CERN/FC/6410
CERN/3497
Original: English
19 June 2020

PENSION FUND

Annual Report and Financial Statements

for the year ended 31 December **2019**

Audited by representatives of the
NATIONAL AUDIT OFFICE OF FINLAND

Action to be taken		Voting Procedure
For recommendation	**FINANCE COMMITTEE** 372nd Meeting 16 - 17 June 2020	Simple majority of Member States represented and voting and 51% of the contributions of all Member States
For decision	**OPEN COUNCIL** 199th Session 19 June 2020	Simple majority of Member States represented and voting

The Finance Committee is invited to recommend to the Council and the Council is invited to approve the Annual Report and Financial Statements of the CERN Pension Fund for the year ended 31 December 2019 and to grant discharge to the Chief Executive Officer.

PENSION FUND

Annual Report

and Financial Statements

for the year ended 31 December 2019

The Financial Statements included in this Report are published in accordance with International Public Sector Accounting Standards (IPSAS) and the Rules and Regulations of the Pension Fund.

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Chair's Letter

As Chair of the CERN Pension Fund Governing Board (PFGB), it is my pleasure to present to you the Fund's Annual Report and Financial Statements for the financial year ending 31 December 2019. I trust that this report will give you an informative update on the financial status of the Fund, as well as a summary of the investment strategy and performance over the last year.

Overall, it was a positive year in financial markets and it is encouraging to see this reflected in the Fund's investment return in 2019. More details of the investment activities and performance are included in the Investment Report in section 5 of this report.

During the year the Fund's Actuary conducted the Periodic Actuarial Review as at 1 January 2019. The results were presented to CERN Council during its June session. The Fund's Actuary noted a decrease of the funding level from 73.0% at 1 January 2016 to 67.8% at 1 January 2019, mainly as a result of changes to the discount rate and inflation assumptions, with the projected funding level at 1 January 2041 having decreased from 113.6% to 103.4% during the same period. Further information on the actuarial status of the Fund is included in section 4 of this report.

At the beginning of 2019, the Pension Fund launched a new website that gives members and beneficiaries access to user-friendly information on the Fund and its benefits, as well as providing important information about governance and investments. The website was designed following helpful feedback from an online survey of the members and beneficiaries. It includes detailed explanations of benefits, as well as information on how to inform the Fund of any changes in family situation. There is also a set of frequently asked questions (FAQs) providing a further source of information. I hope that you have found this new online experience both informative and helpful. The website is accessible from the following link: https://pensionfund.cern.ch

At the end of October, Thomas Roth completed his second three-year mandate as Chair of the PFGB. On behalf of the PFGB, I would like to extend my warm appreciation to Thomas for his contribution and dedication to the Pension Fund over the last six years. During this time, he assisted the Working Group on the Governance of the CERN Pension Fund.

I am delighted that the Fund's excellent governance was recognised by Capital Finance International who announced the CERN Pension Fund as the 2019 winner of the "Best Pension Fund Governance in Europe" award.

In closing, I would like to thank all the members of the PFGB and its committees for their continued commitment and dedication. On behalf of the members of the PFGB, I would also like to warmly thank the Pension Fund Management Unit's staff for their support and service this year.

Charlotte Jamieson,
Chair, Pension Fund Governing Board

ANNUAL REPORT

I. Pension Fund Governing Board Report

The PFGB hereby presents its Annual Report and Financial Statements for the year ended 31 December 2019.

A description of the Fund and its governance structure can be found in Note 1 “General Information” of the Financial Statements.

1. Composition of the bodies of the Fund and Advisers (2019)

Governing Board

Members	Appointed by:
Charlotte Jamieson, Chair (as of 01.11.2019) Thomas Roth, Chair (until 31.10.2019) Véronique Halloin	CERN Council
Marcus Klug	ESO Council
Martin Steinacher	Ex-officio (in capacity as member of CERN Management responsible for Administration)
Peter Hristov, Vice-Chair Isabelle Mardirossian	CERN Staff Association
Andreas Glindemann	ESO Staff Association
Michel Baboulaz	CERN and ESO Pensioners Association
John Breckenridge Adrian Cunningham	Professional members appointed by CERN Council

Investment Committee

Members
Martin Steinacher, Chair
Jayne Atkinson
Jacob Bjorheim
Marcus Klug
Isabelle Mardirossian

Actuarial and Technical Committee

Members
Adrian Cunningham, Chair
Michel Baboulaz
Marcus Klug

Chief Executive Officer

Matthew Eyton-Jones

Auditors

	Appointed by:
CERN External Auditors National Audit Office of Finland (NAOF), *Helsinki, Finland*	CERN Council
Internal Audit CERN Internal Audit Service	CERN Council

Advisers

Fund Actuary

Buck Consultants Limited, *London, UK*

Custodian

Northern Trust Global Services SE., *Luxembourg (*previously *London, UK)*

Risk Consultant

ORTEC Finance AG, *Pfäffikon, Switzerland*

CERN Consulting Medical Practitioner

Jean-Pierre Lalain, *Geneva, Switzerland*

A detailed list of the Fund’s Advisers is included as an annex to this report.

2. Overview of the year 2019

Pension Fund Governing Board

The PFGB met five times during the year (2018: five times). There was a 94% attendance record by the members of the PFGB.

The PFGB's agendas included recurrent items such as the approval of the submission of the Fund's Annual Report and Financial Statements to the CERN Council and the approval of the Fund's risk limit and strategic asset allocation. In addition, the Fund's Actuary presented the Fund's actuarial "dashboard" to the PFGB and the PFMU presented the Fund's annual budget for administrative expenses and medium-term plan for approval, as well as an update on the Fund's Internal Control System.

At its meeting on 23 May 2019, the PFGB endorsed the results of the Periodic Actuarial Review conducted by the Fund's Actuary, as at 1 January 2019. The results of this triennial review were presented to CERN Council during its June session. Further details of the Periodic Actuarial Review are available in section 4 of this report: "Actuarial Status of the Fund".

Earlier in the year, the PFGB approved a Statement of Funding Principles on the proposal of the Actuarial and Technical Committee (ATC). The statement is available on the Fund's website. The PFGB also approved updates to the Statement of Investment Principles and the Fund's Guidelines.

Following the changes to the audit structure of the Fund, resulting from the update to Chapter I of the Fund's Rules in 2018, the PFGB reviewed and approved the 2019-2022 programme of work for the internal audit of the Fund. Internal audit also presented updates on the follow up of the implementation of prior audit recommendations.

During its meeting on 8 February 2019, the PFGB held hearings for appeals from two beneficiaries of the Fund. Both appeals where in relation to decisions in respect of the procurement of an entitlement to a pension for a surviving spouse. One appeal was rejected on merits and the second was rejected as time-barred.

Investment Committee

The Investment Committee (IC) held four meetings during the year (2018: four meetings), including a joint meeting with the PFGB.

The IC received regular reports from the PFMU on the performance of individual asset classes, examining and reviewing the actions by the PFMU aimed at optimising the Fund's performance in line with the risk limit and strategic allocation set by the PFGB.

During the year, the IC reviewed updates to the Statement of Investment Principles and the Fund's Investment Guidelines, as well as reviewing an updated long term asset study.

The IC also received updates from the PFMU on some of the external service providers over the year, such as the financial risk management system and the property manager for France.

In November the IC approved the Fund's Strategic Asset Allocation for 2020 and agreed on the proposal, submitted to the PFGB, to approve retaining the Fund's risk measure of 1 Year 5% CVaR at -8% for the coming year.

Actuarial and Technical Committee

The Actuarial and Technical Committee (ATC) met four times during the year (2018: four times).

The ATC reviewed the results of Periodic Actuarial Review conducted by the Fund's Actuary as at 1 January 2019, prior to them being presented to the PFGB and then CERN Council.

During the year, the ATC agenda also included regular items such as the review of the Actuary's year-end report and semi-annual dashboard. In addition, the ATC examined the annual report from the Fund's Medical Practitioner and a report from the PFMU on the annual life certificate exercise. The PFMU also updated the ATC on its strategic road map for the Benefits Service, as well as a review of all communication to members and beneficiaries.

3. Members and beneficiaries

The number of members and beneficiaries as at 31 December was as follows:

			2019			2018
	CERN	ESO	Total	CERN	ESO	Total
Members (pre 01.01.2012)	1,711	310	2,021	1,781	322	2,103
Members (post 01.01.2012)	1,719	193	1,912	1,725	163	1,888
Total Members	3,430	503	3,933	3,506	485	3,991
Deferred retirement pensions	218	58	276	192	52	244
Retirement pensions	2,401	107	2,508	2,442	99	2,541
Surviving spouse pensions	796	14	810	788	15	803
Orphan pensions	38	2	40	40	3	43
Disability and ex-gratia	24	6	30	24	7	31
Total Beneficiaries	3,477	187	3,664	3,486	176	3,662

The number of members as at 31 December 2019 was 3,933 (3,991 as at 31 December 2018), representing a decrease of 1.5% compared to 31 December 2018.

The number of beneficiaries as at 31 December 2019, excluding participants in the Progressive Retirement Programme, was 3,664 (3,662 as at 31 December 2018), representing an increase of 0.1% compared to 31 December 2018.

There were 457 members who left the two Organisations (CERN and ESO) during the year 2019 (406 in 2018), 48 of which were retirements (59 in 2018):

				2019				2018
	Men	Women	Total	%	Men	Women	Total	%
Retirement	42	6	48	10%	50	9	59	14%
Deferred Pension	13	4	17	4%	7	1	8	2%
Disability	2	-	2	1%	-	-	-	0%
Transfer Value	298	92	390	85%	244	91	335	83%
Deaths	-	-	-	0%	3	1	4	1%
Total Departures	355	102	457	100%	304	102	406	100%

4. Actuarial Status of the Fund

A key measure when assessing the financial situation of a defined-benefit pension fund such as the CERN Pension Fund (the "Fund") is the funding ratio. The funding ratio indicates the degree to which the Fund's assets cover the value of liabilities to be paid now and in the future and is calculated by dividing the net assets at the balance sheet date with the present value of the liabilities.

A funding ratio of 100% means that a pension fund is in a position to service all of its obligations whereas funding ratios in excess of 100% and below 100% indicate overfunding and underfunding scenarios respectively. Funding levels can fluctuate hence many pension funds target a funding ratio above 100%.

Liability Measurement

It is important to note that a pension fund's liabilities can be defined and measured in a variety of ways and therefore different funding ratios may be calculated for the same fund.

The accumulated benefit obligation (ABO) measure takes into account those liabilities accumulated or accrued at a given valuation date. Only those benefit payments that are due to be made to members and existing beneficiaries at the valuation date are included in this measure and therefore no future accumulation of benefits is assumed.

Another approach to liability measurement which does take into account anticipated increases in benefits is the projected benefit obligation (PBO) method. This measure accounts for expected remuneration increase linked to career change and indexation, and also pension indexation. The funding ratio based on the PBO is generally considered the single most appropriate measure for assessing the financial position of the Fund at a given date.

When considering how a pension fund's liabilities will evolve over time the PBO liability is projected forward using a consistent set of actuarial assumptions. The PBO can be projected forward on either a 'closed fund' or 'open fund' basis. For a closed fund projection, no allowance is made for any new entrants to the Fund over time such that the analysis focuses only on the current membership. Conversely, an open fund projection will anticipate new entrants to the Fund, making allowance for the accrual of benefits for these members as time progresses.

Table 1 below summarises the elements of the different liability measures described above:

Liability Measure	Accrued service	Remuneration Indexation	Pension Indexation	New Entrants
ABO	X			
PBO (Closed Fund)	X	X	X	
PBO (Open Fund)	X	X	X	X

Table 1

Actuarial Assumptions

In addition, these different methods of determining a funding ratio may use different actuarial assumptions including, salary and pension indexation, longevity and the discount rate. These assumptions are typically derived from studies of previous experience of trends in these variables over different periods of time. The Fund's actual experience over the study period is compared to the current actuarial assumptions used in the Fund's actuarial models and where variations are detected adjustments may be made to better reflect, in the actuarial model, the recent and accumulated history of these assumptions. Note that where an experience study is not feasible, actuarial assumptions may instead be set with reference to a fund's investment strategy, current market conditions, publicly available statistics, legislation, accounting standards, or a best estimate of future trends. The Fund's Actuary is appointed by the PFGB to carry out the actuarial studies on an independent basis.

In 2019 the CERN Pension Fund has disclosed information on the financial situation of the Fund based on the following different liability measures:

1. The Accounting Measure under International Accounting Standard 26 (IAS 26) – Accounting and Reporting by Retirement Benefit Plans (PBO – Closed Fund)
2. The Updated Funding Measure – Best Estimate assumptions (PBO – Closed Fund)
3. The Periodic Actuarial Review as at 1 January 2019 – Best Estimate assumptions (PBO – Open Fund)

The key actuarial assumptions applied in the different liability measures are indicated in Table 2 below. The actuarial assumptions used for the Updated Funding Measure as at 31 December 2019 were the "Best Estimate" assumptions. These assumptions are those that were used in the Periodic Actuarial Review as at 1 January 2019.

Actuarial Assumptions	Accounting Measure under IAS 26 PBO (Closed Fund) 31 December 2019	Updated Funding Measure Best Estimate PBO (Closed Fund) 31 December 2019	Periodic Actuarial Review Best Estimate PBO (Open Fund) 1st January 2019
Discount Rate	AON Swiss AA Corporate Bond Yield Curve *(0.17% single equiv. rate)*	1.5%: until 2021 2.5%: 2022-2026 4.5%: 2027-2031 5.7%: 2032 onwards	1.5%: until 2021 2.5%: 2022-2026 4.5%: 2027-2031 5.7%: 2032 onwards
Remuneration increase linked to inflation	0.7%: until 2021 0.9%: 2022-2026 1.0%: 2027-2031 1.4%: 2032 onwards *(1.20% equiv. 30yr spot rate)*	0.7%: until 2021 0.9%: 2022-2026 1.0%: 2027-2031 1.4%: 2032 onwards	0.7%: until 2021 0.9%: 2022-2026 1.0%: 2027-2031 1.4%: 2032 onwards
Indexation of pensions linked to inflation	0.7%: until 2021 0.9%: 2022-2026 1.0%: 2027-2031 1.4%: 2032 onwards *(1.20% equiv. 30yr spot rate)*	0.7%: until 2021 0.9%: 2022-2026 1.0%: 2027-2031 1.4%: 2032 onwards	0.7%: until 2021 0.9%: 2022-2026 1.0%: 2027-2031 1.4%: 2032 onwards
Remuneration increase linked to career change	Fellows: 0.0% Non fellows: 2.0% to 1.2%. Linear reduction between age 18 to 66 *(1.40% liability weighted av.)*	Fellows: 0.0% Non fellows: 2.0% to 1.2%. Linear reduction between age 18 to 66	Fellows: 0.0% Non fellows: 2.0% to 1.2%. Linear reduction between age 18 to 66
Mortality and disability tables	77% ICSLT2013*	77% ICSLT2013*	77% ICSLT2013*

Table 2

** Following analysis of the Fund's mortality experience, an adjustment of 77% to the probabilities contained within the ICSL2013 tables was proposed as the best estimate assumption.*

Discount Rate

A key actuarial assumption is the discount rate which is used to calculate the present value of a pension fund's future liabilities and can be determined in different ways. Given the long term nature of pension fund liabilities, discount rates can be based on long term market interest rates or on actuarial assumptions that are more stable. Even small differences in the discount rate used can have a significant effect on the value of the liabilities and therefore the funding ratio. Different discount rates may be used under different approaches to liability measurement disclosed by the Fund. For further details regarding the discount rate applied under IAS 26 please refer to section VI. "Extract of Actuary's Report on the Fund as at 31 December 2019".

Explanation of different liability measures and actuarial assumptions

The Accounting Measure under International Accounting Standard 26 (IAS 26) – Accounting and Reporting by Retirement Benefit Plans

The Fund prepares its financial statements in accordance with International Public Sector Accounting Standards (IPSAS) and International Accounting Standard 26 (IAS 26). As there is no IPSAS with respect to the reporting of the pension plan the Fund conforms to the provisions of IAS 26 in presenting the net assets available for benefits, the actuarial present value of promised retirement benefits and the resulting excess or deficit.

The Fund uses the PBO closed fund approach to value liabilities under IAS 26 and this permits an assessment of the financial position of the Fund by comparing the net assets of the Fund with its liabilities as at 31 December 2019. As the PBO method takes account of future salary and pension increases, it presents a higher value for liabilities than that which would be calculated under the ABO method.

Under IAS 26 the Fund uses a discount rate that refers to high-quality Swiss corporate bonds. This is a variable rate and as such is likely to produce volatile funding ratios from one year to the next. Using this variable discount rate to calculate the present value of promised retirement benefits illustrates the extent to which the Fund's net assets as at 31 December 2019, if invested with minimal investment risk would meet the liabilities at this date. It is important to note that the "risk free" approach to determining the discount rate, although required by accounting standards, produces a very conservative funding ratio that is inappropriate for assessing the financial health of the Fund.

Updated Funding Measure

This measure of the Fund's liabilities also uses the PBO closed fund approach but with a different set of actuarial parameters that represent a best estimate of the long term funding view. Best Estimate actuarial assumptions are those which are most likely to be borne out in practice. For each assumption there is a 50% chance of actual experience being more favourable than assumed and a 50% chance of experience being less favourable than the best estimate assumption. The aggregate effect is that actuarial gains and losses should be equally likely in future years.

An important difference from the actuarial assumptions under the Accounting Measure is the discount rate which under this method represents the Fund's long term investment return target. The use of a consistent discount rate reduces the funding ratio volatility which is inherent in the Accounting Measure approach.

The Periodic Actuarial Review as at 1 January 2019

As provided for under Article I 4.04 of the Fund's Rules and Regulations a Periodic Actuarial Review is performed at least every three years. The purpose of this review is to inform CERN Council of the financial situation of the Fund. The last Periodic Actuarial Review was carried out as at 1 January 2019.

With respect to this liability measurement the actuary projects the assets and liabilities to 1 January 2041 to determine the expected funding level in the future. The PBO method is again used but in addition future contributions, the expected return on assets and future accrual of service for current and new members of staff is included in the projection. Given this inclusion of expected future service for the current and future population and the use of a consistent discount rate, this measure of a future funding ratio is the most appropriate approach for funding purposes.

As in the case of the previous Periodic Actuarial Review a Best Estimate approach was used to set the actuarial assumptions for the Periodic Actuarial Review as at 1 January 2019.

Best Estimate actuarial assumptions are those which are most likely to be borne out in practice. For each assumption there is a 50% chance of actual experience being more favourable than assumed and a 50% chance of experience being less favourable than the best estimate assumption. The aggregate effect is that actuarial gains and losses should be equally likely in future years.

Funding Situation under different Liability Measures

Table 3 below shows the funding situation under each of the liability measurement approaches:

Liability Measure	Funding Position Accounting Measure under IAS 26 As at 31 December 2019 kCHF	Funding Position Updated Funding Measure As at 31 December 2019 kCHF	Funding Position Periodic Actuarial Review As at 1 January 2019 kCHF
Net assets of the Fund	4,429,448	4,429,448	4,203,000
Actuarial Liabilities	12,340,214	6,100,110	6,197,000
Surplus/(Deficit) in the Fund	(7,910,766)	(1,670,662)	(1,994,000)
Funding Ratio at date of measure	35.9%	72.6%	67.8%
Funding Ratio at 1 January 2041	N/A	N/A	103.4%

Table 3

There is no Funding Ratio at 1 January 2041 under the first two measurement approaches above as they are projected on a closed fund basis.

Summary

Different approaches to the measurement of liabilities may be applied to determine the financial situation of a pension fund under different scenarios and to meet the requirements of accounting standards.

The most appropriate method of liability measurement for assessing the funding situation is the PBO in an open fund scenario as determined in the Fund's three-yearly Periodic Actuarial Review.

5. Investment Report

Macroeconomic Highlights

In 2019, global economic growth continued to slow. Global GDP growth fell to 2.9% from 3.6% the previous year, according to IMF estimates, the lowest level since 2009. The reduced activity was broad-based as the growth of both advanced and emerging market economies slowed (to 1.7% and 3.7% respectively).

The start of the year was marked by a significant downward revision of economic forecasts. The US yield curve (namely the difference between the ten-year and three-month government interest rates) flattened and even inverted around the middle of the year. In the past, this figure was a reliable leading indicator of a recession or at least a sharp slowdown. So market participants were expecting a more difficult earnings and business outlook.

The downward revisions in growth were partly linked to uncertainties surrounding geopolitical risks, such as the trade war between the US and China and the exit of the UK from the EU.

The uncertainties related to geopolitical risks also contributed to reduced business confidence globally. In the Eurozone, indicators were generally weaker than expected with business confidence indices at levels consistent with a heightened risk of recession. In the US, manufacturing indicators were also consistent with a sharp economic slowdown while services remained more solid.

Another concern, at least initially, was the extent to which monetary policy would react to the slowdown. While most central banks quickly reversed their tightening stance of late 2018, there was a fear that financial conditions would remain too tight given the state of the economy. The volatility of the US interbank market in September further unnerved market participants.

However, monetary policy responded strongly. Stimulus was extended as several major central banks cut interest rates and /or implemented further unconventional measures to support economic activity. The Federal Reserve cut interest rates three times to 1.75-1.5% while, in September, the European Central Bank announced that it would resume quantitative easing at the pace of 20 BEUR in November and cut the deposit interest rate by 10 bps to -0.5%. The volatility of the US interbank lending market, which led to increased interest rates over several days, forced the Federal Reserve to inject liquidity aggressively in order to calm the situation and to resume its government bond purchases.

The powerful response of monetary policy together with the gradual improvement in growth prospects had a significant impact on asset prices. The downward revision in the interest rate outlook affected the bond market, with the share of global negatively yielding paper rising until mid-year when the Equity market, and risk assets in general rebounded sharply in 2019 after a lacklustre performance in 2018.

In the second half of the year, some improvements on the geopolitical front, the signs of stabilisation of the economic indicators and the resumption of monetary stimulus in Europe and aggressive measures in the US all contributed to renewed optimism and stronger financial markets.

Risk Management and Asset Allocation

The Fund's risk management and asset allocation policy is set out in the Statement of Investment Principles, which has been approved by the PFGB. It is based on setting an annual Risk Limit and an annual Strategic Asset Allocation (SAA), and on managing the Current Asset Allocation (CAA) exposure in a manner compatible with both the risk limit and the investment return objective.

The Fund's return objective is to meet or exceed the actuarial best estimate discount rate adjusted for Geneva inflation over the long term. For the period of 2019 – 2021 the objective stands at 0.80% per annum plus Geneva inflation. The PFGB set the same risk limit for 2019 as for 2018, namely a 5% Conditional Value-at-Risk (CVaR) limit of -8%.

The SAA for 2019, which was defined by the PFMU in collaboration with the Risk Consultant (Ortec Finance), and was subsequently endorsed by the Investment Committee and approved by the PFGB is shown in Table 1 below.

Asset	CAA as at 31-12-2019	SAA 2019	SAA 2018
Fixed Income	27.56%	31.50%	34.50%
Equities	17.57%	15.00%	16.00%
Real Estate	16.29%	20.00%	20.00%
Infrastructure	2.48%	3.00%	3.00%
Timber/Farmland	1.69%	3.50%	3.50%
Private Equity	7.27%	6.00%	6.00%
Hedge Funds	7.45%	7.00%	5.00%
Commodities/Gold	3.58%	4.00%	4.00%
Cash	11.63%	10.00%	8.00%

Table 1: CAA as at 31-12-2019, SAA 2019 and SAA 2018.

Note: The CAA does not add up to 100% as the impact of futures and options is included in the equity allocation.

The 2019 SAA approved in November 2018 was above the risk limit from January to July 2019, ranging between 8.2% and 8.8%. This was due to major shifts in the macroeconomic indicators that impact the forward-looking scenarios used to evaluate the allocation risk. At the beginning of 2019 the likelihood of a recession translated into a negative business cycle outlook and higher volatility. However, the likelihood of a recession declined during the year. From the beginning of the year until May the model picked up the contradicting signals of slowing growth and positive equity returns. When towards the summer the impact of the trade war between the US and China and continued uncertainty related to Brexit started to be a concern, the central banks stepped in and reinitiated their monetary support by lowering short rates, restarting purchasing programs and postponing or slowing down balance sheet reduction programmes. This additional support led to renewed optimism with an improvement in growth forecasts further stimulating the equity markets. Throughout the year, the Fund's risk, as estimated by the Risk Consultant using the disequilibrium scenarios, remained within the one-year 5% CVaR limit of -8% with the exception of February when the breach was due to an update to the Risk Consultant's scenarios. It is recalled that the use of disequilibrium scenarios, which are short-term scenarios, is necessary because the Fund's risk limit is expressed in terms of a one-year time horizon. The disequilibrium scenarios are those that take account of the current policies of central banks, which tend to keep the level of risk from rising to that of the long-term expectation. The amount of cash in the CAA was above the amount in the SAA due to the sale of a real estate property before end of the year.

Portfolio Performance in 2019

In 2019 the Fund returned a performance of 7.29% net of external management and custody fees, as reported by the external performance monitoring service as at 31 December 2019. This performance, which is calculated using a time-weighted rate of return to eliminate the impact of external cash flows and the associated timings on return calculations does not include the governance and internal management/operations costs[1] which are evaluated at approximately 0.18 pp.

Figure 1 shows the Fund's cumulative returns compared to the return objective since December 2011, as reported by the independent performance calculation service provider appointed by the PFGB. The Fund's

[1] Includes PFGB, ATC and IC expenses, Actuary, CERN Services, Risk Consultant, PFMU staff, temporary labour and external service providers related to the investment process such as due diligence providers, data providers, real estate appraisal service, and performance reporting services.

cumulated returns since this date exceeded the objective by 20.76 percentage points as at 31 December 2019.

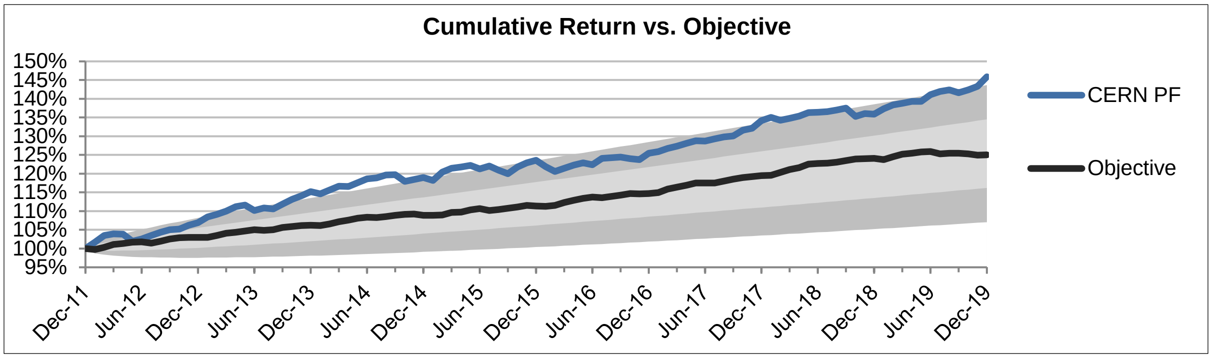

Figure 1: Cumulative Returns vs. Objective

Currency Hedging Policy

Throughout the year the Fund maintained a prudent currency hedging policy, hedging between 90% and 100% of its overall currency exposure on average.

Fixed Income

2019 was an exceptionally strong year for fixed income assets. The absence of inflation, the low real rates and the flood of central bank liquidity drove rates to unprecedented levels (-1.16% for 10 year Swiss government bonds).

The allocation to the Fixed income asset class was lower than the Strategic Asset Allocation due to the decision to underweight the credit exposure. The absolute level of spreads was judged to be too low to compensate for any adverse scenario. This underweight was partly offset by investments in emerging market debt which offered better adjusted returns.

The loss of carry due to the credit underweight was compensated for by the active management of interest rate exposure where the PFMU managed to exploit the opportunities created by market volatility: 10-year US treasuries began the year with a yield of 2.68% reaching a low of 1.45% at the end of the summer before bouncing back at the end of the year to 1.91%. At the beginning of 2019, the market was expecting the Federal Reserve bank to raise interest rates but the PFMU took a contrarian stance. The Fed eventually surprised the market by cutting rates which allowed the Fund to record significant profits. During the year, the exposure to foreign exchange rates was kept equally weighted between euro and US dollars while the modified duration of the internally managed bond portfolio (circa 80% of the fixed income exposure) ranged from 5 to 9 years.

It should also be noted that the cost of hedging currency exposure was a strong headwind for investments in USD denominated fixed-income (circa 3.43% for the USDCHF currency pair rolled monthly compared to a 2.13% average yield for the 10-year US Treasury).

No major changes were made in the private debt portfolio. There was one new investment in a venture debt fund.

Equities

2019 was a very strong year for the equity markets. The year began with a sharp rebound in stock prices reversing the severe correction experienced in the fourth quarter of 2018. The rally continued throughout the year, helped by central bank easing and a temporary resolution of the trade dispute between the US and China.

The S&P 500 return was +31.5%, the highest performance in the US since 2013. The European benchmark index increased by 26.1% and the Japanese Topix by18.1%. All of the key actively managed portfolios in Europe and the US outperformed their benchmarks, which significantly added to the performance of the Fund. The active portfolios benefitted in particular from significant overweights in the Consumer Discretionary and Information Technology sectors.

The equity hedges in the US and Europe remained costly with respect to the Fund's overall performance but were necessary to keep the overall risk within the limit. Early in January, the allocation to equities was increased as much as possible, within the constraints of the risk limit to allow the Fund to benefit from the anticipated improved environment for equities. The overall allocation to US equities was increased compared to European equities. The allocation to the US small cap equities manager was a positive contributor during the year as was the large allocation to US large cap equities in the internal portfolio.

Real Assets: Real Estate - Timber - Farmland - Infrastructure

The real asset portfolio comprises the following three buckets: real estate (directly owned properties and real estate funds), timber/farmland and infrastructure.

Real Estate

Directly owned properties

At the end of 2019, the real estate portfolio comprised thirteen directly owned properties: three buildings in Switzerland, one in Germany, two in the UK and seven in France including a newly renovated and re-opened hotel in Ferney-Voltaire. In terms of strategy the portfolio largely consists of core properties with two value-added properties in Paris, both purchased in 2019.

The European real estate market continued to attract investors throughout 2019 which resulted in a further drop in yield and a significant capital appreciation for the Fund's properties.

During the year the Fund divested itself of two properties: one located in the City of London and one located in the Mitte district of Berlin. The Fund purchased two value-added[2] assets in the central business district of Paris. The objective was to realise profits from some exceptional increases in capital value (namely for the property in Berlin which increased in value by a factor of 2.22 since its purchase in 2015) and to reinvest the proceeds in properties with further potential for capital appreciation.

Real-estate funds

At the end of 2019, the real estate portfolio comprised three funds: an opportunistic Spanish/Portuguese residential segment fund (vintage 2019), a Pan-European value-added office segment fund (vintage 2018) and a fund active in the Central/Eastern Europe office/residential market (vintage 2007).

As of December 2019, the Pan-European value-added fund had called approximately 46 % of the 17 MEUR commitment in order to acquire eight properties in the UK, Ireland, Germany and the Netherlands.

[2] Value-add properties are the properties where significant capital appreciation is expected through realisation of works or re-definition of letting strategy

The opportunistic fund has so far called approximately 40% of the total commitment of 7 MEUR in order to acquire four residential projects in Spain and one in Portugal.

The Central/Eastern Europe office/residential fund is largely invested across several residential and office projects. Since inception it has distributed approximately 1.8 MEUR out of the 7 MEUR committed in 2007.

Timber

At the end of 2019, the Timber portfolio comprised four parcels of directly owned forests in France and two funds (2016 and 2020 vintages) under the same manager who is active in the south of the United States.

The Northern American forestry fund, which is focused on timberland located in the south of the United States, has now fully invested the 8 MUSD commitment and has distributed 0.8 MUSD since inception. At the beginning of 2020, the Fund committed 8 MUSD to the following fund, a forestry fund that invests according to the same strategy as its predecessor.

The four parcels of forest in France (total area of approximately 2,000 hectares) are mainly dedicated to the growth of oak trees. As of December 2019, the value was 27.9 MEUR or +1.54% compared to December 2018. This increase is largely due to the rise in the price of oak.

Farmland

At the end of 2019, the Farmland portfolio comprised one New Zealand dairy fund.

Since 2017, this fund has invested 90% of the committed capital (50 MNZD, or approximately 31 MCHF). In 2019 the PFMU visited the farms accompanied by two independent experts and received assurance on the high quality of the management and welfare of the animals.

Infrastructure

The infrastructure portfolio (approximately.2.5% of the Fund's net asset value) is largely composed of listed equities. A new externally managed listed equity infrastructure mandate was added to the portfolio in September. The privately managed 3i European Operational Projects Fund, which is still in the investment phase, continued to build its portfolio successfully and performed well in 2019, meeting its return and distribution targets.

Private Equity

As of December 2019, the portfolio consisted of eighty funds (and about sixty managers).The portfolio is quite concentrated as approximately 15 funds (20% of the portfolio) make up half of the total private equity exposure (including commitments) while about 50% of the portfolio accounts for less than 10% of the exposure. The geographic exposure of the total commitment is more or less equally shared between Europe and North America.

In 2019, the portfolio's cash flow consisted of approximately 40 MCHF in outflows and 50 MCHF in inflows. This translates into a positive net cash flow of about 10 MCHF.

The Fund committed a total of almost 50 MCHF to six primary private equity funds and a co-investment. These new commitments were focused on two leveraged buy-out (LBO) funds, two venture capital funds and two growth capital funds. The co-investment was done with the manager of one of the two venture capital funds. The two LBOs are focused on the European healthcare segment and the Southern Europe consumer-industrial manufacturing. The two venture capital funds are active respectively, in the high impact technology segments in Israel and North America. The two growth capital funds invest in the consumer/education/healthcare segments in China and in the IT/Internet and well-being segments in Europe.

Hedge Funds

At the end of 2019 the hedge fund allocation was composed of 13 funds managed by 11 different managers. The portfolio experienced a 25% turn over with investments in four new funds (two multi-strategy funds and two relative value fixed-income funds) for a total of 75 MUSD. These investments were funded from two full and two partial redemptions within the systematic and insurance-linked strategies.

With a strong year across all the asset classes, the hedge fund portfolio returned a positive performance in Swiss francs while delivering a source of diversification for the Fund.

Commodities/Gold

In 2019 the Commodities and Precious Metals portfolio delivered a strong performance fuelled by trade-war tensions, monetary policy and geopolitical uncertainties. As a whole, it returned 20.87% driven by the good performance of gold as well as by prescient tactical decisions on crude oil.

Update on the Investment Framework

In 2019 the purchase of a Portfolio Management System (PMS) was approved by the PFGB. The implementation of a PMS represents a major improvement in the infrastructure of the Fund which will strengthen all trade flow processes. The many improvements that the PMS will include having a single book of records as well as providing a real-time view of the portfolio and an overall more robust and reliable set-up in terms of operations and business continuity.

Update on Environmental, Social and Governance Policy

In 2018, the Fund committed itself to putting in place a policy that seeks to incorporate Environmental Social and Governance (ESG) factors in its risk management process and ownership practice. In 2019 the Fund identified the approach that consists of engagement with portfolio companies as being the most effective one in encouraging responsible corporate behaviours and increasing long-term value creation. Given its resources and size, the Fund opted to take part in a collective arrangement.

In May 2019, the Fund decided to join the collective engagement platform Ethos Engagement Pool International which has been established by the Fund's provider of proxy voting services. Ethos is known as a pioneer in shareholder involvement on ESG matters. It issues voting guidelines and recommendations based on extensive analysis and research from a large network of specialists such as SIRIS (Sustainable Investment Research Institute) and ECGS (European Corporate Governance Services).

At the end of 2019, the International Pool counted 55 members representing more than 151 BCHF assets under management. The members of the pool are institutional investors and charitable foundations. Engagement is conducted either directly with companies or through participation in international initiatives presently focused on climate change and human and labour rights. Ethos is currently involved in more than 10 initiatives including the 'Climate Action 100+' initiative and the 'Extension of Bangladesh Agreement' initiative.

Conclusions – Macro Outlook

For 2020, the outlook is relatively challenging. On the one hand, the loosening of monetary policy in 2019 and the incipient signs of stabilised growth suggest that the expansion should last. Looser financial conditions and the perception that some of the political risk might abate, are also positive factors for risky assets. The expectation of continued growth in corporate profits and broader activity is also supportive.

However, there is very high uncertainty linked to the potential impact of the Coronavirus (COVID19) outbreak and the continued heightened geopolitical risks. As the economic cycle matures, the impact of geopolitical and financial shocks on asset returns become more relevant. The investment outlook should therefore be viewed with great caution as the risk of further market volatility remains high.

II. Annex

1. Advisers, Service Providers, and Investment Funds

Bankers

Banque Cantonale de Fribourg, *Fribourg, Switzerland*
Barclays Bank plc, *Cambridge, UK*
Caisse de Credit Mutuel, *Saint Genis Pouilly, France*
Credit Agricole Centre-Est, *Oyonnax, France*
Credit Suisse AG, *Zurich, Switzerland*
Deutsche Bank AG, *Berlin, Germany*
Mirabaud & Cie Banquiers Privés SA, *Geneva, Switzerland*
Post Finance SA, *Lausanne, Switzerland*
Société Générale SA, *Annemasse, France*
UBS SA, *Nyon, Switzerland*

Brokers and Derivatives Counterparties

Bank of America Merrill Lynch, *New York, USA*
Barclays Bank plc, *London, UK*
Bloomberg L.P., *New York, USA*
BNP Paribas SA, *Paris, France*
Carax SA, *Paris, France*
Citigroup Inc., *New York, USA*
Deutsche Bank AG, *Frankfurt, Germany*
Exane SA, *Paris, France*
Goldman Sachs Group, Inc., *New York, USA*
Helvea, *Geneva, Switzerland*
Jefferies, *London, UK*
J.P. Morgan Chase & Co., *London, UK*
Louis Capital Market, *London, UK*
Mirabaud Securities LLP, *London, UK*
Mizuho Intenational plc, *London, UK*
Morgan Stanley & Co. International plc, *London, UK*
Natixis, *Paris, France*

Brokers and Derivatives Counterparties (continued)

Rabobank, *Utrecht, Netherlands*
Santander Investment, *Santander, Spain*
Sociéte Générale SA, *Paris, France*
State Street Corporation, *Boston, USA*
Stifel Financial Corp., *Saint-Louis, Missouri, USA*
Tachibana Securities Co.Ltd, *Tokyo, Japan*
UBS Limited, *London, UK*
UniCredit SPA, *Munich, Germany*
Wells Fargo & Co, *London, UK*

Data Services

Apex Fund Services Ltd, *Dublin, Ireland*
Arcadis ESG, *Paris, France*
Bloomberg Finance L.P., *New York, USA*
Capital Economics Ltd, *London, UK*
Efront Financial Solutions Inc., *New York, USA*
Ethos Services SA, *Geneva, Switzerland*
FTSE International Ltd, *London, UK*
FX Connect & Trade Services LLC, *Frankfurt, Germany*
Haver Analytics, *New York, USA*
Interactive Data Europe Ltd, *London, UK*
Links Analytics B.V., *Delft, The Netherlands*
Mcube Investment Technologies LLC, *Plano, USA*
Morningstar Switzerland GmbH, *Zurich, Switzerland*
Ned Davis Research Inc., *Venice, USA*
Nerco Ingenierie SAS, *Lyon, France*
NYSE Market Inc., *Pittsburgh, USA*
Peracs GmbH, *Frankfurt, Germany*
Preqin Ltd, *London, UK*
S&P Dow Jones Indices LLC, *Chicago, USA*
State Street Global Exchange GmbH, *Frankfurt, Germany*

External Investment Manager - Currency Overlay

State Street Bank Europe Limited, *Boston, USA*

External Investment Managers – External Equity Mandate

Granahan Investment Management Inc., *Waltham, USA*
MFS International (U.K.) Limited, *London, UK*

External Investment Managers – Funds

3i Investments plc, *London, UK*
AE Industrial Partners LLC, *Florida, USA*
Aeolus Capital Management Ltd., *Hamilton, Bermuda*
AIF Capital Limited, *Hong Kong*
Alcuin Capital Partners LLP, *London, UK*
Alken Luxembourg SA, *Luxembourg*
American Capital Limited, *Maryland, USA*
American Century Investments, *Luxembourg*
aMoon Co-Investment SPV I, L.P., *Tel-Aviv, Israel*
aMoon 2 Limited Partnership Fund, *Tel-Aviv, Israel*
Apax Partner SAS, *Paris, France*
Arbor Private Investment Company IV, LLC, *Chicago, USA*
Audax Group, *New York, USA*
AXA Funds Management SA, *Luxembourg*
Barings Global Credit Funds, *Luxembourg*
Bridgewater Associates Inc., *Westport, USA*
Capital Fund Management SA, *Paris, France*
Capricorn Investment Group LLC, *Palo Alto, USA*
CapVest Associates LLP, *London, UK*
Citadel Advisors LLC, *Chicago, USA*
Craigmore Sustainables, *Christchurch, New Zealand*
Cressey & Company L.P., *Chicago, USA*
Crestview Partners, *New York, USA*
CS Real Estate SICAV, *Luxembourg*

External Investment Managers – Funds (continued)

DN Capital (UK) LLP, *London, UK*
Edmond De Rothschild Group, *Luxembourg*
Eiffel Investment Group SAS, *Paris, France*
Endeavour Vision SA, *Geneva, Switzerland*
EQT Fund Management S.à r.l., *Luxembourg*
Essling Capital, *Paris, France*
Fortissimo Capital, L.P, *Rosh Haayin, Israel*
Freeport Financial Partners LLC, *Chicago, USA*
FTV Capital, *San Francisco, USA*
GHO Capital Management Limited, *London, UK*
Globetrotter Co-Investment (GP) Inc., *Delaware, USA*
Graham Partners, *Newton Square, USA*
Groupe Siparex, *Lyon, France*
H2O Asset Management, *London, UK*
HarbourVest Partners LLC, *Boston, USA*
Huntsman Gay Capital Partners Fund, L.P., *Palo Alto, USA*
Hydra Platform SPC, *Cayman Islands*
Index Ventures LLP, *London, UK*
Invest Industrial Advisors Limited, *London, UK*
Invision Capital Partners Hospitality Limited, *St Helier, Jersey*
J.P. Morgan Asset Management, *New York, USA*
Keensight Capital, *Paris, France*
King Street Capital Management L.P., *New York, USA*
Kronos Investment Group, *Luxembourg*
L Catterton Partners, *Greenwich, USA*
LBO France FPCI, *Paris, France*
Littlejohn & Co., *Greenwich, USA*
Lyxor Asset Management Inc., *New York, USA*
Macquarie Funds Group, *Sydney, Australia*
Main Post Partners LP, *San Francisco, USA*
Man Group, *London, UK*

External Investment Managers – Funds (continued)

Metalmark Capital, *New York, USA*
Millennium International, *New York, USA*
MML Capital Partners, *London, UK*
Montefiore Investment, *Paris, France*
Nemo Investor Aggregator Limited, *Greenwich, USA*
NeoMed Management, *Oslo, Norway*
NXT Capital, *Chicago, USA*
Oak Hill Advisors, L.P., *New York, USA*
Pacific Community Ventures Inc., *San Francisco, USA*
PAI Partners SAS., *Paris, France*
Partner for Growth, *San Francisco, USA*
Paul Capital Investments, *San Francisco, USA*
Point72 L.P., *Stamford , USA*
Portag3 Ventures, *Toronto, Canada*
Premiere Global Services Inc., *New York, USA*
Primavera Capital Group, *Hong Kong, China*
Quadriga Asset Manager, *Madrid, Spain*
Quilvest Switzerland Limited, *Zurich, Switzerland*
Silverstone Capital Partners, *Atlanta, USA*
Siris Capital Group LLC, *New York, USA*
Sofinnova Partners SAS, *Paris, France*
Spectrum Equity Investors, *Boston, USA*
Spindletop Capital, *Austin, USA*
Systematica Investments, *Geneva, Switzerland*
SYZ Asset Management Luxembourg, *Luxembourg*
Talde Gestion SGEIC SA., *Bilbao, Spain*
TDR Capital LLP, *London, UK*
Technology Crossover Ventures, *Palo Alto, USA*
The CapStreet Group LLC., *Houston, USA*
TIAA Global Asset Management, *New York, USA*
Timberland Investment Resources LLC, *Boston, USA*

External Investment Managers – Funds (continued)

TowerBrook Capital Partners L.P., *New York, USA*
TPG Capital, *Fort Worth, USA*
Triangle Private Holdings I, LLC, *New York, USA*
Two Sigma Investments*, New York, USA*
Veronis Suhler Stevenson LLC, *New York, USA*
Vision Capital Administration LLC, *Burlingame, USA*
Webster Capital Partners LLC, *Waltham, USA*

External Legal Advisers

Allen & Overy, *Paris, France*
Dentons UK and Middle East LLP, *London, UK*
LPA-CGR avocats, *Paris, France*
Freshfields, *Frankfurt, Germany*
Gowling WLG LLP, *London, UK*
Oberson Abels SA, *Geneva*, *Switzerland*
Raue LLP, *Berlin, Germany*
Willkie Farr & Gallagher LLP, *London, UK*

Due Diligence Service Provider

Aksia Europe Limited, *London, UK*

Real Estate Managers

Comité des forêts, *Paris, France*
Kinney Green, *London, UK*
Hayter International, *Paris, France*
Moser Vernet & Cie*, Geneva, Switzerland*
PRÄZISA*, Berlin*, *Germany*

Real Estate Valuation Experts

BNP Paribas Real Estate, *Paris, France*
EURL P Cochery*, Rambouillet, France*

Real Estate Auditors

BDO AG, *Berlin, Germany*
Cabinet Louis Planche, *Lyon, France*
Rawlinson & Hunter Audit LLP, *London, UK*
REVIDOR Société Fiduciaire SA, *Geneva, Switzerland*

2. Real Estate Portfolio

	Property	**Location**	**Size (m^2)**	**Main usage**
Switzerland	Taverney	Geneva	42,117	Residential
	Prulay	Geneva	2,992	Residential
	Carl-Vogt	Geneva	1,311	Residential
France	Opéra	Paris	5,494	Commercial
	Notre-Dame-des- Victoires	Paris	5,013	Commercial
	Malesherbes	Paris	2,536	Commercial
	Lauriston	Paris	2,181	Commercial
	Villiers	Paris	2,382	Commercial
	Ferney	Ferney-Voltaire	8,244	Hotel
	Forêt de Vauchassis	Troyes	769 ha	Timberland
	Forêt de Gergy	Chalon-sur-Saône	727 ha	Timberland
	Forêt d'Avril	East of France	338 ha	Timberland
	Forêt du Miaule	East of France	250 ha	Timberland
Germany	Mauerstrasse	Berlin	3,981	Commercial
UK	Dean Farrar Street	London	2,830	Commercial
	Queen Anne's Gate	London	2,311	Commercial

FINANCIAL STATEMENTS

III. Audit Opinion

Helsinki, 18 May 2020

External Auditor´s Opinion

on the Financial Statements of the Pension Fund of the European Organization for Nuclear Research (CERN) for the year ended 31 December 2019

To the Council of CERN

Audit opinion on the financial statements of the CERN Pension Fund

We have audited the financial statements of the Pension Fund of the European Organization for Nuclear Research (CERN) for the year ended 31 December 2019, issued under document reference *CERN*/FC/*6410-CERN/3497* dated 31 March 2020. These financial statements comprise the statement of financial position, the statement of changes in net assets, the statement of the financial performance, the cash flow statement as well as the notes to the financial statements.

In our opinion, the financial statements give a true and fair view of the financial position of the Pension Fund of the European Organization for Nuclear Research as at 31 December 2019, its financial performance and its cash flows for the year ended in accordance with International Public Sector Accounting Standards (IPSAS) and International Accounting Standard 26.

Basis for opinion

We conducted our audit in accordance with International Standards of Supreme Audit Institutions (ISSAIs). Our responsibilities under those standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report. We are independent of CERN Pension Fund in accordance with the ethical requirements relevant to our audit of the financial statements and we have fulfilled our other ethical responsibilities in accordance with those requirements. We believe that the audit evidence that we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter

We draw the Council's attention to total liabilities presented in the Statement of Financial Position under vested capital, 12 340 MCH in 2019 as compared to 10 072 MCHF in 2018. The increase of liabilities has led to a lower funding ratio 35,9 % in 2019 as compared to 41,7 % in 2018. Our opinion is not modified in respect of the matter emphasized.

Without qualifying our opinion, we draw your attention to the fact that the variation in liabilities is due to a change in the discount rate. The accounting policy applied previously by CERN followed a principle that the discount rate should never fall below the best estimate of future inflation. The application of such a principle led to reduced post-employment benefit liabilities in 2018. We recommended CERN to assess whether the previously applied accounting policy was in line with IPSAS. This has prompted CERN to change its discount rate assumption which is now based on a corporate bond yield curve.

Key audit matters

Key audit matters are those that, in our professional judgement, were of most significance in our audit of the financial statements of the current period. The matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon.

Key audit matters in the audit of the CERN Pension Fund financial statements for 2019 were as follows:

1) Pension benefits and payments

Payment of pension benefits is at the core of the Pension Fund's operations and we regarded it as a key focus area in the audit of the financial statements for 2019. The benefits and payments under membership activities amounted to 325 MCF in 2019.

The matter was addressed by analytical procedures, review of documents, interviews, assessment of the key system controls and by performing substantive testing on benefit payments. We did not find any material errors.

2) Valuation of Pension Fund assets

Pension Fund's assets available for benefits increased to 4 429 MCHF in 2019 from 4 203 MCHF in 2018. The valuation of the assets was addressed by our audit work including analytical reviews and verification of the information provided in the Custodian's reports against relevant account balances. Transactions related to asset balances were tested on a sample basis. For investment property, the valuations of the assets were verified from reports received from independent evaluators.

3) Accuracy of reporting Pension Fund Investments

The matter was addressed in the audit by verification of the information provided in the Custodian's reports against relevant account balances. Investment information reported in the Financial Statements was reconciled with the relevant accounting data and external confirmations.

Report on other legal and regulatory requirements

Based on the procedures we performed, nothing has come to our attention, as part of our audit of the financial statements that causes us to believe that the transactions of the CERN Pension Fund have not been made, in all significant respects, in accordance with the relevant regulations of the Pension Fund.

Information other than the financial statements and auditor's report thereon

Management is responsible for the other information, included in the Pension Fund Annual Report that comprises the Pension Fund Governing Board Report and an Extract of the Actuary's Report on the Fund as at 31 December 2019, as well as the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon. However, in connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If based on the work we have performed we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities for the financial statements

The management is responsible for the preparation and fair presentation of the financial statements in accordance with IPSAS and for such internal control as management determines to be necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the ability of CERN Pension Fund to continue as a going concern, disclosing, as applicable, matters related to the going concern and using the going-concern basis of accounting unless management intends either to liquidate CERN Pension Fund or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the financial reporting process of the organization.

Auditor’s responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance as to whether the financial statements as a whole are free from material misstatements, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the ISSAIs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or taken together, they could reasonably be expected to influence the economic decisions of users taken based on these financial statements.

As part of an audit in accordance with the International Standards on Auditing, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement in the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting one resulting from error, as fraud may involve collusion, forgery, intentional omission, misrepresentation or the overriding of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for expressing an opinion on the effectiveness of the internal control of CERN Pension Fund.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Draw conclusions as to the appropriateness of management’s use of the going- concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists in relation to events or conditions that may cast significant doubt on the ability of CERN Pension Fund to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause CERN Pension Fund to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Tytti Yli-Viikari
Auditor General

Christa Laurila
Principal Financial Auditor

Helsinki, 18 May 2020

IV. Financial Statements

1. Statement of Financial Position

(in kCHF)	Note	As at 31 December 2019	2018
Assets			
Cash and Cash Equivalents	5	646,602	629,384
Short-Term Deposits	6	60,000	106,345
Settlements Receivable		120	5,927
Sundry Debtors	7	5,741	3,878
Other Receivables	8	4,054	3,851
Derivatives	9	65,398	87,544
Bonds	10	960,250	948,774
Equities	11	725,575	474,170
Investment Funds	12	1,291,121	1,260,152
Total Financial assets		3,758,861	3,520,025
Investment Property	13	712,513	731,843
Total Non-Financial assets		712,513	731,843
Total assets		4,471,374	4,251,868
Liabilities			
Settlements Payable		2,751	399
Sundry Creditors	14	13,561	14,750
Other Payables	15	5,320	4,213
Derivatives	9	20,294	29,172
Total liabilities		41,926	48,534
Net assets available for benefits		4,429,448	4,203,334

(in kCHF)	Note	As at 31 December 2019	2018
Vested pension capital **			
Transfer values of active members or current value of deferred pensions (without future adjustment)		6,580,510	4,931,476
Mathematical reserves of the beneficiaries		5,759,704	5,140,580
Vested pension capital		12,340,214	10,072,056
Technical deficit		(7,910,766)	(5,868,722)
Funding Ratio		35.9%	41.7%

** Extract of Actuary's Report – see section VI

2. Statement of Financial Performance

(in kCHF)	Note	Year ended 31 December 2019	2018
Investment Income			
Financial Assets			
Dividend Income		32,813	35,199
Interest Income	16	17,849	20,949
Unrealised Gains/(Losses) on Financial Assets at Fair Value Through Profit & Loss	17	136,878	(25,954)
Realised Gains/(Losses) on Financial Assets at Fair Value Through Profit & Loss	18	41,834	(13,465)
Non-Financial Assets			
Investment Property Income	19	106,951	78,817
Foreign Exchange Gains/(Losses)	20	12,229	(20,943)
Total Investment Income/(Loss)		348,554	74,603
Investment Expenses			
Financial Assets			
Investment Management Fees	21	21,225	21,662
Custody Fees and Administration of Securities	22	469	978
Transaction Costs		1,297	1,465
Taxation		288	325
Non-Financial Assets			
Investment Property Expenditure	23	9,011	12,472
Investment Related Expenditure	24	2,837	5,406
Total Investment Expenses		35,127	42,308
Net Investment Income/(Loss)		313,427	32,295
Other Expenses			
Bank Charges		59	71
Other Financial Expenses	25	3,695	4,002
Administration Costs	26,29	5,627	5,663
Total Other Expenses		9,381	9,736
Change in Net Assets before Membership Activities		304,046	22,559
Membership Activities	27		
Contributions			
Member Contributions		64,689	63,806
Employer Contributions		116,890	116,031
Employer Special Contributions		61,400	62,100
Purchase of additional years of membership		2,293	2,693
Indemnities received from third parties		19	62
Compensations	28	1,370	1,156
Procurement of entitlement to pension for surviving spouse		46	84
Total Contributions		246,707	245,932
Benefits and Payments			
Retirement pensions		249,634	250,257
Disability pensions		1,894	2,453
Surviving spouse pensions		43,865	42,883
Orphans pensions		1,315	1,464
Family allowances		13,735	13,996
Ex gratia payments granted		66	66
Transfer values paid to members		13,676	12,044
Transfer values paid to other schemes		311	460
Contributions paid to other schemes		143	179
Total Benefits and Payments		324,639	323,802
Net Membership Activities Cost		(77,932)	(77,870)
Net Increase/(Decrease) in Net Assets During Year		226,114	(55,311)
Net Assets Available for Benefits at Beginning of Year		4,203,334	4,258,645
Net Assets Available for Benefits at End of Year		4,429,448	4,203,334

Charlotte Simeson M. Eyton-Jones

3. Cash Flow Statement

(in kCHF)	Note	Year ended 31 December 2019	2018
Cash flows from membership activities			
Contributions and other receipts		246,565	244,870
Benefits and other payments		(324,605)	(320,528)
Net cash flows from membership activities		(78,040)	(75,658)
Cash flows from investing activities			
Financial Assets			
Purchases of Short-Term Deposits		(60,000)	(50,000)
Purchases of Bonds		(1,194,089)	(1,010,003)
Purchases of Equities		(791,677)	(523,214)
Purchases of Investment Funds		(183,287)	(285,360)
Proceeds of Short-Term Deposits		105,515	50,000
Proceeds from sale of Bonds		1,272,334	976,624
Proceeds from sale of Equities		682,828	662,929
Proceeds from sale of Investment Funds		179,004	338,380
Net payments from Derivatives		(62,248)	(81,450)
Dividends received		31,663	33,545
Net Interest received		18,025	19,029
Non-Financial Assets			
Investment Property payments		(15,455)	(20,898)
Purchases of Investment Property		(87,589)	-
Proceeds from sale of Investment Property		186,954	140,172
Investment Property receipts		33,165	37,860
Tax reimbursements		185	586
Management and Custody Fees paid		(2,608)	(4,650)
Administrative and other Operating expenses paid		(10,734)	(11,646)
Net cash flows from investing activities		101,986	271,904
Net (decrease) increase in cash and cash equivalents		23,946	196,246
Cash at beginning of the year		629,384	439,738
Exchange gains /(losses) on cash and cash equivalents		(6,728)	(6,600)
Cash at end of the year		646,602	629,384

4. Statement of Changes in Net Assets Available for Benefits

(in kCHF)	Note	2019	2018
Balance as at 1 January		4,203,334	4,258,645
Employer Contributions		116,890	116,031
Member Contributions		64,689	63,806
Employer Special Contributions		61,400	62,100
Purchase of additional years		2,293	2,693
Indemnities and Compensations		1,389	1,218
Procurement of Entitlement to pension for surviving spouse		46	84
Benefits paid		(310,509)	(311,119)
Transfer values and contributions paid		(14,130)	(12,683)
Investment Income/(Loss)		348,554	74,603
Investment Expenses		(35,127)	(42,308)
Other Expenses		(9,381)	(9,736)
Balance as at 31 December		4,429,448	4,203,334

Charlotte Jamieson

M. Exton-Jones.

V. Notes to the Financial Statements

1. General Information

1.1. Fund description

Under Chapter IV of the CERN Staff Rules and Regulations, the European Organization for Nuclear Research (CERN), which has its seat in Geneva, is responsible for the social insurance coverage of its staff. Thus it set up in 1955 a pension fund which constitutes the CERN personnel's social protection for disability, old age and death.

The governance structure of the Fund and its relations with the Council and the Director General of CERN are defined in the Rules of the Pension Fund ("the Rules," available at: https://pensionfund.cern.ch). The Rules and Regulations of the Fund are approved by CERN Council.

The Rules state that *"The purpose of the Fund is to insure its members and beneficiaries as well as the members of their families against the economic consequences of the disability and old age of its members and of the death of its members and beneficiaries"* (Art. I 1.01).

With respect to the status of the Fund within the Organisation, according to the Rules, *"The Fund is an integral part of CERN, and, as such, has no separate legal personality and is under the supreme authority of Council"* (Art. I 2.01). In addition, *"The Fund shall enjoy operational autonomy within CERN and shall be managed in accordance with the framework set out in the Rules and Regulations"*. (Art. I 2.02).

Regarding the oversight and management of the Fund, Article I 2.04, states that

"1. The oversight of the Fund shall be entrusted to the Governing Board, assisted and advised by the Investment Committee and the Actuarial and Technical Committee.

2. The management of the Fund shall be entrusted to the Chief Executive Officer of the Fund, hereinafter referred to as "the Chief Executive Officer"."

Article I 2.03 of the Rules further provides that the assets of the Fund shall be held separately from those of CERN and shall be used solely for the purpose of the Fund.

The Fund operates as a defined-benefit scheme. The members of the personnel of CERN and the members of the personnel of the European Southern Observatory (ESO), which has its seat in Munich, are members of the CERN Pension Fund. Conditions relating to the admission of ESO staff to the Fund are set out in the CERN/ESO Agreement.

Pensions are calculated in the following manner:

For members who joined the Fund on or before 31 December 2011, 2% of the Basis for the Calculation of Benefits, as set out in Article II 1.08 of the Rules, for each year of membership, up to a maximum of 35 years;

For members who joined the Fund on or after 1 January 2012, 1.85% of the Basis for the Calculation of Benefits, as set out in Article II 1.08, of the Rules, for each year of membership, up to a maximum of 37 years and 10 months.

The retirement age is as follows:

i. For members who joined the Fund on or before 31 December 2011: 65 years;

ii. For members who joined the Fund on or after 1 January 2012: 67 years.

The entitlement to a pension begins after a minimum of five years' contributions.

1.2. Funding arrangements

According to the Rules, the resources of the Fund derive from (a) contributions from CERN and ESO, (b) contributions from its members, (c) the income from the investment of its assets, and (d) gifts and legacies. The contributions are expressed as a percentage of each member's reference salary, which is equal to the basic remuneration for 40 hours' work per week multiplied by a coefficient set out in Annex A to the Rules. Contributions are apportioned between the member and the participating Organizations as follows:

i. For members who joined the Fund on or before 31 December 2011: member: 11.33%; Organization: 22.67%; total: 34%;

ii. For members who joined the Fund on or after 1 January 2012: member: 12.64%; Organization: 18.96%; total: 31.6%.

1.3. Termination terms

When membership of the Fund terminates before the applicable age of retirement for a reason other than death or total incapacity, a transfer value is calculated on the basis of the reference salary at the date of termination:

i. Less than five years of service: where the member has less than five years of service, the transfer value is paid into another pension scheme, or, at his request, to the member himself;

ii. Between five and ten years of service: the member has the choice between a deferred retirement pension, or payment into another pension scheme, or, if the latter option is not possible, to himself;

iii. Ten or more years of service: the member has the choice between a deferred retirement pension, and payment into another pension scheme, or, if the latter option is not possible, into a private insurance scheme offering comparable guarantees.

Payment of a transfer value extinguishes any right to a pension, except that for partial disability that is already being paid.

1.4. Significant Activities for the period

There were no significant activities during the year.

1.4.1. Beneficiaries

As at 31 December 2019 the number of beneficiaries was 3,664 (3,662 as at 31 December 2018), representing an increase of 0.1%.

1.4.2. Members

As at 31 December 2019 the number of members of the Fund was 3,933 (CERN: 3,430 and ESO: 503) compared to 3,991 (CERN: 3,506 and ESO: 485) as at 31 December 2018. This represents a decrease of 1.5%.

1.5. Investment policy

The Fund's principles governing the investment policy are set out in the Statement of Investment Principles CERN/PFGB/80.5d/Rev.2/A which is approved by the PFGB.

The Fund strives to maximise returns while remaining below a maximum level of risk. The maximum level of allowable risk is referred to as the "risk limit".

The Fund's portfolio is constructed and managed with the objective of remaining at all times within the risk limits approved by the PFGB, while striving to attain the Fund's investment return objective.

When selecting and managing investments, the Fund considers adapting the time horizon to the market conditions or to the circumstances of the Fund. In addition, the requirement for active management and the sensitivity of the risk and return to market cycles are also considered.

The Fund may invest in a wide range of asset classes including listed equity, government and non-government debt, currencies, money market instruments, property, commodities, private equity/debt. The Fund may also invest in strategies with absolute return focus. Investments may be undertaken directly (internally), or indirectly (e.g. via funds or investment agreements), in physical assets or derivatives.

2. Summary of Significant Accounting Policies

2.1. Basis of preparation

The CERN Pension Fund Financial Statements for the financial year ended 31 December 2019 have been prepared on a going-concern basis and pursuant to Article I 4.02 of the Rules of the Pension Fund, in accordance with International Public Sector Accounting Standards (IPSAS) and International Accounting Standard 26, Accounting and Reporting by Retirement Benefit Plans, as there is no such equivalent IPSAS. The preparation of financial statements in conformity with IPSAS requires the use of certain critical accounting estimates. It also requires the Fund to exercise its judgement in the process of applying the Pension Fund's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed under note 3. If such estimates and assumptions deviate from the actual circumstances, the original estimates and assumptions will be modified as appropriate in the year in which the circumstances change.

At its meeting on 8 April 2020 the PFGB approved the submission of the CERN Pension Fund Annual Report and Financial Statements for 2019 to CERN Council, via the Finance Committee, for approval and discharge.

The accounting policies set out below have been applied consistently by the Fund and throughout all periods presented in these financial statements.

The following new standards, that are issued but not yet effective, up to the date of issuance of the Fund's financial statements, are disclosed below. The Fund intends to adopt these standard, if applicable, when they become effective:

i. IPSAS 41, Financial Instruments (will replace IPSAS 29) – effective January 1, 2022.

ii. IPSAS 42, Social Benefits – effective January 1, 2022.

Once effective, the above standards are not expected to have any effect on the amounts in the Statement of Financial Position, Statement of Financial Performance, Cash Flow Statement nor the Statement of Changes in Net Assets Available for Benefits.

2.2. Measurement base

The measurement base adopted is that of historical cost as modified by the revaluation of financial assets and financial liabilities (including derivative financial instruments) and investment property at fair value through profit or loss.

2.3. Foreign currency translation

2.3.1. Functional and presentation currency

Pursuant to Article I 4.02 of the Rules of the Pension Fund, the unit of account of the Pension Fund is the Swiss franc which is the functional and presentation currency.

2.3.2. Transaction and balances

At each balance sheet date monetary assets and liabilities that are denominated in foreign currencies are translated into Swiss francs at the exchange rates ruling on that date. Foreign currency transactions are accounted for at the exchange rates prevailing at the date of the transaction. Gains and losses arising on translation are shown separately in the Statement of Financial Performance for the period.

2.4. Classification of assets and liabilities

The CERN Pension Fund is an entity that, inter alia, manages assets used to pay pensions. As such, the assets and liabilities are disclosed in the Statement of Financial Position in an order that broadly reflects their relative liquidity.

2.5. Cash and cash equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less, as well as margin accounts with brokers that cover margin calls on derivative positions.

2.6. Financial assets

Financial assets are recognised on the Fund’s Statement of Financial Position when the Fund becomes a party to the contractual provisions of the instrument.

The Fund classifies its financial assets in the following categories: at fair value through profit or loss and loans and receivables. The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition.

2.6.1. Financial assets at fair value through profit or loss

The Fund’s business is investing in assets with a view to profiting from their total return in the form of interest, dividends, distributions and increases in fair value.

A. Classification

The Fund classifies its investments in cash and cash equivalents, debt, equity securities, investment funds and derivatives as financial assets at fair value through profit or loss. Cash and cash equivalents, bonds, equities and investment funds are designated by the Fund at fair value through profit or loss. Derivatives are classified as assets held for trading.

The portfolio of investment funds, private equity and private debt investments are categorized as financial assets designated at fair value through profit or loss at inception and are shown under Investment Funds on the Statement of Financial Position.

B. Recognition and derecognition

Purchases and sales of unquoted and quoted investments are recognised and derecognised on trade date where a purchase or sale is made under a contract whose terms require delivery within the timeframe established by the market concerned.

Financial assets are derecognised when the rights to receive cash flows from the investments have expired or have been transferred and the Fund has transferred substantially all risks and rewards of ownership.

C. Measurement

Financial assets at fair value through profit or loss are initially recognised at acquisition cost. Transaction costs are expensed in the Statement of Financial Performance. Subsequent to initial recognition, all financial assets at fair value through profit or loss are measured at fair value which is based on the last reported bid price (sales price) at the balance sheet date. Unrealised gains and losses arising from changes in the fair value of the “financial assets at fair value through profit or loss” category are presented in the Statement of Financial Performance in the period in which they arise.

Interest, dividends and investment management fees arising from financial assets are shown separately in the Statement of Financial Performance and are not included in Unrealised or Realised Gains/(Losses) on Financial Assets at Fair Value Through Profit and Loss.

2.6.2 Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Sundry debtors include recoverable withholding tax levied at source on dividends and reimbursable value added tax paid on investment property transactions, investment property debtors and other due amounts.

Settlements receivable represent amounts due to the Fund for securities sold that have been contracted for but not yet settled or delivered at the balance sheet date.

Other receivables include accrued interest on cash and short-term deposits, dividends receivable and outstanding receipts.

These amounts which do not carry any interest are expected to be received within twelve months and are accordingly stated at their nominal value. Loans and receivables are subsequently carried at amortised cost using the effective interest method less any impairment losses.

2.7. Impairment of financial assets

Financial Assets carried at amortised costs are Loans and Receivables.

The Fund assesses at the end of each reporting period whether there is objective evidence that this group of financial assets is impaired. A financial asset or a group of financial assets is impaired and impairment losses are incurred only if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a "loss event") and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated.

Evidence of impairment may include indications that the debtors or a group of debtors is experiencing significant financial difficulty, default or delinquency in interest or principal payments, the probability that they will enter bankruptcy or other financial reorganisation, and where observable data indicates that there is a measureable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults.

For loans and receivables, the amount of loss is measured as the difference between the asset's carrying amount and the present value of the estimated future cash flows (excluding future credit losses that have been not been incurred) discounted at the financial asset's original effective interest rate. The carrying amount of the asset is reduced and the amount of the loss is recognised in the Statement of Financial Performance.

2.8. Offsetting financial instruments

Financial assets and liabilities are offset and the net amount reported in the Statement of Financial Position when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

2.9. Non-financial assets

Those assets where there is no contractual right to receive cash or another financial asset are listed under this heading.

2.9.1. Investment property

Investment property is defined as land, buildings and forests held to earn rental income and capital appreciation and is not occupied by the Fund.

Investment property is measured initially at its cost, including related transaction costs. After initial recognition investment property is carried at fair value, representing open market value determined annually by external valuators with professional qualifications and experience. Fair value is based on active market prices, adjusted, if necessary, for any difference in the nature, location or condition of the specific asset. If the information is not available, the Fund uses alternative valuation methods such as recent prices on less active markets or discounted cash flow projections. Changes in fair values are recorded in the Statement of Financial Performance, as part of Investment Property Income.

The costs of the day-to-day running of the properties, e.g. repairs and maintenance, are recognised in the Statement of Financial Performance as incurred. Expenditure incurred in the replacement or renovation of part of an existing investment property that is 5% or more of the value of that property is recognised in the carrying amount, only when it is probable that future economic benefits associated with the item will flow to the Fund and the cost of the item can be reliably measured.

2.10. Other financial liabilities

Other financial liabilities include Settlements Payable, Sundry Creditors and Other Payables.

Settlements payable represent amounts due by the Fund for securities purchased that have been contracted for but not yet settled or delivered at the balance sheet date.

These amounts are not interest-bearing and are due within twelve months. They are initially recognised at their fair value and subsequently measured at amortised cost using the effective interest method.

2.11. Derivative financial instruments and hedging activities

The Fund's activities expose it to the financial risks such as foreign currency risk, interest rate risk and credit risk. Therefore the Fund may use derivative instruments such as foreign exchange forward contracts, interest rate swap contracts and credit default swaps to hedge these exposures. The Fund may also use derivative instruments for investment purposes, principally to gain exposure to specific markets.

Derivatives are initially recognised at fair value on the date on which a derivative contract is entered into and are subsequently re-measured at fair value. Any gains and losses arising from changes in the fair value are recognised in the Statement of Financial Performance. The Fund does not apply hedge accounting.

Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

The Fund may, at a given time, hold the following derivative instruments:

A. Forward contracts

Forward contracts are contractual obligations to buy or sell financial instruments on a future date at a specified price. A forward contract is a non-standardised contract written by the Fund and the counterparty to the agreement. The contracts are collateralised by cash and changes in the forward contracts' value are settled on reset, rollover or closure of the contract. The forward contracts are settled on a gross basis.

B. Options

An option is a contractual arrangement under which the seller (writer) grants the purchaser (holder) the right, but not the obligation, either to buy (a call option) or sell (a put option) at or by a set date or during a set period, a specific amount of securities or a financial instrument at a predetermined price. The seller receives a premium from the purchaser in consideration for the assumption of the future securities price. Options are settled on a gross basis.

C. Swaps

Swaps are contracts to exchange cash (flows) on or before a specified future date based on the underlying value of currencies/exchange rates, bonds/interest rates, commodities, stocks or other assets.

D. Futures

Future contracts are contractual obligations to buy or sell financial instruments on a future date at a specified price established in an organised market. The futures contracts are collateralised by cash and changes in the futures contracts' value are settled daily with the exchange. Futures are settled on a net basis.

E. Credit default swaps

Credit default swaps are contractual obligations under which the seller receives a premium or interest-related payments in return for agreeing to compensate the buyer in the event of a credit event on an underlying reference obligation. Credit events usually include bankruptcy and payment default.

2.12. Provisions

Provisions are recognised when the Fund has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

2.13. Actuarial liabilities

The PFGB approves the significant actuarial assumptions for the calculation of the actuarial present value of promised retirement benefits at the end of the period, taking advice from an independent actuary concerning the appropriateness of the assumptions. The actuarial present value of promised retirement benefits at the end of the period is included in the Statement of Financial Position under the heading “Vested pension capital”.

The actuarial present value of the promised retirement benefits, based on projected remuneration and capitalised pension indexation, is disclosed to indicate the magnitude of the potential obligation on a going concern basis.

In accordance with IAS 26, the actuarial method used to calculate the actuarial commitments is the projected unit credit method (PUC method). The projected unit credit method considers that each service period allows for an additional unit of benefits rights and evaluates each of these units separately to obtain the final value of the liability.

2.14. Revenue recognition

2.14.1. Revenue from exchange transactions

Interest income is recognised on time proportionate basis using the effective interest method;

Rental income is recognised over the term of the lease on a straight line basis;

Dividend income is recognised when the right to receive payment is established.

2.14.2. Revenue from non-exchange transactions

The Fund does not recognise revenue from non-exchange transactions. Non-exchange transactions include administrative support and office accommodation provided free of charge by CERN.

3. Critical Accounting Estimates and Judgements

The Fund makes estimates and assumptions that affect the reported amounts of assets and liabilities. Estimates and judgements are continually evaluated by the Fund, with input from independent experts, and are based on historical experience and other factors, including assumptions about future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results.

The most significant estimates made during the period are outlined below. The Fund has not been required to make any significant judgements for the financial years 2019 and 2018.

3.1. Actuarial assumptions

The liabilities of the Fund, in respect of promised benefits to be paid, have been determined using methods relying on actuarial estimates and assumptions. These assumptions reflect the long-term nature of future benefits. Changes in these estimates and assumptions could materially affect liabilities in respect of benefits.

The basis for the Fund's actuarial assumptions is set out under note 2. "Summary of Significant Accounting Policies".

The table hereafter shows the significant actuarial assumptions proposed by the Fund's Actuary and approved by the PFGB at its meeting of 13 February 2020 (CERN/PFGB/83.7a) and also those used in the corresponding period. The reference discount rate as at 31 December 2019 is the AON Swiss AA Corporate Bond Yield Curve. As a result the discount rate applied for 2019 is 0.17% when expressed as a single equivalent rate. In 2018, the principle that the discount rate should never fall below the best estimate of inflation was adopted resulting in a discount rate of 1.18%, when expressed as a single equivalent spot rate. The change to the discount rate assumption is in line with IPSAS 39 and was prompted by a recommendation from CERN's External Auditors. All other assumptions used as at 31 December 2019 are identical to those used as at 31 December 2018 (and also adopted for the 1 January 2019 Periodic Actuarial Review), presented as single equivalent spot rates or a liability-weighted average for simplicity.

Actuarial Assumptions	2019	2018
Discount Rate	0.17%*	1.18%**
Remuneration increase linked to inflation	1.20%**	1.18%**
Indexation of pensions linked to inflation	1.20%**	1.18%**
Remuneration increase linked to career change	1.40%***	1.40%***
Mortality and disability tables	77% ICSLT2013 GEN	77% ICSLT2013 GEN

**The underlying best estimate assumption is the AON Swiss AA Corporate Bond Yield Curve. The single equivalent spot rate approximates this underlying curve.*

***The underlying best estimate assumption has the following term structure: 0.70% p.a. until 2021, 0.90% p.a. until 2026, 1% p.a. until 2031 and 1.40% from 2032. The single equivalent spot rate describes this underlying term structure.*

**** Remuneration increase linked to career change is 1.4% p.a. when expressed as a liability-weighted average, however the underlying assumption is 0% for Fellows and for non-Fellows a 2.0% to 1.2% linear reduction between ages 18 to 66 i.e. the best estimate assumption that was used for the Periodic Actuarial Review as at 1 January 2019.*

Buck Consultants Limited London is the Fund's Actuary. An extract of the Actuary's Report on the Fund as at 31 December 2019 is included in section VI for information purposes.

In 2019, the Fund's Actuary proposed a change to the discount rate assumption compared to 2018, however, did not propose changes to the other actuarial assumptions when compared to 2018. These were accepted by the PFGB. The sensitivity of results as at 31 December 2019 to changes in the discount rate, indexation of pensions, indexation of remuneration and remuneration increase linked to career change, are set out in section 2 of the extract of the Actuary's report.

In 2019 the discount rate used to determine the present value of future promised benefits was 0.17% (1.18% in 2018). The effect of this change was an increase in liabilities of 2,318 MCHF.

Total liabilities, as at 31 December 2019, were 12,340 MCHF (10,072 MCHF as at 31 December 2018).

3.2. Fair value of Investment Property

The fair value of the Fund's investment property is considered to be its market value. As at 31 December 2019 the fair value of Investment Property was 712,513 kCHF (731,843 kCHF as at 31 December 2018).

The fair values of the Investment Property were determined based on valuations performed by independent valuers, as at 31 December 2019 and 2018. The fair values of the properties (excluding the forests) have been determined using a sales comparison approach, where possible, and supported by a discounted cash flow method, in order to arrive at the most reliable estimate of the fair value within a range of reasonable fair value estimates. The independent valuers use assumptions that are mainly based on market conditions existing at each balance sheet date. The fair values of the forests have been determined by an expert in the forest industry, using market practice for valuing forest land i.e. taking into account current market prices for forest land and inventory.

The principal considerations underlying the estimation of fair value are those related to:

- Current or recent prices of similar properties;
- Appropriate discount rates ranging from 2.99% to 4.75% (3.38% to 5.75% in 2018);
- The receipt of contractual rentals;
- Expected future market rentals;
- Void periods;
- Maintenance requirements;
- Current market prices for forest inventory.

These valuations are regularly compared to actual market yield data, and actual transactions and those reported by the market. The expected future market rentals are determined on the basis of current market rentals for similar properties in the same location and condition.

3.3. Fair value of financial assets not quoted in an active market

In arriving at the fair value of financial assets not quoted in an active market, the Fund considers factors such as industry performance, company performance, quality of management, the price of the most recent financing round, exit opportunities which are available, liquidity preference, comparable market transactions, discounted cash-flows, earnings multiples and net present value analysis. The maximum use of market inputs is made with as little reliance as possible on entity-specific inputs.

3.3.1. Investment Funds

As at 31 December 2019 the Fund had holdings in investment funds totalling 932,592 kCHF (806,591 kCHF in 2018) that are not quoted in an active market. Many of these investment funds have the same reporting period as the Fund. Consequently, in some cases, audited financial statements attesting, inter alia, to the value of the Fund's investments in these funds were not available at the reporting date. Where audited statements were not in evidence, the Fund used unaudited statements as at 31 December 2019 provided by the independent administrators or fund. In the case of ninety three private equity/debt funds (seventy one in 2018) unaudited statements as at 30 September 2019 were used, as adjusted for capital movements between the last received statements and 31 December 2019.

Valuations totalling 454,451 kCHF (407,405 kCHF in 2018) were based on unaudited statements. These holdings are included in note 12 “Investment Funds”.

The Fund has the following outstanding commitments to Private Equity, Real Estate and Private Debt funds as at 31 December:

	2019		2018	
(in kCHF)	Total Net Asset Value	Outstanding Commitment	Total Net Asset Value	Outstanding Commitment
European Private Equity	139,185	57,310	147,109	32,311
US Private Equity	119,659	44,945	105,800	43,222
Private Debt	48,153	11,642	59,836	17,002
Real Estate funds	65,471	16,089	63,663	13,486
Total	372,468	129,986	376,408	106,021

3.3.2. Over- the-counter derivatives instruments

The fair value of over-the-counter derivatives instruments is determined using quoted prices at the balance sheet date. When an instrument or its equivalent does not have a market price, its valuation is determined using a valuation model that is based on observable market inputs.

4. Financial Risks

4.1. Financial risk factors

The Pension Fund's activities expose it to a variety of financial risks: market risk (including price risk, foreign exchange risk, interest rate risk), credit risk and liquidity risk. The Fund's overall risk management programme seeks to maximise the returns derived for the level of risk to which the Fund is exposed and seeks to minimise potential adverse effects on the Fund's financial performance. The Fund uses derivative financial instruments to both hedge and to create certain risk exposures.

All securities investments present a risk of loss of capital. The maximum loss of capital on bonds, equities, investment funds and purchased options is limited to the fair value of those positions. The maximum loss of capital on written put options, long futures and forward currency contracts is limited to the notional contract values of those positions. On written call options and short future positions the maximum loss of capital can be unlimited.

The management of these risks is carried out by the Fund in line with investment guidelines approved by the PFGB. The Fund uses different methods to measure and manage the various types of risk to which it is exposed; these methods are explained below.

4.1.1. Market risk

The risk management policy of the Fund is defined in the Statement of Investment Principles. It is based on setting a risk measure, an annual risk limit and managing the asset allocation exposure compatible with the risk limit and with the return objective.

The Fund uses CVaR (Conditional Value at Risk) to measure and monitor its market risk. The CVaR of a certain confidence level measures the expected return of the corresponding tail of the return distribution. 1 Year 5% CVaR is defined as the annual expected return in the worst 5% of the return distribution of a portfolio. CVaR is also called expected shortfall.

The risk measure of 1 Year 5% CVaR is approved by the PFGB, based on the recommendation of the IC. The annual 1 Year 5% CVaR risk limit of -8% for 2019 was set by the PFGB taking into account the actuarial return considerations. The risk exposure of the Strategic Asset Allocation (SAA) and the Fund is estimated and reported to the IC by the independent risk consultant on a quarterly basis and compared to the risk limit set by the PFGB. In addition the Fund's Risk Manager monitors the expected risk relative to the risk limit on a daily basis.

During 2019 all quarterly evaluations of the estimated 1 Year 5% CVaR showed that the Fund was within the risk limit of -8% with the exception of February when there was a breach due to an update to the Risk Consultant's scenarios. As at 31 December 2019 the estimated 1 Year 5% CVaR of the Fund was -7.1% (-7.4% as at 31 December 2018), according to data provided by the Fund's independent risk consultant (and not the data included in these Financial Statements).

A. Price risk

The Fund is exposed to securities and derivative price risk. This arises from investments held by the Fund for which prices in the future are uncertain. Where assets of the Fund are denominated in currencies other than the Swiss franc, the price initially expressed in foreign currency and then converted into Swiss franc will also fluctuate because of changes in foreign exchange rates. Paragraph B: "Foreign exchange risk" sets out how this component of price risk is managed and measured.

Some of the Funds' financial assets and liabilities are exposed to market price risk. The fair value of these assets as at 31 December is as follows:

(in kCHF)	2019	2018
Assets		
Bonds	960,250	948,774
Equities	725,575	474,170
Investment Funds	1,291,121	1,260,152
Derivatives	65,398	87,544
Total Financial assets	3,042,344	2,770,640
Liabilities		
Derivatives	20,294	29,172
Total Financial liabilities	20,294	29,172

B. Foreign exchange risk

The Fund is exposed to foreign exchange risks arising essentially upon investments in assets denominated in foreign currencies as outlined in the table below. As a general policy, the Fund hedges its exchange rate risk to the level of 100% of its exposure, but may alter the hedge ratios depending on tactical considerations. The Fund uses three month rolling forward foreign exchange contracts and currency options to cover the currency exposure of existing and anticipated investments in foreign currency. The value of currency forward contracts as at 31 December 2019 is disclosed in note 9. "Derivatives".

As at 31 December 2019, given a shift of 10% in foreign currency rates against the Swiss Franc with all other variables held constant, the Statement of Financial Performance would have shown a higher/lower result of 17,818 kCHF (155 kCHF as at 31 December 2018).

The table below summarises the Fund's net assets that are denominated in a currency other than the Swiss franc. The table excludes the forward foreign exchange contracts that are used to hedge foreign exchange rate exposure:

(in kCHF)	2019	2018
Euro	1,870,270	1,592,910
US dollar	1,639,051	1,464,550
Pound sterling	230,792	307,908
Japanese yen	98,729	120,062
New Zealand dollar	31,546	32,526
Swedish krona	19,542	26,724
Other currencies	32,551	13,076
Total	3,922,481	3,557,756

The Fund uses year-end exchange rates supplied by its custodian. The source of these rates is Reuters World Markets.

The table below shows the rates used by the Fund at 31 December to covert the major currencies in the Fund's portfolio to the Swiss franc:

Currency	2019	2018
Euro	1.0870	1.1269
Pound sterling	1.2828	1.2555
US dollar	0.9683	0.9858

C. Cash flow and fair value interest rate risk

Fair value interest rate risk arises from the effects of fluctuations in the prevailing levels of market interest rates on the fair value of financial assets and future cash flows. The Fund holds some fixed income investments and cash on short-term deposits. The duration of the fixed income investments is regulated by investment guidelines. The Fund may use derivatives to hedge interest rate exposure.

The analysis below summarises the maturity range of the Fund's principal fixed income portfolio at 31 December and is a measure of the sensitivity of the fair value of the Fund's fixed interest securities to changes in market interest rates:

	2019	2018
Global Fixed Income	960 MCHF	949 MCHF
0 - 1 year	2%	0%
1 - 3 years	1%	6%
3 - 5 years	9%	11%
5 - 7 years	27%	30%
7 - 10 years	33%	30%
> 10 years	28%	23%
Total	100%	100%

The duration of the above securities, which is the weighted-average term to maturity of the cash flows, was 8.44 years at 31 December 2019 (2018: 7.83 years).

The following table indicates the Fund's exposure to fair value interest rate risk in respect of cash and short-term deposits:

(in kCHF)	2019	2018
Euro	-	56,345
Swiss franc	89,689	79,768
Total	89,689	136,113

The Fund also holds cash, a limited number of floating rate debt and derivatives that expose the Fund to cash flow interest rate risk.

As at 31 December 2019, if interest rates on these investments had been 1% higher with all other variables held constant, the net assets available for benefits at the end of the year would have been higher by 6,875 kCHF (6,094 kCHF higher as at 31 December 2018).

4.1.2. Credit risk

The Fund is exposed to credit risk, which is the risk that the counterparty will be unable to pay amounts in full when they fall due.

Credit risk arises from cash and cash equivalents short-term deposits, derivative financial instruments and bonds, as well as credit exposures including outstanding receivables and committed transactions.

All transactions in listed securities are contracted using approved brokers and settled/paid for upon delivery. The risk of default is considered minimal, as delivery of the securities sold is only made once the custodian has received payment. Payment is made on a purchase once the securities have been received by the custodian. The trade will fail if either party fails to meet its obligation.

The Fund invests in fixed income securities issued by various bodies such as governments, agencies or corporations. These holdings are managed in line with the investment guidelines to ensure issuer quality and diversification. In addition, the Fund limits the amount of credit exposure to any financial institution through diversification of its counterparties and strict monitoring of open receivables on derivatives instruments. If a derivative position is showing a profit, the Fund may ask for collateral or force the reset of the position.

The analysis below summarises the issuer quality of the Fund's principal fixed income portfolio at 31 December:

	2019	2018
Global Fixed Income	960 MCHF	949 MCHF
AAA	13%	14%
AA	33%	36%
A	14%	17%
BBB	32%	28%
BB-B	8%	5%
NR/NA	0%	0%
Total	100%	100%

Source of issuer data: provided by Custodian (minimum of Standards & Poor's and Moody's)

The maximum exposure to credit risk at 31 December is set out below:

(in kCHF)	2019	2018
Bonds	960,250	948,774
Cash and Cash Equivalents	646,602	629,384
Fixed Income funds	191,214	171,885
Private Debt	48,153	59,836
Short Term Deposits	60,000	106,345
Derivatives	65,398	87,544
Settlements Receivable	120	5,927
Other assets	9,795	7,730
Total	1,981,532	2,017,425

No material financial assets were past due as at 31 December 2019.

4.1.3. Liquidity risk

Liquidity risk is the risk that the Fund may not be able to generate sufficient cash resources to settle its obligations in full as they fall due, or can only do so on terms that are materially disadvantageous. In addition to its commitments to pay monthly benefits, the Fund is exposed to the periodic settlement of margin calls and gains and losses on derivative positions. The hedging of exchange rate risk can generate substantial cash flows that are difficult to predict. Therefore the Fund aims to maintain sufficient levels of cash and cash equivalents to meet its short-term liabilities. The Fund does not take leveraged positions on the market.

The table below analyses the Fund's financial liabilities (excluding the derivative financial instruments in a loss position) into relevant maturity groupings, based on the remaining period at the balance sheet date to the contractual maturity date:

(in kCHF)	< 7 days	1-3 months	3-12 months
As at 31 December 2019			
Settlements payable	2,751		
Members and Beneficiaries	6,168		
Investment property deposits			2,077
Taxes payable		310	
Investment property creditors		4,564	
Reimbursements of contributions	2,234		
Payments Outstanding		3,086	
Total	11,153	7,960	2,077
As at 31 December 2018			
Settlements payable	399		
Members and Beneficiaries	6,551		
Investment property deposits			2,876
Taxes payable		551	
Investment property creditors		4,409	
Reimbursements of contributions	1,254		
Payments Outstanding		2,959	
Total	8,204	7,919	2,876

The following table analyses the Fund's derivative financial instruments in a loss position that will be settled on a gross basis into relevant maturity groupings based on the remaining period at the balance sheet to the contractual maturity date:

(in kCHF)	1-6 months
At 31 December 2019	
Forwards	8,234
Credit default swaps	53
Swaps	11,293
Futures	476
Options	238
Total	20,294
At 31 December 2018	
Forwards	8,275
Credit default swaps	476
Swaps	17,750
Futures	857
Options	1,814
Total	29,172

4.2. Fair value estimation

The fair value of financial assets traded in active markets (such as trading securities) is based on quoted market prices at the close of trading on the reporting date.

An active market is a market in which transactions for the asset take place with a sufficient frequency and volume to provide pricing information on an on-going basis.

The fair value of assets not traded in an active market is determined using valuation techniques. The Fund uses a variety of methods and makes assumptions that are based on market conditions existing at each year end date. Valuation techniques include the use of recent arm's length transactions, reference to other instruments that are substantially the same, discounted cash flow analysis, and option pricing models, making maximum use of market inputs and relying as little as possible on entity-specific inputs.

The carrying amounts of the financial assets and liabilities not measured at fair value in the Statement of Financial Position approximate their fair value.

Specific valuation techniques used to value financial instruments include:

i. Quoted market prices or dealer quotes for similar instruments;

ii. Prices sourced from broker quotes, inter-dealer prices or other reliable pricing services;

iii. The present value of the estimated future cash flows using observable yield curves, prices and other available market information;

iv. The latest available valuation received from fund administrators;

v. Other techniques, such as discounted cash flow analysis.

The fair value hierarchy has the following levels:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets that the Fund can access at the measurement date;
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly, or indirectly;
- Level 3 inputs are based on unobservable market inputs for the asset or liability.

The level in the fair value hierarchy within which the fair value measurement is categorised in its entirety is determined on the basis of the lowest level input that is significant to the fair value measurement in its entirety. For this purpose the significance of an input is assessed against the fair value measurement in its entirety. If a fair value measurement uses observable inputs that require significant adjustment based on unobservable inputs, that measurement is a Level 3 measurement. Assessing the significance of a particular input to the fair value measurement in its entirety requires judgement, considering factors specific to the asset.

The determination of what constitutes “observable” requires significant judgement by the Fund. The Fund considers observable data to be that market data that is readily available, regularly distributed or updated, reliable and verifiable, not proprietary, and provided by independent sources that are actively involved in the relevant market.

The following table analyses within the fair value hierarchy the Fund’s assets measured at fair value at 31 December 2019:

(in kCHF)	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value through profit or loss:				
Cash and Cash Equivalents (Money Market funds)	120,096	-	-	120,096
Equities	725,513	-	62	725,575
Bonds	-	960,250	-	960,250
Investment Funds	358,529		932,592	1,291,121
Sub total	1,204,138	960,250	932,654	3,097,042
Financial assets held for trading:				
Derivatives	5,686	58,157	1,555	65,398
Sub total	5,686	58,157	1,555	65,398
Total assets at fair value through profit or loss	1,209,824	1,018,407	934,209	3,162,440
Liabilities				
Financial liabilities held for trading:				
Derivatives	(714)	(16,339)	(3,241)	(20,294)
Total liablities at fair value through profit or loss	(714)	(16,339)	(3,241)	(20,294)

The following table analyses within the fair value hierarchy the Fund’s assets measured at fair value at 31 December 2018:

(in kCHF)	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value through profit or loss:				
Cash and Cash Equivalents (Money Market funds)	96,767	-	-	96,767
Equities	474,108	-	62	474,170
Bonds	-	948,774	-	948,774
Investment Funds	453,561	-	806,591	1,260,152
Sub total	1,024,436	948,774	806,653	2,779,863
Financial assets held for trading:				
Derivatives	24,530	60,970	2,044	87,544
Sub total	24,530	60,970	2,044	87,544
Total assets at fair value through profit or loss	1,048,966	1,009,744	808,697	2,867,407
Liabilities				
Financial liabilities held for trading:				
Derivatives	(2,671)	(25,480)	(1,021)	(29,172)
Total liablities at fair value through profit or loss	(2,671)	(25,480)	(1,021)	(29,172)

Investments whose values are based on quoted market prices in active markets, and are therefore classified within Level 1, include money market funds, listed equities, exchange-traded derivatives and exchange-traded funds.

Financial instruments that trade in markets that are not considered to be active but are valued based on quoted market prices, dealer quotations or alternative pricing sources supported by observable inputs are classified within Level 2. These include government bonds, corporate bonds, and over the counter derivatives. As Level 2 investments include positions that are not traded in active markets and/or subject to transfer restrictions, valuations may be adjusted to reflect illiquidity and/or non-transferability, which are generally based on available market information.

Investments classified within Level 3 have significant unobservable inputs, as they trade infrequently. Level 3 instruments include unlisted investment funds, over the counter derivatives and unlisted equities. As observable prices are not available for these securities, the Fund has used valuation techniques to derive the fair value.

There were no transfers between levels for the year ended 31 December 2019 nor 31 December 2018.

The following table presents the movement in level 3 instruments for the year ended 31 December 2019 by class of financial instrument:

(in kCHF)	Equities	Derivatives	Investment Funds	Total
Opening balance	62	1,023	806,591	807,676
Purchases	-	-	271,084	271,084
Sales	-	-	(137,076)	(137,076)
Transfers into level 3				-
Unrealised Gains/(Losses) on Financial Assets at Fair Value				-
Through Profit & Loss	-	-	(14,304)	(14,304)
Realised Gains/(Losses) on Financial Assets at Fair Value				
Through Profit & Loss	-	(2,709)	6,297	3,588
Closing balance	62	(1,686)	932,592	930,968

The following table presents the movement in level 3 instruments for the year ended 31 December 2018 by class of financial instrument:

(in kCHF)	Equities	Derivatives	Investment Funds	Total
Opening balance	59	581	746,948	747,588
Purchases	-	-	16,520	16,520
Sales	-	-	(40,399)	(40,399)
Transfers into level 3	-	-	-	-
Unrealised Gains/(Losses) on Financial Assets at Fair Value				-
Through Profit & Loss	3	-	78,127	78,130
Realised Gains/(Losses) on Financial Assets at Fair Value				
Through Profit & Loss	-	442	5,395	5,837
Closing balance	62	1,023	806,591	807,676

4.3. Investments exceeding five percent of net assets available for benefits

There were no investments representing five percent or more of net assets available for benefits as at 31 December 2019 nor as at 31 December 2018.

The Fund was invested in a total of 291,605 kCHF, including one exchange-traded fund and three unlisted funds, as at 31 December 2019, each investment representing five percent or more of Investment Funds. (As at 31 December 2018: 227,946 kCHF in one exchange-traded fund and two unlisted funds).

As at 31 December 2019, there were no bonds representing five per cent or more of Bonds. (As at 31 December 2018: 49,359 kCHF in one government bond)

The Fund had currency forward asset positions hedging US dollars and Euro against Swiss francs and a swap asset position, totalling 47,317 kCHF as at 31 December 2019 each representing five percent or more of the Derivatives assets balance. (As at 31 December 2018: 86,087 kCHF representing currency forward positions hedging US dollars, Euro and Pound Sterling against Swiss francs, swap and option asset positions).

As at 31 December 2019 the Fund had currency forward liability positions hedging Euro, Pound Sterling and New Zealand dollars against Swiss francs and three swap liability positions totalling 18,309 kCHF, each representing five percent or more of the Derivatives liabilities balance. (As at 31 December 2018: 27,002 kCHF representing currency forward positions hedging US dollars and Japanese Yen against Swiss francs and a swap liability position).

5. Cash and Cash Equivalents

For the purposes of the cash flow statement, cash and cash equivalents comprise the following balances with original maturity of 90 days or less:

(in kCHF)	2019	2018
Current accounts	484,445	492,016
Money Market funds	120,096	96,767
Deposit accounts	29,689	29,768
Margin accounts with brokers	12,372	10,833
Total	646,602	629,384

The amounts under the heading “Margin accounts with brokers” concern cash collateral pledged with derivative counterparties of the Fund. The cash is held in segregated accounts with the brokers and is callable by the Fund to the extent that collateral balances are in excess of the net fair value liability amount of the open derivative positions held with each broker.

6. Short-Term Deposits

Short-term deposits are made for varying periods, depending on the immediate cash requirements of the Fund and earn interest at the respective short-term rate. The deposits are made for more than 3 months and hence are classified as short-term deposits.

7. Sundry Debtors

(in kCHF)	2019	2018
Recoverable taxes	4,063	2,636
Investment property debtors	1,588	1,186
Other due amounts	90	56
Total	5,741	3,878

8. Other Receivables

(in kCHF)	2019	2018
Accrued interest	105	26
Dividends receivable	982	590
Outstanding receipts	288	95
Payments in advance	2,679	3,140
Total	4,054	3,851

9. Derivatives

The following table shows the types of derivative contracts held by the Fund as at 31 December:

	2019		2018	
(in kCHF)	Assets	Liabilities	Assets	Liabilities
Forwards:				
Currency Overlay programme	42,639	(4,913)	27,383	(8,275)
Other	3,091	(3,321)	-	-
Credit default swap	27	(53)	796	(476)
Swaps	9,980	(11,293)	32,791	(17,750)
Futures	140	(476)	429	(857)
Options	9,521	(238)	26,145	(1,814)
Total	65,398	(20,294)	87,544	(29,172)

10. Bonds

The fair value of investments in bonds, 960,250 kCHF as at 31 December 2019 (948,774 kCHF as at 31 December 2018) is as follows:

(in kCHF)	2019	2018
Europe, Middle East and Africa	592,899	608,531
North America	228,189	216,177
Asia	95,736	101,057
Emerging Markets	43,426	23,008
Total	960,250	948,774

Source of geographical data: country of risk data provided by Custodian

The exposure of bonds to market and credit risk is described under note 4.1. “Financial Risk Factors”.

11. Equities

The fair value of investments in equities, 725,575 kCHF as at 31 December 2019 (474,170 kCHF as at 31 December 2018) is as follows:

(in kCHF)	2019	2018
Europe, Middle East and Africa	404,585	297,431
North America	305,195	166,837
Asia	11,472	7,463
Emerging Markets	4,323	2,439
Total	725,575	474,170

Source of geographical data: country of risk data provided by Custodian

The increase in equities during the year includes 139,654 kCHF in relation to increases in market valuations and 111,751 kCHF in respect of new positions due to increased allocation to equities.

The exposure of equities to market risk is described under note 4.1. “Financial Risk Factors”.

12. Investment Funds

The fair value of Investment Funds, 1,291,401 kCHF as at 31 December 2019 (1,260,152 kCHF as at 31 December 2018) is as follows:

(in kCHF)	2019	2018
Equity funds	391,080	399,780
Alternative funds	336,638	312,079
Private Equity	258,845	252,909
Fixed Income funds	191,214	171,885
Real Estate funds	65,471	63,663
Private Debt	48,153	59,836
Total	1,291,401	1,260,152

13. Investment Property

The fair value of Investment Property, 712,513 kCHF as at 31 December 2019 (731,843 kCHF as at 31 December 2018) is as follows:

(in kCHF)	2019	2018
As at 1 January	731,843	824,478
Purchases	89,394	-
Sales	(161,841)	(122,344)
Net gain/(loss) for fair value adjustments (price)	64,554	49,903
Net gain/(loss) for fair value adjustments (foreign exchange)	(11,437)	(20,194)
As at 31 December	712,513	731,843

During the year, there were two sales of Investment Property, one in Germany and one in the United Kingdom (one in France and one in the United Kingdom in 2018), and two purchases in France (none in 2018).

14. Sundry Creditors

Sundry creditors include rent guarantee deposits, rents received in advance, amounts due to members leaving the Fund and value added tax payable.

(in kCHF)	2019	2018
Members and Beneficiaries	6,168	6,551
Investment property deposits	2,077	2,876
Taxes payable	310	551
Investment property creditors	4,564	4,409
Deferred Income	442	363
Total	13,561	14,750

15. Other Payables

Other Payables include contributions to be reimbursed to members leaving the Fund and amounts due mainly in respect of management and custody fees.

(in kCHF)	2019	2018
Reimbursements of Contributions	2,234	1,254
Payments Outstanding	3,086	2,959
Total	5,320	4,213

16. Interest Income

(in kCHF)	2019	2018
Cash and Cash Equivalents	1,259	598
Short term deposits	58	108
Bonds	16,532	20,243
Total	17,849	20,949

17. Unrealised Gains/(Losses) on Financial Assets at Fair Value through Profit & Loss

The following table shows the amount of unrealised gains/(losses) on financial assets at fair value through profit and loss and discloses the gains and losses arising as a result of changes in price and changes in foreign exchange currency movements for the money market funds included within Cash and Cash Equivalents, Bonds, Equities, Investment Funds and Derivatives. The Fund hedges the foreign exchange exposure it has to assets denominated in non-Swiss franc currencies.

The unrealised gains/(losses) arising as a result of changes in price and changes in foreign exchange currency movements on derivative products are on a best estimate basis.

			2019			2018
(in kCHF)	Price	Currency	Total	Price	Currency	Total
Cash and Cash Equivalents	(295)	(4,519)	(4,814)	1,242	(3,378)	(2,136)
Bonds	34,433	(22,292)	12,141	(14,050)	(8,075)	(22,125)
Equities	121,303	(9,431)	111,872	(38,936)	(11,132)	(50,068)
Investment Funds	50,316	(24,887)	25,429	27,070	2,545	29,615
Derivatives	(7,516)	(234)	(7,750)	18,856	(96)	18,760
Total	198,241	(61,363)	136,878	(5,818)	(20,136)	(25,954)

18. Realised Gains/(Losses) on Financial Assets at Fair Value through Profit & Loss

The following table shows the amount of realised gains/(losses) on financial assets at fair value through profit and loss and discloses the gains and losses arising as a result of changes in price and changes in foreign exchange currency movements for Bonds, Equities, Investment Funds and Derivatives. The Fund hedges the foreign exchange exposure it has to assets denominated in non-Swiss franc currencies.

(in kCHF)	Price	Currency	2019 Total	Price	Currency	2018 Total
Cash and Cash Equivalents	(117)	(2,450)	(2,567)	-	-	-
Bonds	37,809	(6,185)	31,624	(12,565)	(5,616)	(18,181)
Equities	28,775	(993)	27,782	32,426	(2,038)	30,388
Investment Funds	73,301	357	73,658	3,897	1,740	5,637
Derivatives	(88,851)	188	(88,663)	(31,785)	476	(31,309)
Total	50,917	(9,083)	41,834	(8,027)	(5,438)	(13,465)

The realised gains/(losses) arising as a result of changes in price and changes in foreign exchange currency movements on derivative products are on a best estimate basis.

19. Investment Property Income

The following table shows Investment Property Income arising from both rental income and non-rental income:

(in kCHF)	2019	2018
Rental Income:		
Residential Property	12,353	12,220
Commercial Property	15,679	18,015
Agricultural property	-	103
Non-Rental Income:		
Agricultural property	16	303
Forests	441	587
Changes in fair value	53,117	29,709
Gains/(Losses) on Sales	25,345	17,880
Total	106,951	78,817

Gains of 64,554 kCHF for fair value price adjustments and losses of 11,437 kCHF for fair value adjustments as a result of foreign exchange movements, are included in “Changes in fair value” above. The corresponding amounts in 2018 were a gain of 49,903 kCHF and a loss of 20,194 kCHF respectively.

With regard to its Investment Property the Fund is a lessor of operating leases and as such is required to make the following disclosures in respect of future minimum lease payments.

(in kCHF)	2019	2018
Not later than 1 year	22,812	29,256
Between 1 and 5 years	73,837	90,385
Later than 5 years	15,734	21,313
Total	112,383	140,954

The Fund has leases that are contracted for remaining periods of between one and ten years. Some of the operating leases include break clauses.

20. Foreign Exchange Gains/(Losses)

Foreign Exchange Gains/(Losses) includes gains of 23,302 kCHF (losses of 9,258 kCHF in 2018) relating to trades executed as part of the Currency Overlay programme that is used by the Fund to hedge its foreign exchange rate risk.

(in kCHF)	2019	2018
Currency Overlay programme	23,302	(9,258)
Other exchange rate movements	(11,074)	(11,685)
Total	12,228	(20,943)

21. Investment Management Fees

21.1. Recorded Investment Management Fees

The following table shows Investment Management Fees recognised in the Statement of Financial Performance.

(in kCHF)	2019	2018
Reported Investment Management Fees	20,218	20,222
Calculated Investment Management Fees	1,007	1,440
Total	21,225	21,662

The above Investment Management fees also include performance fees.

21.2. Non-recorded Investment Management Fees

For less than 4% of Total Financial assets (less than 4% in 2019) there was insufficient information available regarding Investment Management Fees. As a result no Investment Management Fees have been disclosed for these assets that are all Private Equity/Debt funds. The total carrying value of these assets as at 31 December 2019 was 170,180 kCHF (164,409 kCHF as at 31 December 2018).

Carried interest payable in the future to the general partners of Private Equity funds has not been disclosed as there was insufficient information available.

22. Custody Fees and Administration of Securities

The amount under the heading Custody Fees and Administration of Securities has decreased in 2019 following the transition to the new custodian in 2018.

23. Investment Property Expenditure

(in kCHF)	2019	2018
Residential Property	4,634	6,509
Commercial Property	4,188	5,002
Agricultural property	-	767
Forests	189	194
Total	9,011	12,472

24. Investment Related Expenditure

Investment Related Expenditure was 2,837 kCHF for the period ending 31 December 2019 (5,406 kCHF in 2018). The reduction in expenditure compared to the previous year was largely due to an amount of 1,000 kCHF paid in the execution of a litigation settlement agreement in 2018 and an amount of 1,921 kCHF paid to the private equity adviser in 2018, mostly related to fees on carried interest.

25. Other Financial Expenses

Other Financial Expenses were 3,695 kCHF for the period ending 31 December 2019 (4,002 kCHF in 2018). During the year the Fund was exposed to negative interest rates in some currencies, notably Swiss Franc and Euro rates.

26. Administration Costs

Administration costs of 5,627 kCHF in the period ending 31 December 2019 (5,663 kCHF for the period ending 31 December 2018) were as follows:

(in kCHF)	2019	2018
Personnel Costs	4,230	4,021
Operating Expenses	1,193	1,381
Supplies	29	45
Audit/Valuation costs relating to Investment Property	175	216
Total	5,627	5,663

27. Membership Activities

This heading shows the contributions of the members of the Fund and the participating Organisations and other amounts received, as well as the various benefits and other amounts paid during the period.

28. Compensations

The Fund is compensated by CERN for the additional cost associated with Administrative Circular No. 22 A (Rev.1) "Award of additional periods of membership in the Pension Fund for long-term shift work". Compensations received for the period ending 31 December 2019 were 1,158 kCHF (1,036 kCHF in 2018) and are included in the total amount of 1,370 kCHF (1,156 kCHF in 2018).

29. Litigations and Claims

As at 31 December 2019, there was one claim against CERN before the ILOAT (International Labour Organization Administrative Tribunal), which stemmed from a claim against the Fund. Nothing is recognised in the Financial Statements, as in the opinion of the Organization and the Fund, the legal position is well substantiated. The complaint relates to the procurement of an entitlement to a surviving spouse pension. One other complaint (filed by a different beneficiary) was settled during 2019.

30. Related-Party Transactions

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial or operational decisions.

Related parties of the Fund during the period were:

I. Professional members appointed by the CERN Council to act as experts in the PFGB and professional members appointed by the PFGB to the IC and ATC. These professional members provide advice on governance, investment and actuarial issues respectively. Fees in 2019 totalled 87 kCHF (93 kCHF in 2018);

II. Key personnel are the Chair of the PFGB, Chair of the IC, Chair of the ATC and the Chief Executive Officer of the Fund. The aggregate remuneration paid to the remaining key personnel includes salaries, allowances and other entitlements paid in accordance with the Staff Rules and Regulations;

III. CERN, the Organization, contributes a significant portion of the Fund's financing. While the Fund is an autonomous operating entity without separate legal identity, for the purposes of IPSAS 20 disclosure requirements, CERN is considered a related party. Although the Fund meets the cost of its operating expenses, CERN provides free of charge some central support services and office accommodation.

During the year the Fund paid the following amounts to CERN:

- Finance and Administrative Processes department: 129 kCHF for the development of a new Benefits Management System (271 kCHF in 2018) and 121 kCHF for the ongoing support and maintenance of the system (0 kCHF in 2018).
- Industry, Procurement and Knowledge Transfer department: 40 kCHF for procurement services (40 kCHF in 2018).
- Internal Audit Service: 71kCHF for internal audit services (0 kCHF in 2018).
- Legal Service: 115 kCHF (92 kCHF in 2018).
- Translation Service: 8 kCHF (4k CHF in 2018).

In 2019 the Fund did not grant any loan or pay any other remuneration (except for the above mentioned amounts) to the key management personnel or to their close family members.

31. Events after the Balance Sheet Date

During the first few months of 2020 the outbreak of the novel coronavirus COVID-19 has created uncertainty and volatility in the financial markets. The World Health Organization did not declare the outbreak to be a public health emergency until January 2020, so this is considered to be a non-adjusting event after the balance sheet date.

VI. Extract of Actuary's Report on the Fund as at 31 December 2019

The Actuary to the Fund has provided technical assessments of the Fund in line with the requirements of IAS26 using two separate sets of assumptions as set out below. The first set of assumptions are those assumptions used to measure the liabilities for inclusion in the Statement of Financial Position (IAS26). The second set reflects assumptions as set out in the report 'Actuary's Report on the Fund as at 31 December 2019' dated March 2020 (Best Estimate).

The technical assessments were based on member and asset data provided by CERN.

1. Actuarial assumptions

Actuarial assumptions	IAS26 31 December 2019	IAS26 31 December 2018	Best Estimate 31 December 2019	Best Estimate 31 December 2018
Financial assumptions	**% p.a.**	**% p.a.**	**% p.a.**	**% p.a.**
Discount rate	0.17	1.18	1.50 (until 2021) 2.50 (2022 – 2026) 4.50 (2027 – 2031) 5.70 (2032 onwards)	1.50 (until 2021) 2.50 (2022 – 2026) 4.50 (2027 – 2031) 5.70 (2032 onwards)
Indexation of pensions linked to inflation	1.20	1.18	0.70 (until 2021) 0.90 (2022 – 2026) 1.00 (2027 – 2031) 1.40 (2032 onwards)	0.70 (until 2021) 0.90 (2022 – 2026) 1.00 (2027 – 2031) 1.40 (2032 onwards)
Inflation and remuneration increase linked to inflation	1.20	1.18		
Remuneration increase linked to career change	1.40 (age related scale)			
Demographic assumptions	**IAS26 31 December 2019**	**IAS26 31 December 2018**	**Best Estimate 31 December 2019**	**Best Estimate 31 December 2018**
Mortality and disability tables	77% ICSLT2013			
Spouses' age gap	Males are assumed to be 3 years older than their female spouses and vice versa			
Exit assumptions	Under age 40: 2.3% p.a.; Ages 40 and over: 0.8% p.a.			
Method of evaluating benefits on exit	18% Transfer Value / 82% present value of accrued deferred pension (on average)			

Some narrative has been provided below on the key actuarial assumptions to the IAS 26 assumptions.

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Discount rate

IAS26 measures pension fund liabilities by reference to a discount rate which reflects the time value of money of an appropriate duration and currency. An entity should make a judgment whether the discount rate that reflects the time value of money is best approximated by reference to market yields at the reporting date on government bonds, high quality corporate bonds, or by another financial instrument. In some jurisdictions, market yields at the reporting date on government bonds will provide the best approximation of the time value of money. However, there may be jurisdictions in which this is not the case, for example, jurisdictions where there is no deep market in government bonds, or in which market yields at the reporting date on government bonds do not reflect the time value of money. The currency and term of the financial instrument selected to reflect the time value of money should be consistent with the currency and estimated term of the post-employment benefit obligations.

For the 31 December 2019 disclosures, the discount rate is the AON Hewitt Swiss AA corporate bond yield curve. This results in a discount rate assumption of 0.17% p.a. when expressed as a single equivalent rate. The full discount rate assumption has been used for the purposes of the calculation.

In previous years' disclosures, CERN adopted the principle that the discount rate should never fall below the best estimate of future inflation and the discount rate was therefore set equal to the inflation rate assumption since 2015.

CERN adopted this technical change to the discount rate approach at 31 December 2019 in order to meet the requirements of their external auditor.

Inflation-related assumptions

IAS26 does not state any method for determining the rate of inflation or of pension indexation to be assumed. Consequently the rate of inflation, on which indexation of benefits provided by the Fund and also remuneration increases are dependant, has been set by the principles of best estimate and also of mutual compatibility with other assumptions. The assumption adopted is a long-term assumption appropriate over the entire remaining lifetime of existing members and beneficiaries of the Fund in relation to their accrued benefits as at 31 December 2019.

For the 31 December 2019 disclosure CERN have set their assumption to be consistent with the current best estimate of future inflation suggested by the Fund's risk consultant, Ortec Finance, for the 1 January 2019 Periodic Actuarial Review. This results in an inflation assumption of 1.20% p.a. as at 31 December 2019 when expressed as a 30-year spot rate (1.18% p.a. as at 31 December 2018). The underlying best estimate assumption has the following term structure: 0.7% p.a. until 2021, 0.90% p.a. from 2022 to 2026, 1.0% p.a. from 2027 to 2031 and 1.4% p.a. from 2032. This assumption is consistent with that used at 31 December 2018.

Remuneration increase linked to career change

This assumption is in respect of increases to remuneration that are in excess of inflation and are due to career progression, promotional increase or some other mechanism.

The 31 December 2019 assumption has been set on average as 1.40% p.a. The assumption is consistent with the accounting assumption used for 31 December 2018 disclosures as well as the best estimate proposed for the 1 January 2019 Periodic Actuarial Review. The average assumption has been calculated as a liability weighted average. The full assumption is used for the purposes of the calculation and is a rate of 0% p.a. for Fellows and a linear scale from 2.0% p.a. to 1.2% p.a. between ages 18 to 66 for non-Fellows.

Mortality assumption

The 31 December 2019 mortality assumption is the same as the assumption used for the 31 December 2018 disclosures and is in line with the best estimate assumption adopted for the 1 January 2019 Periodic Actuarial Review. The ICSLT2013 table is based on mortality data from European-based International Civil Servants which allows for future improvements. Based on the Fund's past experience and using individual pension amount as a weighting factor to derive the best-fit scaling factor, an adjustment of 77% is applied to the probabilities contained within the ICSLT2013 tables.

Other demographic assumptions

The method of evaluating benefits for active members who leave service has been kept the same as that used as at 31 December 2018 and in line with the best estimate assumptions adopted for the 1 January 2019 Periodic Actuarial Review. It reflects a best estimate analysis of the proportion of members who fully extinguish their liability by payment of a transfer value compared to those who take a deferred pension when they depart the Fund with at least five years' service. The age-related scale adopted results in an average assumption that allows for 18% of the corresponding transfer value and 82% of the present value of the accrued deferred pension. In accordance with the Fund rules we have allowed for 100% of the transfer value for a member who is assumed to leave the Fund with less than five years' service.

The assumptions for proportion married, spouse's age gap, withdrawal rates, retirement age and contract transitions are consistent with the corresponding assumptions in the 31 December 2018 disclosures and in line with the best estimate assumptions adopted for the 1 January 2019 Periodic Actuarial Review.

2. Technical balance sheet under IAS26

Balance sheet	31 December 2019 IAS26 000's CHF	31 December 2019 with 2018 IAS26 assumptions 000's CHF	31 December 2018 IAS26 000's CHF
Total assets of the Fund	4,429,448	4,429,448	4,203,334
Liabilities in respect of members	*(6,580,510)*	*(4,910,416)*	*(4,931,476)*
Liabilities in respect of beneficiaries	*(5,759,704)*	*(5,111,442)*	*(5,140,580)*
Total Liabilities	(12,340,214)	(10,021,858)	(10,072,056)
Surplus/(Deficit) in the Fund	**(7,910,766)**	**(5,592,410)**	**(5,868,722)**
Funding Level under IAS26 (%)	**35.9**	**44.2**	**41.7**

The funding level has reduced from 41.7% as at 31 December 2018 to 35.9% as at 31 December 2019. However, this reduction is due to a technical change to the discount rate which was adopted by CERN at 31 December 2019 in order to meet the requirements of their external auditor. If this technical change to the discount rate had not been made the funding level would have increased from 41.7% as at 31 December 2018 to 44.2% as at 31 December 2019.

The table below summarises the impact on the accounting liability at 31 December 2019 of changing the discount rate assumption from the assumption used at 31 December 2018 (with all other assumptions remaining the same):

Assumption	31 December 2019	31 December 2018	(Increase)/decrease to the liability at 31 December 2019 000's CHF
Discount rate	0.17% p.a.	1.18% p.a.	(2,318,356)

The table below shows the impact on the IAS26 liability results at 31 December 2019 (with a starting position of 12,340,214 k CHF) to changes in the discount rate, inflation and remuneration increase assumptions. Please note that for the purpose of these sensitivities, all assumptions are changed in isolation while keeping the other assumptions constant:

Assumption changed*	Gain/(loss) on liabilities resulting from a 0.5% increase in the assumption 000's CHF	Gain/(loss) on liabilities resulting from a 0.5% decrease in the assumption 000's CHF
Discount rate	1,248,659	(1,473,731)
Inflation (including impact on indexation of pensions and remuneration)	(1,344,004)	1,086,966
Indexation of remuneration	(394,972)	364,501

**Please note that the changes in the liabilities resulting from the increase/decrease to the individual assumptions shown in the table above are slightly asymmetric around the base value of the liabilities of 12,340,214 k CHF. The asymmetry occurs as a result of compounding the inflation related assumptions and the discount rate assumption as part of the present value liability calculation. In this instance, the asymmetry is more significant than might be expected owing to a fairly low discount rate (in nominal terms).*

3. Technical Balance Sheet using Best Estimate assumptions

Balance sheet	31 December 2019 000's CHF	31 December 2018 000's CHF
Total assets of the Fund	4,429,448	4,203,334
Liabilities in respect of members	(2,173,792)	*(2,174,499)*
Liabilities in respect of beneficiaries	(3,926,318)	*(4,023,172)*
Total Liabilities	(6,100,110)	*(6,197,671)*
Surplus/(Deficit) in the Fund	**(1,670,662)**	***(1,994,337)***
Funding Level using Best Estimate assumptions (%)	**72.6**	**67.8**

The funding level has increased from 67.8% as at 31 December 2018 to 72.6% as at 31 December 2019. This improvement is mainly due to the return on assets over the year being higher than assumed, and also due to the contributions paid. The Best Estimate assumptions at 31 December 2019 are consistent with those used at 31 December 2018.

The reason the Best Estimate funding level has improved, whereas the IAS26 funding level has reduced, is that the technical change to the IAS26 discount rate at 31 December 2019 (adopted by CERN in order to meet the requirements of their external auditor) does not apply to the Best Estimate discount rate.

4. Sensitivity of the results to changes in the Best Estimate assumptions

The table below shows the impact on the Best Estimate liability results at 31 December 2019 (with a starting position of 6,100,110 kCHF) to changes in the discount rate, inflation and remuneration increase assumptions.

Assumption changed*	Gain/(loss) on liabilities resulting from a 0.5% increase in the assumption 000's CHF	Gain/(loss) on liabilities resulting from a 0.5% decrease in the assumption 000's CHF
Discount rate	397,000	(427,000)
Inflation (including impact on indexation of pensions and remuneration and the discount rate)	43,000	(76,000)
Indexation of remuneration	(195,000)	180,000

**Please note that the changes in the liabilities resulting from the increase/decrease to the individual assumptions shown in the table above are slightly asymmetric around the base value of the liabilities of 6,100,110 k CHF. The asymmetry occurs as a result of compounding the inflation related assumptions and the discount rate assumption as part of the present value liability calculation.*

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