired risk culture, the Group emphasises having a clear governance structure assigning precise roles and responsibilities for the conduct of business and employees including management of risks in the Group, adherence to the code of conduct and applicable company policies and business procedures, and risk training, risk awareness, and incentives programmes.

Operational risks are identified and assessed through regular self-assessment processes, at least annually, to assess the quality of internal controls, ensure that all

material operational risks inherent in the Group's products, activities, processes and systems are captured and reassessed in a systematic and timely manner and identify areas for improvements. Moreover, all material changes in the Group's products, activities, processes and systems are subject to a formal, internal risk assessment and approval processes. Particular focus is placed on the understanding of the Group's resilience to operational risk exposures with a low likelihood of occurrence yet can have a severe impact on the business.

The Group strives to obtain maximum learning from materialized operational events and observed near misses. Operational events and near misses that are equal to or higher than DKK 15 thousand, arising from operational risk incidents are collected and registered in the Group's error register. Risk assessments and root cause analysis are performed to effectively address and provide future mitigants to material operational risk events.

### 9.1 CAPITAL REQUIREMENT CONCERNING OPERATIONAL RISK (PILLAR I AND II)

The Group uses the Basic Indicator Approach, cf. CRR art. 315, to calculate the Risk Exposure Amounts for operational risks (Pillar I). Under the Basic Indicator Approach, the Risk Exposure Amounts for operational risk is calculated as 187 % times the average over three years of the sum of following accounting related items:

- Net interest, fees and commissions
- Price and exchange rate adjustments
- Other income

The three-year average is calculated on the basis of the figures from the last three annual reports. The calculation of the basic indicator throughout 2017

consists of accounts from the financial statement 2014-2016.

**TABLE 15: REA CONCERNING OPERATIONAL RISK FOR SAXO BANK GROUP**

DKK million	Saxo Bank Group
Q4 2017	
Risk Exposure Amount	5,100
Capital Requirements	408

## 9.2 MANAGEMENT AND MITIGATION OF OPERATIONAL RISKS

The Group uses mainly three methods to manage and mitigate risks:

**Controls:** Appropriate internal controls are designed and implemented to ensure that operational risks are mitigated to within risk appetite.

**Insurance coverage:** Insurance coverage is used for protection against unexpected and substantial unforeseeable losses to ensure that key risks related to conducting the business and the Group's key tangible

assets and employees are covered and safeguarded effectively and sufficiently.

**Contingency plan:** The Group's contingency plan establishes the processes and procedures necessary to ensure that all business critical processes, services, and personnel remain operational at an acceptable level in the event of a severe disruptive event.

Furthermore the Group Operational Risk is governed through a number of committees and policies, as a part of the Risk and Management Governance and Framework of the Group. For more details see Section 4.

## 9.3 REPORTING

The Group's operational risk profile is monitored on a regular basis, and reported to the Board of Directors and the Management's Risk Committee at least quarterly and without delay whenever the situation dictates so. Moreover, operational risk events with a direct or indirect loss exceeding DKK 300 thousand must be reported to the Management's Risk & Compliance Committee and if exceeding DKK 1 million also reported to the Board of Directors.

## 10 LEVERAGE RISK

The Group is required to report and monitor its leverage ratio (LR). The leverage ratio is a simple non-risk adjusted capital measure, defined as Tier 1 capital as a percentage of the total non-risk weighted exposures. The ratio is intended to prevent credit institutions from building up excessive leverage. A 3 % LR measure is expected to be imposed with the revised CRR.

The Group's monitoring of the leverage ratio is done as part of the ICAAP and the Recovery Plan. The Group's buffer to the expected leverage ratio requirement, and the monitoring of the leverage ratio via the Recovery Plan, ensures that excessive leverage in the Group is not build up.

More details on the Group's leverage ratio can be found in the Additional Pillar III disclosure.

## 11 ASSET ENCUMBRANCE

The Group's main business activity includes derivatives trading, which requires posting collateral to cover margin requirements. Accordingly, the Group's asset encumbrance originates mostly from bonds and cash placed as collateral to cover margin requirements from financial counterparties and brokers.

End of December 2017 16.1 % of the total balance sheet was encumbered. The Group can encumber a

large part of its balance sheet to obtain liquidity if need be as almost all of the Group's bonds are eligible for repo transactions and are central bank eligible. The Group does not, however, depend on asset encumbrance for financing purposes.

Additional information on Asset Encumbrance in the Group can be found in the Additional Pillar III Disclosure.

## 12 LIQUIDITY RISK

This section is included in accordance with Guideline EBA/GL/2017/01 Guidelines on LCR disclosure to complete the disclosure of liquidity risk management under Article 435 of Regulation (EU) No 575/2013, Annex I – Table EU LIQA on liquidity risk management and Annex II Template on qualitative information on LCR, which complements the LCR disclosure template. The Liquidity Risk Statement is provided in section 12.4

### 12.1.1 LIQUIDITY POLICY

The Board of Directors has defined the Group's Liquidity Policy and articulated the Group's liquidity risk appetite as well as specific liquidity risk limits. The Group has low appetite for liquidity risk, and the overall strategy of liquidity risk management is to ensure that the Group at all times has a strong liquidity position with a prudent margin to the regulatory and Board defined minimum requirements and to maintain a "no surprise" status on the liquidity area. The Board defined minimum LCR requirement is defined as a 20 %-points buffer to the LCR minimum requirement, i.e. from January 1 2018 the LCR ratio must be at least 120 %. The 20 %-points buffer is set following the yearly ILAAP-process.

### 12.1.2 LIQUIDITY ORGANISATION

The Group operates with a lines of defence on the Liquidity area according to which:

**The first line of defence** is Group Treasury who is responsible for measuring and managing liquidity risk, financial risks in the liquidity buffer and other non-trading market risks such as structural FX and interest rate risk exposures. Group Treasury has the overall responsibility for the operative liquidity management and planning in the Group including subsidiaries. Group Treasury is placed organisationally under Global Finance & Risk Operations with direct reference to the Board of Management.

**The second line of defence** is Group Risk and Capital Management and Group Compliance who provide oversight, guidance, review (and potentially approval when needed) along with advice, facilitating, and challenging Group Treasury in their risk management activities and risk-return considerations.

### 12.1.3 LIQUIDITY REPORTING

Group Treasury and Group Risk & Capital Management assume a joint responsibility to ensure an appropriate liquidity risk reporting in the Group including:

**A yearly ILAAP** to the Board of Directors is produced. The ILAAP focuses on the LCR requirement and the Group's required level of liquidity. The ILAAP is approved by the Board of Directors on a scheduled Board meeting.

**A monthly Risk & Capital Report** including key metrics on liquidity to the Board of Directors and the Management Risk and Compliance Committee.

**A Daily Treasury Report** to the company's Group Chief Financial & Risk Officer, who is also a member of the Board of Management. The report contains e.g. lines and utilization hereof within key risk ratios as well as a position list for the liquidity buffer and the daily calculated LCR.

### 12.1.4 LIQUIDITY RISK MANAGEMENT

The primary risk management tool of liquidity risk in the Group is the Board defined liquidity risk limits which build on the regulatory requirements. To monitor liquidity risk the Group performs daily liquidity calculations and monitoring of liquidity risk metrics (LCR) as well as of the liquidity position.

To ensure that the Group stays with a safe distance to Board and regulatory limits the Group utilizes stress tests which have been implemented based on the LCR-requirement. The defined stress scenarios



capture both liquidity impact from external market related events, as well as events related specifically to the Group. Furthermore, stress scenarios using a combination of both market related and bank-specific incidents are also performed. The liquidity buffer is stress tested on different time horizons, meaning both short-, medium- and long term effects are measured in the applied stress scenarios. The stress tests are performed on a daily basis.

In the unlikely event of a liquidity crisis the Group has a Recovery plan in place according to which indicators based on the LCR and NSFR ratios are monitored and actions are taken if indicators are breached. The Recovery Plan defines liquidity contingency measures available to improve the liquidity under stressed conditions and ways to restore to normal state of business in the event of a crisis.

The Group does not hedge liquidity risk but mitigates liquidity risk by above risk management and contingency measures.

## 12.2 ADDITIONAL LIQUIDITY REGULATION

CRR also requires the Group to monitor and report a long-term Net Stable Funding Ratio (NSFR). The scope of the NSFR is to ensure that banks have an appropriate amount of stable funding to support their assets and activities on a longer term (i.e. a one-year period). NSFR is planned to be a 100 % requirement, but the exact timing will be decided by the EU based on recommendations from EBA.

FIGURE 6: FUNDING SOURCES

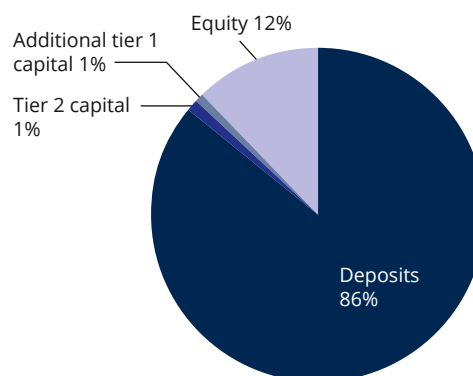


TABLE 16: LCR DISCLOSURE TEMPLATE

**LCR disclosure template, on quantitative information of LCR which complements Article 435(1)(f) of Regulation (EU) No 575/2013.**

Consolidated		Total Adjusted Value			
Currency and units (DKK million)					
Quarter ending on (DD Month YYYY)		31-Mar-17	30-Jun-17	30-Sep-17	31-Dec-17
Number of data points used in the calculation of averages		3	3	3	3
21	LIQUIDITY BUFFER	18,739	20,232	19,574	17,975
22	TOTAL NET CASH OUTFLOWS	9,600	8,616	8,807	8,062
23	LIQUIDITY COVERAGE RATIO (%)	196	235	223	224

The Group's NSFR is relatively simple given the range of business activities is centered on derivatives cash trading, as well as the limited amount of retail banking activities in Saxo Privatbank A/S. The main components requiring stable funding (RSF) are trading assets, derivatives assets, intangible assets and a small residual category of "other assets". The main components supplying available stable funding (ASF) are own funds, corporate- and retail deposits (as short-term financial deposits are not considered stable funding). The strong ratio reflects that the Group does not use short-term funding to long-term obligations.

### 12.3 UPCOMING LIQUIDITY RISK MEASURES

The Danish FSA has imposed a new liquidity measure in the Supervisory Diamond with first reporting in June 2018. The revised liquidity measure will build on the LCR requirement but use a 90 day period instead of the 30 days embedded in the LCR requirement. The 90 day horizon is imposed to prevent banks from building up excessive funding with a maturity of just over 30 days. Currently on solo level (i.e. Saxo Bank A/S) the Bank (but not the Group) has some funding falling between 30 and 90 days, however, the LCR ratio for the A/S is expected to remain well over target ratios in the 90 day scenario.

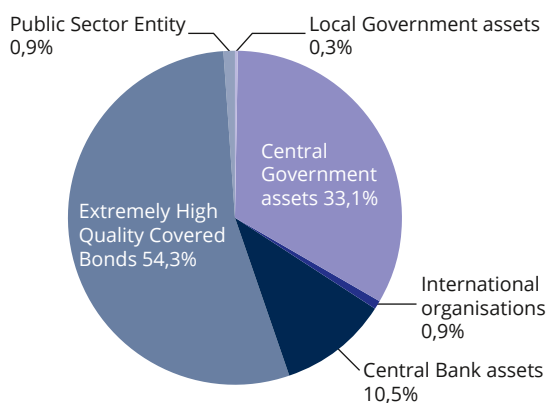
### 12.4 LIQUIDITY RISK STATEMENT<sup>15</sup>

Managing daily liquidity in the Group means receiving liquidity on OTC-products from multiple providers and liquidity for listed products through various exchanges and providing that product liquidity to customers via the Group's trading platform. When opening a position with a broker the Group pledges initial margin (IM)

(typically bonds) via a triparty setup to eliminate credit risk on broker counterparties. After entering into a transaction with a broker the Group exchanges market values (variation margin) on a daily basis, thus reducing credit and liquidity risk on open positions to day to day movements in the market.

The Group, except for Saxo Privatbank A/S, does not as such incur the same liquidity risk as a conventional retail bank by transforming (demand) deposits into long loan commitments. I.e. the Group maintains a highly liquid balance sheet on the asset side consisting of mostly highly liquid bonds of very high credit quality (at least investment grade). Investment limits are imposed for bonds with a lower credit quality than AA- and most of the bond portfolio therefore consists of bonds rated at least AA-.

FIGURE 7: HQLA BY ASSET TYPE



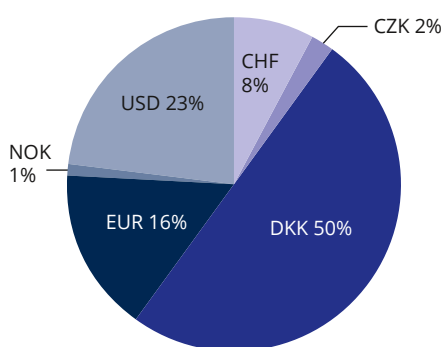
The Group relies on deposits as the main source of funding and uses market funding only to a limited extent. The Group has a diversified portfolio of deposits

15 This section follows: EBA Guideline EBA/GL/2017/01 Annex I – Table EU LIQA on liquidity risk management whereby institutions must provide: A concise liquidity risk statement approved by the management body succinctly describing the institution's overall liquidity risk profile associated with the business strategy. This statement shall include key ratios and figures (other than those already covered in Annex II of these guidelines) providing external stakeholders with a comprehensive view of the institution's management of liquidity risk, including how the liquidity risk profile of the institution interacts with the risk tolerance set by the management body. For Management Approval see section 1: Management Declaration.

ranging from retail deposits from private customers to large deposits from financial counterparties. Market based funding only makes up a small portion of the total funding – only approx. 2 %.

Currency mismatch is dealt with by internal guidelines on LCR-minimum requirements for LCR on significant currencies which for the Group are EUR and USD. LCR on significant currencies is monitored on a daily basis according to the general risk management framework on the liquidity area.

**FIGURE 8: HQLA BY CURRENCY**



The Group (first and second line) monitors the daily LCR ratio via daily reporting to ensure a safe distance to the ILAAP Requirement (20 %-points above regulatory minimum requirement). The buffer to the Board Requirement far exceeds any observed volatility in the LCR over the year.

The primary liquidity risk in the Group is the risk of an adverse market movement (price gap) following which the Group will have to pledge collateral for negative values on client accounts exceeding the account value of the customers. To minimize losses from a price gap and thus mitigate liquidity risk, the Group has several setups for taking mitigating action. These risk management contingencies are described in chapter 12.1.4. Stress tests test the capacity of the Group to pledge IM or VM with its brokers via the LCR effect of a large margin call. Stress tests indicate that the Group

can withstand considerable levels of stress before breaching the board defined LCR buffer. Moreover, the Group's LCR already reflects a stress corresponding to a requirement to hold liquidity equivalent to the largest margin call which the Group has faced in the preceding 24 months via the so-called adverse market scenario. Liquidity Risk may also arise as a result of credit- or settlement risk. To avoid such losses the Group utilizes its general Risk Management Framework as described above.

The LCR will be fully phased-in in January 1, 2018. As of 31 December 2017, the Group reported an LCR ratio of 204.9 % (2016: 160 %), thereby comfortably fulfilling the current regulatory LCR requirement.

**TABLE 17: LCR SAXO BANK GROUP DECEMBER 31 2017.**

DKK million	2017
<b>HQLA</b>	<b>17,933</b>
<b>Total Outflow</b>	<b>13,622</b>
Of which	
Retail customers	2,162
Non-financial customers	1,005
Financial customers	8,638
Other	1,817
<b>Total Inflow</b>	<b>4,873</b>
<b>LCR Total</b>	<b>204.9 %</b>

In addition to the LCR requirement, the Group complies with the liquidity requirement of the Supervisory Diamond. The fulfilment of current Danish liquidity requirement is published in the Supervisory Diamond 2017 report available at [www.home.saxo/about-us/investor-relations](http://www.home.saxo/about-us/investor-relations).

The Group thus has a safe operational setup within the liquidity area and the current liquidity position is sufficient to uphold the Group's operation and meet a prudent requirement under the LCR regime.

