

ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Action to be taken

Voting Procedure

For recommendation <i>(Management proposals as summarized in Annex 1)</i> and approval <i>(Amendments to the Staff Regulations laid down in Annexes 2 and 3, subject to approval of the Management proposals by the Council)</i>	FINANCE COMMITTEE 334 th Session 15 December 2010	Two-thirds Majority of all Member States and + 51% of the contributions of all Member States
For approval <i>(Management proposals as summarized in Annex 1)</i>	RESTRICTED COUNCIL 157 th Session 16 December 2010	Two-thirds Majority of all Member States

FIVE-YEARLY REVIEW 2010

PROPOSALS BY THE MANAGEMENT

The Management hereby submits its proposals, as summarized in Annex 1, endorsed by TREF on 25 November 2010, to the Finance Committee for recommendation to Council. Finance Committee is also invited to approve the amendments to the Staff Regulations, laid down in Annexes 2 and 3, subject to approval of the Management proposals by Council. Council is invited to approve the Management proposals as summarized in Annex 1.

The proposed modifications are expected to enter into force on 1 January 2011.

1 – INTRODUCTION

The current five-yearly review of the financial and social conditions of members of the personnel has been undertaken in accordance with the principles and procedures laid down in Annex A 1 of the Staff Rules and the decisions taken by Council in June 2009 identifying the financial and social conditions to be reviewed (CERN/2862, CERN/FC/5364).

In its June 2009 decision, the Council determined that the 2010 five-yearly review would cover:

- basic salaries for staff members;
- stipends for fellows;
- subsistence allowances for associated members of personnel; and
- the CERN Health Insurance Scheme (CHIS).

This five-yearly review follows the revised procedures introduced by the Council in June 2007 which, whilst based on the general principles applied in former reviews, simplifies the processes involved, rationalizes the use of internal resources, increases the use of external resources for the data collection process and reduces the overall costs and time required to complete the review.

Accordingly, the data collection for basic salaries was outsourced, while the data collection for stipends, subsistence allowances and the CHIS was performed internally by CERN's Human Resources Department.

The Management's proposals are set out herein, and summarized in Annex 1. Information on the cost of the management's proposals is provided in Section 6; the proposed modifications to the Staff Rules and Regulations are detailed in Annexes 2 and 3, background information is included in Annexes 4 to 7 and an information note on the legal framework applicable to the review in Annex 8.

2 – SCALE OF BASIC SALARIES

2.1 Outcome of the data collection

Pursuant to Annex A 1 of the Staff Rules, the purpose of the five-yearly review is to ensure that the financial and social conditions offered by the Organization allow it to recruit and retain staff members of the highest competence and integrity from all its Member States.

Accordingly, data on salaries for career paths AA to B were collected from "the employers established in the local region of the Organization that offers salaries that are among the most competitive salaries" (local survey). With respect to career paths C to G, data were collected from "the employers established in the Member States that offer the most competitive salaries according to the data collected from the OECD" (international survey). The results were orally presented at the TREF meeting of May 2010 and are further detailed in this report.

2.1.1 Basic salaries for career paths AA to B (local survey, see Annex 1)

The local region of the Organization being Geneva, Vaud, and neighbouring France, salary data were collected from these sources. The comparison indicated that the employers that offer salaries that are among the most competitive are established in Geneva and Vaud.

Overall, Management considers CERN basic salaries to be in line with those offered by these employers. Indeed, whilst administrative functions in career path AA are 9% below-market, the remaining benchmark jobs are above-market by between 4% and 13%.

2.1.2 Basic salaries for career paths C to G (international survey, see Annex 1)

According to the data collection performed by the OECD, the most competitive salaries are offered by three Member States: Germany, Switzerland and the United Kingdom, with salaries in Switzerland being the most competitive of the three.

Administrative functions: CERN basic salaries are slightly above the Swiss market (between 5% and 9%) in career paths C and D. As from career path E, CERN basic salaries are below-market by between 35% and 39%.

Technical functions: With the exception of career path C, CERN basic salaries are below-market by between 30% and 47%.

Management functions: CERN basic salaries are below-market by between 36% and 82%.

Overall, Management considers CERN basic salaries to be:

- for career paths AA to C, generally in line with the Swiss market for technical and administrative functions;
- for career path D, in line with the Swiss market for administrative functions and well below the Swiss market for technical functions; and,
- for career paths E to G, substantially below the Swiss market for technical, administrative and management functions.

2.1.3 Additional considerations with respect to the scale of basic salaries

Since the introduction of the new career structure following the previous five-yearly review, certain obstacles in its application have been noted which inhibit the anticipated achievement of a dynamic and fair career system.

2.1.3.1. Promotion of staff members in career paths A to E

Due to the current structure of the salary bands, sometimes staff members have better salary prospects by staying in their current career path rather than by being promoted to a higher career path corresponding to the evolution of their functions. This results in promotions not serving their purpose or in fully-justified promotions not being possible.

2.1.3.2. Advancement of staff members in career paths F and G

In the current scale of basic salaries, the step value represents between 1.3% and 1.4% of the entry level (step 0 of band a) of all career paths, except in career paths F and G, where it is 1.0% and 0.8% respectively. This lower percentage value is problematic as it concerns the career paths in which salaries are least competitive.

Management considers that the above-mentioned obstacles should be addressed.

2.2 Management proposals

2.2.1 Adjustment of basic salaries

With respect to career paths AA to C, as CERN basic salaries are globally in line with the relevant markets, Management does not propose any adjustments.

With respect to career paths D to G, CERN basic salaries are below-market, with the difference being striking in the higher paths. This situation must be addressed. Nonetheless, the unique context in which this five-yearly review takes place – namely, the difficult financial situation of the Organization and the priorities agreed upon by all stakeholders with respect to the stabilization of the Organization's social security scheme – must also be taken into consideration in determining the extent of the Organization's response.

Accordingly, Management proposes the following moderate increase in the scale of basic salaries, to be implemented in two stages:

<u>Effective 1 January 2011:</u>	and also	<u>Effective 1 January 2012:</u>
Career path D: + 1%		Career path D: + 1%
Career paths E to G: + 2%		Career paths E to G: + 2%

2.2.2 Technical adjustment of the scale of basic salaries

Management proposes the following technical adjustments to the scale of basic salaries:

2.2.2.1. Career paths A to E

It is proposed that band b of career paths B to E be extended in order to enhance the logic of CERN's classification system. The proposed modifications do not alter the minima and maxima of the career paths, and entail no additional cost to the Organization.

2.2.2.2. Career paths F and G

To ensure consistency over the basic salary scale, Management proposes to adjust the step value in career paths F and G to 1.37% and 1.36%¹ respectively, of the entry step in the career path. In order to limit the increase of the maxima, the length of the salary bands has been reduced.

3 — STIPENDS FOR FELLOWS AND SUBSISTENCE ALLOWANCES FOR ASSOCIATED MEMBERS OF THE PERSONNEL

3.1 Outcome of the data collection

Pursuant to Annex A 1 of the Staff Rules, the purpose of the five-yearly review is to ensure that the financial and social conditions offered by the Organization to fellows remain attractive compared to those in comparable research institutions and that those offered to associated members of the personnel allow it to host them in its research facilities, taking into account the highest cost-of-living in the local region of the Organization.

3.1.1. Fellows

As indicated in Annex 5 (CERN/TREF/355), data on fellowship stipends were collected from several research institutions identified as comparable with CERN. Analysis of the data indicates that for both the Junior and the Senior Fellowship Programmes, the financial conditions at CERN remain attractive, with stipends for CERN junior fellows being considered generous. In addition, there is no important distinction between the seniority-based supplements paid to junior fellows and those paid to senior fellows, although the latter programme is much more selective.

3.1.2. Associated members of the personnel

As the subsistence allowances applicable to this category of personnel have generally been indexed in line with the Geneva Cost Variation Index, they remain commensurate with living costs in the region.

¹ Corrigendum to document CERN/TREF/361 which indicated "*F and G to 1.36% and 1.37%*"

3.2 Management proposals

3.2.1. *Fellows*

Management proposes the following adjustments to the seniority-based supplement for the Junior Fellowship Programme (all figures shown are at 2010 rates):

	Seniority Level	Basic stipend	Current supplement	Proposed supplement
Diploma Level	Technical Engineer (or equivalent)	4449	1026	698
	M.Sc. (or equivalent)	4449	2139	1942

The net impact on the full stipend will be an adjustment of -6% for the Technical Engineer level and -3% for the M.Sc. level. Given the increasing interest in the Junior Fellowship Programme, Management believes that these reductions may be applied without loss of competitiveness of the programme.

The resulting savings will be invested into enhancing training possibilities, which are a key component of the Fellowship Programme.

Given the prestige and selectivity of the Senior Fellowship Programme, Management proposes neither an adjustment to the current level of stipends nor to seniority supplements.

3.2.2. *Associated members of the personnel*

As subsistence allowances for the associated members of the personnel are in line with the cost-of-living in the local region, Management does not propose any adjustments.

4 – CERN HEALTH INSURANCE SCHEME (CHIS)

4.1 Outcome of the data collection

The latest actuarial findings, reported in the Actuary's technical analysis detailed in Annex 6 (CERN/TREF/353) have shown that the CERN Health Insurance Scheme faces a substantial structural deficit, which is estimated to increase regularly by 2 MCHF per year, due to the combined impact of medical inflation and the ageing of the insured population, in a context where the health-care costs increase faster than the incomes (salaries and pensions) on which the contributions are calculated.

As was orally presented at the TREF meeting of May 2010 (see related transparencies in Annex 7), it was a challenge to compare the details of the different schemes of the comparator organizations, which vary widely given the different demographics of the insured populations. Nevertheless, the data collection indicated that, although the rules and ceilings for reimbursement differ, CERN's scheme is globally equivalent to those of the other organizations in terms of benefit.

4.2 Management proposals

In order to safeguard the financial situation of the Scheme, while rationalizing, simplifying and modernizing its operation and benefits, the Management makes the following proposals:

4.2.1. Contribution rates

- Balance the contribution rates for active members and pensioners.
- Increase the total HIS contribution rate by 8% for 2011, followed by annual increases of 4% for 2012 to 2015.
- Stabilize the amount of the CHIS reserve by introducing a mechanism which counteracts possible revenue shortfall stemming from deviations from the actuarial assumptions, up to a maximum, over the next 5 years, of 5 MCHF in total.

4.2.2. Benefits

Firstly, as the data collection indicated that CERN's scheme is globally equivalent to those of the other organizations in terms of benefits, Management proposes no change in the overall envelope of benefits.

Secondly, the rapidity of changes in the cost structure of health care providers requires continuous pro-active response by any health insurer. The Organization has, to date, managed to limit the increase of CHIS expenses below the equivalent levels in the national health care systems in the Member States and intends to continue, or possibly improve upon, this success. The periodicity of the five-yearly review, however, is not sufficiently flexible to permit timely response to changing conditions in the healthcare sector. In line with best practice, in particular in other international organizations, the Management therefore proposes that the Director-General be authorized to take timely measures to limit the increase of CHIS expenses, by encouraging the use of health care providers and treatments which provide the best quality-to-cost ratio. Examples of such measures could be an enhanced reimbursement of preventive examinations or treatments, incentives for use of cheaper healthcare providers or generic medicines, etc.

5 – ENTRY INTO FORCE

Subject to Council's approval, the proposals herein and the related modifications to the Staff Rules & Regulations shall be effective 1 January 2011, except as otherwise provided with respect to adjustment of the basic salaries.

6 – COST OF THE MANAGEMENT'S PROPOSALS

The Management's proposals can be accommodated within the current budget and financial planning, as set out in the 2011 Budget and the Medium Term Plan, approved on 16 September 2010 (CERN/2915/Rev.).

As described above, the basic salary adjustments will be implemented in two phases (1.1.2011 and 1.1.2012). The related cost impact is shown below. The costs include the overheads (social contributions and allowances linked to the basic salary):

	2011	2012	2013	2014	2015	Total
Basic salary adjustments	5.2	10.4	10.4	10.4	10.4	46.6

All amounts are in 2010 prices and are expressed in MCHF

The cost for the Organization with respect to the increases in CHIS contributions (i.e. 8% in 2011 followed by 4% p.a. increases in the four subsequent years) comprises two elements which are shown together in the table below: a) part of the overhead costs of the active members; and b) the contribution of the Organization for the beneficiaries of the Pension Fund.

	2011	2012	2013	2014	2015	Total
All CHIS members	1.6	2.8	3.9	5.0	6.4	19.7
CERN (active + beneficiaries of the Pension Fund)	4.2	6.4	8.5	10.8	13.3	43.2
Total	5.8	9.2	12.4	15.8	19.7	62.9

All amounts are in 2010 prices and are expressed in MCHF

7 – CONCLUSION

In conclusion, Management's proposals constitute a balanced, but reasonable, package aiming at:

- bringing CERN's scale of basic salaries closer to remuneration levels in its main recruitment markets;
- ensuring the appropriate distinction between the Junior and Senior Fellowship Programmes, whilst remaining attractive for all fellows; and,

- maintaining the financial equilibrium of the CHIS, with a fair distribution of effort between the members of the scheme and the Organization.

With this package of measures, CERN expects to enhance its competitiveness on the employment market, thereby improving its capacity to recruit and retain the personnel it needs to fulfill its current and future mission.

The Management hereby submits its proposals, as summarized in Annex 1, endorsed by TREF on 25 November 2010, to the Finance Committee for recommendation to Council. Finance Committee is also invited to approve the amendments to the Staff Regulations, laid down in Annexes 2 and 3, subject to approval of the Management proposals by Council. Council is invited to approve the Management proposals as summarized in Annex 1.

Annexes:

- Annex 1 : Summary of Management Proposals*
- Annex 2 : Proposed modifications to Annex R A 5 of the Staff Rules and Regulations (Monthly basic salaries of staff members)*
- Annex 3 : Proposed modifications to Annex R A 6 of the Staff Rules and Regulations (Stipends of fellows)*
- Annex 4 : Data collection of basic salaries - methodology and results*
- Annex 5 : Progress report on the fellows and associates component of the five-yearly review (CERN/TREF/355, dated 7 May 2010).*
- Annex 6 : Technical analysis of the CERN Health Insurance Scheme – Actuary’s report (CERN/TREF/353, dated 9 October 2009).*
- Annex 7 : Transparencies entitled “Update on CHIS actuarial situation” presented by P. Charpentier, Chairperson of the CHIS Board, at the TREF meeting on 18-19 May 2010.*
- Annex 8 : Note entitled “Legal Framework of the Five-yearly Review”, dated 3 November 2010.*

ANNEX 1

SUMMARY OF MANAGEMENT PROPOSALS

Proposal 1 – Basic salaries

1a) Basic salary adjustments

With respect to career paths AA to C, as CERN basic salaries are globally in line with the relevant markets, the Management does not propose any adjustments.

With respect to career paths D to G, the Management proposes the following moderate increase to be implemented in two stages:

<u>Effective 1 January 2011:</u>	and	<u>Effective 1 January 2012:</u>
Career path D: + 1%		Career path D: + 1%
Career paths E to G: + 2%		Career paths E to G: + 2%

1b) Technical adjustment of the basic salary scale

It is proposed that band b of career paths B to E be extended. The proposed modifications do not alter the minima and maxima of the career paths, and entail no additional cost to the Organization.

To ensure consistency over the basic salary scale, the Management also proposes to adjust the step value in career paths F and G to 1.37% and 1.36%, respectively, of the entry step in the career path. In order to limit the increase of the maxima, the length of the salary bands has been reduced.

Proposal 2 – Stipends for fellows and subsistence allowances for associated members of the personnel

2a) Stipends

The Management proposes:

- no adjustments to the stipends paid to senior fellows;
- the following adjustments to the seniority-based supplement paid to junior fellows (all figures shown are at 2010 rates):

	Seniority Level	Basic stipend	Current supplement	Proposed supplement
Diploma Level	Technical Engineer (or equivalent)	4449	1026	698
	M.Sc. (or equivalent)	4449	2139	1942

The net impact on the full stipend will be an adjustment of -6% for the Technical Engineer level and -3% for the M.Sc. level.

2b) Subsistence allowances

As subsistence allowances for the associated members of the personnel are in line with the cost-of-living in the local region, the Management does not propose any adjustments.

Proposal 3 – CERN Health Insurance Scheme

3a) Contribution rates

The Management proposes to:

- balance the contribution rates for active members and pensioners;
- increase the total HIS contribution rate by 8% for 2011, followed by annual increases of 4% for 2012 to 2015; and
- stabilize the amount of the CHIS reserve by introducing a mechanism which counteracts possible revenue shortfall stemming from deviations from the actuarial assumptions, up to a maximum, over the next 5 years, of 5 MCHF in total.

3b) Benefits

The Management proposes:

- no change in the overall envelope of benefits;
- that the Director-General be authorized to take timely measures to limit the increase of CHIS expenses, by encouraging the use of health care providers and treatments which provide the best quality-to-cost ratio.

ANNEX 2

PROPOSED MODIFICATIONS TO ANNEX R A 5 OF THE STAFF RULES AND REGULATIONS (Monthly basic salaries of staff members)

REGULATIONS
Annex R A 5
1 January 2011
<i>Applicable to: Ts</i>

Monthly basic salaries of staff members (in Swiss francs)
(Article R V 1.01)

Minimum and maximum values for career paths

AA		A		B			C			D			E			F			G	
AAb	AAc	Ab	Ac	Ba	Bb	Bc	Ca	Cb	Cc	Da	Db	Dc	Ea	Eb	Ec	Fa	Fb	Fc	Ga	Gb
step value 50		step value 70		step value 73			step value 79			step value 92			step value 110			step value 164			step value 216 226	
3750	4714	5191	5904	5396	6128	6978	5794	6599	7522	6665	7597	8861	7824	8949	10456	11973	13015	14851	15863	16627
4700	5414	6171	7304	6126	7661	8292	6584	8732	9655	7585	10081	11621	8924	12029	13976	14433	16295	17639	18671	20017
ECE min	5453	ECE min	7367	ECE min	8362		ECE min	9742		ECE min	11713		ECE min	14063		ECE min	17803		ECE min	18887 20243
ECE max	5943	ECE max	8170	ECE max	9389		ECE max	10925		ECE max	13675		ECE max	16015		ECE max	18451		ECE max	19565 22277

ANNEX 3

**PROPOSED MODIFICATIONS TO ANNEX R A 6 OF THE STAFF RULES AND REGULATIONS
(Stipends of fellows)**

<i>REGULATIONS</i>
Annex R A 6
Articles R A 6.01 – 6.02
1 January 2011

Stipends of fellows

(Article R V 1.02)

<i>Article N°</i>	<i>Applicable to</i>
R A 6.01 Stipends of fellows	Fb
R A 6.02 Basis for the social contributions of fellows	Fb

Stipends in Swiss francs effective on 1.1.2011:

- a) basic stipend: 4465 per month;
- b) supplement: between 700 and 3578 per month.

The social contributions of fellows shall be calculated on the basis of:

- a) the basic stipend for the Pension Fund, and
- b) the total stipend for the Health Insurance Scheme.

ANNEX 4

DATA COLLECTION OF BASIC SALARIES METHODOLOGY AND RESULTS

<p style="text-align: center;">DATA COLLECTION ON BASIC SALARIES METHODOLOGY AND RESULTS</p>
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1.— COLLECTION OF DATA

1.1 Career paths AA to B

For the data collection on salaries in the local region of the Organization, three local salary survey companies were contacted: CEPEC, Landolt & Mächler Consultants, and Corporate Consultancy Technology. Corporate Consultancy Technology was finally retained because it was the only company able to collect data in Switzerland as well as in France, and able to provide salary data net of income taxes.

1.2 Career paths C to G

In accordance with Annex A 1, paragraph 4.1.b) of the Staff Rules, the data collection on salaries in the Member States has been entrusted to the IOS (Inter-Organisations Study Section on Salaries and Prices), attached to the OECD, which contracted a consultancy firm to provide the data. For that purpose, a market consultation under OECD procedures was launched. Six companies offered their services: Watson Wyatt, Hay Group, Mercer Human Resource Consulting, Hewitt Associates, Price Waterhouse Coopers and Towers Perrin. Two companies were retained in the short list: Watson Wyatt and Hay Group; the other companies were not retained for cost reasons. Ultimately, the consultancy firm Hay Group was selected, as it proposed more complete services and considerably larger databases in the countries covered by the study.

2.— RECRUITMENT MARKET

Based on the identification of CERN's main recruitment market for all career paths (see CERN/TREF/345, entitled "Five-yearly review 2010, report on main recruitment markets"), data have been collected from private industry, in particular from the high technology sector.

The high technology sector includes companies belonging to the high and medium-high Research & Development intensity sectors as defined by the Joint Research Center (JRC) and Research Directorate-General (DG RTD) of the European Commission in their publication "2008 EU industrial R&D investment scoreboard":

- High R&D intensity sectors (above 5% of net sales spent in R&D) include, for example, pharmaceuticals and biotechnology; health care equipment and services; technology hardware and equipment; plus software and computer services.

- Medium-high R&D intensity sectors (between 2% and 5% of net sales spent in R&D) include, for example, electronics and electrical equipment; automobiles and parts; aerospace and defense; industrial engineering and machinery; chemicals; personal goods; household goods; general industrials; plus support services.

3. — GEOGRAPHICAL MARKET

For the local survey (career paths AA to B), data were collected in the local region of the Organization (Geneva, Vaud and neighbouring France). The comparison indicated that the employers that offer salaries that are among the most competitive are established in Vaud and Geneva.

For the international survey (career paths C to G), a preliminary study performed by an external consultant indicated that the employers established in Switzerland, Germany and the United Kingdom offer the most competitive salaries. These conclusions were confirmed by the OECD. Norway, Spain and the Czech Republic were added by the CERN Management for information purposes only, in order to have a representative geographical spread among the 20 Member States.

4. — BENCHMARK FUNCTIONS

For the local survey, CERN identified six key positions in career paths AA to B, in the following areas:

- Technical functions: assistant mechanic, mechanic and technician.
- Administrative functions: clerk, administrative clerk and office assistant.

The benchmarked functions were evaluated using the methodology of Corporate Consultancy Technology, whose evaluation factors corresponded well with CERN functions.

For the international survey, CERN identified key positions covering 19 different jobs in career paths C to G. The jobs concerned relate to three different areas of work:

- Technical functions: technical assistant, technical engineer, engineer/applied physicist, senior engineer/applied physicist and high level specialist.
- Administrative functions: administrative assistant, senior administrative assistant, buyer, accountant, budget controller and financial planner, HR administrator, legal advisor, senior administrator and high level specialist/deputy legal counsel.
- Managerial functions: group leader of a large unit, project leader, department head, head of large project and director.

The benchmarked functions were assessed by applying the evaluation methodology of the Hay Group, and a close correlation was found between the CERN career structure and the job sizes used by the Hay Group. Each position considered in the present study was compared to the job evaluations carried out for the previous exercises in 2000 and 2005 using the same methodology, thus ensuring consistency.

Detailed job descriptions were provided to the consultants for the selected CERN positions, as well as pertinent documents regarding the Organization's goals and objectives. All evaluations have taken into account the characteristics of CERN, namely fundamental research in the field of the high energy physics and the development of corresponding high technology.

5. — MARKET LINE COMPARISON

With a view towards recruitment and retention of staff with the highest competence and integrity, the comparisons of CERN's salaries with those of the private market were carried out against the median market line for career paths AA to B, and against the seventy-fifth percentile (P75) market line for career paths C to G. At the median market line, 50% of the salaries in the selected market are lower, and 50% are higher. At the P75 market line, 75% of the salaries in the selected market are lower, and 25% are higher.

6. — SALARY COMPONENTS

To allow comparisons of CERN reference salaries with those of the private sector, the Total Cash remuneration (sum of base and variable salary components) was converted to net basis and adjusted by the purchasing power (purchasing power parity).

Total Cash is the sum of Base Salary and the real short-term variable cash pay on an annual basis. The Base Salary includes all (taxable) fixed remuneration paid to an employee on an annual basis which can be classified as a "vested cash benefit". Typically included in the Base Salary are the monthly salary times 12 and any "extra" payment such as 13th month, holiday bonus and seniority premiums.

To calculate net income (net of taxable salary, but before social security contributions), the taxation rules of each selected country have been used.

The net income results in countries other than Switzerland have been adjusted to take into account the cost-of-living differentials based on data provided by IOS. The purchasing power parities (PPP) calculated by the OECD and Eurostat for salary purposes are used to ensure that international staff in comparable professional and family circumstances benefit from equivalent purchasing power, irrespective of the place of employment.

With reference to Switzerland, the PPPs used for each of the selected countries, calculated as of 1 July 2009, are as follows:

Switzerland	1
Czech Republic	11.331
Germany	0.5237
Norway	5.625
Spain	0.4906
United Kingdom	0.3978

Table 1 – PPPs used for the selected countries

7. — CERN REFERENCE SALARIES

In accordance with best practice, the market data were compared with the midpoints of CERN's career path (or salary bands, where applicable). These correspond to a professional experience of approximately 20 years, depending on the benchmark jobs. Accordingly, similar work experience was also considered when collecting the salary data of comparable private market jobs.

This study compares CERN basic salaries, applicable on 1 January 2010, against the private market salaries with reference date as of 1 January 2009. In order to project the private market salaries on 1 January 2010, the following ageing factors have been applied:

Czech Republic	1.5%
Germany	1.8%
Norway	3.3%
Spain	1.6%
Switzerland	1.8%
United Kingdom	2.0%

Table 2 – Figures projected for 1 January 2010

8. — SIZE OF THE SAMPLE

The total numbers of companies and of individual observations in the Hay Group's database are indicated in the table below:

Switzerland		UK		Czech Republic		Germany		Norway		Spain	
No. Incumbents	No. Companies	No. Incumbents	No. Companies	No. Incumbents	No. Companies	No. Incumbents	No. Companies	No. Incumbents	No. Companies	No. Incumbents	No. Companies
14'109	88	41'196	115	47'789	171	60'245	203	1'193	63	21'141	73

Table 3 – Total number of companies and individual observations by country

9. — RESULT OF THE DATA COLLECTION

The following graphs show the market lines as a percentage of CERN's basic salaries. A 100% value means that the market line equals CERN's reference salary. Where the value is below 100%, it means that CERN is above market, while a value above 100% means that CERN is below market.

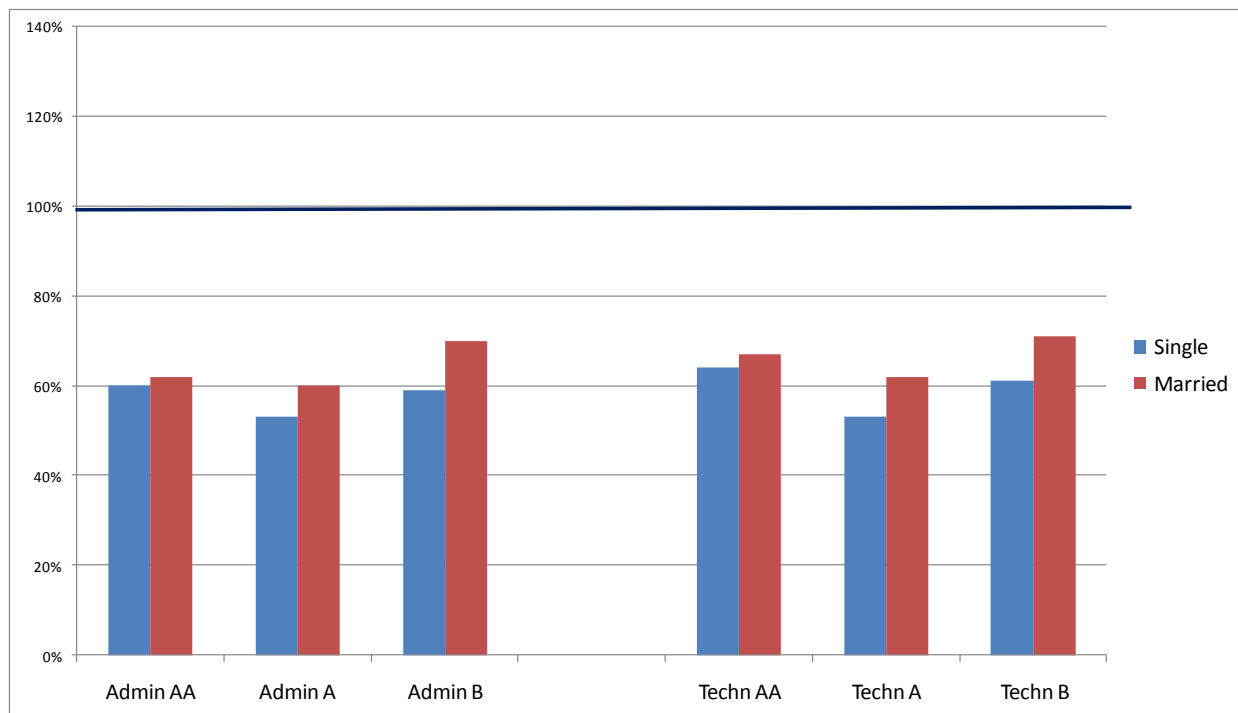


Figure 1 - Local survey results for France

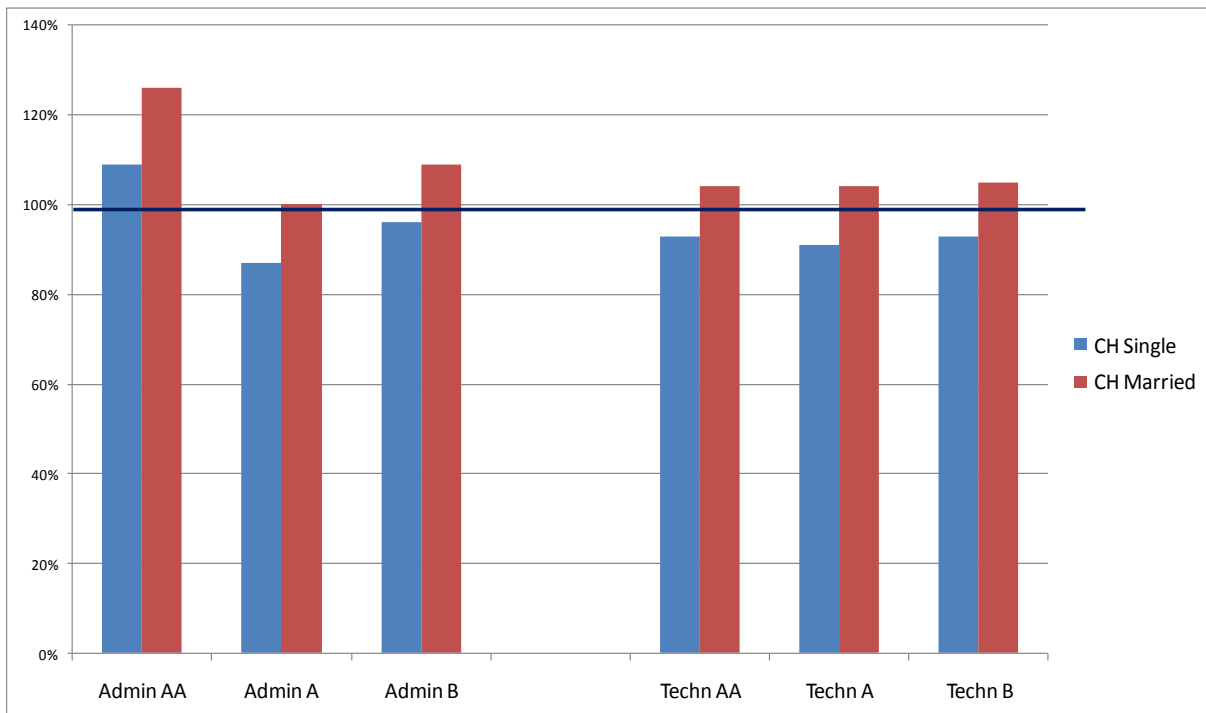


Figure 2 - Local survey results for Switzerland

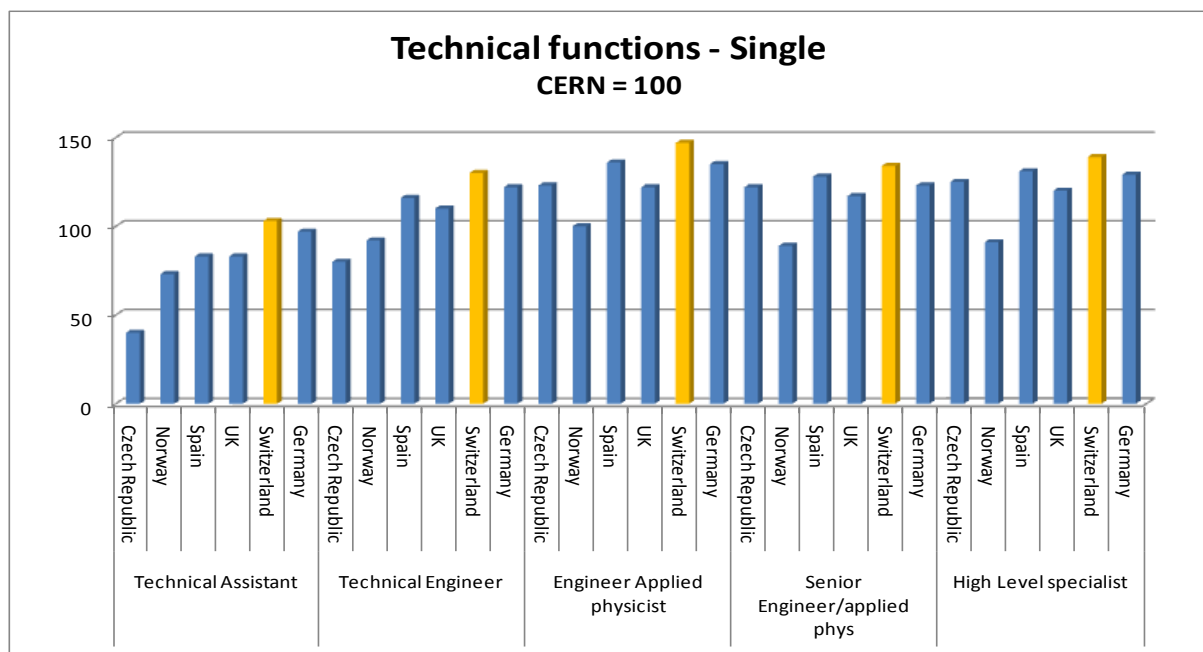


Figure 3 - International survey results for technical functions (single)

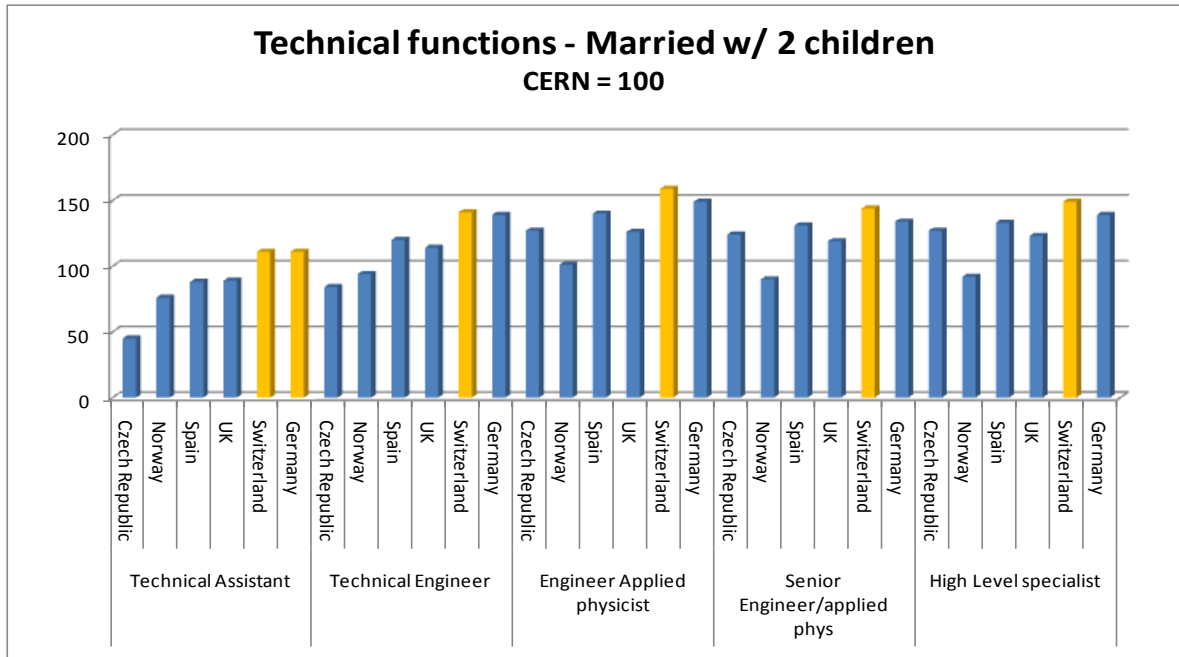


Figure 4 - International survey results for technical functions (married, two children)

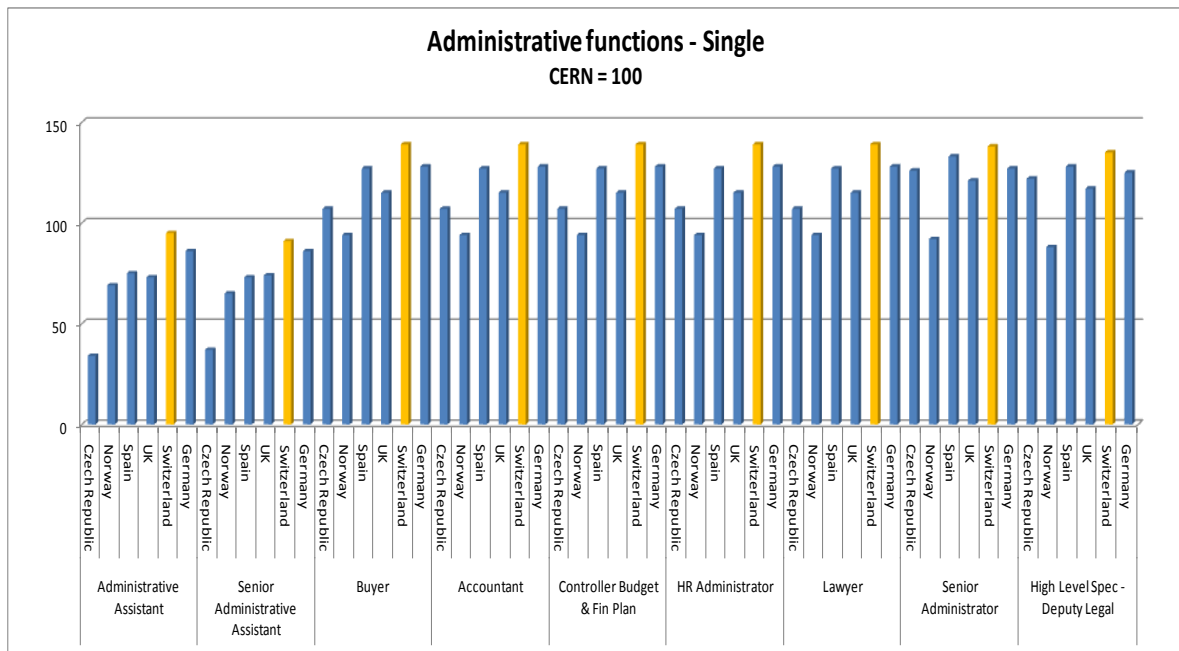


Figure 5 - International survey results for administrative functions (single)

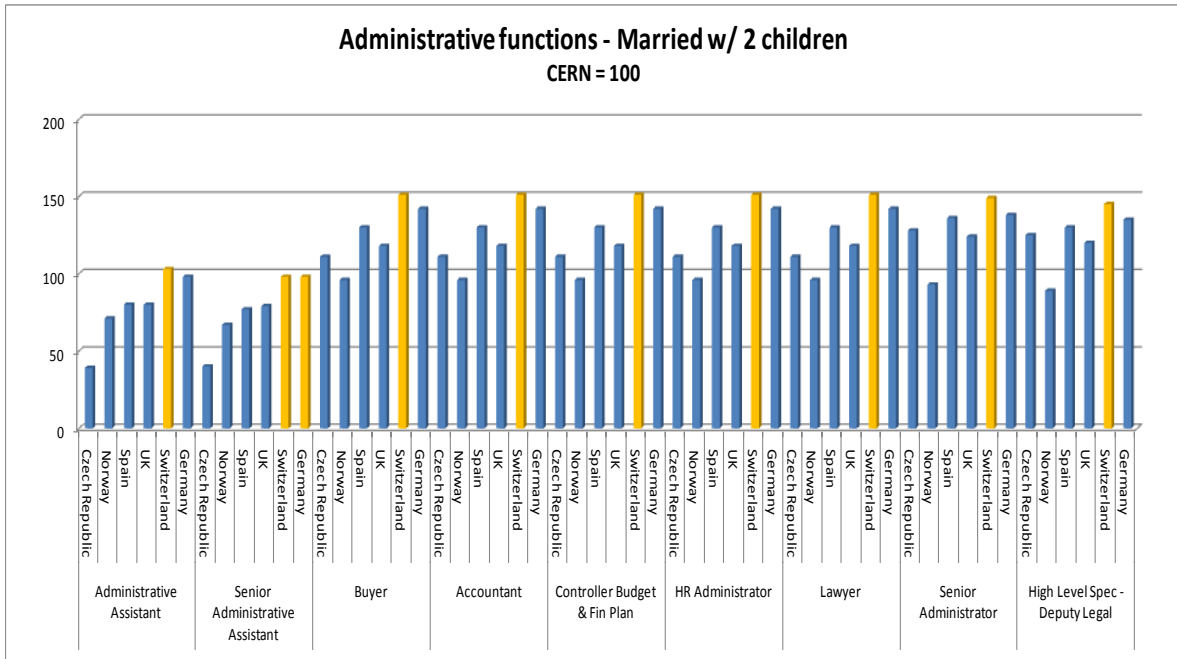


Figure 6 - International survey results for administrative functions (married, two children)

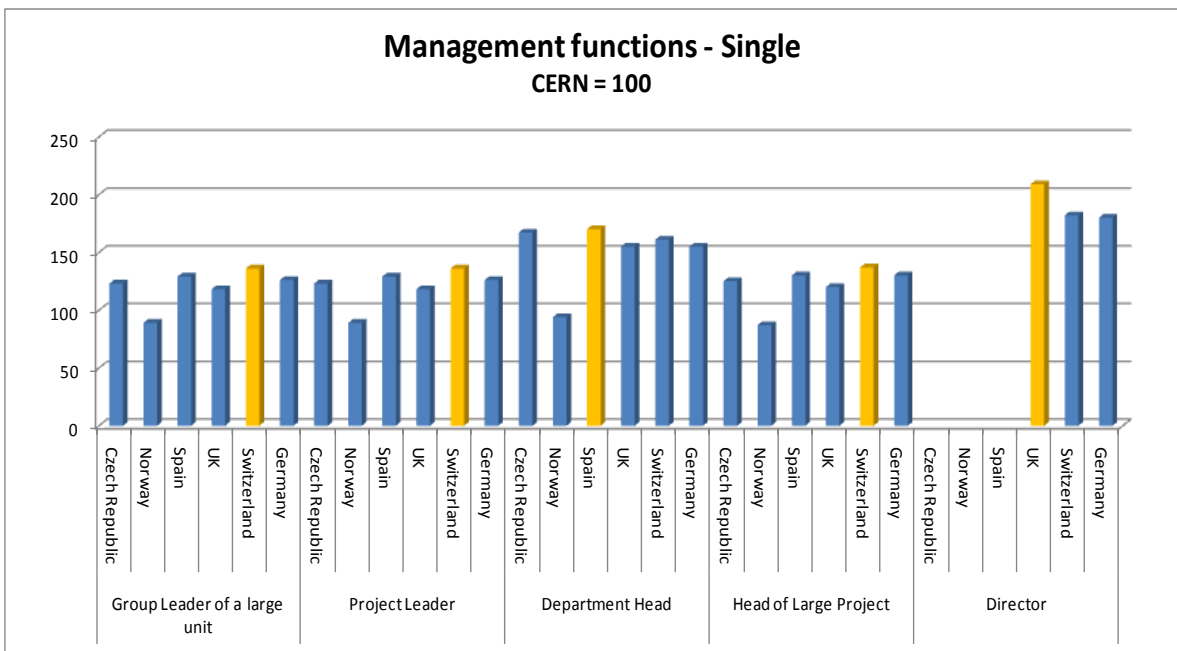


Figure 7 - International survey results for management functions (single)¹

¹ No data for Director's level positions for Czech Republic, Norway and Spain

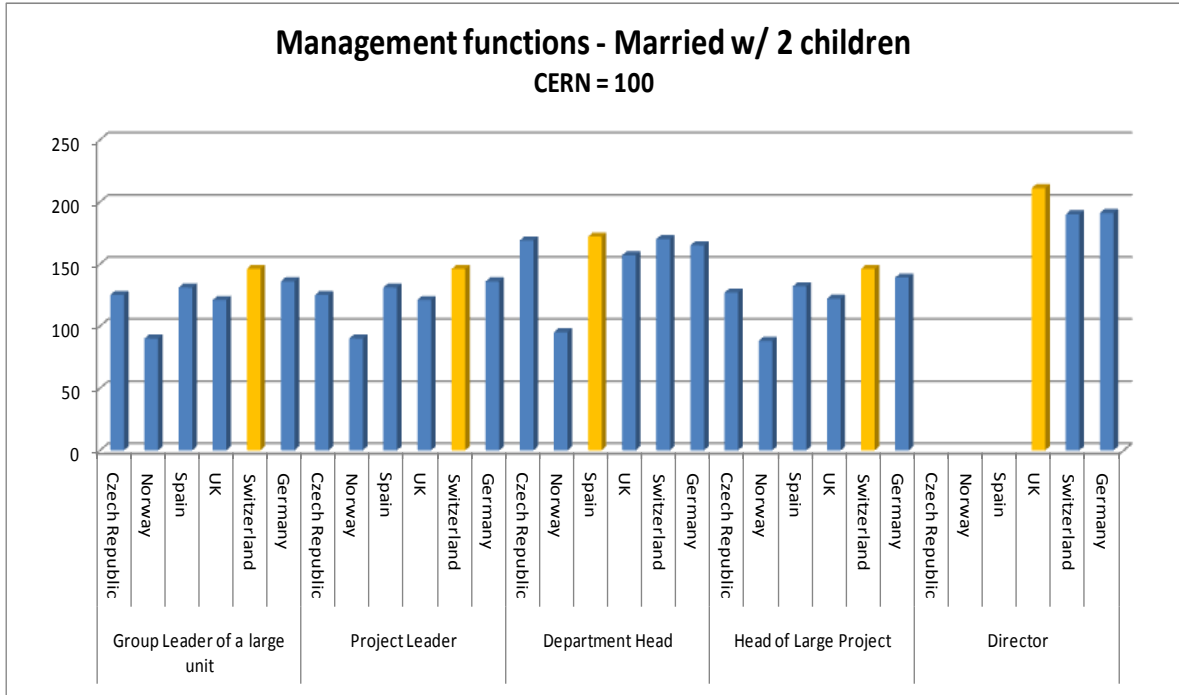


Figure 8 - International survey results for management functions (married, two children)²

² No data for Director’s level positions for Czech Republic, Norway and Spain

ANNEX 5

**PROGRESS REPORT ON THE FELLOWS AND ASSOCIATES COMPONENT
OF THE FIVE-YEARLY REVIEW
(CERN/TREF/355, dated 7 May 2010).**

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
CERN **EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH**

TRIPARTITE EMPLOYMENT CONDITIONS FORUM (TREF)

73rd Meeting

Geneva – 18 & 19 May 2010

FIVE-YEARLY REVIEW 2010

**PROGRESS REPORT ON
THE FELLOWS & ASSOCIATES COMPONENT
OF THE FIVE-YEARLY REVIEW**

This report, which TREF is invited to discuss, has been drawn up in the framework of the 2010 five-yearly general review of the financial and social conditions of members of the personnel. It outlines the preliminary results for the Fellows and Associates component of the five-yearly review, including comparison of data received from the comparator research institutions for fellows (CERN/TREF/347).

I. — INTRODUCTION

With respect to the five-yearly review of financial and social conditions of members of the personnel, Annex A 1 of the Staff Rules and Regulations states that for Fellows, who are employed¹ members of personnel:

“The purpose of the five-yearly review is to ensure that the financial and social conditions offered to fellows remain attractive compared to those in comparable research institutions”.

CERN/TREF/347 of May 2009 identified those institutions from which data would be collected for the five-yearly review for the above.

For associated members of the personnel, Annex A 1 states:

“The purpose of the five-yearly review is to ensure that the financial and social conditions offered by the Organization to associated members of the personnel allow it to host them in its research facilities, taking into account the highest cost-of-living level in the local region of the Organization.”

This document presents the first results of the data collected from the comparator organizations.

II. — FELLOWS

Document CERN/TREF/347 submitted in May 2009 and subsequently approved by Council (CERN/FC/5369 and CERN/2862) defined the following institutions as comparator organisations: Deutsches Elektronen-Synchrotron (DESY), European Molecular Biology Laboratory (EMBL), the European Space Agency (ESA), the European Organisation for Astronomical Research in the Southern Hemisphere (ESO) and the European Union (EU).

Data were collected from these organisations for the purpose of this five-yearly review. CERN would like to thank them for their collaboration on this exercise.

In line with the methodology described and applied in Annex A1 for staff salaries, comparisons were made on stipends for fellows after taxation, prior to any deductions for health and social security and excluding any additional allowances or benefits if and where applicable, i.e. ‘*basic stipend*’. Due to differing practices across the comparator organisations, average take-home amounts including allowances is also provided as supplementary information.

The previous five-yearly review (CERN/2659) introduced the separation of the Fellowship Programme into two sub-programmes:

- The **Senior Fellowship Programme** is addressed to people with a Ph.D., or at least four years of experience after the degree.
- The **Junior Fellowship Programme** targets holders of at least a Technical Engineer degree (or equivalent) and at most a M.Sc. degree (or equivalent) with not more than four years of experience.

¹ A reminder that members of the personnel fall into two categories: *employed* members of the personnel comprising staff members, fellows and apprentices and *associated* members of the personnel comprising associates, users and students.

It is noted that the comparator organisations also make the same distinction, with some organisations placing more emphasis on post-doctoral fellowships, and other organisations choosing not to implement pre-doctoral fellowships. Therefore to provide a more accurate analysis we have chosen to divide the comparison by organisation across the two sub-programmes.

1) Senior Fellowship Programme

The Senior Fellowship Programme is comparable to what is often termed a ‘*post-doctoral*’ fellowship in comparator organisations or ‘*Experienced Researcher*’ for the European Commission (EC).

CERN’s Fellowship stipends comprise a basic amount, increased by a seniority-based supplement as detailed in CERN/FC/5033. Applying indexation, the 2009 rates for these are shown in Table 1.

	Basic Amount	4379
	Seniority Level	Seniority-based supplement
Seniority Based Supplement	Between 4 and 6 years research experience (or PhD)	2499
	Between 6 and 8 years research experience	2871
	Between 8 and 10 years research experience	3190
	(Just) over 10 years research experience	3510

Table 1 - Seniority-based supplement for the Senior Fellowship Programme in 2009 Rates (CHF/month)

The highest seniority level provides some flexibility for “*appointing outstanding individuals whose experience profile would exceed the standard 10-year limit*” (CERN/FC/5033) and also has the consequence of making the range of the senior fellow stipend scale wider than any of the other comparator organisations. However, this latter supplement is seldom used, applicable to not more than 1% of the fellows.

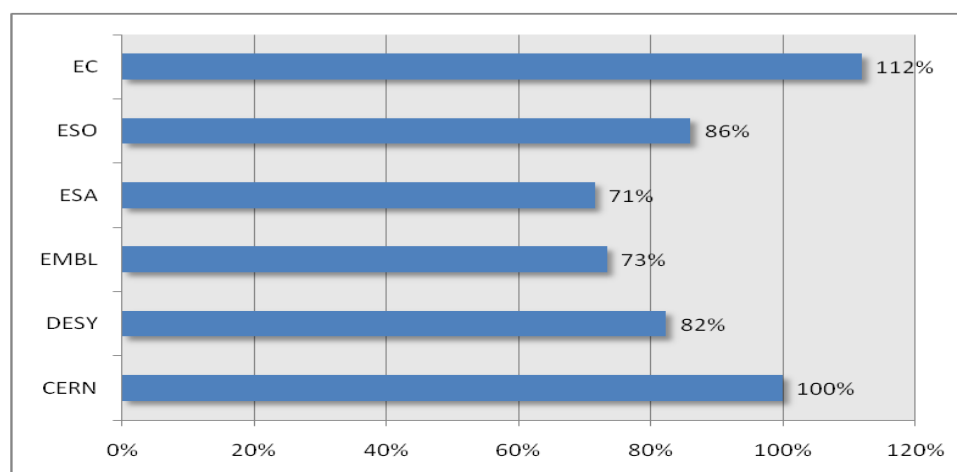


Figure 1 - Comparison of the minimum basic stipends of the senior (PhD) fellows across the comparator organizations²

² All values have been converted into Swiss Francs by applying the applicable Purchasing Power Parity (PPP) in the case of the comparator organizations and the “flat rate” with the Swiss correction coefficient as imposed by the EC.

Concerning the EC amount, whereas CERN has a scale which includes a seniority-based supplement as illustrated in Table 1, the EC provides one single rate³ for post-doctoral fellows independent of seniority.

Figure 1 illustrates the relative comparison of basic stipend for the minimum amounts for senior fellows according to the five-yearly review methodology introduced in Annex A1 of the Staff Rules and Regulations of 2007. The graph demonstrates that, in general, conditions offered at CERN to inexperienced post-doctoral fellows remain attractive.

Moreover, it is important to recall that prior to 2007, fellow stipends at CERN were supplemented by a non-resident allowance of between 9 and 12%. At the last five-yearly review it was decided that these amounts be incorporated into the basic stipends. This is not the same practice in the comparator organisations whereby the stipend is still supplemented by additional allowances of 9%, 12% and even 20% (expatriation allowance) depending on the organisation and conditions. Therefore, in order to allow for a more meaningful comparison, a graph integrating these additional allowances is included as supplementary information. This is illustrated in Figure 2 below.

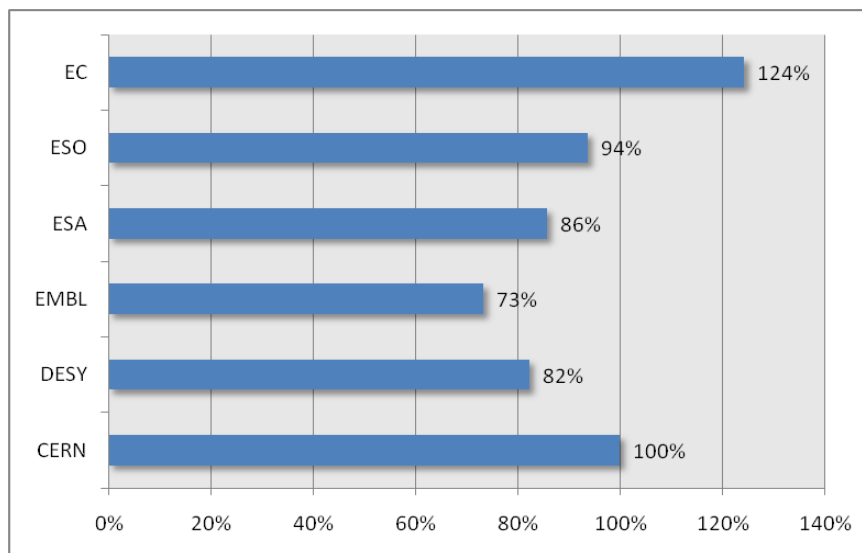


Figure 2 - Comparison of the minimum basic stipend plus relevant allowances (where applicable) of the senior (PhD) fellows across the comparator organisations²

2) Junior Fellowship Programme

The Junior Fellowship Programme, introduced with the last five-yearly review, targets holders of at least a Technical Engineer degree (or equivalent) and at most a M.Sc. degree (or equivalent) with not more than four years of experience. It is comparable to what is often termed a ‘pre-doctoral’ fellowship in comparator organisations, or ‘Early Stage Researcher’ for the EC.

CERN’s Junior Fellowship stipends are based upon a basic amount, increased by a seniority-based supplement as detailed in CERN/FC/5033. Applying indexation, the 2009 rates for these are shown in Table 2.

³ This single rate is termed the “flat rate” by the EC, which is a contribution to the Host Organization. It covers both the stipend and health and social contributions.

	Basic Amount	4379
	Seniority Level	Seniority-based supplement
Diploma Level	Technical Engineer (or equivalent)	1010
	M.Sc. (or equivalent)	2106

Table 2 - Seniority-based supplement for the Junior Fellowship Programme

Figure 3 illustrates the relative comparison of basic stipend for the minimum amounts for junior fellows. ESO is absent since it does not offer pre-doctoral fellowship opportunities. The graph demonstrates that conditions offered at CERN to pre-doctoral fellows are attractive. For information, as per the approach used for the senior fellows previously, a graph is also provided (Figure 4 below) which includes additional allowances where applicable.

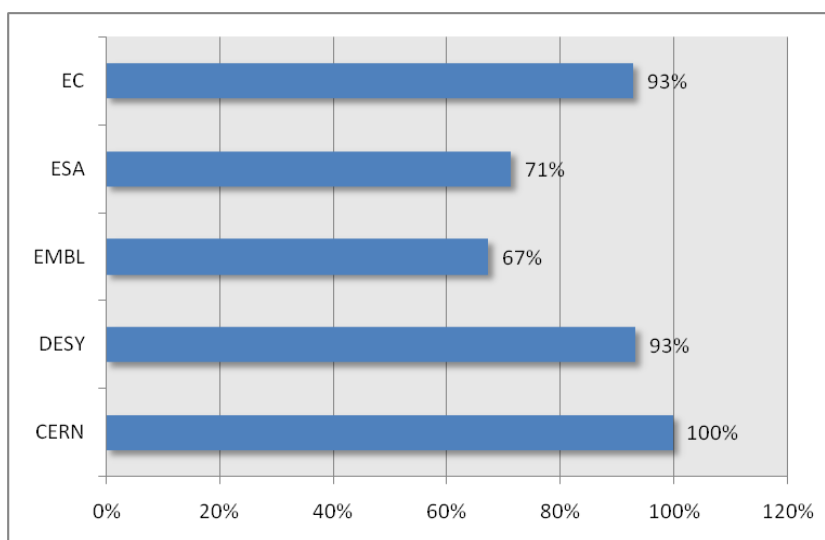


Figure 3 - Comparison of the minimum basic stipends of the junior (pre-doctoral) fellows across the comparator organisations²

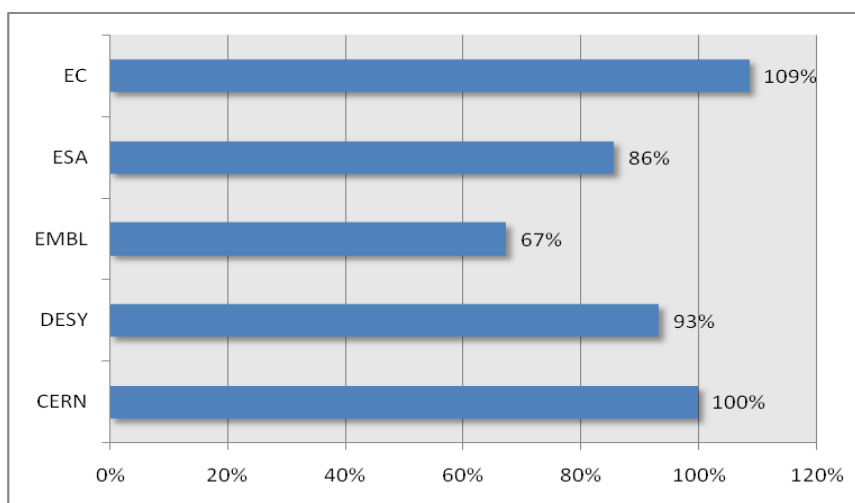


Figure 4 - Comparison of the minimum basic stipend plus relevant allowances (where applicable) of the junior (pre-doctoral) fellows across the comparator organisations²

It is worth noting that the comparator organisations seem to have slightly more emphasis on post-doctoral fellows than pre-doctoral fellows, therefore when comparing across the programmes, it is perhaps important to bear in mind the relative seniority supplements of the two programmes. The graph below illustrates the combined seniority supplements of Tables 1 and 2. The proximity of the highest junior supplement and lowest senior supplement highlights that at CERN there is less of a differential made between junior and senior fellows than between pre-doctoral and post-doctoral in the comparator organisations.

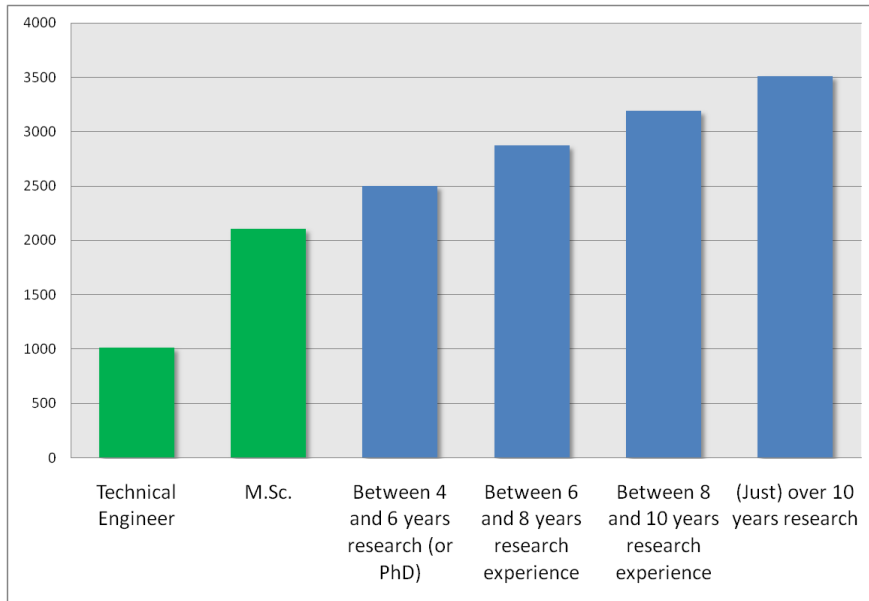


Figure 5 - Seniority supplements applied to the Junior and Senior Fellowship Programme

Conclusion for Fellows

Based on the data gathered from the comparator organisations and the subsequent analysis performed, it can be concluded that for both the junior and senior categories of the fellowship programmes, the financial conditions at CERN remain attractive compared to those in comparable research institutions.

III. — ASSOCIATED MEMBERS OF PERSONNEL

The purpose of the five-yearly review is to ensure that the financial and social conditions offered by the Organization to associated members of the personnel allow it to host them in its research facilities, taking into account the highest cost-of-living level in the local region of the Organization.

Annex A1 of the Staff Rules and Regulations states that: *“The annual review of subsistence allowances and family benefits shall be performed using the Geneva cost of living movement”*. The basic rate, which was 4000 CHF is detailed in Annex R A 7 of the Staff Rules and Regulations. By applying the Geneva Cost Variation Index (CVI) this rate to-date is 4128 CHF.

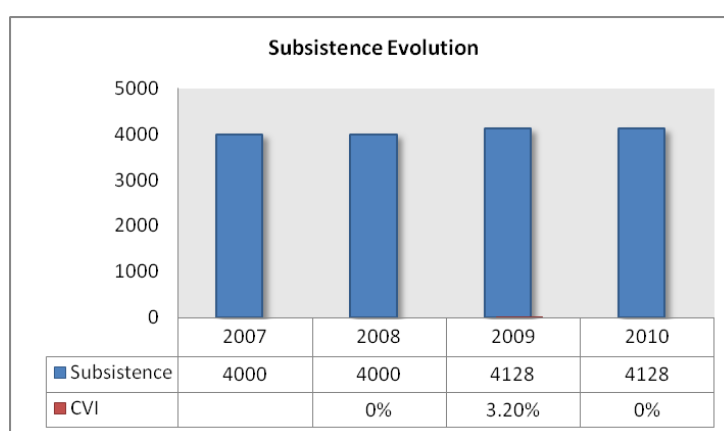


Figure 6 - Evolution of the Geneva Cost Variation Index (CVI) and its impact on the minimum subsistence for associates

Figure 6 illustrates the application of the Geneva Cost Variation Index (CVI) to the basic rate for associates since the introduction of this methodology in 2007.

1) Scientific Associates

The Scientific Associates Programme aims to provide scientists from all over the world with the opportunity to participate in challenging research and development and promote the exchange of knowledge in leading scientific and technological fields. The programme is open to scientists and engineers who wish to spend a period of up to one year at CERN and who are on leave of absence from their home institute, which, as their employer, remains responsible for their social security coverage.

The last five-yearly review introduced a new payment scheme which, for scientific associates, supplemented the basic subsistence rate of associates with a seniority-based supplement reflecting the prestige of the programme and linked with the cost of living.

Basic Rate	<i>4000</i>
Years of experience after first university degree	Amounts
Up to 10 years	2000
Between 11 and 15 years	2500
Between 16 and 20 years	3000
Between 21 and 25 years	3000
Between 26 and 30 years	3500
Over 30 years	4500

Table 3 - Paid associate rates and the seniority supplements introduced at the last five-yearly review (2006 rates in CHF/month)

CERN has continued to attract and retain some of the most prestigious scientists to host them as scientific associates, which demonstrates that this simplified approach was a success.

2) Corresponding Associates

The Corresponding Associates Programme awards short duration positions to scientists holding research or teaching posts for a period of at most six months to help them remain abreast of developments in particle physics and related fields. Corresponding associates receive the basic rate applicable to scientific associates, however without the seniority supplement. These rates are also indexed with the cost of living according to Figure 6.

CERN has continued to attract a constant and stable number of corresponding associates in the context of this programme.

3) Project Associates

The Project Associate category was introduced in 1994. The objective was to detach some of the scientific, engineering and technical staff from institutions to CERN for a limited period of time and assign them in a specific project (primarily targeted at LHC construction and the experiments). Besides the educational value, this category opened the possibility for non-Member States to contribute to CERN projects in view of extending and strengthening scientific collaboration.

Project Associates are engineers, scientists and technicians who come on an individual basis or as a member of a team. They must have an external employer being a scientific institution (commercial firms do not qualify) from which they receive a salary during the entire association and must also be entitled to return to their institution upon the termination of their association. They must also benefit from full social security coverage either by their institution or at their own initiative. The association with CERN is for an initial period of up to one year and is renewable, subject to agreement by the employing institution, up to a maximum of three years.

CERN pays a subsistence allowance to the Project Associate which is the standard subsistence allowance for associated members of the personnel (4128 CHF/month in 2009).

Conclusion for Associates

As all categories of associates receive at least the basic subsistence, and since this subsistence has been indexed in-line with the cost-of-living of Geneva, as illustrated earlier, it can be concluded that, for the associates, these rates remain in-line with the objective for CERN to “*host them in its research facilities, taking into account the highest cost-of-living level in the local region of the Organization*” (Annex A1).

The above categories of associates represent the more highly paid associated members of personnel (MPA) category, and are also fewer in numbers compared with students. For the purposes of this five-yearly review therefore, an analysis is also provided of the student category where there is significantly more competition to attract these students to CERN and where the subsistence payments are lower than those of the associates (scientific, corresponding or project).

4) Students

The Student Programmes constitute a key element of CERN’s strategy for training junior researchers and introducing them to the global research community. They also provide valuable human resources, contributing to the advancement of all major research projects. The CERN student programmes comprise:

- The **Summer Student Programme**, designed for undergraduates in physics and in engineering, invited to CERN during the summer months for periods from eight to 13 weeks.
- The **Technical Student Programme**, aimed at undergraduate students in technical fields, whose educational establishments require them to spend a training period of several months (typically 12) in industry or in a research establishment.
- The **Doctoral Student Programme**, aimed at postgraduate students who wish to prepare a doctoral thesis in a technical field. They usually spend two and a half years at CERN.

CERN also hosts a small **Administrative Student Programme** akin to the Technical Student Programme, however oriented towards the fields of international management, finance and personnel administration.

The last five-yearly review introduced the following rates for students (expressed in 2009 prices):

- basic rate : 2830 CHF/month for summer and administrative students;
- plus 16% for technical students (3283 CHF/month in total);
- plus 30% for doctoral students (3679 CHF/month in total).

There was a very small decrease in rates granted to technical students, but the most significant change in the last 5-yearly review was for doctoral students as can be seen by Figure 7

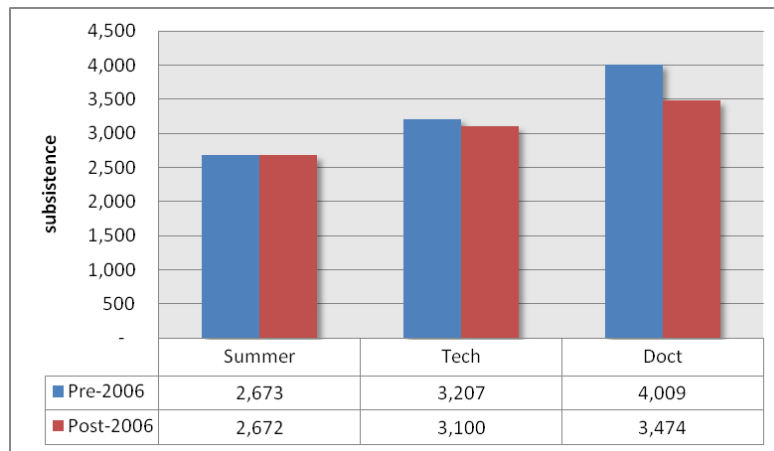


Figure 7 - Pre-2006 compared to post-2006 student rates illustrating the changes of the last five-yearly review

As per the associates, the student subsistence rates have also been indexed according to the Geneva CVI keeping in line with the goal of “taking into account the highest cost-of-living level in the local region of the Organization”.

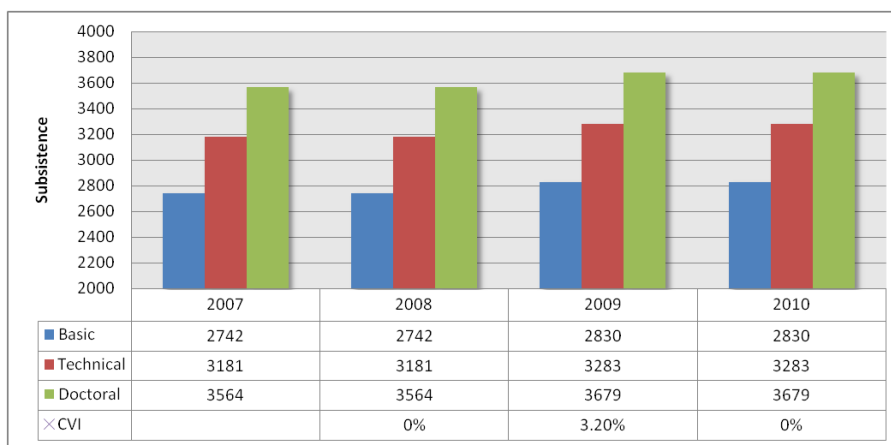


Figure 8 - Evolution of the Geneva Cost Variation Index (CVI) and its impact on the subsistence rates for students

As supplementary information, the data for the student populations were also provided to CERN from the comparator organisations, therefore we may illustrate the comparison of these rates across those organisations.

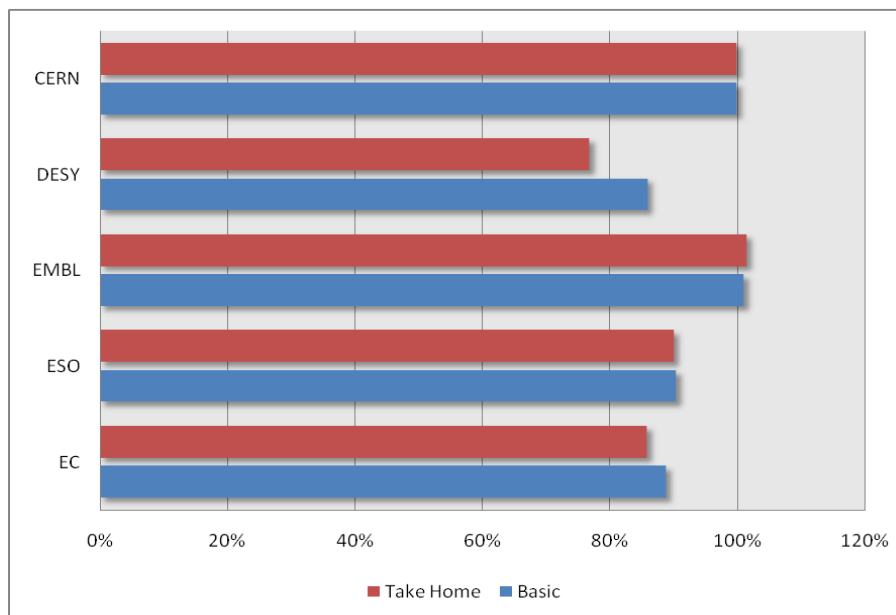


Figure 9 - Comparison of doctoral student payments (basic subsistence and take-home) across the comparator organisations. For the EC the half-rate⁴ is used as advised by them.

Conclusion for Students

With respect to the comparator organisations, the above graph illustrates that CERN rates remain competitive whilst also remaining in line with the evolution of the cost-of-living. The evolution of the population of this category of students, as illustrated in the annual personnel statistics, also supports this.

IV. — CONCLUSION

In the light of the data collected from the comparator organisations from DESY, EMBL, EU, ESA and ESO, initial results for fellows confirm that *“the financial and social conditions offered to fellows remain attractive compared to those in comparable research institutions”*.

Regarding associated members of personnel, the basic rate introduced at the last five-yearly review has been indexed according to the Geneva CVI. A cross-check of the student rates across the comparator organisations combined with the observed continued growth in these programmes as detailed by the personnel statistics illustrate the continued attractiveness of these programmes. The initial results for Associated Members of Personnel therefore confirm that *“the financial and social conditions offered by the Organization to associated members of the personnel allow it to host them in its research facilities, taking into account the highest cost-of-living level in the local region of the Organization”*.

⁴ The ‘half-rate’ is the applicable rate defined by the EC in the cases when an employment contract cannot be provided, e.g. for students. It is defined as 50% of the rates for researchers under an employment contract.

ANNEX 6

**TECHNICAL ANALYSIS OF THE CERN HEALTH INSURANCE SCHEME
-ACTUARY'S REPORT
(CERN/TREF/353, dated 9 October 2009).**

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

TRIPARTITE EMPLOYMENT CONDITIONS FORUM (TREF)

Seventy-second Meeting

Geneva – 21 & 22 October 2009

TECHNICAL ANALYSIS OF THE CERN HEALTH INSURANCE SCHEME

ACTUARY'S REPORT

TREF is invited to take note of this report, which was drawn up in the framework of the 2010 five-yearly general review of the financial and social conditions of members of the personnel. It provides information concerning the Actuary's Report issued in September 2009.

INTRODUCTORY NOTE

1. In the framework of the 2005 five-yearly general review of the financial and social conditions of members of the personnel, the Management made a proposal relating to the CERN Health Insurance Scheme (hereinafter CHIS) (see CERN/FC/5050¹ and CERN/FC/5086²). Following the approval of this proposal by the Council in October 2006, a working group was set up in 2007 to study the overall situation of the CHIS. Their study was based on an Actuary's Report that was presented at the TREF meeting in November 2007 (CERN/TREF/326³). It was agreed in the TREF Work Plan 2009 that the actuarial study would be updated in 2009.
2. In the framework of the 2010 five-yearly review of CERN employment conditions, the Management's proposal to include the CHIS in the items to be reviewed was approved by the Council in June 2009 (see CERN/FC/5364⁴).
3. The present report is an update of the 2007 Actuary's Report. The main changes are the following:
 - It is based on the population and actual costs in 2008.
 - The mortality data have been updated (LPP⁵ 2005, rather than LPP 2000 in the 2007 study).
 - In view of the current situation of cost increases and the general worldwide financial situation, the assumptions on evolution of costs and benefits from the fund were readjusted as follows:
 - Evolution of contributions: 2% increase per year.
 - Evolution of costs (excluding ageing): 3% increase per year.
 - Interest yield of funds: 3% per year.

The Actuary was asked to perform a study on the sensitivity of these parameters.

4. In order to decrease the uncertainties due to time extrapolation, the PIR (Provision for Increasing Risks) was calculated for a period of 15 years. For Long Term Care, the horizon was set to 25 years.

¹ Draft resolution on the conclusions of the 5-yearly review 2005 (8 June 2006).

² Proposed conclusions on the 5-yearly review 2005 (12 October 2006).

³ Technical analysis of the CERN Health Insurance Scheme – Actuary's report (12 November 2007).

⁴ Five-yearly review 2010 - Management's proposal identifying the Financial and social conditions to be reviewed (29 May 2009).

⁵ LPP refers to the « *Loi fédérale sur la prévoyance professionnelle vieillesse, survivants et invalidité* » (Swiss federal act on occupational pension plans).

5. For discussion purposes, the Actuary calculated the level by which contributions would have to increase annually in order for the Scheme to achieve equilibrium in 15 years. This projection model takes account of two assumptions with respect to benefits: (a) maintenance of current benefit levels; and (b) a 5% reduction in benefits as of 2011.
6. The Management hereby presents the Actuary's Report 2009 for information to TREF. The Report will be one of the components underlying the proposals to be presented in the 2010 five-yearly review.



**Report commissioned by CERN on the
Health Care and Long-Term Care components
of the CERN Health Insurance Scheme
2009**

This is an update of the 2007 report.

Contents

Chapter 1	: Projection of population trends	page 2
Chapter 2	: Analysis of the Health Care component	page 4
Chapter 3	: Analysis of the Long-Term Care component	page 12

CHAPTER 1 - PROJECTION OF POPULATION TRENDS

1. Definitions and assumptions

Future trends in the population have been projected according to the data provided in:

CHIS_pop 2008 for IPSAS.xls

Definitions:

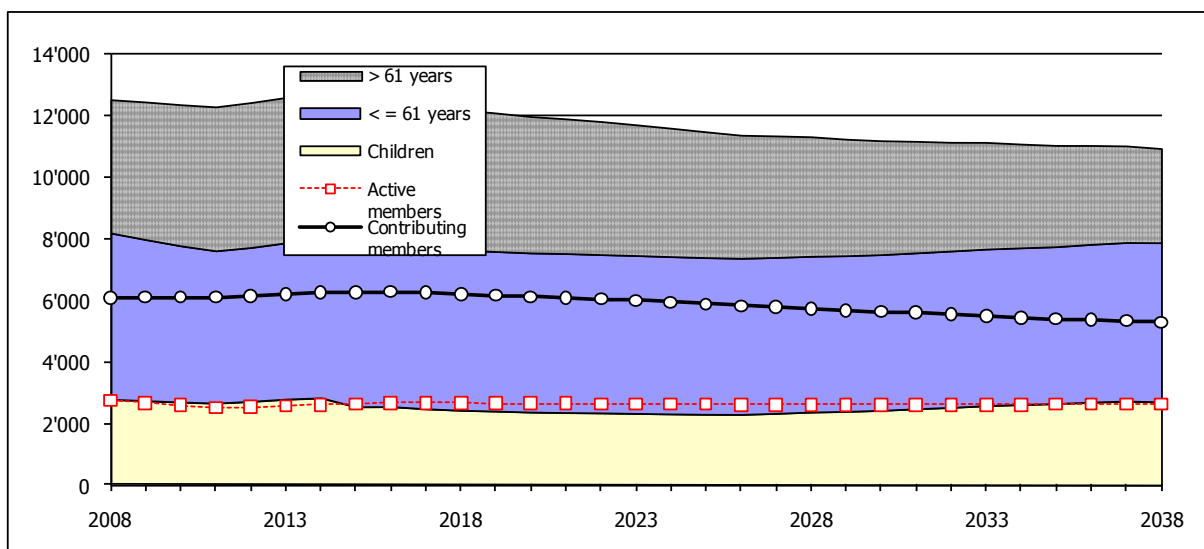
- Insured members: persons covered.
- Children: age limit 25 years.
- Contributing members: as per data provided.
- Active members: contributing members below 62 and above 20 years of age.

Basic assumptions:

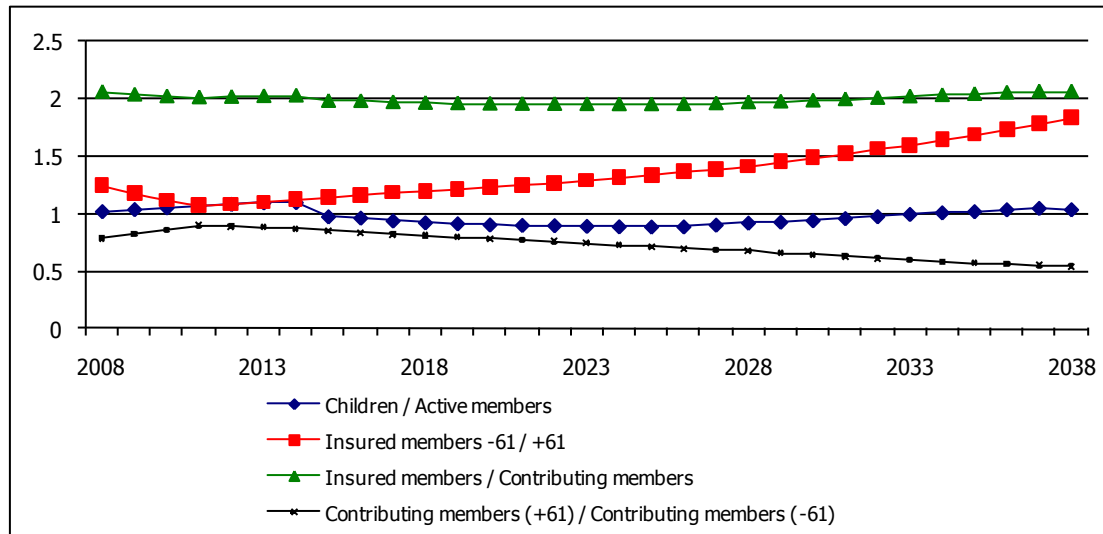
- Permanent cohort of 700 active members between 20 and 30 years of age (as per 2007 method).
- Every year, those retiring and resigning are replaced such that the population of active members follows the trend indicated in CHIS_2007-2041.
- Age of admission = 30 years of age; married = 70%; number of children per active member = 1.2.
- Mortality table: LPP 2005 (change compared with 2007, based on LPP 2000).
- Segmentation of the population: two age groups with pivotal age at 61.

2. 30-year projection

Projection - baseline model:



Trend in ratios - baseline model:



Remarks:

With respect to the 2007 study, the trends in numbers and ratios are very comparable in view of the unchanged assumptions.

3. Data

Comparison of the data from the 2007 projection with the results of the present projection (PROJ 2009):

PROJ 2007	2008	2011	2016	2021	2026	2031	2036
Contributing members < 62 years	3'389	3'150	3'273	3'256	3'254	3'255	3'257
Contributing members > 61 years	2'724	2'939	2'908	2'712	2'465	2'231	1'984
Total contributing members	6'112	6'089	6'181	5'968	5'719	5'486	5'241
Number of insured members	12'388	12'250	12'255	11'748	11'317	11'112	10'894
Ratio Insured members / Contributing members	2.0	2.0	2.0	2.0	2.0	2.0	2.1
PROJ 2009	2008	2011	2016	2021	2026	2031	2036
Contributing members < 62 years	3'402	3'151	3'318	3'289	3'261	3'256	3'272
Contributing members > 61 years	2'673	2'955	2'972	2'799	2'561	2'341	2'099
Total contributing members	6'075	6'106	6'290	6'088	5'822	5'596	5'371
Number of insured members	12'519	12'287	12'451	11'898	11'367	11'169	11'035
Ratio Insured members / Contributing members	2.1	2.0	2.0	2.0	2.0	2.0	2.1
Difference (09 - 07)	n.c.	2011	2016	2021	2026	2031	2036
Total contributing members	13	16	109	120	103	110	130
Number of insured members	131	36	197	151	51	57	141

The difference in the number of contributing members remains stable around 120 from 2011. The ratio of the number of insured to contributing members in the 2007 and 2009 projections is identical. We therefore consider the basic projection to be correct and in line with the trends forecast in 2007, which were in accordance with the trends predicted by the CHIS in 2007.

This population trend will be used in the analyses of the Health Care and Long-Term Care components.

CHAPTER 2 - ANALYSIS OF THE HEALTH CARE COMPONENT

1. Trends in Health Care costs

Trends in cost by age group:

En kCHF according to the data supplied:

Year	Age groups										Overall	Trend --> 2008
	0-25	26-40	41-55	56-60	61-65	66-70	71-75	76-80	81 and +			
2003	1.61	2.35	3.29	4.45	5.01	6.40	8.04	8.41	13.44		4.01	4.1%
2004	1.45	2.36	3.31	4.77	5.48	6.51	8.43	9.13	12.64		4.17	4.2%
2005	1.43	2.28	3.55	4.58	5.76	6.78	8.77	10.41	11.03		4.29	4.6%
2006	1.50	2.65	2.93	5.03	6.04	7.11	7.65	9.93	12.77		4.37	5.9%
2007	1.52	2.73	2.97	4.94	5.77	7.68	8.47	11.94	12.95		4.66	5.1%
2008	1.56	2.97	2.99	6.04	6.34	7.34	9.08	11.41	12.29		4.90	
Over 5 years	-0.6%	4.8%	-1.9%	6.3%	4.8%	2.8%	2.4%	6.3%	-1.8%		4.1%	

For the entire population, the average rise in health care costs over the past five years is around 4.8% per year with notably 4.1% over five years and 5.9% over the past two years.

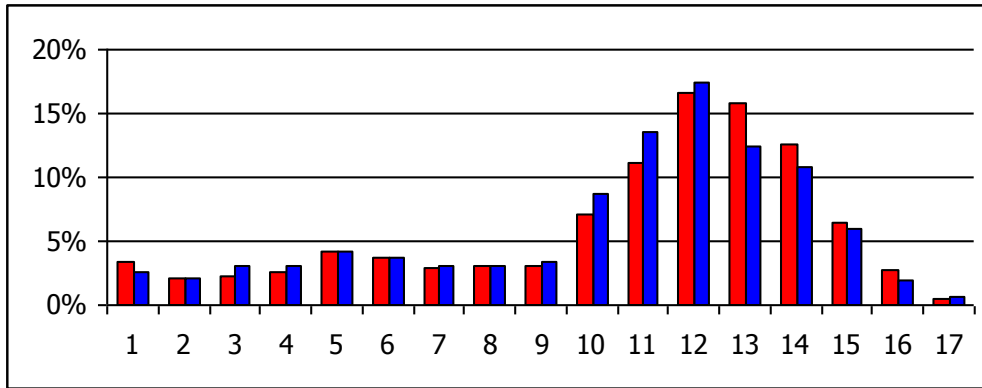
Analysis of the data by age group does not show any uniform cost trends. For the purposes of this analysis, the trend in health care costs (assuming a constant age distribution of the population, i.e. excluding the ageing effect) is deemed to be constant for all ages.

However, if the previous years are plotted onto a population profile identical to that of 2008, an increase in costs (excluding the ageing effect) of between 2.5 and 3% can be observed, with the difference (between 1.5 and 2%) deriving from the ageing of the insured population. The value to be used as the basic rate of increase of health care costs (excluding the ageing effect) has therefore been taken to be 3%.

It should be noted that a fluctuation of two weeks in the sending of invoices to the health insurance companies or in the reimbursement to insured members represents 1% of annual benefits. It is therefore the order of magnitude of the error observed on annual cost increases, and it cancels itself out in the analysis over a longer time-range.

2. 2008 statistics

Breakdown of costs by age group:



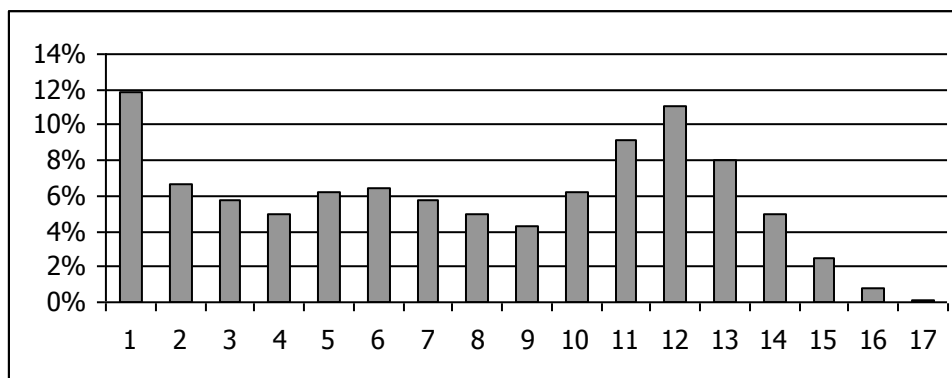
Group	No.
0-10	1
11-18	2
19-25	3
26-30	4
31-35	5
36-40	6
41-45	7
46-50	8
51-55	9
56-60	10
61-65	11
66-70	12
71-75	13
76-80	14
81-85	15
86-90	16
91-95	17

2008 distribution in red, and 2006 breakdown in blue (after deduction of the respective deductibles)

The distribution is stable, with 70% of the reimbursements occurring in groups 10-15, i.e. between the ages of 56 and 85.

The last two groups (16 and 17) have a very limited impact on the overall cost, given the small number of insured members and their resulting weight with respect to the total reimbursements (above graph).

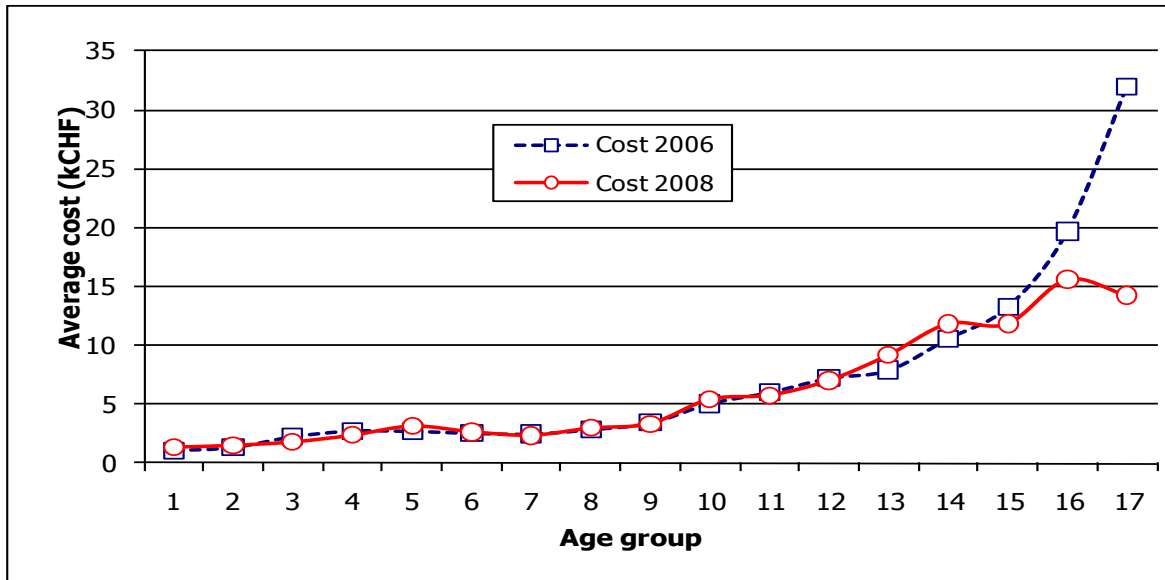
Distribution of the insured members at 31-12-08:



Group 1 (ages 0 to 10) is the largest but does not impact significantly on the overall cost of the Health Care component (less than 5% for 2008).

3. Average cost per age

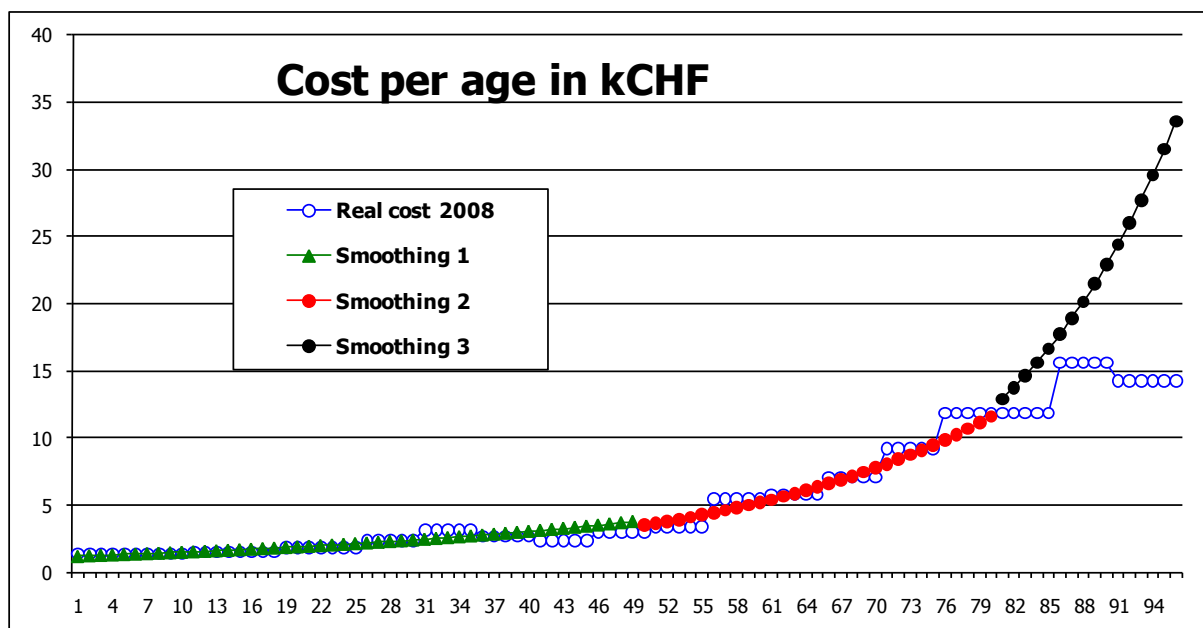
The average cost per age in 2008 is shown below (compared with the 2006 figure):



A smoothed cost per age is used for the analysis. Smoothing is done (as in 2007, based on the 2006 data) according to three age categories corresponding to "stages" of increases in the cost relating to ageing.

For the ages above 86, the same smoothing coefficient has been used as in 2007 despite the cost observed in 2008 (given the minor impact on overall costs).

The smoothing exercise gives the following graph:



The smoothing coefficients are the same as those used in the 2007 study, i.e.:

Age group	Smoothing	Coefficient
0 to 50 years	1	2.4%
from 51 to 80 years	2	4.1%
81 years and +	3	6.6%

Smoothing coefficient 1 applies to ages 0 to 50 and shows that the cost due to ageing increases by 2.4% per year.

4. Projections

Reference model:

The following assumptions have been used for the projections (taking into account the population trends defined in Chapter 1):

- application of the new deductible;
- annual increase in total contributions = 2%;
- annual increase in overheads = annual increase in total contributions (i.e. 2%);
- increase in Health Care expenditure (excluding the ageing effect) = 3%;
- complementary CERN contribution ("Cont.") = 1 million CHF per year.

Projection of the reference model:

According to the chosen assumptions, the projections are as follows:

Year	Expenditure		Overheads	Contributions				Technical result	
	Insured members	Amount		Active members	Pensioners	Amount	Cont.		Total
2008	12'519	59'339	2'312	3'402	2'673	59'300	1'000	60'300	-1'351
2009	12'445	62'613	2'358	3'313	2'797	60'773	1'000	61'773	-3'198
2010	12'356	65'988	2'405	3'234	2'878	61'956	1'000	62'956	-5'437
2011	12'287	69'491	2'454	3'151	2'955	63'076	1'000	64'076	-7'868
2012	12'426	73'672	2'503	3'183	2'980	64'938	1'000	65'938	-10'237
2013	12'591	78'058	2'553	3'219	3'003	66'881	1'000	67'881	-12'730
2014	12'672	82'362	2'604	3'250	2'998	68'518	1'000	69'518	-15'448
2015	12'413	85'839	2'656	3'283	2'985	70'126	1'000	71'126	-17'369
2016	12'451	90'147	2'709	3'318	2'972	71'794	1'000	72'794	-20'062
2017	12'297	93'921	2'763	3'313	2'929	72'691	1'000	73'691	-22'992
2018	12'193	97'896	2'818	3'307	2'905	73'784	1'000	74'784	-25'931
2019	12'088	101'850	2'875	3'301	2'865	74'734	1'000	75'734	-28'991
2020	11'971	105'759	2'932	3'295	2'824	75'656	1'000	76'656	-32'035
2021	11'898	109'753	2'991	3'289	2'799	76'779	1'000	77'779	-34'965
2022	11'811	113'673	3'051	3'284	2'761	77'780	1'000	78'780	-37'944
2023	11'706	117'427	3'112	3'282	2'714	78'711	1'000	79'711	-40'827
2028	11'318	134'413	3'436	3'251	2'498	83'424	1'000	84'424	-53'425

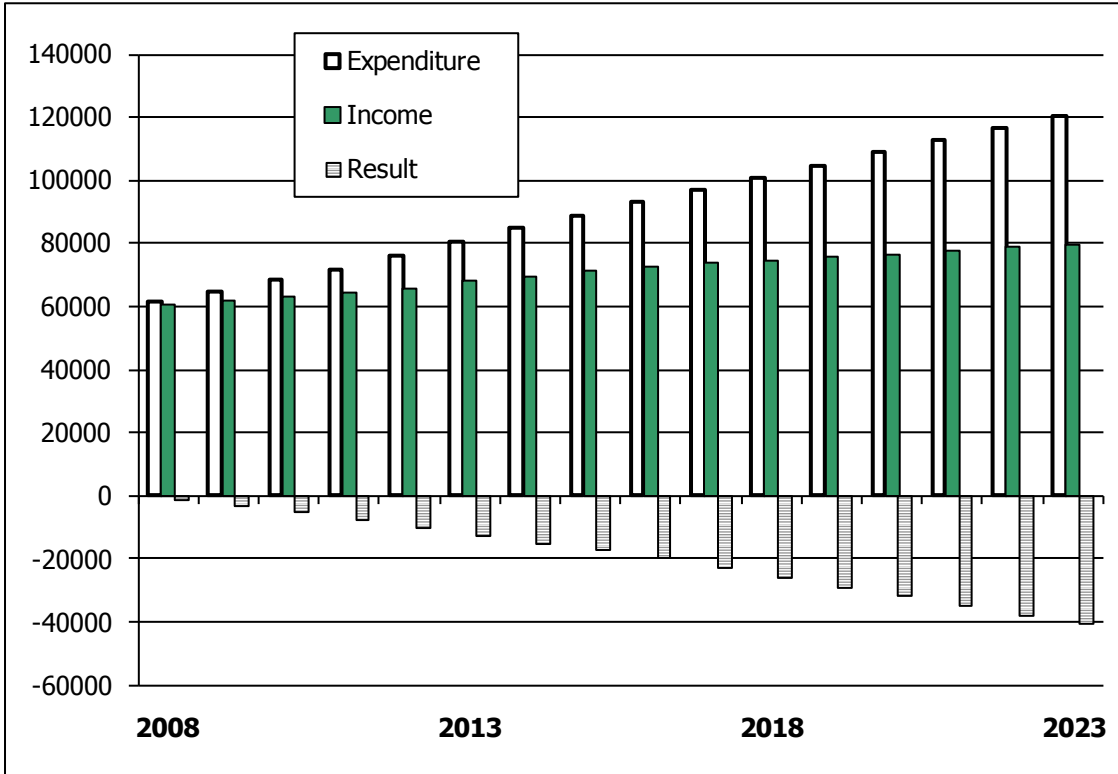
For the calculation of total contributions, an average annual amount of 10.03 kCHF has been determined for active staff and 9.42 kCHF for pension beneficiaries. For 2008, this gives a total amount of 60 MCHF, including the CERN contribution of 1 MCHF (corresponding to the Organization's share in return for the increase of the deductible to 200 CHF).

The deficit, recorded at 1.3 MCHF in 2008, increases regularly by 2 to 3 MCHF per year over the coming 10 years.

If the rise in Health Care expenditure were limited to 2% per year, the deficit would still increase, but by 1-2 MCHF per year.

Financial data

Trend over 15 years.

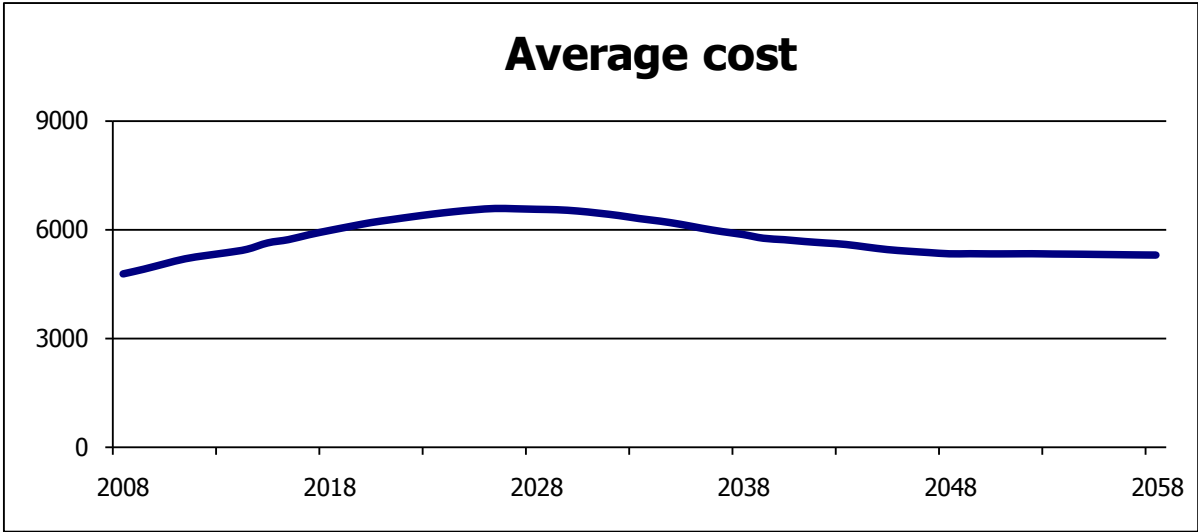


Impact of ageing

Without taking medical inflation into account, the trend in the average cost per insured member is as follows:

Smoothed average per insured member	2008	2009	2010	2011
Amount	4'740	4'869	5'017	5'156
Annual increase		2.7%	3.0%	2.8%

And over 50 years:



5. Provision for Increasing Risks (PIR)

The Provision for Increasing Risks (PIR) is the provision that needs to be built up at the end of 2008 **to cover technical deficits over the next 15 years**. It is a measurement of the potential adjustments required in order to balance the scheme within this time-range.

The PIR thus corresponds to the current value of the technical balance according to the reference assumptions, namely:

- 3% annual increase in Health Care expenditure;
- 2% annual increase in overheads;
- 2% annual increase in total contributions;
- stability of the CERN contribution at 1 MCHF;
- technical rate (rate of return) of 3% (same as for Long-Term Care).

The Provision for Increasing Risks required is: 233.8 million CHF

Sensitivity of the PIR

a) PIR over 15 years with different assumptions for medical inflation and rate of return for the Fund:

Medical inflation	Fund 4%	Fund 3%
3.00%	212.4	233.8
2.50%	173.5	190.7

The Fund's value on 31-12-2008 was 48.7 MCHF, but:

- the equivalent of 20% of expenditure is reserved for IBNR (Incurred But Not Reported);
- and 30% of expenditure is reserved for disaster coverage.

So on the basis of 60 MCHF benefits, the share of the Fund which may be allocated to the establishment of the PIR is 19 MCHF.

b) PIR with a different CERN contribution:

With a medical inflation rate of 3% and a basic "deductible compensation contribution" by CERN of 1 MCHF, the assumptions regarding an increase in this contribution ("Incr. Cont." below) give the following results:

Incr. Cont.	Fund 4%	Fund 3%
0.00%	212.4	233.8
2.00%	210.7	231.9

The alignment of this contribution to the rate of increase of total contributions does not substantially impact the PIR requirement.

It should be noted that, without the CERN contribution, the PIR would be 254.8 MCHF (against 233.8).

6. The conditions required to balance the scheme

1) By adjusting contributions:

The conditions required in order to balance the scheme are defined in such a way that the 15-year PIR at the end of 2008 should be equivalent to the cash available in the Fund (19 MCHF) or around 15 MCHF.

The variable used is the increase in total contributions from 2011 onwards, given that, for 2009 and 2010, the level of contributions is fixed and therefore the only increase taken into account is that of the contributions base (2% for these two years).

According to the rate of return of the Fund, this gives:

PIR (MCHF)	Medical inflation	Increase in total contributions from 2011 onwards	
		with a rate of return of	
		3.00%	4.00%
19	3.0%	5.85%	5.80%
	2.5%	5.20%	5.15%
15	3.0%	5.90%	5.85%
	2.5%	5.30%	5.25%
0	3.0%	6.15%	6.10%
	2.5%	5.50%	5.45%

The rates of increase of the total contributions, calculated above, less the rate of increase of the contributions base (2% according to the reference assumption) represent the increase required in the contribution rates from 2011 onwards.

For a rate of increase of the total contributions of 5.85%, the rate of contribution must increase by 3.85% per year, taking into account the assumption of a 2% increase in total contributions (without a change in rates).

In this case, the total contribution by active staff (staff + Organization), today 9.89%, would rise to 11.95% by 2015 (5 years from 2011 onwards).

For a PIR equal to 0, in other words for the scheme to be completely balanced over a 15-year time-frame through contributions alone, the contribution rates applied to active staff and pension beneficiaries should rise by 4.15% per year (6.15% minus 2%) using the chosen reference assumptions. For an active staff member, the contribution rate would therefore stand at 12.12% in 2015.

2) By adjusting benefits:

With a reduction in benefits (e.g. through an adjustment of the deductible) of 5% compared with the data projected according to the reference assumptions, from 2011 onwards, the following results are obtained:

PIR (MCHF)	Medical inflation	with benefit level	
		100%	95%
19	3.0%	5.85%	5.40%

It should be noted that, if the benefits are reduced by 5% from 2011 onwards, the 15-year PIR, calculated at 233.8 MCHF in 5a) above, would fall to 187.6 MCHF. A 5% reduction of benefits does not substantially impact the need to increase total contributions from 2011 onwards.

7. Conclusions

The recommendations in the 2007 report were based on a medical inflation rate of 2%. The reality observed between 2006 and 2008 was a medical inflation rate around 3% (excluding the ageing effect), and as a result the scheme has recorded a higher deficit in 2008 than that projected in 2007. The measures recommended in 2007 therefore remain valid, but need to be amplified.

We therefore recommend an increase of the contribution rates from 3.5% to 4% per annum. With the 19 MCHF available in the Fund in 2008 and a medical inflation rate limited to around 3%, this will enable the scheme to cope with the probable future deficits for at least the next 15 years.

CHAPTER 3 - ANALYSIS OF THE LONG-TERM CARE COMPONENT

1. Situation at 31-12-2008

The statistics relating to long-term care at 31-12-08 are as follows:

Level of dependence	Number	%	Benefit
low	48	41%	40%
medium	39	33%	60%
high	31	26%	100%
Total	118		
Average benefit paid in %		62%	

The "Benefit" column shows the amount paid as a % of the basic benefit (100 CHF).

2. Historical data

1) Trend in the number of cases of dependence since 2004:

	Number	Admissions	Deaths
2004	77		
2005	80	20	17
2006	83	19	16
2007	103	39	19
2008	118	25	10

On average, the cases of dependence increased by 10.3 every year.

2) Breakdown of long-term care patients by level of dependence:

The statistics observed over the past three years are as follows:

Level of dependence	2006	2007	2008
low	35%	40%	41%
medium	37%	38%	33%
high	28%	22%	26%
Average benefit	64%	61%	62%
<i>(*) in % of the basic benefit (100 CHF in 2008)</i>			

3) Remarks:

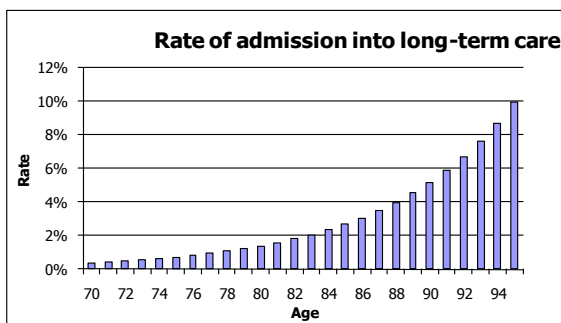
The annual increase in the number of cases of dependence is 11 (rounded up) over the past five years, with a higher increase in each of the past two years (18).

According to the projection made at the end of 2006, when the technical bases (admission into long-term care and life expectancy) were changed, the expected number of cases of dependence was 115, i.e. an increase of 22 over 2006, against an actual increase of 25.

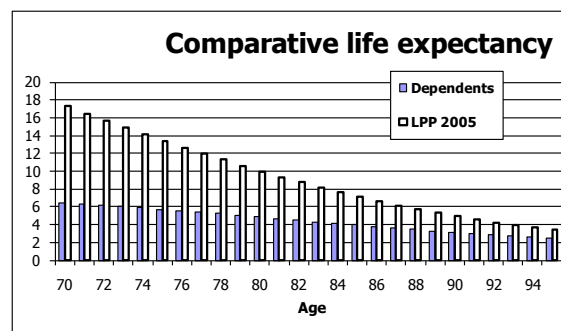
This slight variation is not significant. The same technical bases (modified in 2007) can be maintained. Given that the average benefit is stable at around 65% and that the expected number of cases is based on a benefit of 100%, a safety margin still exists between the tables used and the results observed (e.g. 20 new cases with a 65% benefit level are equivalent to 13 new cases with a 100% benefit level or 17 with an average benefit level of 85%).

3. Reminder of the technical bases

Rate of admission into long-term care:



Life expectancy:



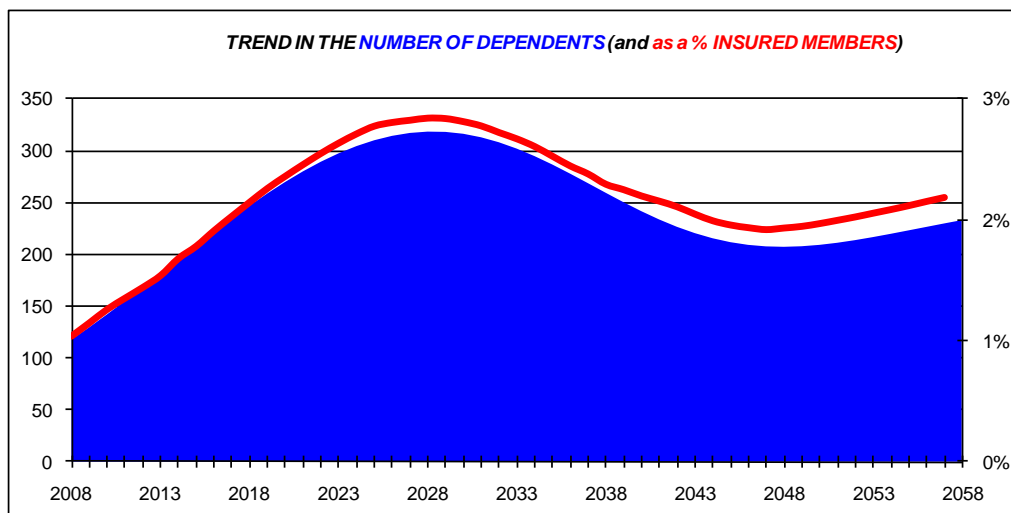
4. Projection of the cases of dependence

Trends in the numbers and events over 5 years:

Dependents	Admissions	Deaths
118		
130	32	21
142	34	21
155	37	24
168	40	27
182	43	30
247		
298		
319		
260		

The projection points to an increase in the number of cases of 13 per year for the coming five years. On the basis of an average benefit level of 85% thereafter, the adjusted increase in the number of cases amounts to 15. This expected increase is in line with the increase observed over five years, namely an average of 11 additional cases per year (including 18 for each of the past two years).

50-year trend:



Given the assumed trend in the population, the number of cases will peak around 2028.

5. Projection of the long-term care benefit

a) Definitions:

- Technical rate (TR) : this is the discount rate for the calculation of the mathematical provision for current liabilities (MP). In 2007, the rate used was 3.5%. From 2009 onwards, the rate will be set at 3% to take into account the current trends in these rates. This measure has been taken with a view to placing the scheme on a sound financial basis.
- Balance of the scheme: the scheme is said to be balanced over a fixed time-frame if the amount of the fund built up in that time is equal to the mathematical provision for current liabilities. Two time-frames are considered here: 50 years and 25 years (2033, after the number of cases has peaked).
- Funding indicator: this is the average monthly contribution per contributing member needed to ensure that the scheme is balanced over the stated time-frame. On the basis of the contributions levied in 2008, i.e. 7.4 MCHF, the average monthly contribution, applied to the population at the end of 2008, amounts to **101.5 CHF** (based on the contribution levels being 54 CHF for active staff and 162 CHF for pension beneficiaries - the latter's is triple that of the former's).
- Benefit: The benefit for 2009 is 100 CHF per day of 100% dependence. Given the breakdown of the cases by level of dependency, the average long-term care benefit used for the projection will be set at 85% of the basic benefit, or 85 CHF (to maintain a safety margin, c.f. Section 2.).
- Fund: The Fund is constituted from the balance of contributions received and benefits paid. At 31-12-2008, it amounted to 42.5 MCHF. This is made up of the mathematical provision for current liabilities, the equalisation reserve to ensure the long-term financing of the long-term care scheme, and the balance makes up the reserve for annual increases in the benefit. The Fund is assumed to make a return of 3% (same as the TR).

b) Funding indicator as at 31-12-2008

Given the assumptions chosen, the funding indicator is as follows:

50-year time frame	Trend		Value of the indicator	
	Benefit	Contribution	TR 3,5%	TR 3%
Reminder 2007	0%	0%	77.58	--
2009	0%	0%	80.71	80.94

With a rate of return for the Fund of 3%.

The increase in the indicator between 2007 and 2009 derives in particular from the change in the mortality table (LPP2005), which causes a rise in the number of pension beneficiaries (and therefore in the number of cases of dependence) compared to LPP2000 table.

Using a longer time-frame the result is as follows:

Time-frame	Indicator
50 years	80.94
25 years	72.23

It was decided to base the projections on the 25-year indicator (year 2033) rather than on the 50-year one. Given that the number of cases of dependence is expected to peak in 2028, the 25-year time-frame, which gives a lower indicator, represents a reasonable measure for anticipating the increase in risk.

Sensitivity of the 2009 indicator:

- a. to the trends in total contributions and benefits

A 2% increase in benefits and total contributions has been assumed.

Time-frame	Trend		Rate of return for the Fund	
	Benefit	Contribution	3.0%	4.0%
25 years	0%	0%	72.23	65.39
	2%	2%	84.12	77.43

- b. to the time-frame for balancing the scheme

Time-frame	Trend		Rate of return for the Fund	
	Benefit	Contribution	3.0%	4.0%
25 years	2%	2%	84.12	77.43
50 years	2%	2%	94.22	86.92

The funding indicator over a 50-year time-frame is 84.12 compared with the current figure of 101.5. This gives a 20% margin.

c) Potential for annual increases

The average amount of the long-term care contribution is 101.5 CHF.

Since the funding indicator is 72.23 (i.e. to balance the scheme over 25 years without any change in the parameters), a margin for annual increases exists from 2010 onwards:

Trend in total contributions	Rate of return for the Fund	
	3.0%	4.0%
2%	3.0%	3.5%
3%	3.8%	4.2%

With a 2% increase in the contribution and a 3% rate of return for the Fund, the annual increase can be set at 3% per year. This annual increase is equivalent to the assumption for the increase in the cost of the Health Care component, mentioned in the previous chapter.

This shows that with the current funding, the long-term care benefit can be allowed to track the increases in Health Care costs (with the assumptions of an increase in total contributions of 2% and a increase in Health Care costs of 3%).

The long-term care benefit can be increased annually by a rate close to that of the increase in total contributions, plus 1 percentage point.

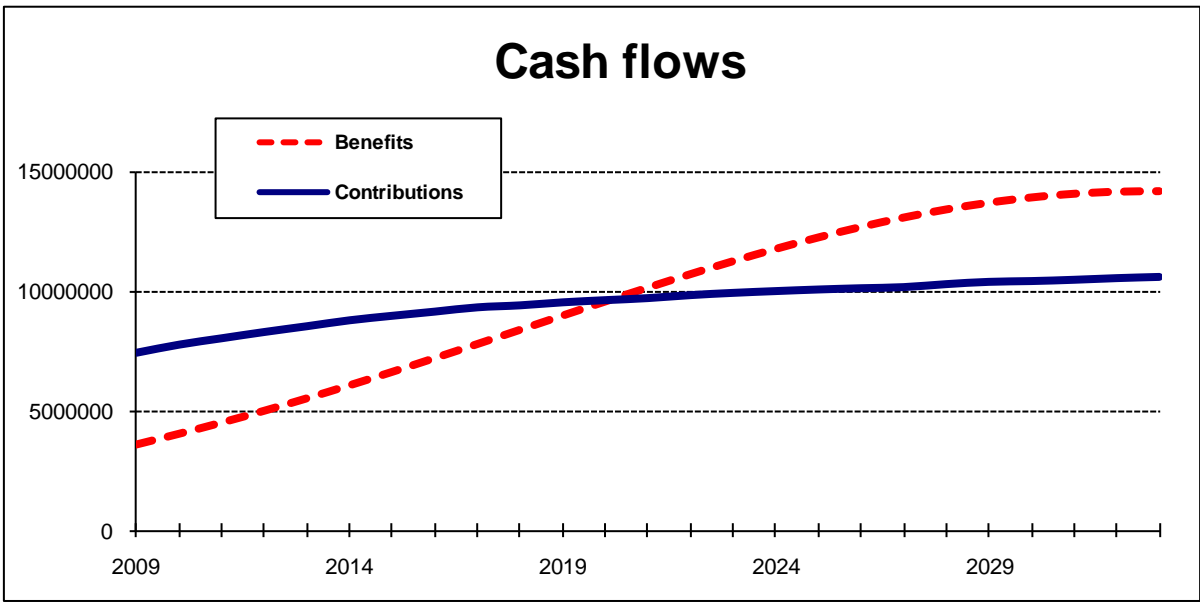
With an average benefit of 65% (instead of the prudent 85% assumption used for the projections), a 4.5% annual increase could be envisaged with total contributions growing by 2% and the Fund's rate of return by 3%.

d) Projections of the financial data

Basic model for the projections:

- 3% rate of return for the Fund
- 2% increase in total contributions
- average contribution in 2008 = 101.5 CHF
- average benefit paid = 85 CHF (100 CHF for full basic benefit)
- 2% annual increase of the benefit

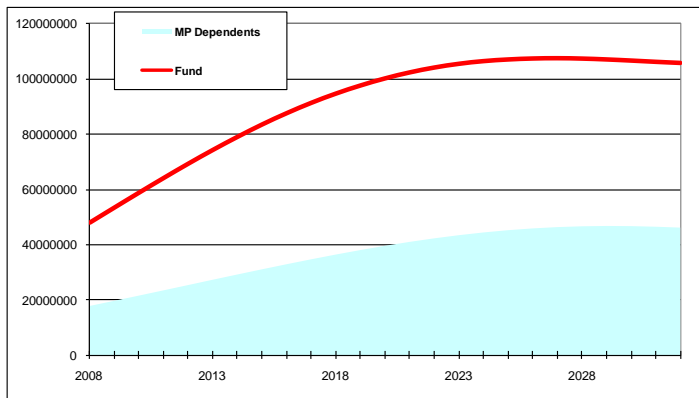
Cash flows



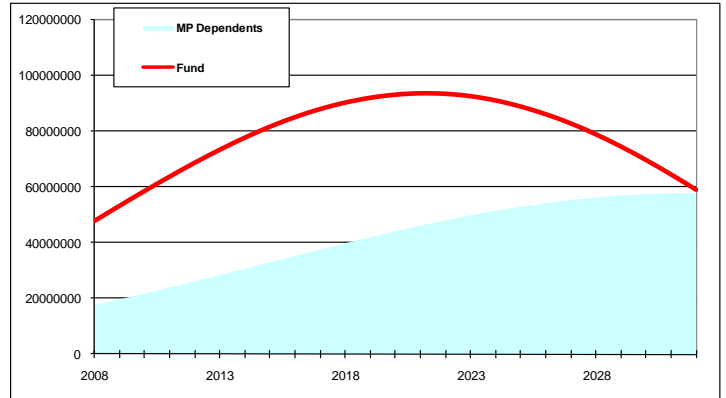
With the annual increase of the benefit, expenditure peaks in 2033.

Trends in the Fund

With a 2% annual increase:



With a 3% annual increase:



These two graphs show the sensitivity of the trends in the scheme to small variations in the annual increase of the benefit.

Detailed 25-year figures:

With a 3% annual increase of the benefit from 2010 onwards and an annual increase in total contributions of 2%

In kCHF

Year	Number of dependents	Basic benefit	Benefits paid	MP of dependents	Number			Contributions received	Fund Return 3%
					Insured members	Active members	Pensioners		
2008	118			16'219	12'519	3'402	2'673	7'401	42'500
2009	130	100.0	3'616	17'699	12'445	3'313	2'797	7'737	47'958
2010	142	103.0	4'103	19'747	12'356	3'234	2'878	8'002	53'354
2011	155	106.1	4'618	21'860	12'287	3'151	2'955	8'263	58'654
2012	168	109.3	5'171	24'023	12'426	3'183	2'980	8'502	63'794
2013	182	112.6	5'761	26'246	12'591	3'219	3'003	8'749	68'741
2014	195	115.9	6'387	28'518	12'672	3'250	2'998	8'936	73'390
2015	209	119.4	7'043	30'804	12'413	3'283	2'985	9'110	77'691
2016	222	123.0	7'727	33'107	12'451	3'318	2'972	9'288	81'606
2017	235	126.7	8'436	35'412	12'297	3'313	2'929	9'371	85'002
2018	247	130.5	9'165	37'703	12'193	3'307	2'905	9'495	87'887
2019	259	134.4	9'909	39'960	12'088	3'301	2'865	9'586	90'197
2020	270	138.4	10'660	42'164	11'971	3'295	2'824	9'671	91'899
2021	281	142.6	11'414	44'295	11'898	3'289	2'799	9'796	93'013
2022	290	146.9	12'164	46'334	11'811	3'284	2'761	9'890	93'496
2023	298	151.3	12'902	48'259	11'706	3'282	2'714	9'963	93'317
2024	305	155.8	13'621	50'050	11'595	3'276	2'666	10'030	92'472
2025	311	160.5	14'312	51'689	11'478	3'268	2'615	10'083	90'953
2026	315	165.3	14'969	53'162	11'367	3'261	2'561	10'128	88'769
2027	318	170.2	15'581	54'451	11'345	3'255	2'535	10'252	86'023
2028	319	175.4	16'141	55'548	11'318	3'251	2'498	10'348	82'724
2029	319	180.6	16'641	56'448	11'239	3'251	2'439	10'380	78'851
2030	317	186.0	17'073	57'153	11'189	3'253	2'387	10'433	74'477
2031	313	191.6	17'430	57'634	11'169	3'256	2'341	10'502	69'679
2032	309	197.4	17'710	57'937	11'137	3'260	2'288	10'553	64'505
2033	303	203.3	17'912	58'101	11'136	3'264	2'247	10'637	59'057

Allocation of the Fund:

Using the same assumptions as in the previous section:

Year	Liabilities	Equalisation	Adjustment	Fund
2008	16'219'137	3'243'827	23'037'036	42'500'000
2009	17'699'277	3'539'855	26'718'762	47'957'894
2010	19'746'897	3'949'379	29'657'932	53'354'208
2011	21'859'741	4'371'948	32'422'371	58'654'060
2012	24'022'921	4'804'584	34'966'961	63'794'466
2013	26'245'572	5'249'114	37'245'995	68'740'681
2014	28'518'372	5'703'674	39'168'418	73'390'464
2015	30'803'878	6'160'776	40'726'000	77'690'653
2016	33'106'989	6'621'398	41'877'267	81'605'654
2017	35'411'620	7'082'324	42'508'475	85'002'419
2018	37'702'579	7'540'516	42'644'257	87'887'353
2019	39'960'214	7'992'043	42'244'495	90'196'751
2020	42'163'972	8'432'794	41'302'209	91'898'975
2021	44'295'395	8'859'079	39'858'831	93'013'305
2022	46'333'937	9'266'787	37'894'915	93'495'640
2023	48'258'614	9'651'723	35'407'115	93'317'452
2024	50'049'829	10'009'966	32'412'503	92'472'298
2025	51'688'944	10'337'789	28'926'592	90'953'325
2026	53'161'604	10'632'321	24'975'192	88'769'117
2027	54'451'061	10'890'212	20'682'003	86'023'276
2028	55'548'221	11'109'644	16'065'744	82'723'609
2029	56'448'326	11'289'665	11'113'079	78'851'070
2030	57'152'701	11'430'540	5'893'571	74'476'813
2031	57'634'236	11'526'847	517'650	69'678'734
2032	57'936'915	6'567'823	0	64'504'738
2033	58'100'927	955'810	0	59'056'737

The equalisation reserve is at most equal to 20% of the liabilities (MP) and enables the Fund to face up to a possible drift in the amount of liabilities for which provision needs to be made. The adjustment fund is equal to the available Fund less the amount of liabilities plus the equalisation reserve.

Between now and 2033, theoretically speaking, the funding of the scheme will need to be reviewed if the projection assumptions are confirmed over the course of the 25 years. In reality, the scheme will be gradually adjusted over time, if necessary.

Conclusions

In terms of numbers of cases of dependence, the trends observed are in line with the forecasts (with the tables modified in 2007).

A technical margin still exists linked to the average benefit (63 CHF) compared with that used in the projections (85 CHF). However, if the increase in the number of cases observed over the past two years (17) were to continue, this technical margin would be used up (c.f. section 4).

Analysis of the future trends of the scheme shows that the current basic benefit of 100 CHF can be adjusted annually to a level at least equivalent to the increase of the base used for the contributions (salaries and pensions).

On the basis of a 25-year (always long-term) time-frame to achieve a balanced scheme, the annual increase can be 1 percentage point higher, namely 3%, which was the assumption used in the Health Care analysis for the future trends in Health Care expenditure.

Thierry Berthouze, August 2009

ANNEX 7

**TRANSPARENCIES ENTITLED "UPDATE ON CHIS ACTUARIAL SITUATION"
presented by P. Charpentier, Chairperson of the CHIS Board,
at the TREF meeting on 18-19 May 2010.**

Update on CHIS actuarial situation

TREF, May 2010

Philippe CHARPENTIER
CHIS Board Chairperson

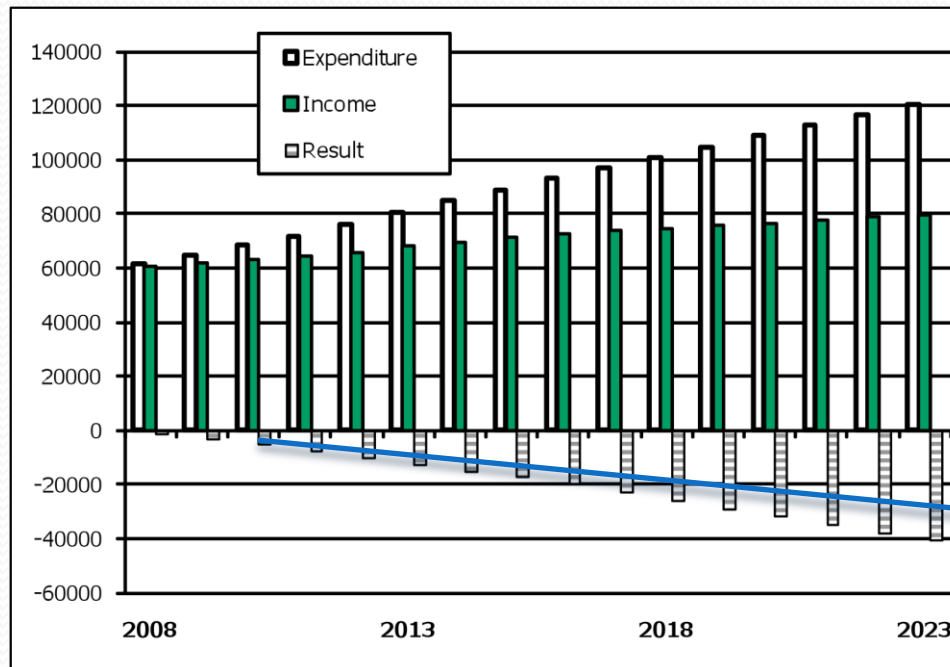
Financial situation of the CHIS / LTC funds

- Good results of the funds in 2009!
 - Globally 4.3 MCHF profit (HIS), 5 MCHF (LTC)
 - It was however negative in 2008 ...
- Situation at 31.12.2009
 - LTC: 52.3 MCHF
 - ❖ Increase (+9.9 MCHF) as expected (capitalized fund)
 - HIS: 51.0 MCHF
 - ❖ Was 51.5 MCHF on 01.01.09
 - ❖ Profit + difference (5.1 MCHF) used to cover the deficit of the HIS in 2009
 - ❖ Reminder:
 - Includes 50% of expenses (31 MCHF) for provisions
 - Only 20 MCHF are reserves for the HIS

Reminder:

- In October we presented an actuarial review conducted during Spring 2009. Main outcomes:
 - As anticipated the CHIS deficit was already here:
 - ❖ Even earlier than anticipated in 2007
 - ❖ -1.4 MCHF in the 2008 exercise
 - This deficit is structural
 - ❖ Due to a faster increase of health care costs than incomes (salaries and pensions)
 - The deficit is expected to increase by 2 to 3 MCHF per year

Evolution of incomes and expenses



2 MCHF/year

- Shows clearly the opening gap between incomes and expenditure

Actuary's conclusions

- A decrease of benefits is ineffective as the cause is structural
- Proposed solution:
 - Increase income by 5 to 6% **every year** from two sources:
 - ❖ Increase of the basis of contribution (salaries and pensions), expected to be 2%
 - Any decision of non indexation of salaries or pensions has a negative impact on the income of the HIS
 - The difference with medical inflation will only become larger
 - ❖ Increase of contribution rates by 3 to 4% in 2011:
 - For active 9.77% : increase to 10.11% (10.46 in 2012...)
 - For retirees 8.57% : increase to 8.87% (9.18 in 2013...)
 - Note: basis is last salary and not income

Results of 2009

- Evolution of the population according to previsions
- Financial balance:

Health care costs	77.7 MCHF
Member participation	8.8 MCHF
Deductible	1.8 MCHF
Reimbursements	67.1 MCHF
Administrative cost	2.3 MCHF
Contributions	63.2 MCHF
CERN contribution	1 MCHF
Net result	-5.1 MCHF
2008 balance	-1.4 MCHF

Comparison with actuary's forecast

- Deficit foreseen by actuary for 2009: 3.2 MCHF
 - i.e. an increase of about 1.8 MCHF w.r.t. 2008
- ... but...
 - As stated in October, there was some report of expenditures (IBNR) from 2008 to 2009.
 - ❖ Also from 2007 to 2008

	total des coûts médicaux payés pendant l'année n	total coûts médicaux encourus pendant l'année n payés dans les années n et n+1	
exercice 2006	54'751'935	54'620'281	← Balanced
exercice 2007	58'683'351	59'965'933	← IBNR: ~1.3 MCHF
exercice 2008	61'950'943	63'276'431	
exercice 2009	69'697'920	61'463'367	← Still incomplete

Deficit estimates including IBNR

- CHIS balance computed on reimbursements made in a given year
 - Should use expenditures for health care incurred in that year
 - ❖ Take into account IBNR, but only feasible after a year
 - ❖ IBNR in 2008: 1.3 MCHF
 - Deficit of 2008 has been under-evaluated
 - 2008 deficit should have been 2.7 MCHF
 - Assuming 2009 is back to normal:
 - 1.3 MCHF should be deduced from 2009 deficit
 - 2009 deficit should be 3.8 MCHF
 - This represents an increase by 1.1 MCHF w.r.t. 2008

Conclusions

- The deficit was underestimated due to IBNR from 2008 to 2009 (about 1.3 MCHF)
- Increase of the deficit compatible with expectations (less than 2 MCHF)
- First quarter 2010:
 - Confirms 2009-Q1 was a special case: less IBNR
- Forecast for 2010:
 - Deficit in line with actuary's forecast
 - No need to order yet another actuary report
- Change of reference for actuary for the future
 - Use benefits corresponding to a given year of health care (but with one year delay...)

ANNEX 8

**NOTE ENTITLED "LEGAL FRAMEWORK OF THE FIVE-YEARLY REVIEW"
dated 3 November 2010**

Note

Legal Framework of the Five-Yearly Review

The following note provides background information on the legal framework applicable to the CERN Five-Yearly Review.

1. International administrative law

In establishing or adjusting their salary scales, Intergovernmental Organizations (IOs) must respect **international administrative law**.

The Administrative Tribunal of the International Labour Organization (ILOAT), the highest judicial body in administrative matters for CERN as well as more than 50 other IOs, has consistently relied upon a number of principles and has confirmed their applicability in cases filed against ESO, EMBL and CERN. The jurisprudence of other international administrative tribunals, including the Administrative Tribunal of the United Nations (UNAT), indicates a similar approach.

These principles include the following:

Salary levels

Salaries must permit the Organization to attract competent personnel from all Member States, including those offering the best conditions:

- *“In recruiting staff from their full membership international organizations shall offer pay that will draw and keep citizens of countries where the salaries are the highest” (ILOAT N° 825, as cited in N° 986);*
- *Accordingly, the staff of IOs have “the recognised right ... to receive - in the interest of the international civil service itself - a level of remuneration equal to that in countries where, for comparable qualifications, the salaries are the highest” (ILOAT N° 1912);*
- *Staff members of IOs have “a legal right to a methodology for salary adjustments” (ILOAT N° 1821) to ensure their conditions of service keep pace with this principle.*

Salary adjustment methods

Salaries require periodic adjustment to keep pace with those offered in the best paying member states as well as increases in the local cost of living:

- IOs have discretion in selecting their method, system or standard of reference, provided that it meets general principles of international administrative law (ILOAT N° 1682 and 1821);
- Such general principles include, inter alia, good faith, equal treatment, proportionality, non-arbitrariness, respect for acquired rights and non-retroactivity (see C. F. Amerasinghe, "The law of the international civil service", 2nd Ed., p. 151 *et seq.*);
- The results of the method adopted must be "*stable, foreseeable and clearly understood*" (ILOAT N° 1265, 11419, 1821, 1912, 2778);
- Each Organization is bound by the method it adopts as long as it has not been amended (ILOAT N° 936, 1419, 1887);
- Insofar as cost of living adjustments are concerned, there is no right to automatic indexation, but the IO must avoid an erosion of salary that could be regarded as substantially jeopardizing the contractual balance with their staff (ILOAT N° 1912).

Application of the salary adjustment method

In application of the method adopted:

- IOs must determine salary raises fairly and objectively and with due regard to all relevant components of the methodology (ILOAT N° 1514, 1515);
- The outcome of the method must be the starting point for the Organization's decision-making (ILOAT N° 2778);
- If no automatic application of the outcome is foreseen, any departure from the chosen reference must be justified by objective, *i.e.*, non-arbitrary, reasons related to the proper functioning of the Organization and properly motivated (ILOAT N° 1682);
- "*Prevailing circumstances or a mere wish*" to depart from the outcome of the method is not sufficient justification (ILOAT N° 1419);
- Budgetary constraints may be taken into account in deciding upon the outcome of a salary review, but are not sufficient justification alone (ILOAT N° 1682, 1912): "*While the necessity of saving money may be one valid factor to be considered in adjusting salaries, provided the method adopted is objective, stable and foreseeable ... the mere desire to save money at the staff's expense is not by itself a valid reason for departing from an established standard of reference*" (ILOAT N° 1821).

2. CERN's salary review methods

In accordance with the foregoing, CERN salaries are periodically reviewed. Since the 1979 review of the employment and social conditions of the CERN personnel undertaken by RESCO, an FC working group, this has been accomplished by two forms of review: five-yearly general reviews (5YR) and annual reviews.

The 5YR aims at ensuring that the level of CERN salaries allows the Organization to recruit and retain staff from all Member States; the purpose of the annual review is to protect the salaries from erosion resulting from increases in the cost of living.

The statutory basis for both periodic reviews is Article S V 1.02 of the Staff Rules and Regulations; detailed procedures are set out in Annex A1 thereto.

These procedures were recently revised during the 2005 5YR to take account of the specific needs of CERN and to comply with the above-mentioned principles of international administrative law. It is noteworthy that the former procedures were severely criticized by the Staff Association in a case filed against CERN and, indeed, the ILOAT recognized they were lax and ambiguous (ILOAT N° 2778).

The new rules governing the 5YR provide for a clear and streamlined procedure that is tailored to CERN's recruitment and retention needs.

3. Obligations of CERN in the framework of the 5YR

The following steps must be taken in application of Annex A1 and other procedural rules, as indicated:

- Submission by the Director-General to the Council of a document
 - identifying the Organization's main recruitment markets, and
 - proposing the financial and social conditions to be reviewed (the inclusion of basic salaries is mandatory, but inclusion of other financial or social conditions, such as health insurance is optional);
- Collection of data on salaries within the main recruitment markets
 - for career paths AA to B, from employers established in the local region of the Organization that offer salaries that are among the most competitive (local survey), and
 - for career paths C to G, from employers established in the Member States that offer the most competitive salaries (international survey, data collected by the OECD);
- Collection of data on other financial and social conditions to be examined from IOs offering financial and social conditions that are among the most

competitive;

- Comparison of the financial and social conditions of CERN staff members with the data collected;
- Preparation by the Director-General of his proposals for any adjustment of salaries and any other conditions under review, guided by the results of the data comparison;
- Concertation with the Staff Association on the Director-General's proposals, in accordance with Article S VII 1.08;
- Examination and discussion of the Director-General's proposals by TREF (CERN/RTG/8, Annex C);
- Examination of the Director-General's proposals by the Finance Committee, and recommendation to the Council;
- Approval of the Director-General's proposals by the Council which, in taking its decision, must also use the results of the data comparison as a guide (Annex A1).

In the event that the Council does not approve the Director-General's proposals, the procedure as laid down in CERN/RTG/8 shall be followed:

- The Council may request the Director-General to make minor revisions, after due consultation, in order to permit the Council to make a decision at the same session;
- If the Council wishes to see a proposal substantially modified, it will refer it back for reconsideration by the Director-General, with written instructions. The revised proposal shall then be discussed by the CCP and TREF, before being submitted to the Finance Committee and the Council;
- If such a substantially modified proposal is again rejected by the Council, the latter shall ask a restricted tripartite group* to study the matter and to make a recommendation to the Council through the Finance Committee.

CERN Legal Service
3 November 2010

* chaired by the Chairman of TREF and composed of three members of Council or of the Finance Committee, three representatives from the Management and three representatives from the Staff Association.