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PENSION FUND

Annual Report and Financial Statements for the year ended 31 December 2017

Audited by representatives of the
SUPREME AUDIT OFFICE OF POLAND
NAJWYŻSZA IZBA KONTROLI (NIK)

Action to be taken		Voting Procedure
For recommendation	**FINANCE COMMITTEE** 364th Meeting 12-13 June 2018	Simple majority of Member States represented and voting and 51% of the contributions of all Member States
For approval	**COUNCIL** 189th Session 14-15 June 2018	Simple majority of Member States represented and voting

The Finance Committee and the Council are invited to take note of the Annual Report of the CERN Pension Fund for 2017.

The Finance Committee is invited to recommend to the Council, and the Council is invited to approve the Financial Statements of the CERN Pension Fund for the Financial Year 2017 and to grant discharge to the Pension Fund Governing Board.

PENSION FUND

Annual Report

and Financial Statements

for the year ended 31 December 2017

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 2017. 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.

It was a positive year in financial markets and this was reflected in the Fund's investment return, which is reported on page 38.

Following a competitive tender of the Fund's global custodian, the PFGB appointed Northern Trust as the Fund's custodian. Northern Trust is a key player in the custody market and we very much look forward to benefiting from the extensive experience that Northern Trust has in supporting inter-governmental and global pension fund clients. The transition to the new custodian will take place during 2018 and ahead of this, I would like to extend my gratitude to State Street for their work and dedication serving as the Fund's custodian for the past twenty four years.

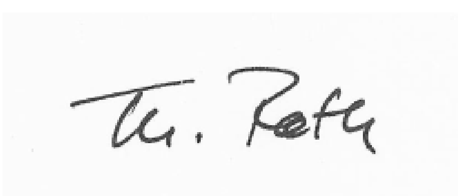
PricewaterhouseCoopers, Geneva was appointed as the Fund's Specialised Internal Auditor with effect from 1 May 2017 and Dr Jean-Pierre Lalain was appointed as the Fund's Consulting Medical Practitioner with effect from 1 December 2017, following the completion of the respective tenders. I would like to take this opportunity to thank the outgoing Specialised Internal Auditor, Mazars, Geneva, for the work that they performed over the last four years and Dr Zrounba for his contribution over a number of years as the Fund's Consulting Medical Practitioner.

I am pleased to report that, during its June meeting, CERN Council re-appointed Matthew Eyton-Jones as Chief Executive Officer of the Fund for a term of office of three years as of 1 July 2018.

The PFGB appointed Jacob Bjorheim as one of the external professional experts to the Pension Fund Investment Committee (PFIC) with effect from 1 January 2018, replacing Pierre Sauvagnat who served on the PFIC for a six-year term.

On behalf of the PFGB, I would also like to extend my warm appreciation to Lord Richard Balfe who left the Actuarial and Technical Committee (ATC) during the year. He previously served as a member of the PFGB for a period of six years and as member of the ATC for six years.

In closing, I would like to warmly thank the Pension Fund Management Unit's staff for their contribution this year, as well as all the members of the Governing Board and committees for their continued service and dedication.



Thomas Roth,
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 2017.

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 (2017)

Governing Board

Members	Appointed by:
Thomas Roth, Chair Véronique Halloin	CERN Council
Marcus Klug	ESO Council
Martin Steinacher	Ex-officio (in capacity as member of CERN Management responsible for Administration)
Alessandro Raimondo, Vice-Chair Peter Hristov	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	
Alessandro Raimondo, Chair	
Jayne Atkinson	
Pierre Sauvagnat (until 31.12.2017) Jacob Bjorheim (as of 01.01.2018)	
Martin Steinacher	
Matthew Eyton-Jones	Ex-officio (in capacity as Chief Executive Officer)

Actuarial and Technical Committee

Members	
Adrian Cunningham, Chair	
Michel Baboulaz	
Richard Balfe (until 14.03.2017)	
Marcus Klug	
Matthew Eyton-Jones	Ex-officio (in capacity as Chief Executive Officer)

Chief Executive Officer

Matthew Eyton-Jones

Auditors

	Appointed by:
CERN External Auditors Najwyższa Izba Kontroli (NIK), *Warsaw, Poland*	CERN Council
Auditors specialised in pension fund matters Mazars SA, *Geneva, Switzerland (until 30.04.2017)* PricewaterhouseCopers SA *Geneva, Switzerland (as of 01.05.2017)*	Pension Fund Governing Board

Advisers

Fund Actuary

Conduent HR Services (Buck Consultants Limited), *London, UK*

Custodian

State Street Bank GmbH, *Munich, Germany*

Risk Consultant

ORTEC Finance AG, *Pfäffikon, Switzerland*

CERN Consulting Medical Practitioner

Fadel Zrounba, *Ferney-Voltaire, France* (until 30.11.2017)

Jean-Pierre Lalain, *Geneva, Switzerland* (as of 01.12.2017)

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

2. Overview of the year 2017

Pension Fund Governing Board

The PFGB met six times during the year (2016: six times). There was a 97% attendance record by the members of the PFGB.

The PFGB agendas included recurrent items such as the approval of the submission of the Fund's Annual Report and Financial Statements to CERN Council, the approval of the Fund's risk measure, the review of the Fund's actuarial "dashboard" presented by the Fund's Actuary, the review and approval of the audit plan of the specialised internal auditor, as well as the approval of the Fund's budget for administrative expenses and an update on the Fund's Internal Control System.

The PFGB approved a revised version of the Statement of Investment Principles and Investment Policy, as well as approving the Fund's new Internal Control System Policy.

During the year, the competitive tender for the Fund's global custodian service was successfully completed and the PFGB appointed Northern Trust as the Fund's custodian. The planning for the transition to the new custodian started in early 2018.

Other appointments by the PFGB during 2017 included the selection of PricewaterhouseCoopers, Geneva as the Fund's Specialised Internal Auditor and Dr Jean-Pierre Lalain as the Fund's Consulting Medical Practitioner, following the completion of the respective tender processes.

During its June meeting, the PFGB agreed to recommend that CERN Council re-appoint Matthew Eyton-Jones as Chief Executive Officer of the Fund for a second period of three years from 1 July 2018.

The PFGB also appointed Jacob Bjorheim as a new external professional expert to the PFIC, following a selection process.

Pension Fund Investment Committee

The PFIC met five times during the year (2016: five times) including a joint meeting with the PFGB.

The PFIC received regular reports from the Pension Fund Management Unit (PFMU) on the performance of individual asset classes, examining and reviewing the actions by the PFMU aimed at optimizing the performance of the Fund in line with the risk limit set by the PFGB.

The Statement of Investment Principles and Investment Policy was reviewed by the PFIC who proposed an updated version to the PFGB for approval.

During the year the PFIC reviewed some of the existing external advisory services such as the due diligence service and proxy voting.

In November the PFIC reviewed the assumptions and modelling techniques used by the Fund's risk consultant to measure the Fund's risk and expected returns. At the same meeting, the PFIC approved the Fund's Strategic Asset Allocation for 2018.

The PFIC also received regular reporting from the PFMU on the progress of the custodian tender and proposed the appointment of the new custodian to the PFGB.

Actuarial and Technical Committee

The Actuarial and Technical Committee met three times during the year (2016: four times).

The ATC was delegated responsibility by the PFGB for the selection and oversight of the tender process for the specialised internal auditor. The ATC met in early 2017 to evaluate the bids, including receiving presentations from each of the bidders. Following this evaluation, which was conducted in accordance with the CERN Procurement Rules, the ATC made its recommendation to the PFGB.

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. The ATC also reviewed the annual report from the Fund's Medical Practitioner and a report from the PFMU on the annual life certificate exercise.

3. Members and beneficiaries

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

			2017			2016
	CERN	ESO	Total	CERN	ESO	Total
Members (pre 01.01.2012)	1,861	332	2,193	1,915	341	2,256
Members (post 01.01.2012)	1,579	144	1,723	1,395	116	1,511
Total Members	3,440	476	3,916	3,310	457	3,767
Deferred retirement pensions	173	51	224	152	47	199
Retirement pensions	2,460	95	2,555	2,496	92	2,588
Surviving spouse pensions	757	17	774	732	11	743
Orphan pensions	40	3	43	41	4	45
Disability and ex-gratia	29	6	35	30	5	35
Total Beneficiaries	3,459	172	3,631	3,451	159	3,610

The number of members as at 31 December 2017 was 3,916 (3,767 as at 31 December 2016), representing an increase of 4% compared to 31 December 2016.

The number of beneficiaries as at 31 December 2017, excluding participants in the Progressive Retirement Programme, was 3,631 (3,610 as at 31 December 2016), representing an increase of 0.6% compared to 31 December 2016.

There were 381 members who left the two Organisations (CERN and ESO) during the year 2017 (301 in 2016), 40 of which were retirements (50 in 2016):

				2017				2016
	Men	Women	Total	%	Men	Women	Total	%
Retirement	33	7	40	10%	44	6	50	17%
Deferred Pension	14	5	19	5%	3	3	6	2%
Disability	1	-	1	0%	4	2	6	2%
Transfer Value	245	73	318	84%	188	47	235	78%
Deaths	2	1	3	1%	3	1	4	1%
Total Departures	295	86	381	100%	242	59	301	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 salary advancement 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	Salary 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 2017 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 2016 – 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 2017 were the "Best Estimate" assumptions. These assumptions are those that were used in the Periodic Actuarial Review as at 1 January 2016.

Actuarial Assumptions	Accounting Measure under IAS 26 PBO (Closed Fund) 31 December 2017	Updated Funding Measure Best Estimate PBO (Closed Fund) 31 December 2017	Periodic Actuarial Review Best Estimate PBO (Open Fund) 1st January 2016
Discount Rate	1.38%*	4.0%: 2018-2019 4.5%: 2020-2024 5.0%: 2025 onwards	4.0%: 2016-2019 4.5%: 2020-2024 5.0%: 2025 onwards
Future Salary increase	1.38%*	1.0%: 2018-2024 1.5%: 2025 onwards	1.0%: 2016-2024 1.5%: 2025 onwards
Future Pension increase	1.38%*	1.0%: 2018-2024 1.5%: 2025 onwards	1.0%: 2016-2024 1.5%: 2025 onwards
Salary Advancement	1.50%	Fellows: 0.0% Non fellows: 1.4% to 0.6%. Linear reduction between age 18 to 64	Fellows: 0.0% Non fellows: 1.4% to 0.6%. Linear reduction between age 18 to 64
Life Expectancy	83% VZ 2010 GEN**	83% VZ 2010 GEN**	83% VZ 2010 GEN**

Table 2

**The underlying best estimate assumption has the following term structure: 1% p.a. until 2024, 1.50% p.a. from 2025 and is unchanged from 31 December 2016. The single equivalent spot rate describes this underlying term structure.*

*** Following analysis of the mortality experience of the Fund over the years 2003 to 2015, CERN's best estimate for the Life Expectancy assumption is 83% of the mortality rates contained within the pension VZ2010 base tables. The pension VZ2010 base tables are based on statistics from over 21 public pension funds. The tables include an exponential projection model for future mortality improvements and also use the official demographic projection of the Swiss Federal Office for Social Insurance.*

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 2017"

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 2017. 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 represents the long-term Swiss Confederation Bonds interest rate, with a floor of the expected future long-term inflation rate. 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 2017, if invested with minimal investment risk or in assets providing returns in line with inflation, 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 2016

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 the CERN Council of the financial situation of the Fund. The last Periodic Actuarial Review was carried out as at 1 January 2016.

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. As is the case with the updated funding measure, the Fund's Actuary uses best estimate actuarial assumptions. 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.

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 2017 kCHF	Funding Position Updated Funding Measure As at 31 December 2017 kCHF	Funding Position Periodic Actuarial Review As at 1 January 2016 kCHF
Net assets of the Fund	4,258,645	4,258,645	4,092,809
Acturial Liabilities	10,259,256	5,608,816	5,604,318
Surplus/(Deficit) in the Fund	(6,000,611)	(1,350,171)	(1,511,509)
Funding Ratio at date of measure	41.5%	75.9%	73.0%
Funding Ratio at 1 January 2041	N/A	N/A	113.6%

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 2017, global economic growth became stronger and more synchronised but did not translate into higher inflation. Some central banks tightened their monetary policy as they expected price pressure to pick up eventually. Nevertheless, the financial conditions became more supportive. This, combined with a stronger international economy and the expectation of a fiscal stimulus package in the US, made investors more optimistic about the prospects for corporate earnings. Political and market risks remained high, and some indicators of investor complacency rose to new highs.

Economic indicators in developed and emerging economies were relatively robust throughout the year. Business confidence indicators rose to multi-year highs in most geographical regions, and production and GDP data also picked up. For example, GDP in the Eurozone grew by 2.5%, the highest annual rate in a decade. Emerging markets also saw an improvement, with Chinese GDP growth rising to 6.9% from 6.7% in 2016, the first yearly acceleration since 2010. These developments were accompanied by tighter labour market conditions and lower unemployment rates in most economies.

Despite the improvement in growth and lower unemployment rates, consumer price inflation was relatively subdued. In the US, core inflation slowed from 2.2% to 1.8% at the end of the year, while in the Eurozone it remained low at 1.1%.

With steady global growth and the potential for prices to rise faster going forward, some major central banks tightened their monetary policy. In the US, the Federal Reserve raised interest rates by 75 bps to 1.5% and started to reduce its balance sheet. In the Eurozone, the European Central Bank announced that it would reduce its asset purchases in January 2018, while in the UK the Bank of England raised interest rates for the first time since 2007.

However, financial conditions continued to loosen despite the reduction in monetary stimulus. Long-term government interest rates remained relatively stable, corporate credit spreads tightened, equity market valuations rose and the US dollar depreciated.

In the US, optimism grew that the government would agree on an important fiscal stimulus package in the near term. This tax reform, which was ultimately signed into law at the end of the year, is expected to provide a significant boost in corporate earnings in the US and even abroad.

Against this positive growth and financial backdrop, the level of risk nonetheless remained high. Although political risk did recede somewhat as extremist political parties failed to win elections in major European countries, political uncertainty remained an important theme, with growing conjecture over the future relationship between the United Kingdom and the European Union, the risk of increased protectionism, turbulence in Spain and the potential for military escalation in the Korean peninsula. Market risk also appeared to have risen, with several indicators pointing to rising investor complacency. For example, the levels of implied volatility in various markets were at multi-year lows. Other indicators of optimism, such as US consumer confidence expectations for further positive equity returns, were at record highs.

Risk Management and Asset Allocation

The Fund's risk management and asset allocation policy is set out in the Statement of Investment Principles and Investment Policy (SIP), which is approved by the PFGB. It is based on setting an annual risk limit and an annual Strategic Asset Allocation (SAA), and on managing the asset allocation 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 2017, this objective corresponds to a return of 3% above Geneva inflation. The PFGB set the same risk limit for 2017 as for 2016, namely a 5% CVaR limit of -8%.

The SAA for 2017, defined by the PMC in collaboration with the risk consultant (Ortec Finance) and endorsed by the PFIC, is shown in Table 1. Notably, the 2017 SAA comprises an equity allocation that is 10 percentage points lower than that of the 2016 SAA, a fixed income allocation that is 6.5 percentage points higher, and an allocation to gold of 4%, which was introduced for diversification and risk reduction purposes. The equity allocation was reduced to bring the SAA into line with the risk limit. The increase in the tail risk contributed by equities, as shown by the risk consultant's models, was driven by three elements: a higher market volatility outlook, deterioration of the business cycle and potential interest rate normalisation. More specifically, over the six months preceding the 2017 SAA exercise, market volatility had alternated between periods of high and low levels. This behaviour is typically a signal of subsequent higher volatility and tail risk. The probability of deterioration of the business cycle also increased, due to cycle dynamics themselves and to expectations that a normalisation of interest rates was on the way. The three elements combined had a substantial impact on the equity allocation's contribution to tail risk.

Asset	CAA as at 31-12-2017	SAA 2017	SAA 2016
Fixed Income	29.9%	36.5%	30.0%
Equities	15.6%	15.0%	25.0%
Real Estate	19.1%	20.0%	20.0%
Infrastructure	1.2%	0.0%	0.0%
Timber/Farmland	1.5%	3.5%	5.0%
Private Equity	6.6%	5.0%	5.0%
Hedge Funds	9.0%	8.0%	10.0%
Commodities/Gold	3.2%	4.0%	0.0%
Cash	5.9%	8.0%	5.0%

Table 1: CAA as at 31-12-2017, SAA 2017 and SAA 2016.

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

The 2017 SAA approved in November 2016 was above the risk limit from June to October 2017, ranging between 8.1% 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. This drift towards higher risk peaked in August 2017. The PMC, in collaboration with the risk consultant, therefore modulated the Fund's allocation away from the SAA so as to keep it compliant with the risk limit.

Throughout the year the Fund's allocation to fixed income was kept at approximately 30%, 6.5 percentage points below the allocation of the SAA. In addition, the construction of the allocation was more prudent than that of the SAA. Specifically, it had a shorter duration, a lower corporate bond allocation and no high beta within the emerging market allocation. As equities are an important driver of return for the Fund and in order to harvest the alpha delivered by the equity managers, the gross equity exposure was kept at approximately 20% throughout the year, 5 percentage points higher than that of the SAA, while the net equity exposure was kept close to the 15% of the SAA by making use of derivative overlays. The allocations to other asset classes remained in line with the SAA.

Throughout the year, the Fund's risk, as estimated by Ortec Finance using the disequilibrium scenarios, remained within the one-year 5% Conditional Value-at-Risk (CVaR) limit of -8%. It is recalled that the use of disequilibrium scenarios, which are short-term scenarios is necessary because the risk limit of the Fund is expressed in terms of a 1-year time horizon. The disequilibrium scenarios are those that account for current policies of central banks, which tend to keep the risk level from rising to long term expectation.

A new version of the Fund's risk framework was drawn up by the PMC in collaboration with the Ortec Finance and was approved by the PFGB in November. This new risk framework, which now includes measures of price risk in addition to the Conditional Value-at-Risk measure, is aimed at fostering the coherence of risk management actions during market dislocations of various kinds. In order to ensure its systematic deployment the PFMU developed new IT and quantitative infrastructures.

In addition, the PFMU continued to develop other infrastructures, including its portfolio diagnostics tools, and fostered the development of macroeconomic and market diagnostics tools. The team also started to develop an application that will integrate the Risk and Asset Allocation tools into a single piece of software as well as providing the team with strategy back-testing and monitoring capabilities.

Portfolio Performance in 2017

In 2017 the Fund returned 6.93% net of external management fees, as reported by the custodian as at 31 December 2017. This performance of the Fund for 2017 is calculated using time-weighted rate of return to eliminate the impact of external cash flows, their timing included, on return calculations. In addition, it neither includes the Private Equity performance for the fourth quarter, which is reported with one-quarter time lag, nor the increase in capital value of the Real Estate allocation between October and December 2017. It includes however the increase of Real Estate capital value between October and December 2016 as well as the private equity performance of the fourth quarter 2016.

Figure 1 shows the Fund's cumulative returns compared to the return objective since December 2011, as reported by the custodian. The cumulated returns of the Fund since 31 December 2011 exceeded the objective by 14.73 percentage points as at 31 December 2017.

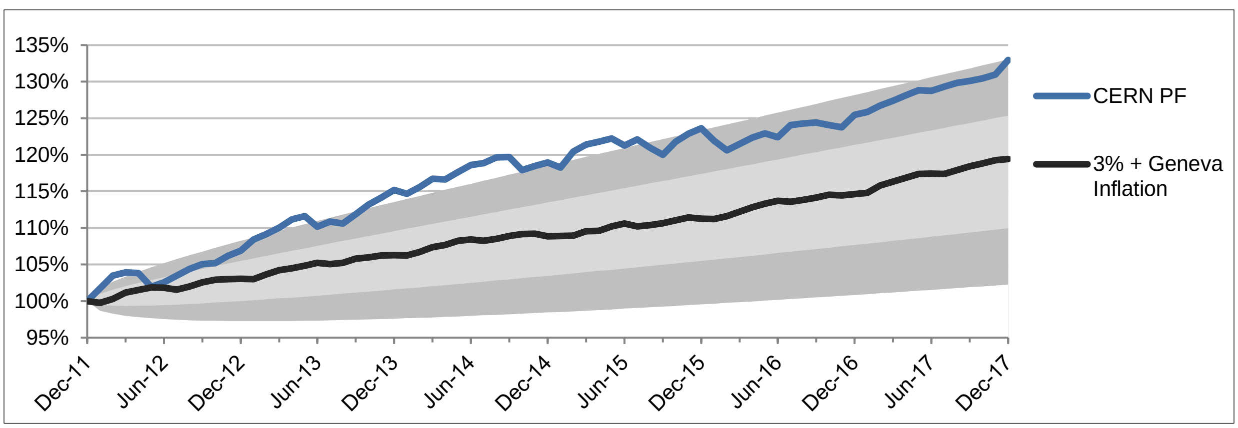


Figure 1: Cumulative Returns vs. Objective

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

Throughout the year the Fund's allocation to fixed income was kept at approximately 30%, 6.5 percentage points below the allocation of the SAA. This tactical underweight anticipated the strong momentum in bond sell-off that materialised in the second half of the year. In addition, the high cost of currency risk hedging limited the spectrum of available opportunities namely in short dated bonds which would have yielded less than cash.

Fixed Income excluding Private Debt

In 2016 the portfolio duration was kept within a low range of 3 to 5 years (including derivative hedges), which allowed the Fund to limit its losses when the sell-off occurred at the end of the year, both in EUR and USD. From the start of 2017, the portfolio was repositioned for a continued increase in rates, with end-year targets of 0.65% for 10-year German bunds and 2.85% for 10-year US treasuries. The duration was increased smoothly in line with the trend in rates. The volatility of the portfolio was actively managed with derivative instruments. In terms of maturity the portfolio exposure to durations below 10 years was kept at 90%. By the end of the year this proportion was increased to 94% as a result of profit-taking on a trade in anticipation of the flattening of the yield curve.

The structure of the portfolio evolved throughout the year: the allocation to government bonds (including emerging sovereigns) was increased from about 40% to 50% of the portfolio, while corporate debt was cut from about 55% to less than 50%.

The gradual reduction of the allocation to corporate bonds was driven by profit taking. The abundance of liquidity and the hunt for yield drove the spread to a very compressed level, resulting in an unfavourable risk return profile for certain segments of the market. The reduction did not affect the granularity of the portfolio, with more than 120 issuers kept to mitigate idiosyncratic risks. The strategy of active trading in insurance company subordinated debt and subordinated corporate bonds was pursued for the second year running. The two allocations of 50 MCHF each returned more than 6% and 9%, respectively, in Swiss franc terms.

The government bond allocation was tilted to inflation-linked bonds, mainly in the US, with the exposure increasing from below 5% to more than 10% of the portfolio. This increase was achieved by implementing a thematic inflation trade, motivated by the fact that the market was not discounting any inflation at the end of 2016 while growth was picking up. The bulk of the government bond allocation focussed on peripheral countries, with an emphasis on Portugal and on agencies (EFSF, ESM and EIB). This geographical positioning aimed at taking advantage of the growth and recovery potential in Portugal, Spain and Italy. Portuguese treasuries attained investment grade status just after the summer.

Similarly, because growth was picking up globally, the emerging market exposure was increased from 10% to 15% of the allocation, with emphasis on the low beta part of the segment, i.e. Gulf countries and eastern sovereigns. Preference was given to the least volatile instruments issued by states with strong macroeconomic and political fundamentals.

The portfolio was almost entirely invested throughout the year, with cash representing an average of only 2% to 4%.

Private Debt

As of December 2017, the Fund was committed to eight private debt vehicles. The European fund allocation comprises one 40 MEUR allocation focused on syndicate loans and one 9 MEUR allocation relating to a short-term bridge loans. The 40 MEUR investment was fully deployed in defensive European loans. The 9 MEUR allocation is dedicated to bridge loan investments for renewable energy companies, mainly in France, alongside recognised investors. Half of the 9 MEUR has been called to date.

The US fund allocation comprises five funds representing a total commitment of 42 MUSD. Most of these US middle-market funds invest in senior secured loans of companies with an enterprise value of between 10 and 75 MUSD. Three-quarters of the capital committed has been deployed and the yields have been between 9% and 10% so far.

The best performer was the CLO (collateralised loan obligation) mezzanine tranche, to which the Fund committed 55 MEUR. The investment returned more than 10% in 2017.

Equities

For the equity markets the year was punctuated by two major political events: firstly, the rather disorganised beginning of President Trump's US Administration in January (including uncertainties surrounding trade and immigration policy, tensions with North Korea and the continual turnover in the White House staff) and secondly, the French presidential election in May. The US equity markets were nevertheless buoyed by the pro-business Trump agenda and markets in Europe performed well early on, in anticipation of a "safe" outcome of the French elections. Strong economic growth in Europe and Japan and a continuation of easy monetary policy was supportive of both those markets. Emmanuel Macron's victory and pro-euro centrist agenda had a positive impact on stability in Europe and European stock performance. Japan remained committed to its very accommodative negative interest rate policy, which, coupled with the promise of economic reforms (the "Abenomics" policy), helped to drive Japanese equity markets higher. The Japanese economy continued to improve and has now seen seven consecutive quarters of growth, and unemployment is at its lowest level for over two decades. Whilst European markets suffered in the immediate aftermath of the French elections and from the resulting strengthening of the euro, the US equity market forged higher, driven by strong contributions from secular growth companies, particularly in the technology and healthcare sectors, which together form almost 40% of the US S&P 500 index. 2017 was also the first year since 1995 that the S&P 500 index did not experience a drawdown of 3% or more and the VIX index (a measure of S&P 500 implied volatility) experienced record low levels, averaging 11.1 during the year and reaching a low of 8.54. Emerging markets continued the recovery which had begun in the early part of 2016, benefitting strongly from both synchronised global growth and secular growth themes as well as from the obvious cyclical advantages of a rebound in global trade and increased stability in the US economy. Chinese stock indices and therefore the wider EM indices were helped by the technology component of the index as Asia's 'BAT' stocks (Baidu, Alibaba, Tencent), a US FAANG equivalent, performed extremely well.

The Pension Fund's equity allocation is focussed around three principle developed markets, consisting of Europe, US and Japan. While the Fund has historically been biased towards European equities, this bias has been reduced over recent years to take advantage of attractive investment opportunities outside Europe. The Fund's equity investments are a combination of passive and equity portfolios, and external and internal managers. In Europe, there is a core portfolio that is managed internally, but there are also a number of external mandates, including a defensive, European value manager and several European small cap funds, as well as a passive European small cap ETF. The US large cap allocation has historically been made up of passive ETFs but the PMC has also been successful in managing the sector weights actively via sector ETFs according to the PMC's views. The remaining part of the US allocation is a mandate with a small cap growth manager that has delivered consistent long-term alpha since inception, and a small allocation to an internal US quant fund.

At the beginning of the year the allocation to equities, after futures hedges and including cash held within the portfolios, was 16.0% (including 3.8% US futures hedges and 6.7% European futures hedges). This represented a slight increase compared to the 2017 SAA of 15%, largely reflecting the PFMU's more positive view of the equity asset class whilst remaining within the prescribed risk levels. Within this allocation, 8.9% was allocated to European equities, 4.5% to US equities, 2.5% to Japan and 0% to Emerging Markets. At the very end of the year, the allocation moved down towards the level of SAA to reach approximately 15.6% including beta-adjusted futures hedges and tactical tail-hedge option structures. The geographical breakdown had also shifted, partly by drift and partly by active allocation changes consisting of 6.6% to Europe, 6.2% to the US, 2.6% to Japan and 0.2% to Emerging Markets, excluding the new Infrastructure equity portfolio and cash held within portfolios. This is comparable with the SAA 2018 equity allocation.

The two European large cap portfolios achieved considerable success during the year and complemented each other well.

The internal portfolio posted a 25.7% performance versus the MSCI Europe ETF of 20.0%. Performance was particularly helped by overweights in technology names such as ST Microelectronics, AMS, Soitec and Just Eat. A large overweight in the luxury goods group LVMH was also one of the largest contributors, as well as investments in the pharmaceutical company Novonordisk and the Swedish telecom company Com Hem Hldg. Technology remains the largest sector overweight in the portfolio going into 2018.

The external European portfolio manager delivered a 24.2% performance versus the same benchmark. Highlights were the UK specialty insurance provider Beazley, the reinsurance company Hiscox and the Spanish telecoms operator Cellnex. The European small cap funds selected by the internal managers also delivered significant outperformance, particularly Alken, which delivered 30.1% versus its MSCI European Small Cap benchmark of 15.1%.

The PMC also initiated a listed equities infrastructure portfolio, which ended the year with a 21.5% performance.

The US part of the equity allocation performed extremely well, due in part to the Granahan US small cap growth mandate, which posted a performance of 27.2% versus the Russell 2000 Growth benchmark performance of 16.8%. The Fund also benefitted from internal overweights in US technology via ETFs and direct investments in FAANG stocks and others including Microsoft and Salesforce. Throughout the year the PMC also increased the US financials sector exposure to allow the Fund to benefit from improving conditions for US banks, the increasing US yield curve and higher anticipated earnings.

Real Assets: Real Estate – Farmland - Timber

Real Estate

2017 was a record year for the global real-estate market, with investment volumes at their highest levels for a decade. Consequently, the property yield compression that started in 2013 continued, leading to historically low levels and limiting the investment growth for many disciplined investors.

In accordance with global trends, a significant yield compression was recorded for the Fund’s properties in the UK, France and Switzerland. The net running yield of the Fund’s Swiss properties was 3.69% in 2016 and dropped to 2.81% in 2017. For the UK and French properties (excluding sold properties), the net running yield was 3.51% and 2.70% in 2017 respectively, compared to 3.93% and 3.94% in 2016. The increase in capital value (11% in France, 7% in Switzerland, 1% in the UK, expressed in local currencies) was the main driver of this yield reduction; the second driver was the renovation work undertaken on several Swiss, UK and French properties. The German properties recorded a 15% increase in capital value; nonetheless, the net running yield increased from 3.34% in 2016 to 3.63% in 2017 as the cost for work and maintenance was lower.

At the end of 2017, the real-asset portfolio comprised 15 properties. The holdings are three residential buildings in Switzerland, six residential and commercial properties in France, including four parcels of woodland with a total area of approximately 2,000 hectares, two office buildings in Germany and three buildings and a farm in the UK. The Fund also has exposure to US forestry and New Zealand dairy farmland through two limited partnerships.

In 2017, the Fund sold a property in Paris known as “Bingen-Legendre” (offices with a total area of 938 m2) and one in London known as “Canongate” (1863 m2 of offices and 337 m2 of commercial space). The Bingen-Legendre property was sold, for a price of 11.7 MEUR, to capture the material value increase over 5 years (21%). The UK-based asset was sold, for 19.8 MGBP, mostly to lock in a profit (a capital value increase of 24% since inception in 2013). This translated into an IRR since inception of 10.21%. In addition, another underlying reason for divesting was the material cost of hedging the sterling (1.36%), which is far higher than, for example, the cost of euro hedging (0.45%).

In line with its traditional disciplined and prudent approach, the Fund remained conservative throughout the year in terms of reinvestments, mindful of the risks related to the normalisation of interest rates The focus of the market search continued to be prime locations, in particular in Berlin and in Paris where, thanks to previous acquisitions, the Fund is able to leverage its knowledge of the local market. Several of the assets identified through those searches in 2017 might be acquired in 2018.

Farmland

Global farmland has experienced a slowing of value growth compared to 2016 because of pressure on commodity prices. In fact, the Savills Global Farmland Index recorded an average annualised growth of 13.3% since 2002 (-1.5% YoY) and of 2% (-4.6% YoY) over the past five years. Nonetheless, farmland as an asset class is still in demand thanks to competitive land use (urban development and recreational uses) and increased food production.

The farm in the UK, a 664 hectare property near Cambridge, recorded an increase in capital value of 6.9% compared to 2016, largely due to an increase of its residential value (34% of the increase) and for the first time taking into account of a few items such as roof-mounted photovoltaics, reservoirs, etc. (22% of the increase).

The Craigmore Dairy partnership, a dairy farmland fund in New Zealand, is fully drawn and almost fully invested. It recently completed the acquisition of a second dairy farm for a total of 19 MNZD.

Timber

The TIR Europe Forestry Fund in the US, purchased its second timberland property, “Paardeberg” in Alabama, for a total of 21 MUSD. This 5260-hectare property is well positioned in a strong timber market, with access to a variety of processing facilities. The fund is now fully committed.

The Pension Fund’s real-assets portfolio includes four parcels of forests in France with a total area of 2,084 hectares, largely dedicated to the growth of oak trees. As of December 2017, its value in local currency had increased by 8.5% compared to 2016 due to an increase in the prices of oak largely driven by Chinese demand.

Private Equity

Like other alternative investments, the private equity industry faced specific challenges throughout 2017, such as a very strong inflow of capital, which led to increasing entry price levels and yield shrinkage. For example, as reported by Preqin, a leading independent data provider in the alternative industry, global assets under management reached a level of 2.83 trillion USD (at June 2017), an all-time high representing an increase of nearly 10% compared to 2016. As a result of the increasing amount of private equity capital available, the average purchase price multiple for deals increased to an average of 10.6x EV/EBITDA in 2017, far higher than the post-crisis value of 7.7x in 2009.

The portfolio’s total NAV was 267 MCHF at December 2017, with 112 MCHF of outstanding commitments. Over the course of 2017 the Fund received 28 MCHF in distributions and paid out 50.7 MCHF in capital calls. In addition, it committed the equivalent of 22.5 MCHF across four funds: 19.6 MCHF to three primary leverage buyout funds and the remaining 3 MCHF to a secondary investment.

The Fund’s total exposure, in terms of strategy, was dominated by leveraged buyout (LBO) (47%), followed by growth equity (19%) and venture capital (13%). The geographic exposure is shared equally between Europe (44%) and North America (47%).

As of December 2017, the Fund had 79 active investments (mainly funds, plus a very small number of direct investments in companies). Of these 79 active investments, 30 were made between 1997 and 2014, when the Fund’s private equity strategy was reviewed, resulting in a shift towards LBOs and growth equity funds where the return distributions tend to exhibit less negative skewness.

Hedge Funds

The hedge fund allocation was reduced to 7% of the overall portfolio in 2017, bringing it into line with the SAA. The Fund trimmed the allocations to Millennium (20 MUSD), Citadel (60 MUSD) and CFM (5 USD) to take profit on recent strong performances and diversify away from large positions.

New allocations mainly concerned the opportunistic portfolio. The Fund allocated 3 MUSD to QIM and 10 MUSD to AHL Evolution and added some capital to existing strategies such as Aeolus (3 MUSD).

2017 was a supportive environment for multi-strategy funds and for some systematic strategies that implement relative value and statistical arbitrage. Performance came mainly from the multi-strategy funds, with a 4.2% contribution to the total portfolio performance of +7.4% in US dollars and 4.93% in CHF terms for 2017.

The portfolio maintained a relatively low market exposure to both equity and credit markets (0.10 beta on a 24-month rolling basis). The absolute performance of the portfolio is encouraging in this context, as the returns were achieved with low sensitivity to the rally in risk assets.

Updates to the Investment Framework

In 2017, the PMC reviewed the internal competencies required for investing in alternative asset classes as well as the cost of consultants involved in sourcing and due diligence. As a result of this review, a new due diligence framework applicable to all alternative investments was proposed. The new framework internalises the sourcing and the investment due diligence, while the operational due diligence remains outsourced. The requirements of investment and operational due diligence were aligned with the best practice standards recommended by CAIA. This new framework was approved by the PFIC and is expected to bring considerable savings in terms of fees: for private equity alone, it is expected to save 1.7 M in fees per year compared to the previous system for the same investment volume).

Conclusions – Macro Outlook

In 2018, despite a relatively benign economic picture, the outlook remains relatively unclear.

The announcement of a relatively large fiscal stimulus programme in the US, synchronised global growth, loose financial conditions and a pick-up in investment spending suggest that we could witness relatively buoyant growth in the coming quarters. However, as inflationary pressures eventually become more evident and monetary stimulus is reduced, it remains to be seen if market conditions remain as positive. Political uncertainty remains elevated and, as illustrated by the recent correction of the markets, there are signs that volatility could rise significantly. Given these concerns, the investment outlook is relatively positive but requires a great amount of caution.

II. Annex

Bankers

ABN Amro Bank N.V., *Utrecht, Netherlands*
Banque Cantonale de Fribourg, *Fribourg, Switzerland*
Barclays Bank plc, *Cambridge, UK*
Bankhaus Ellwanger & Geiger KG, *Stuttgart, Germany*
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*
BBSP Partners SAS, *Paris, France*
Bloomberg L.P., *New York, USA*
BNP Paribas SA, *Paris, France*
Canaccord Genuity Corp., *Vancouver, Canada*
Cantor Fitzgerald L.P., *New York, USA*
Carax SA, *Paris, France*
Citigroup Inc., *New York, USA*
La Compagnie Benjamin de Rothschild SA, *Geneva, Switzerland*
Deutsche Bank AG, *Frankfurt, Germany*
Exane SA, *Paris, France*
Goldman Sachs Group, Inc., *New York, USA*
Helvea, *Geneva, Switzerland*
Jefferies, *London, UK*

Brokers and Derivatives Counterparties (continued)

J.P. Morgan Chase & Co., *London, UK*
Louis Capital Market, *London, UK*
MainFirst Bank AG, *Frankfurt, Germany*
Mirabaud Securities LLP, *London, UK*
Mizuho Intenational plc, *London, UK*
Morgan Stanley & Co. International plc, *London, UK*
Natixis, *Paris, France*
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

AlterNet Limited, *London, UK*
Bloomberg Finance L.P., *New York, USA*
Capital Economics Ltd, *London, UK*
Equinoxe AIS Ltd, *Dublin, Ireland*
Ethos Services SA, *Geneva, Switzerland*
FTSE International Ltd, *London, UK*
FX Connect & Trade Services LLC, *Frankfurt, Germany*
Haver Analytics, *New York, USA*
Hyperpyron International Partners Inc., *Celina, USA*
Highsoft, *Vik I Sogn, Norway*
IPD Investment Property Databank GmbH, *Frankfurt, Germany*
Links Analytics B.V., *Delft, The Netherlands*
Mcube Investment Technologies LLC, *Plano, USA*

Data Services (continued)

Morningstar Switzerland GmbH, *Zurich, Switzerland*
Ned Davis Research Inc., *Venice, USA*
NYSE Market Inc., *Pittsburgh, USA*
Peracs GmbH, *Frankfurt, Germany*
Preqin Ltd, *London, UK*
S&P Dow Jones Indices LLC, *Chicago, USA*
Towers Watson AG, *Zurich, Switzerland*

External Legal Advisers

14 Pyramides Notaires SCP, *Paris, France*
Letulle Notaires, *Paris*, France
LPA-CGR avocats, *Paris, France*
Freshfields, *Frankfurt, Germany*
Gowling WLG LLP, *London, UK*
Oberson Abels SA, *Geneva*, *Switzerland*
Willkie Farr & Gallagher LLP, *London, UK*
Raue LLP, *Berlin, Germany*

External Investment Managers – Hedge Funds

Aeolus Capital Management Ltd., *Hamilton, Bermuda*
Bridgewater Associates Inc., *Westport, USA*
Capital Fund Management SA, *Paris, France*
Citadel Advisors LLC, *Chicago, USA*
Corvex Management L.P., *New York, USA*
Effissimo Capital Management, *Singapore*
King Street Capital Management L.P., *New York, USA*
Man Group, *London, UK*
Millennium International, *New York, USA*
Pentwater Capital Management L.P., *Evanston, USA*
Systematica Investments, *Geneva, Switzerland*
Taconic Capital Advisors L.P., *New York, USA*

External Investment Managers – Hedge Funds (continued)

Tudor Investment Corporation, *Greenwich, USA*
Two Sigma Investments, *New York, USA*

External Investment Managers – Private Debt

American Century Investments, *Luxembourg*
Audax Group, *New York, USA*
AXA Funds Management SA, *Luxembourg*
Barings Global Credit Funds, *Luxembourg*
Eiffel Investment Group SAS, *Paris, France*
EQT Fund Management S.à r.l., *Luxembourg*
Freeport Financial Partners LLC, *Chicago, USA*
H2O Asset Management, *London, UK*
NXT Capital, *Chicago, USA*
TIAA Global Asset Management, *New York, USA*
SYZ Asset Management Luxembourg, *Luxembourg*

External Investment Managers – Private Equity

3i Investments plc, *London, UK*
AE Industrial Partners LLC, *Florida, USA*
AIF Capital Limited, *Hong Kong*
Alcuin Capital Partners LLP, *London, UK*
Alken Luxembourg SA, *Luxembourg*
American Capital Limited, *Maryland, USA*
Apax Partner SAS, *Paris, FR*
Arbor Private Investment Company IV, LLC, *Chicago, USA*
Capricorn Investment Group LLC, *Palo Alto, US*
CapVest Associates LLP, *London, UK*
Craigmore Sustainables, *Christchurch, New Zealand*
Cressey & Company L.P., *Chicago, USA*
Crestview Partners, *New York, USA*
DN Capital (UK) LLP, *London, UK*

External Investment Managers – Private Equity (continued)

Edmond De Rothschild Group, *Luxembourg*
Endeavour Vision SA, *Geneva, Switzerland*
Essling Capital, *Paris, France*
Fortissimo Capital, L.P, *Rosh Haayin, IL*
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*
HarbourVest Partners LLC, *Boston, USA*
Keensight Capital, *Paris, France*
L Catterton Partners, *Greenwich, USA*
LBO France FPCI, *Paris, France*
Littlejohn & Co., *Greenwich, USA*
Macquarie Funds Group, *Sydney, Australia*
Main Post Partners LP, *San Francisco, USA*
MML Capital Partners, *London, UK*
Montefiore Investment, *Paris, France*
Nemo Investor Aggregator Limited, *Greenwich, USA*
NeoMed Management, *Oslo, Norway*
Oak Hill Advisors, L.P., *New York, USA*
Pacific Community Ventures Inc., *San Francisco, USA*
PAI Partners SAS., *Paris, France*
Parallax Capital Partners, *Laguna Hills, USA*
Paul Capital Investments, *San Francisco, USA*
Premiere Global Services Inc., *New York, USA*
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*

External Investment Managers – Private Equity (continued)

Spindletop Capital, *Austin, USA*
Talde Gestion SGEIC SA., *Bilbao, Spain*
TDR Capital LLP, *London, UK*
Technology Crossover Ventures, *Palo Alto, USA*
The CapStreet Group LLC., *Houston, USA*
Timberland Investment Resources LLC, *Boston, USA*
TowerBrook Capital Partners L.P., *New York, USA*
TPG Capital, *Fort Worth, USA*
Triangle Private Holdings I, LLC, *New York, USA*
Tudor Investment Corporation, *Greenwich, USA*
Veronis Suhler Stevenson LLC, *New York, USA*
Vision Capital Administration LLC, *Burlingame, USA*
Webster Capital Partners LLC, *Waltham, USA*

External Investment Managers – External Equity Mandate

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

Hedge Fund Adviser

Aksia Europe Limited, *London, UK*

Private Equity Adviser

Stepstone Group Europe LLP, *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*
Savills (UK) Limited, *Cambridge, UK*

Real Estate Valuation Experts

BNP Paribas Real Estate, *Paris, France*
Savills (Incorporating SmithGore), *London, UK*
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*

FINANCIAL STATEMENTS

III. Audit Opinion

NAJWYŻSZA IZBA KONTROLI
SUPREME AUDIT OFFICE OF POLAND

Audit No. P/18/051-5/CERN PF FS

**EXTERNAL AUDITOR'S REPORT
ON THE FINANCIAL STATEMENTS OF
THE EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH PENSION FUND
(CERN PF)
FOR THE YEAR ENDED 31 DECEMBER 2017**

Warsaw, 18 May 2018

EXTERNAL AUDITOR'S REPORT

Addressed to:

COUNCIL OF THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)
CH-1211, Genève 23, Switzerland

We have audited the accompanying financial statements of the European Organization for Nuclear Research Pension Fund (the Fund), which comprise the statement of financial position as at December 31, 2017, and the statement of financial performance, cash flow statement and statement of changes in net assets available for benefits for the year then ended, and a summary of significant accounting policies and other explanatory information.

Audit Opinion on the CERN Pension Fund financial statements

In our opinion, the financial statements present fairly, in all material respects, the financial position of the CERN Pension Fund as at December 31, 2017, its financial performance and its cash flows for the year then ended in accordance with the International Public Sector Accounting Standards and International Accounting Standard 26.

We have also audited the Fund's management compliance with the Rules and Regulations of the Pension Fund, CERN Financial Rules and Regulations for the Implementation of the CERN Financial Rules as well as other rules and regulations and service agreements related to and affecting the use of the Fund financial resources.

Audit Opinion on compliance of the Fund's management with rules and regulations

In our opinion, the transactions related to the CERN Pension Fund, handling receipts of the Fund members contributions, collecting the contributions of the Fund beneficiaries to the CERN Health Insurance Scheme, payments of benefits, operating investments of the Fund assets, and incurring other expenses have been conducted, in all material respects, in compliance with the CERN and CERN Pension Fund Rules and Regulations and all other relevant rules and regulations and service agreements.

Basis for Opinions

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 the audited Organisation in accordance with the ISSAI 10 – Mexico Declaration of SAI[1] Independence and ISSAI 30 – Code of Ethics, together with other requirements that are relevant to our audit of the financial statements of an international institution as stated in ISSAI 5000 – Audit of International Institutions – Guidance for SAIs and the Code of Conduct of the Supreme Audit Office of Poland, and we have fulfilled our ethical and other responsibilities in accordance with the said standards. **We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.**

[1] SAI – Supreme Audit Institution

Emphasis of matter

We draw the Council's attention to decreased technical deficit of the Fund (MCHF 6,001 as compared to MCHF 6,106 in 2016) and accompanied higher level of the PF Funding Ratio (41.5% as compared to 39.9% in 2016). Net assets available for benefits also increased from MCHF 4,060 in 2016 to MCHF 4,259 in 2017. The level of net assets available for benefits went up close to the level of 2007 (MCHF 4,614) before the financial crisis of 2008. Nevertheless, the funding ratio of the Fund calculated in accordance with IPSAS remains low and the financial position of the Fund is exposed to the risk of unpredictable fluctuations on the market.

Key Audit Matters

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

Key audit matters in the audit of the CERN PF Financial Statements for 2017 were as follows:

1) Valuation of Pension Fund Assets

   Pension Fund Assets constitute the crucial item in the Pension Fund Financial Statements of the total gross value MCHF 4,325. They form the basis of PF capability of providing benefits to CERN and ESO pensioners and other beneficiaries as well as meeting other Fund's liabilities.

   The matter was addressed in the audit by verification of the information provided in the Custodian's monthly reports against relevant account balances and reconciliation of the values reported in the Statement of Financial Position with the relevant accounting data. For investment property (kCHF 824), a verification of existence, completeness and valuation was also performed on the basis of the information provided in property managers and evaluators reports.

2) Accuracy of reporting Pension Fund Investments

   Pension Fund investment reflect active use of PF assets in excess of those utilised for the payment of defined benefits and other expenses of the Fund. As members' and employers' (CERN and ESO) contributions to the Fund are not alone sufficient to meet PF obligations the level of return from investments decides about PF long-term capability to pay benefits.

   The matter was addressed in the audit by verification of the information provided in the Custodian's monthly reports against relevant account balances and reconciliation of the amounts reported in the Statement of Financial Performance with the relevant accounting data.

3) Accuracy of and compliance of payments of Pension Fund benefits

   Payment of Pension Fund benefits is the ultimate goal of the PF operations. The financial reporting objective of the Fund is to comply with the Rules and Regulations of the Fund in calculating benefits and to report accurately benefits paid.

   The matter was addressed by substantive analytical procedures for contributions and benefits, taking into account quantities of new members and beneficiaries and quantities of those who left the Fund and making recalculations and comparisons of relevant totals of contributions and benefits.

4) Going concern assumption

   Under the going concern basis of accounting, the financial statements are prepared on the assumption that the entity is a going concern and will continue its operations for the foreseeable future. General purpose financial statements are prepared using the going concern basis of accounting, unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so. IPSAS contain an explicit requirement for management to make a specific assessment of the entity's ability to continue as a going concern, and standards regarding matters to be considered and disclosures to be made in connection with going concern.

For the CERN Pension Fund such an assessment is important from the point of view of vested interests of its beneficiaries and members as well as economic and operational interests of its sponsors.

The matter was addressed during the audit by inquiries with the Fund management, inspection of a document on the going concern assessment, inspection of the annual Actuary's Report and analysis of the current financial position of the Fund. We were satisfied with the approach of the management and the result of the going concern assessment this year.

5) Internal control system

We believe that well-designed internal control system supports the achievement of the Fund's objectives and is an effective and efficient measure against risks to materialise in the form of misstatements in financial reporting and/or incidents of non-compliance with authorities, thus hampering financial and compliance objectives of the Fund. In 2015, we assessed that the Fund's internal control system was well designed and was satisfactorily effective in support of the Funds daily operations. Nevertheless, we recommended the Fund's management to take into account fundamental principles of COSO Internal Control Integrated framework while upgrading the Fund's internal control system.

The matter was addressed by inquiries with the Fund's management, discussions on patterns of relating objectives with risks and mitigating controls. The system has been upgraded in two important services of the Fund and is going to be enhanced in other ones.

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 Pension Fund Governing Board Report and Extract of Actuary's Report on the Fund as at 31 December 2017, apart from 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 of CERN Pension Fund Management and Those Charged with Governance for the Financial Statements

CERN Pension Fund management is responsible for the preparation and fair presentation of these financial statements in accordance with the International Accounting Standard 26 and International Public Sector Accounting Standards, and for such internal control as the management determines is 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 Fund's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using going concern basis of accounting unless relevant authorities either intend to liquidate the Fund or to cease operations, or has no realistic alternative but to do so.

The Fund's management is also responsible for the use of the Fund's financial resources in compliance with all applicable policies, rules and regulations.

Those charged with governance are responsible for overseeing the Fund's financial reporting process.

Auditor's Responsibilities of the Supreme Audit Office of Poland (NIK) for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, 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 ISSAIs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Our objective is also to express an audit opinion on compliance of respective CERN Pension Fund authorities with the CERN and CERN Pension Fund all applicable policies, rules and regulations as regards making use of financial resources of the Fund.

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

- Identify and assess the risks of material misstatement of 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 for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override 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 the purpose of expressing an opinion on the effectiveness of the Fund's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on 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 related to events or conditions that may cast significant doubt on the Fund's ability 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 the 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.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Signed by:

Ewa Polkowska
Vice-President of NIK
Chairman of CERN Audit
Steering Committee

Wieslaw Kurzyca
Primary Auditor
of CERN External Audit

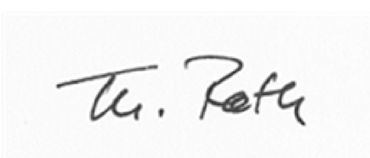
18 May 2018
Supreme Audit Office
ul. Filtrowa 57
Warsaw, Poland

IV. Financial Statements

1. Statement of Financial Position

(in kCHF)	Note	As at 31 December 2017	2016
Assets			
Cash and Cash Equivalents	5	439,738	351,160
Short-Term Deposits	6	108,505	103,600
Settlements Receivable		79,486	32,120
Sundry Debtors	7	3,765	3,612
Other Receivables	8	4,981	5,652
Derivatives	9	41,157	28,420
Bonds	10	958,177	938,358
Equities	11	634,226	727,315
Investment Funds	12	1,230,061	1,177,320
Total Financial assets		3,500,096	3,367,557
Investment Property	13	824,478	764,399
Total Non-Financial assets		824,478	764,399
Total assets		4,324,574	4,131,956
Liabilities			
Settlements Payable		2,359	1
Sundry Creditors	14	15,107	14,642
Other Payables	15	3,632	3,214
Derivatives	9	44,831	54,147
Total liabilities		65,929	72,004
Net assets available for benefits		4,258,645	4,059,952

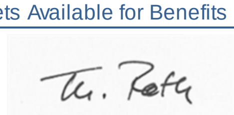
(in kCHF)	Note	As at 31 December 2017	2016
Vested pension capital **			
Transfer values of active members or current value of deferred pensions (without future adjustment)		5,033,870	5,030,941
Mathematical reserves of the beneficiaries		5,225,386	5,134,845
Vested pension capital		10,259,256	10,165,786
Technical deficit		(6,000,611)	(6,105,834)
Funding Ratio		41.5%	39.9%



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

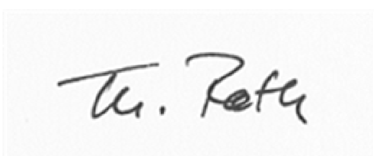
2. Statement of Financial Performance

(in kCHF)	Note	Year ended 31 December 2017	2016
Investment Income			
Financial Assets			
Dividend Income		40,100	37,129
Interest Income	16	24,962	26,150
Unrealised Gains/(Losses) on Financial Assets at Fair Value Through Profit & Loss	17	233,795	63,887
Realised Gains/(Losses) on Financial Assets at Fair Value Through Profit & Loss	18	21,729	(74,595)
Non-Financial Assets			
Investment Property Income	19	140,266	28,901
Foreign Exchange Gains/(Losses)	20	(131,165)	14,996
Total Investment Income/(Loss)		329,687	96,468
Investment Expenses			
Financial Assets			
Investment Management Fees	21	22,170	22,269
Custody Fees and Administration of Securities		1,296	1,291
Transaction Costs		1,349	2,357
Taxation		165	196
Non-Financial Assets			
Investment Property Expenditure	22	10,636	8,901
Investment Related Expenditure		3,635	3,348
Total Investment Expenses		39,251	38,362
Net Investment Income/(Loss)		290,436	58,106
Other Expenses			
Bank Charges		100	55
Other Financial Expenses	23	2,789	1,933
Administration Costs	24, 26	5,518	5,357
Total Other Expenses		8,407	7,345
Change in Net Assets before Membership Activities		282,029	50,761
Membership Activities	25		
Contributions			
Member Contributions		61,625	59,307
Employer Contributions		113,124	110,159
Employer Special Contributions		61,300	61,300
Purchase of additional years of membership		2,656	2,113
Indemnities received from third parties		289	506
Compensations	27	1,186	1,065
Procurement of entitlement to pension for surviving spouse		61	65
Total Contributions		240,241	234,515
Benefits and Payments			
Retirement pensions		251,452	252,302
Disability pensions		2,661	2,581
Surviving spouse pensions		41,162	39,323
Orphans pensions		1,417	1,319
Family allowances		14,391	14,671
Ex gratia payments granted		66	66
Transfer values paid to members		12,028	7,365
Transfer values paid to other schemes		232	357
Contributions paid to other schemes		166	149
Total Benefits and Payments		323,577	318,133
Net Membership Activities Cost		(83,336)	(83,618)
Net Increase/(Decrease) in Net Assets During Year		198,693	(32,857)
Net Assets Available for Benefits at Beginning of Year		4,059,952	4,092,809
Net Assets Available for Benefits at End of Year		4,258,645	4,059,952



3. Cash Flow Statement

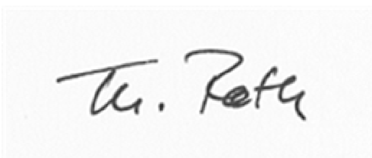
(in kCHF)	Note	Year ended 31 December 2017	2016	
Cash flows from membership activities				
Contributions and other receipts		239,931	234,355	
Benefits and other payments		(321,961)	(321,093)	
Net cash flows from membership activities		(82,030)	(86,738)	
Cash flows from investing activities	28			
Financial Assets				
Purchases of Short-Term Deposits		(104,610)	(54,115)	
Purchases of Bonds		(1,156,030)	(1,260,170)	
Purchases of Equities		(500,374)	(667,528)	
Purchases of Investment Funds		(313,979)	(562,494)	
Proceeds of Short-Term Deposits		104,610	54,115	
Proceeds from sale of Bonds		1,179,454	1,307,573	
Proceeds from sale of Equities		660,923	454,958	
Proceeds from sale of Investment Funds		380,420	610,541	
Net payments from Derivatives		(199,408)	2,555	*
Dividends received		40,590	36,071	
Interest received		20,489	23,847	
Non-Financial Assets				
Investment Property payments		(16,683)	(15,598)	
Investment Property purchases		-	-	
Proceeds from sale of Investment Property		44,812	39,906	
Investment Property receipts		41,160	44,642	
Tax reimbursements		75	120	
Management and Custody Fees paid		(5,751)	(7,222)	
Administrative and other Operating expenses paid		(10,683)	(10,922)	
Net cash flows from investing activities		165,015	(3,721)	
Net (decrease) increase in cash and cash equivalents		82,984	(90,458)	
Cash at beginning of the year		351,160	440,915	
Exchange gains /(losses) on cash and cash equivalents		5,594	703	*
Cash at end of the year		439,738	351,160	



*Re-stated

4. Statement of Changes in Net Assets Available for Benefits

(in kCHF)	Note	2017	2016
Balance as at 1 January		4,059,952	4,092,809
Employer Contributions		113,124	110,159
Member Contributions		61,625	59,307
Employer Special Contributions		61,300	61,300
Purchase of additional years		2,656	2,113
Indemnities and Compensations		1,475	1,571
Procurement of Entitlement to pension for surviving spouse		61	65
Benefits paid		(311,151)	(310,262)
Transfer values and contributions paid		(12,426)	(7,871)
Investment Income/(Loss)		329,687	96,468
Investment Expenses		(39,251)	(38,362)
Other Expenses		(8,407)	(7,345)
Balance as at 31 December		4,258,645	4,059,952



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: http://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). As well, *"The Fund shall enjoy operational autonomy within CERN and shall be managed independently through bodies referred to in Article I 2.04, paragraph 1, of the Rules"*. Article I 2.04, paragraph 1, states that *"the management of the Fund shall be entrusted to the following bodies:*

a) the Governing Board

b) the Fund's Chief Executive Officer."

The Rules also provide that the bodies of the Fund shall be assisted by:

a) the Investment Committee (PFIC), subsidiary and expert body of the Governing Board on investment matters;

b) the Actuarial and Technical Committee (ATC), subsidiary and expert body of the Governing Board on actuarial and technical matters.

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 defined in the Fund's Rules and Regulations and the CERN/ESO Agreement.

Pensions are calculated in the following manner:

i. 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;

ii. 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 2017 the number of beneficiaries was 3,631 (3,610 as at 31 December 2016), representing an increase of 0.6%.

1.4.2. Members

As at 31 December 2017 the number of members of the Fund was 3,916 (CERN: 3,440 and ESO: 476) compared to 3,767 (CERN: 3,310 and ESO: 457) as at 31 December 2016. This represents an increase of 4%.

1.5. Investment policy

The Fund’s principles governing the investment policy are set out in the Statement of Investment Principles and Investment Policy (SIP) CERN/PFGB/66.8/Rev.3/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 2017 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 19 April 2018 the PFGB approved the submission of the CERN Pension Fund Financial Statements for 2017 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 standards, if applicable, when they become effective:

i. IPSAS 39, Employee Benefits (will replace IPSAS 25) - effective January 1, 2018.

ii. IPSAS 40, Public Sector Combinations – effective January 1, 2019.

Once effective, the above standards are not expected to have any effects 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 debt, equity securities, investment funds and derivatives as financial assets at fair value through profit or loss. 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 salaries 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

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

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

iii. 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 2017 and 2016.

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 22 February 2018 (CERN/PFGB/73.3) and also those used in the corresponding period. The reference discount rate is the interest rate on long-term Swiss Confederation Bonds, however, the principle that the discount rate should not fall below the best estimate of future inflation has been applied in 2017. The best estimate of future inflation is 1.38%. As a result the discount rate applied for 2017 is 1.38% (1.37% in 2016).

Actuarial Assumptions	2017	2016
Discount Rate	1.38%*	1.37%*
Future Salary Increase	1.38%*	1.37%*
Future Pension Increase	1.38%*	1.37%*
Salary Advancement	1.50%	1.50%
Life Expectancy	83% VZ 2010 GEN	83% VZ 2010 GEN

**The underlying best estimate assumption has the following term structure: 1% p.a. until 2024, 1.50% p.a. from 2025 and is unchanged from 31 December 2016. The single equivalent spot rate describes this underlying term structure.*

Conduent HR Services (Buck Consultants Limited), London is the Fund's Actuary. An extract of the Actuary's Report on the Fund as at 31 December 2017 is included in section VI for information purposes.

In 2017, the Fund's Actuary did not propose changes to the actuarial assumptions compared to 2016 and these were accepted by the PFGB.

Total liabilities, as at 31 December 2017, were 10,259 MCHF (10,166 MCHF as at 31 December 2016).

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 2017 the fair value of Investment Property was 824,478 kCHF (764,399 kCHF as at 31 December 2016).

The fair values of the Investment Property were determined based on valuations performed by independent valuers, as at 31 December 2017 and 2016. 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 3.48% to 5.75% (3.55% to 5.75% in 2016);
- 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

The Fund holds positions in investment funds, many of whom 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 2017 provided by the independent administrators or fund. In the case of seventy four private equity/debt funds (fifty three in 2016) unaudited statements as at 30 September 2017 were used, as adjusted for capital movements between the last received statements and 31 December 2017.

As at 31 December 2017 the Fund had holdings in investment funds totalling 641,105 kCHF (625,600 kCHF in 2016) that are not quoted in an active market. Valuations totalling 507,998 kCHF (526,617 kCHF in 2016) 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:

	2017		2016	
(in kCHF)	Total Net Asset Value	Outstanding Commitment	Total Net Asset Value	Outstanding Commitment
European Private Equity	114,633	64,744	82,673	43,457
US Private Equity	91,381	46,527	82,107	59,157
Private Debt	136,074	24,283	55,981	30,477
Real Estate funds	60,778	737	31,340	29,709
Total	402,866	136,291	252,101	162,800

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 Investment Committee. 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 and Investment Policy. 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 PFIC. The annual 1 Year 5% CVaR risk limit of -8% for 2017 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 PFIC 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 using reports provided by the Fund's Custodian.

During 2017 all quarterly evaluations of the estimated 1 Year 5% CVaR showed that the Fund was within the risk limit. As at 31 December 2017 the estimated 1 Year 5% CVaR of the Fund was -7.1% (-7.1% as at 31 December 2016), 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)	2017	2016
Assets		
Bonds	958,177	938,358
Equities	634,226	727,315
Investment Funds	1,230,061	1,177,320
Derivatives	41,157	28,420
Total Financial assets	2,863,621	2,871,413
Liabilities		
Derivatives	44,831	54,147
Total Financial liabilities	44,831	54,147

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 2017 is disclosed in note 9. "Derivatives".

As at 31 December 2017, 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 36,618 kCHF (27,575 kCHF as at 31 December 2016).

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)	2017	2016
US dollar	1,569,926	1,606,500
Euro	1,712,912	1,425,197
Pound sterling	421,516	491,647
Japanese yen	133,133	94,774
Swedish krona	30,107	27,581
Other currencies	53,801	33,538
Total	3,921,395	3,679,237

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	2017	2016
Euro	1.1701	1.0719
Pound sterling	1.3182	1.2558
US dollar	0.9745	1.0164

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:

	2017	2016
Global Fixed Income	958 MCHF	938 MCHF
0 - 1 year	0%	0%
1 - 3 years	0%	6%
3 - 5 years	14%	24%
5 - 7 years	26%	24%
7 - 10 years	39%	31%
> 10 years	21%	15%
Total	100%	100%

The duration of the above securities, which is the weighted-average term to maturity of the cash flows, was 7.14 years at 31 December 2017 (2016: 6.09 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)	2017	2016
Euro	58,505	53,600
Swiss franc	69,847	69,927
Total	128,352	123,527

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 2017, 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 4,858 kCHF (4,688 kCHF higher as at 31 December 2016).

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:

	2017	2016
Global Fixed Income	958 MCHF	938 MCHF
AAA	4%	5%
AA	21%	15%
A	17%	16%
BBB	43%	47%
BB-B	14%	16%
NR/NA	1%	1%
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)	2017	2016	
Bonds	958,177	938,358	
Cash and Cash Equivalents	439,738	351,160	
Private Debt	136,074	55,981	*
Short Term Deposits	108,505	103,600	
Derivatives	41,157	28,420	
Settlements Receivable	79,486	32,120	
Other assets	8,746	9,264	
Total	1,771,883	1,518,903	*

*Re-stated: Private Debt included for 2016

No material financial assets were past due as at 31 December 2017.

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 2017				
Settlements payable				
Members and Beneficiaries	5,211			
Investment property deposits			3,468	
Taxes Payable		457		
Investment property Creditors		5,548		
Reimbursements of contributions	1,074			
Payments Outstanding		2,558		
Total	6,285	8,563	3,468	
As at 31 December 2016				
Settlements payable	1			
Members and Beneficiaries	3,701			
Investment property deposits			3,564	
Taxes Payable		684		
Investment property Creditors		6,336		
Reimbursements of contributions	1,162			*
Payments Outstanding		2,052		*
Total	4,864	9,072	3,564	

An amount of 890 kCHF as at 31 December 2016 previously classified as "Reimbursements of Contributions" has been re-classified as "Payments Outstanding".

*Re-stated

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 2017		
Forwards	33,099	
Credit default swaps	7,354	
Swaps	3,536	
Futures	312	
Options	530	
Total	44,831	
At 31 December 2016		
Forwards	49,188	*
Credit default swaps	2,652	
Swaps	611	
Futures	1,382	*
Options	314	
Total	54,147	

An amount of 1,382 kCHF as at 31 December 2016, previously classified as "Forwards", has been re-classified as "Futures".

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.

*Re-stated

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 2017:

(in kCHF)	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value through profit or loss:				
Equities	634,167	-	59	634,226
Bonds	-	958,177	-	958,177
Investment Funds	552,285	-	677,776	1,230,061
Sub total	1,186,453	958,177	677,834	2,822,464
Financial assets held for trading:				
Derivatives	4,570	35,612	975	41,157
Sub total	4,570	35,612	975	41,157
Total assets at fair value through profit or loss	1,191,022	993,790	678,809	2,863,621
Liabilities				
Financial liabilities held for trading:				
Derivatives	(448)	(43,989)	(394)	(44,831)
Total liablities at fair value through profit or loss	(448)	(43,989)	(394)	(44,831)

The following table analyses within the fair value hierarchy the Fund's assets measured at fair value at 31 December 2016:

(in kCHF)	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value through profit or loss:				
Equities	727,081	-	234	727,315
Bonds	-	938,358	-	938,358
Investment Funds	541,028	-	636,292	1,177,320
Sub total	1,268,109	938,358	636,526	2,842,993
Financial assets held for trading:				
Derivatives	804	27,411	205	28,420
Sub total	804	27,411	205	28,420
Total assets at fair value through profit or loss	1,268,913	965,769	636,731	2,871,413
Liabilities				
Financial liabilities held for trading:				
Derivatives	(2,493)	(51,487)	(168)	(54,147)
Total liablities at fair value through profit or loss	(2,493)	(51,487)	(168)	(54,147)

Investments whose values are based on quoted market prices in active markets, and are therefore classified within Level 1, include 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 2017 nor 31 December 2016.

The following table presents the movement in level 3 instruments for the year ended 31 December 2017 by class of financial instrument:

(in kCHF)	Equities	Derivatives	Investment Funds	Total
Opening balance	234	37	636,292	636,563
Purchases	54		59,232	59,285
Sales	(126)	-	(99,326)	(99,452)
Transfers into level 3	-	-	-	-
Unrealised Gains/(Losses) on Financial Assets at Fair Value				-
Through Profit & Loss	-	-	78,310	78,310
Realised Gains/(Losses) on Financial Assets at Fair Value				
Through Profit & Loss	(103)	544	3,268	3,710
Closing balance	59	581	677,776	678,416

The following table presents the movement in level 3 instruments for the year ended 31 December 2016 by class of financial instrument:

(in kCHF)	Equities	Derivatives	Investment Funds	Total
Opening balance	248	451	711,583	712,282
Purchases	-	-	75,061	75,061
Sales	-	-	(161,281)	(161,281)
Transfers into level 3			-	-
Unrealised Gains/(Losses) on Financial Assets at Fair Value				-
Through Profit & Loss	-	-	12,213	12,213
Realised Gains/(Losses) on Financial Assets at Fair Value				-
Through Profit & Loss	(14)	(414)	(1,284)	(1,712)
Closing balance	234	37	636,292	636,563

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 2017 nor as at 31 December 2016.

The Fund was invested in a total of 318,850 kCHF, including two exchange-traded funds and two unlisted funds, as at 31 December 2017, each investment representing five percent or more of Investment Funds. (As at 31 December 2016: 347,310 kCHF in two exchange-traded funds and two unlisted funds).

The Fund had currency forward asset positions hedging US dollars against Swiss francs, totalling 22,204 kCHF as at 31 December 2017 representing five percent or more of the Derivatives assets balance. (As at 31 December 2016: 24,631 kCHF representing currency forward positions hedging US dollars, Pound Sterling, Euro and Japanese Yen against Swiss francs).

As at 31 December 2017 the Fund had currency forward liability positions hedging Euro, US dollars and Pound Sterling totalling 31,673 kCHF, representing five percent or more of the Derivatives liabilities balance. (As at 31 December 2016: 47,342 kCHF representing currency forward positions hedging US dollars and Pound Sterling).

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)	2017	2016
Current accounts	396,141	313,799
Deposit accounts	19,847	19,927
Margin accounts with brokers	23,750	17,434
Total	439,738	351,160

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)	2017	2016
Recoverable taxes	1,486	1,115
Investment property debtors	2,230	2,460
Other due amounts	49	37
Total	3,765	3,612

8. Other Receivables

(in kCHF)	2017	2016
Accrued interest	34	154
Dividends receivable	287	553
Outstanding receipts	467	78
Payments in advance	4,193	4,867
Total	4,981	5,652

9. Derivatives

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

(in kCHF)	2017 Assets	2017 Liabilities	2016 Assets	2016 Liabilities
Forwards:				
Currency Overlay programme	26,582	(29,458)	23,240	(47,504)
Other	1,024	(3,641)	1,982 *	(1,685) *
Credit default swap	4,814	(7,354)	1,464	(2,652)
Swaps	3,192	(3,536)	765	(611)
Futures	1,344	(312)	479 *	(1,382) *
Options	4,201	(530)	490	(314)
Total	41,157	(44,831)	28,420	(54,147)

Amounts as at 31 December 2016 previously classified as "Forwards others" have been re-classified as "Futures".

10. Bonds

The fair value of investments in bonds, 958,177 kCHF as at 31 December 2017 (938,358 kCHF as at 31 December 2016) is as follows:

(in kCHF)	2017	2016
Europe, Middle East and Africa	596,094	622,742
North America	247,636	242,095
Asia	89,918	55,561
Emerging Markets	24,529	17,960
Total	958,177	938,358

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, 634,226 kCHF as at 31 December 2017 (727,315 kCHF as at 31 December 2016) is as follows:

(in kCHF)	2017	2016
Europe, Middle East and Africa	487,010	590,834
North America	140,326	122,493
Asia	5,605	6,529
Emerging Markets	1,285	7,459
Total	634,226	727,315

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

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

*Re-stated

12. Investment Funds

The fair value of Investment Funds, 1,230,061 kCHF as at 31 December 2017 (1,177,320 kCHF as at 31 December 2016) is as follows:

(in kCHF)	2017	2016
Alternative funds	297,403	373,499
Equity funds	425,801	430,191
Fixed Income funds	103,991	121,529
Private Debt	136,074	55,981
Private Equity	206,014	164,780
Real Estate funds	60,778	31,340
Total	1,230,061	1,177,320

13. Investment Property

The fair value of Investment Property, 824,478 kCHF as at 31 December 2017 (764,399 kCHF as at 31 December 2016) is as follows:

(in kCHF)	2017	2016
As at 1 January	764,399	813,843
Sales	(36,716)	(40,587)
Net gain/(loss) for fair value adjustments (price)	57,598	37,782
Net gain/(loss) for fair value adjustments (foreign exchange)	39,197	(46,637)
As at 31 December	824,478	764,399

During the year, there were two sales of Investment Property, one in France and one in the United Kingdom. (two in France and one in the Netherlands in 2016).

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)	2017	2016
Members and Beneficiaries	5,211	3,701
Investment property deposits	3,468	3,564
Taxes Payable	457	684
Investment property creditors	5,548	6,336
Deferred Income	423	357
Total	15,107	14,642

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)	2017	2016	
Reimbursements of Contributions	1,074	1,162	*
Payments Outstanding	2,558	2,052	*
Total	3,632	3,214	

An amount of 890 kCHF as at 31 December 2016 in "Reimbursements of Contributions" has been re-classified as "Payments Outstanding".

16. Interest Income

(in kCHF)	2017	2016
Cash and Cash Equivalents	74	181
Short term deposits	372	521
Bonds	24,516	25,448
Total	24,962	26,150

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 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.

			2017			2016
(in kCHF)	Price	Currency	Total	Price	Currency	Total
Bonds	9,123	23,266	32,389	5,328	(3,048)	2,280
Equities	73,081	17,352	90,433	39,351	(22,628)	16,723
Investment Funds	116,565	(5,406)	111,159	33,147	13,872	47,019
Derivatives	(145)	(41)	(186)	(2,140)	5	(2,135)
Total	198,624	35,171	233,795	75,686	(11,799)	63,887

*Re-stated

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.

			2017			2016
(in kCHF)	Price	Currency	Total	Price	Currency	Total
Bonds	9,953	9,765	19,718	11,630	(8,165)	3,465
Equities	29,273	1,333	30,606	(11,540)	(6,704)	(18,244)
Investment Funds	14,748	(5,315)	9,433	(11,615)	4,925	(6,690)
Derivatives	(38,137)	108	(38,029)	(55,169)	2,043	(53,126)
Total	15,838	5,891	21,729	(66,694)	(7,901)	(74,595)

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)	2017	2016
Rental Income:		
Residential Property	12,202	12,007
Office Property	21,003	23,917
Agricultural property	238	214
Non-Rental Income:		
Residential Property	-	18
Agricultural property	1,255	1,377
Forests	471	496
Changes in fair value	96,795	(8,855)
Gains/(Losses) on Sales	8,302	(273)
Total	140,266	28,901

Amounts of 57,598 kCHF for fair value price adjustments and 39,197 kCHF for fair value adjustments as a result of foreign exchange movements, are included in “Changes in fair value” above. The corresponding amounts in 2016 were a gain of 39,197 kCHF and a loss of 46,637 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)	2017	2016
Not later than 1 year	28,732	31,467
Between 1 and 5 years	94,612	82,028
Later than 5 years	23,610	14,729
Total	146,954	128,224

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 losses of 139,298 kCHF (gains of 20,899 kCHF in 2016) 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)	2017	2016
Currency Overlay programme	(139,298)	20,899
Other exchange rate movements	8,133	(5,903)
Total	(131,165)	14,996

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)	2017	2016
Reported Investment Management Fees	20,834	21,108
Calculated Investment Management Fees	1,336	1,161
Total	22,170	22,269

The above Investment Management fees also include performance fees.

21.2. Non-recorded Investment Management Fees

For less than 3% of Total Financial assets (less than 3% in 2016) 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 2017 was 132,429 kCHF (98,537 kCHF as at 31 December 2016).

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. Investment Property Expenditure

(in kCHF)	2017	2016
Residential Property	7,518	4,280
Office Property	1,815	3,272
Agricultural property	1,066	1,170
Forests	237	179
Total	10,636	8,901

23. Other Financial Expenses

Other Financial Expenses were 2,789 kCHF for the period ending 31 December 2017 (1,933 kCHF in 2016). During the year the Fund was exposed to negative interest rates in some currencies, notably Swiss Franc and Euro rates. The increase in Other Financial Expenses was largely as a result of an increase in the level of cash held during the year compared to 2016.

24. Administration Costs

Administration costs of 5,517 kCHF in the period ending 31 December 2017 (5,357 kCHF for the period ending 31 December 2016) were as follows:

(in kCHF)	2017	2016
Personnel Costs	3,940	3,686
Operating Expenses	1,279	1,369
Supplies	79	60
Audit/Valuation costs relating to Investment Property	220	242
Total	5,518	5,357

25. 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.

26. 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 PFIC and ATC. These professional members provide advice on governance, investment and actuarial issues respectively. Fees in 2017 totalled 116 kCHF (102 kCHF in 2016);

ii. Key personnel are the Chair of the PFGB, Chair of the PFIC, 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: 339 kCHF for the development of a new Benefits Management System (179.4 kCHF in 2016).
- Industry, Procurement and Knowledge Transfer department: 26 kCHF for procurement services (52 kCHF in 2016).
- IT department: 6 kCHF (6 kCHF in 2016) for the maintenance cost of two servers.
- Legal Service: 82 kCHF.
- Translation Service: 4 kCHF (4.9 kCHF in 2016).

In 2017 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.

27. 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 2017 were 1,091 kCHF (1,065 kCHF in 2016).

28. Cash Flow Statement

The following amounts, previously under the heading "Exchange gains/(losses) on cash and cash equivalents" have been re-classified for 2016 as "Net proceeds on Derivatives": 42,660 kCHF.

29. Events after the Balance Sheet Date

There were no material events after the Balance Sheet Date.

VI. Extract of Actuary's Report on the Fund as at 31 December 2017

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 2017' dated March 2018 (Best Estimate).

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

1. Actuarial assumptions

The actuarial assumptions in the table below have been used for the technical assessment of the Fund.

Actuarial assumptions	**IAS26 31 December 2017**	**IAS26 31 December 2016**	**Best Estimate 31 December 2017 and 31 December 2016**
Financial assumptions	**% p.a.**	**% p.a.**	**% p.a.**
Discount rate	1.38	1.37	4.00 (Until 2019) 4.50 (2020 – 2024) 5.00 (2025 onward)
Indexation of pensions linked to inflation	1.38	1.37	1.00 (Until 2024) 1.50 (2025 onward)
Inflation and salary increase linked to inflation	1.38	1.37	
Salary increase linked to career change	1.50	1.50	Age related scale
Demographic assumptions			
Mortality and disability tables	83% VZ 2010 Generational	83% VZ 2010 Generational	83% VZ 2010 Generational
Exit assumptions	Contract specific – set by CERN	Contract specific – set by CERN	Contract specific – set by the Fund

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

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. In order to ensure that the discount rate more adequately reflects the time value of money, I believe that it is reasonable for CERN to continue to adopt the principle that the discount rate should never fall below the best estimate of future inflation. Applying a consistent approach to the 31 December 2016 disclosures results in a discount rate of 1.38% p.a. when expressed as a 30 year spot rate (1.37% p.a. as at 31 December 2016). The underlying best estimate assumption has the following term structure: 1% p.a. until 2024, 1.50% p.a. from 2025 and is unchanged from 31 December 2016. The single equivalent spot rate describes this underlying term structure.

Prior to 2015, the determination of the discount rate by CERN was made on the basis of the spot yield on Swiss Confederation bond issues at term 30 years as published by the Swiss National Bank. At 31 December 2017 the yield was 0.36% p.a. As this yield is below the inflation assumption, the relevant floor has been applied.

Inflation – related assumptions

IAS26 does not state any method for determining the rate of inflation to be assumed. Consequently the rate of inflation, on which indexation of benefits provided by the Fund and also salary 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 2017.

For the 31 December 2017 disclosure CERN have set their assumption to be consistent with the current best estimate of future inflation suggested by the Fund’s risk advisor, Ortec. This results in an inflation assumption of 1.38% p.a. as at 31 December 2017 when expressed as a 30 year spot rate (1.37% p.a. as at 31 December 2016). The underlying best estimate assumption has the following term structure: 1% p.a. until 2024, 1.50% p.a. from 2025 and is unchanged from 31 December 2016. The single equivalent spot rate describes this underlying term structure.

Mortality assumption

Following analysis of the mortality experience of the Fund over the years 2003 to 2015 CERN’s best estimate for the morality assumption is 83% of the VZ2010 base table. This is consistent with the assumption used at 31 December 2016.

2. Technical balance sheet under IAS26

Balance sheet	31 December 2017 as reported 000's CHF	31 December 2017 with 2016 IAS assumptions 000's CHF*	31 December 2016 as reported 000's CHF
Total assets of the Fund	4,258,645	4,258,645	4,059,952
Liabilities in respect of members	*(5,033,870)*	*(5,033,870)*	*(5,030,941)*
Liabilities in respect of beneficiaries	*(5,222,386)*	*(5,222,386)*	*(5,134,845)*
Total liabilities	(10,259,256)	(10,259,256)	(10,165,786)
Surplus/(Deficit) in the Fund	**(6,105,834)**	**(6,105,834)**	**(6,105,834)**
Funding Level under IAS26 (%)	**41.5**	**41.5**	**39.9**
Method of evaluating benefits on exit	18% Transfer Value / 82% present value of accrued deferred pension	18% Transfer Value / 82% present value of accrued deferred pension	18% Transfer Value / 82% present value of accrued deferred pension

** The underlying term structure for the discount rate and inflation assumption, and all other assumptions, are unchanged from 31 December 2016. Consequently, the IAS26 balance sheet position at 31 December 2017 is identical under the prior year assumptions.*

The sensitivity of the total liabilities of 10,259,256 k CHF at 31 December 2017 to changes in the discount rate, inflation and salary increase assumptions is as set out below. Please note that for the purpose of these sensitivities, all assumptions are changed in isolation while keeping the other assumptions constant:

Assumption changed*	(Increase)/decrease to liabilities resulting from a 0.5% increase in the assumption 000's CHF	(Increase)/decrease to liabilities resulting from a 0.5% decrease in the assumption 000's CHF
Discount rate	962,516	(1,126,625)
Inflation (including impact on indexation of pensions and salaries)**	(1,035,080)	842,914
Indexation of salaries	(282,818)	262,475

**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 10,259,256 k CHF. The asymmetry occurs 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).*

***For this sensitivity there is no corresponding change to the discount rate, which remains fixed at the stated assumption.*

3. Technical balance sheet using the Best Estimate actuarial assumptions

Balance sheet	31 December 2017 000's CHF	31 December 2016 000's CHF
Total assets of the Fund	4,258,645	4,059,952
Liabilities in respect of members	*(1,954,182)*	*(1,943,925)*
Liabilities in respect of beneficiaries	*(3,654,634)*	*(3,654,318)*
Total liabilities	(5,608,816)	(5,598,243)
Surplus/(Deficit) in the Fund	**(1,350,171)**	**(1,538,291)**
Funding Level using the Best Estimate assumptions	**75.9**	**72.5**
Method of evaluating benefits on exit	Percentage assumed to take transfer values: - Age under 35: 70% - Age 35 to 45: 65% - Age 45 to 55: 15% - Over 55: 5%	Percentage assumed to take transfer values: - Age under 35: 70% - Age 35 to 45: 65% - Age 45 to 55: 15% - Over 55: 5%

For the purposes of the figures at 31 December 2016 above, I have provided prior year comparative figures on the Best Estimate assumptions using membership data as at 31 December 2016.

CERN