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*Action to be taken*

*Voting Procedure*

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REPORT BY THE EXTERNAL AUDITORS  
ON THE FINANCIAL STATEMENTS OF THE CERN PENSION FUND  
FOR THE FINANCIAL YEAR 2012

audited by two representatives of the  
ITALIAN COURT OF AUDITORS  
CORTE DEI CONTI

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## **REPORT BY THE EXTERNAL AUDITORS ON THE FINANCIAL STATEMENTS OF THE CERN PENSION FUNDS FOR THE FINANCIAL YEAR 2012**

### **1. INTRODUCTION**

The legal basis for the audit to be performed by the External Auditors is given in the Financial Protocol annexed to the Convention for the establishment of a European Organization for Nuclear Research of 1 July 1953, as modified on 17 January 1971; in the Financial Rules as approved by the Council; and in the Internal Regulations of CERN and CERN Pension Fund<sup>1</sup>.

We have planned and performed our activity following generally accepted international auditing standards to the extent that these standards apply to CERN Pension Fund.

In particular, we have focused our audit on the Pension Fund's governance and internal control environment.

Moreover, we have analysed and evaluated the opinion expressed by PricewaterhouseCoopers (PWC) on the Financial Statements of the Pension Fund for the year 2012, as well as their Management Letter, jointly with the Management Replies and we have also analysed the Actuarial Report. Finally, we have gathered and provided information on the status of implementation of recommendations that had been issued by External Auditors in the previous years, as requested by the CERN Council.

Thus, we have obtained a sufficient basis for the opinion given below.

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<sup>1</sup> Rules of the Pension Fund (CERN/2913/Rev.2), in particular refer to article I 5.01 External Auditors: "The External Auditors, appointed by the Council pursuant to Article 8 of the Financial Protocol, shall certify the accounts and financial statements of the Fund and carry out any audit they consider necessary in that framework or any audit requested by the Council. They shall submit their report to the Council".

## **2. EXTERNAL AUDITOR'S REPORT**

### **2.1. Report to the Pension Fund Governing Board on the Financial Statements 2012**

The legal basis for the audit performed by the External Auditors is given in the Financial Protocol annexed to the Convention for the establishment of a European Organization for Nuclear Research of 1 July 1953, as modified on 17 January 1971; in the Financial Rules as approved by the Council; and in the Internal Regulations of CERN and CERN Pension Fund.

As requested by the mentioned rules, we have audited the financial statements at 31 December 2012 of the CERN Pension Fund, comprising the Statement of Financial Position, the statement of changes in net assets, the comparison of budgeted amounts and actual amounts and the cash-flow statement for the 2012 ending on that date, as well as a summary of the main accounting policies and other explanatory notes.

### **2.2 Responsibility of the CERN Pension Fund Governing Board for the financial statements**

It is the responsibility of the CERN Pension Fund Governing Board to draw up and faithfully present the financial statements in line with the requirements laid down in the International Public Sector Accounting Standards (IPSAS) and in the CERN Pension Fund's Financial Regulations and Financial Rules. Furthermore, the Pension Fund Governing Board is responsible for designing, implementing and maintaining such internal control system as it deems necessary to ensure the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or errors.

### **2.3 Responsibility of the auditor**

It is our responsibility to express an opinion on the financial statements of the CERN Pension Fund based on our audit. We conducted our audit in accordance with the International Standards of Supreme Audit Institutions, published by International Organization of Supreme Audit Institutions (INTOSAI). Those standards require us to comply with ethical requirements, and to plan and perform the audit in such a way as to obtain reasonable assurance that the financial statements are free from material misstatement.

An audit involves performing procedures to gather evidence attesting about the amounts and the data provided and disclosures in the financial statements. The choice of procedures is left to the discretion of the auditor, including assessment of the risk of material misstatements of the financial statements, whether due to fraud or errors. In making those assessments, the auditor considers the internal control system in place in the entity for the preparation and fair presentation of the financial statements, in order to determine audit procedures that are appropriate in the circumstances, but not with the aim of expressing an opinion on the existence and effectiveness of the entity's internal control system.

An audit also includes assessment of the appropriateness of the accounting policies used and of whether the accounting estimates made by the CERN Pension Fund Governing Board are reasonable, as well as evaluating the overall presentation of the financial statements.

We believe that the evidence obtained provides a sufficient and appropriate basis for our audit opinion.

## **2.4 Opinion**

We have analysed the Financial Statements of the CERN Pension Fund for the Year 2012.

We have examined the Consulting Actuary's Report for the year 2012, where it is stated that *"the financial stability of the Fund as at 31 December 2012 is not assured. The funding ratio is below 100% at the end 2012. It amounts to 40,1% according to the technical assessment [according to the assumptions adopted by the PFGB] and 66,1% [according to the assumptions stated by WGII]. The CERN Pension Fund is unable to fully guarantee its current and future potential liabilities"*

The Actuary's Report also highlights that *"the Fund does not dispose of a security margin which would allow it to cope with a possible slump in the financial markets"*. In addition, it is stated that the Fund's liabilities as at 31 December 2012 *"are not entirely covered by the available net assets."*

Moreover the Actuary's Report stated that the under-funding of 5.744,7 MCHF (59,9% of the actuarial commitments) is *"considerable"* and it is the result of five main factors as explained in our Report (on paragraph 6.4).

We have analysed the opinion of PWC which draws “*attention to the fact that the financial statements show a funding gap of kCHF 5.744.739 and a funding ratio of 40,1% (31.12.2011: 39%) based on the CERN accounting policy [discount rate of 1,16%] (refer to chapter 2.11)*”. Besides, they highlight that “*Measures to remedy this funding gap were submitted by the Pension Fund Governing Board to CERN Council and approved in June 2011 and March 2012.*”

It is also important to highlight that PWC, in their 2012 opinion, added two paragraphs stating in the first that “*the Pension Fund governing Board has been monitoring the effectiveness of the measures taken to remedy the funding gap*” and in the second paragraph: “*we would also like to point out that the possibilities to remedy the funding gap and the risk capacity regarding investments also depend on unforeseeable events, for instance, developments on the investment markets*”.

Also according to the statements of the Actuary and of PWC, we believe that the CERN Pension Fund underfunding is critical, therefore Management should follow-up closely the effectiveness of the measures undertaken.

In our opinion, the financial statements present fairly, in all material respects, the CERN Pension Fund's financial position at 31 December 2012, and its financial performance and its cash flows for the year ending on that date, in accordance with the International Public Sector Accounting Standards (IPSAS) and the Financial Regulations and Financial Rules of the CERN Pension Fund.

### **3. PREAMBLE**

The Report by the External Auditors on the Accounts of the CERN Pension Fund for the financial year 2012 includes:

- a table providing information on the implementation status of previous years External Auditors' recommendations (from 2005 till 2011), as requested by the Chairman of the Finance Committee to the Council at its 142nd Meeting (CERN/2743). The table is enclosed as an Annex to this Report;
- the results of our audit which was focused on the Pension Fund's governance and internal control environment;
- our analysis and assessment of the opinion of PWC on the Financial Statements of the CERN Pension Fund for the year 2012;
- our analysis and assessment of the Management Letter of PWC jointly with the Management replies, discussed and approved during the Pension Fund Governing Board (PFGB) meeting held on 25 April 2013. We received the latest version of the Financial Statements approved by PFGB on 8 May 2013;
- Our analysis and assessment of the Consulting Actuary's Report at 31 December 2012 prepared by PITTET Associates.

### **4. LEGAL STATUS OF THE PENSION FUND WITHIN THE ORGANIZATION**

The Council decided, during the restricted Session of December 2006, to set up a Study Group to elaborate detailed proposals "*for a new governance structure of the CERN Pension Fund based on the recommendations of the Expert Panel (...) taking into account the special technical and legal aspects of the proper functioning of the Pension Fund in the particular framework of CERN as an international organization*".

The conclusions of the Expert Panel were that "although legal separation is desirable for pension funds in general (...) the establishment of the CERN Pension Fund as a separate legal entity may be lengthy and complex and may not even be legally feasible because of the international organization nature of CERN".



In relation to such conclusions, the Study Group confirmed that the Pension Fund remains an integral part of the Organization and has no separate legal personality.

These considerations have been correctly implemented in the rules of the Pension Fund approved by the Council in December 2010<sup>2</sup>.

#### **4.1. Amendments to the Rules and Regulations of the Pension Fund**

As stated above, in December 2010, Council approved the Chapter I of the Rules of the Pension Fund that entered into force on 1 January 2011. We have been requested by the Standing Advisory Committee on Audits (SACA) to express our comments on Section 5 “Audit” only.

In March 2012, the Pension Fund Governing Board has presented to the Finance Committee and to Council a White Paper on “Financial Regulations of the Pension Fund” for discussion which has been approved by the Council in June 2012.

In the following paragraphs we make comments on certain points related to the Pension Fund Rules and regulations to which we would like to draw the attention of the Council and Finance Committee.

#### **4.2. The “operational autonomy” of the Fund and the role of the Council, “Supreme Authority”, in defining strategies**

In article I 2.02 it is stated that “the Fund enjoy operational autonomy within CERN and shall be managed independently through the bodies referred to in Article I 2.04, paragraph 1, of the Rules”. These bodies are the Governing Board (PFGB) and the Chief Executive Officer (CEO), assisted by the Investment Committee (IC) and the Actuarial and Technical Committee (ATC)”.

All these bodies, and their competences, are defined in details in the Rules and Financial Regulations approved in June 2012.

The role of the Council, as “Supreme Authority”, is not defined in details in the Rules and in the Financial Regulations. On one hand, the Rules assign to the PFGB the role to “propose the funding principles and policy of the Fund for approval

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<sup>2</sup> Refer to CERN/2913/Rev 3. Article I 2.01.

by the Council”<sup>3</sup> and, on the other hand, to “decide on the statement of investment principles and investment policy of the Fund”<sup>4</sup> (SIPIP).

In line with our suggestions in the past years, we express the opinion, as a matter of principle, that Council, in so much as it represents contributing Members States, should be in a position of effectively exercise, directly or through delegation to Finance Committee, its role of guidance and control on strategic matters in all those areas that might affect financially its stake-holders.

#### **4.3. Finance Committee role in the Pension Fund is limited to only being consulted for approval of the Financial Rules**

The new Financial Regulations approved in June 2012 by the Council do not define in detail the role of the Finance Committee for approving procurement related to financial instruments nor for approving the Medium-Term operational Planning and Budget. In comparison, such approval is required from the Finance Committee on the CERN Management part, with the Annual Progress Report and the Medium Term Plan.

As in the past year, we are of the opinion that the role of the Finance Committee within this legal framework should be better defined and therefore we suggest to introduce detailed rules on this regard.

### **5. CONTROL ENVIRONMENT AT PENSION FUND**

In broad terms, external assurance providers, jointly with internal controls set up by the Management, form the Internal Control Environment at 31 December 2012 at Pension Fund.

As mentioned in the Preamble (refer to §3), we obtained audit evidence directly and indirectly through the analysis and assessment of documents prepared by other auditors, assurance providers and technical experts. These documents were mainly, the Actuary Report, the PricewaterhouseCoopers’ Opinion and Management Letter and the reports presented by the local auditors, selected by the Fund’s Management, in charge of auditing the Pension Fund’s Real Estate portfolio.

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<sup>3</sup> Refer to Article I 2.05 “Functions of the Governing Board” point 1.b).

<sup>4</sup> Refer to Article I 2.05 “Functions of the Governing Board” point 1.b).

### **5.1 Oversight Environment: in 2013, simultaneously, the Chairman of the PFGB, the External Auditors, the specialised Auditor (PWC) and the Actuary will be changed**

PWC, in its Internal Audit report 2012 on the Fund's governance, risk management and control process, dated 15 April 2013, observed that *"in 2013, external auditors, specialised auditor [PWC] and actuary expert roles will be changed simultaneously"*. Furthermore they highlighted as a risk the *"lack of supervision during the period of change in a complex environment"* and they recommended to the PFGB to *"define a rotation plan between these external bodies in order to avoid such situation"*.

Also considering that the Chairman of the PFGB will be changed in 2013, we share the point of view of PWC and therefore we recommend to implement a system where the rotation is staggered.

Furthermore we also refer to our recommendation in paragraph 5.2.2, considering that should the CERN Internal Audit have been considered part of the assurance system in the Pension Fund environment since 2008, this *"risk"*, as defined by PWC, would have been mitigated to some extent.

#### **5.1.1 Oversight Environment: SACA is the "Audit Committee" of the Pension Fund**

PWC, in its Internal Audit report 2012 on the Fund's governance, risk management and control process, dated 15 April 2013, observed that Pension Fund *"does not have a body (typically an audit committee) whose main tasks would be: i) assessments of internal audit reports; ii) follow-up of internal auditors' recommendations; iii) challenge management estimates and assumptions and the reasonableness of management's judgments"* and they rise the PFGB's attention to this recommendation.

Our position is that an Audit Committee already exists, the Standing Advisory Committee on Audits, SACA, which Terms of Reference include all the requirements indicated by PWC. We strongly state that there is no need to create another similar body, thus we recommend to PFGB not to consider any other alternative to the SACA, considering that, as provided for in the Rules of the Pension Fund, and as mentioned, the Fund is an integral part of CERN, and the activities of the Fund are part of the official

activities of CERN.”

### **5.1.2 Oversight Environment: Cost control should be enhanced**

PWC, in its Internal Audit report 2012 on the Fund’s governance, risk management and control process, dated 15 April 2013, observed that “*costs are important because they reduce the rate of return on investments*”. Furthermore they highlighted the “*low return on investments due to high costs of administration and asset management*” as a risk.

Consequently PWC recommended to the Management that “*the Fund should have transparency on the development of its administration and asset management costs. To facilitate a better assessment of the cost-efficiency, administration and asset management costs should additionally be benchmarked against other comparable pension funds with a comparable mandate.*”

Management replied that “*a process has been put in place (...)*” and that they will implement it on September 2013.

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation that the Pension Fund should be fully transparent on the development of its administration and assets management costs.

We also draw the Council’s attention to the fact that an estimate of the fees and costs of Investment Funds, that are not disclosed in the Statement of Financial Performance, have now been provided in Note 18 “Investment Management Fees” in the latest version of the Financial Statements dated 26 April 2013, and that these fees and costs totalled around 17 MCHF.

We also refer to our recommendation in paragraph 6.2.1 where we analyse the special contributions of 60 MCHF from CERN correlating it with the high investment fees paid compared to the past and with the following paragraph 5.1.3, “Controls over Investment Funds”.

### **5.1.2.1 Controls over Investment Funds: PWC agreed on their accounting and concluded that they have “reasonable assurance” regarding the fair value of financial assets not quoted in an active market**

In Note 4.3.1 of the Pension Fund Financial Statements 2011, Management disclosed that a significant amount of these assets (602,3 MCHF) has been valued based on unaudited statements (around 16% of Total Assets).

PWC reported in the Management Letter to have performed “*substantive test of details of audited financial statements*”, a “*critical review of the latest unaudited financial statements and/or estimates of the net present value provided by the investment funds’ administrators*”, “*audit of the procedures implemented regarding valuation of the investment funds and private equities*”, “*testing whether the accounting standards have been adhered to*” and “*analytical review*”. PWC, following these controls, did not detect any material error and reported it to us and to the PFGB, noting that “*the review of the reconciliation between the accounting value and the audited financial statements (as of 31 December 2011) revealed no significant differences*”.

However, PWC also pointed out to us that the recording in the accounts of only the “*estimates of the net present value provided by the investment funds*” will no longer be allowed under the Swiss Directive D-02/2013.

Furthermore, it is our opinion that, although CERN (and therefore the Fund), as an international organization and therefore not obliged to follow the Swiss Directives, should, as good accounting practice, disclose clearly all the costs and income in the accounts and financial statements. We therefore renew our recommendation to request from the Fund administrators a clear statement of all the costs incurred (for instance, management, performance and commission charges etc.) and *not only* to disclose them *but also*, considering the materiality of this asset’s component, charge these costs to the appropriate expenditure accounts.

### **5.1.3 Oversight Environment: Potential conflict of Interest are not in art. I 2.06 point 4.**

PWC, in its Internal Audit report 2012 on the Fund’s governance, risk management and control process, dated 15 April 2013, observed that “*art I 2.06 Composition of the Governing Board (...) could lead to a potential conflict of interest*”

indicating in particular *“point 4. Any member may be dismissed from his office by the authority which appointed him at any time by a procedure similar to that followed for his appointment”*. Furthermore they highlighted as a risk that *“Members of the Governing Board may not act in the best of interest of the Fund in order to avoid to be dismissed by the Authority which appointed them”*.

Consequently PWC recommended to the PFGB to *“consider the risk and cancel art.4 when reviewing the statutes in the future”*.

We do not share the point of view of PWC and therefore we draw the Council’s attention not to implement the PWC’s recommendation.

Consequently, we draw also the Council’s attention to the fact that potential conflicts of interest especially in an environment such as the CERN Pension Fund where considerable assets are invested in different Funds, could materialize at every level, from the staff, through the Management and the Investment Committee, to the PFGB’s members. Therefore, as already addressed in some of our recommendations to the CERN Human resources Department<sup>5</sup>, we recommend to implement a procedure where declarations of potential conflicts of interest are carefully reviewed by a dedicated body<sup>6</sup>.

#### **5.1.4 Internal Control Environment: Fund management and derivatives**

PWC observed as part of their review of the Internal Control System (ICS)<sup>7</sup> that they could not find *“any process related to selection and monitoring of brokers before and at trading”*, declaring as a risk that responsibilities *“are unclear”* and that *“best execution is not ensured”*. Therefore they recommended *“to document the two processes as identified above”* and moreover they specified that *“Financial dealers and institutions authorized to provide investment transaction shall be approved by the CIO on the basis of their credit worthiness and reviewed on an annual basis. ISDA agreements shall be signed for all over-the-counter (OTC) transactions. The*

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<sup>5</sup> See Follow-up Table of 2012 CERN Report Section “Conflict of Interest” (CERN/3064).

<sup>6</sup> See page 45 of the Follow-up table of 2012 CERN Report Section “Conflict of Interest” (CERN/3064).

<sup>7</sup> In Internal Audit report 2012 on the Fund’s governance, risk management and control process, dated 15th April 2013.

*corresponding processes and records shall be included in the Internal Control System.”.*

The Management replied that *“controls related to selection of brokers will be enhanced through the trading Screen electronic platform. Trading screen is expected to be fully deployed by the end of 2013”.*

We share the point of view of PWC and therefore we recommend to implement the above mentioned recommendation.

#### **5.1.5 Internal Control Environment: Compliance with investment guidelines in Fund management and derivatives**

PWC, in its Internal Audit report 2012 on the Fund’s governance, risk management and control process, dated 15 April 2013, observed that that there is *“no monitoring of compliance with investment guidelines. State Street provides a daily violations report. However, this report does not reflect the limits as defined in the investment guidelines and moreover no use of this report is made internally.”* Consequently, they highlighted as a risk that investment guidelines may not be respected.

Therefore PWC recommended *“to put in place clear responsibilities and processes in order to monitor those limits and follow up on exception regularly”.* Management replied that they confirmed that *“the implementation of the control framework is underway and is expected to be finalized by September 2013”.*

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation.

#### **5.1.6 Internal Control Environment: Fund management and derivatives - Active currency hedge**

As referred to investment guidelines, PWC reported that *“the currency exposure of the entire portfolio is limited to 30% and that this limit is verified only on a quarterly basis through the quarterly risk reports issued by Ortec. As per our understanding this limit is verified only on a quarterly basis through the quarterly*

*risks reports issued by Ortec.*” Consequently PWC identified as a “*risk*” “*the exposure above limits*” as indicated above. Therefore PWC recommended “*to monitor on a more regular basis the exposure to currency risk due to active hedge ineffectiveness*”. Consequently, PFMU declared that “*enhancing the monitoring process is under development*”.

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation.

#### **5.1.7 Internal Control Environment: Lack of monitoring and reporting on software upgrades**

Concerning the performance of the review of the Information Technology cycle and its related internal control carried out by PWC, they observed “*that it is not possible to easily trace software changes that occurred on the Fund’s IT tools and that there is no evidence that the Management has been informed of issues met*”. The related risk highlighted by PWC was related to “*a loss of control on the softwares used by the Fund and a Management’s lack of visibility*”.

Therefore PWC recommended to “*create and maintain a centralized list of upgrades received and/or installed during the year, with potential issues met and solutions found*” and moreover to “*communicate this list to the Management on a regular basis*”.

CERN IT administrator declared that the creation of a list of upgrades is in progress and it is foreseen its communication to Management on a regular basis.

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation.



### **5.1.8 Internal Control Environment: Lack of traceability of controls in the Benefits cycle**

Concerning the performing of the review of the Benefits cycle, PWC observed that *“the control 2.05.3 ‘Contributions calculation’, which consists in ensuring that the contributions data provided by HR matches with the team’s calculation, is not documented.”* The risk of the absence of this documentation – according to PWC - is that *“a control is not traceable and therefore considered as ineffective”*.

Therefore PWC recommended to *“formalize the reconciliation on contributions done by the Benefits team between the data provided by the Human Resources, and the results of the calculations performed”* and to *“add an example of this reconciliation in the ICS System”*.

Management replied that *“a reconciliation of the contributions process is being formalized and documented, that it will be included in the ICS”* and, moreover, that *“the process and the associated control will be reviewed in junction with the implementation of the new benefits management system”*.

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation.

### **5.1.9 Internal Control Environment: Lack of supervision among the Benefits team**

Relating to the Benefits cycle and its related internal control, PWC observed that *“following the departure of the section leader, some internal controls have been weakened. [PWC] noted that a ‘4 eyes principle’ has been put in place through cross-checks between staff members. However, cross-checks between close colleagues are usually not considered as a strong control and [PWC] observed a natural tendency in this type of organisation to progressively neglect the controls documentation”*.

The risk of the absence of this effective double control and the related absence of documentation – according to PWC - is that *“a control is not traceable and therefore considered as ineffective”*.

PWC recommended to remind “*to the team members the importance of formalizing the controls performed*” and to review “*the processes, risks and controls in junction with the design/implementation of the new benefits management system*”.

Management replied that these “*processes, risks and controls are being reviewed in the context of design/implementation of the new benefits management system*” and “*this project is monitored by a dedicated steering committee set up by the PFGB*”.

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation.

#### **5.1.10 Internal Control Environment: Actuarial function - Consideration of the Assets liability study**

Relating to the actuarial function, PWC observed that they “*reviewed the process and key controls relating to decisions/measures derived from assets liability study. The Asset liability study performed by ORTEC is considered within the PFIC (Pension Fund Investment Committee). The conclusion/summary of ORTEC’s memo is that: i) Increasing equity is currently not an option due to risk concerns, but Alternative Investments need to be considered and increased to 15% of the asset allocation in order to achieve the 5% nominal return. Bonds do not return what is required to meet the 5% nominal return. ii) Risk management needs to be emphasized in 2012 with closer monitoring of the risk limit. In addition, ORTEC based their analyses on the liabilities cash-flow projections performed by the actuary.*”

Consequently, they highlighted as a risk that “*conclusion of the Assets liability study [should] not fully considered or addressed.*” Therefore PWC recommend that “*the asset liability analysis performed by ORTEC leads to determining optimal assets portfolios under several constraints either as required by the Board or exogenous (e.g. Real Estate asset allocation). [PWC] note that the analysis performed does not include any Liability Driven Investment (LDI) and we recommend the Fund to assess whether an LDI approach should be considered for the determination of the optimal asset portfolio.*”

Management replied that *“Suitability of an LDI approach will be examined as a part of the Long Term Asset Strategy study, initiated by the PFIC (included in the PFIC 2013 work plan)”*.

We share the point of view of PWC and therefore we recommend to implement the PWC’s recommendation.

## **5.2 Audit**

In the Rules of the Pension Fund (CERN/2913/Rev. 2), approved in December 2010 by the Council, Section 5 is titled “Audit” and presents 3 articles related to the External Auditors (Article I 5.01), to Internal Audit of the Fund (Article I 5.02) and to CERN Internal Audit (Article I 5.03).

### **5.2.1 External Audit**

Last year, again, we endorsed the analysis and the resulting recommendation of the Austrian Court of Audit, integrally reported in our 2008 Report, which stated *“that the appointment of two external auditors with the same reporting line to Council is not in line with the basic principle of an independent external audit mandate. The Council could be put in a very uncomfortable situation to deal for instance with two contradictory audit opinions which might hamper the discharging process”*.

The Pension Fund Rules approved in December 2010 and mentioned above<sup>8</sup> (Article I 5.01 ‘External Auditors’) clarify that only the External Auditors appointed by the Council shall submit their report to the Council and, therefore, the risk of “two contradictory audit opinions”, which had been first raised by the Austrian Court of Audit and taken up by us, has been consequently addressed and mitigated.

This position, which re-establishes ‘one principal auditor’ entrusted with the responsibility for reporting on the Financial Statements, is aligned with the INTOSAI Standards (ISSAI 1600) and International Standards on Auditing (ISA 600).

It should be noted, however, that ISA 600 leaves the possibility for an ‘other auditor’ to play a role in the framework of a well-defined collaboration with the

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<sup>8</sup>Refer to Rules of the Pension Fund CERN/2913/Rev.2.

‘principal auditor’. It has to be noted that the work of the ‘other auditor’ comprises the audit of only a component of the financial data which is included in the financial statement audited by the ‘principal auditor’.

During 2012, the PFGB continued to obtain additional assurance through a contract with PricewaterhouseCoopers (PWC) with the aim to provide an opinion on the Pension Fund’s Financial Statements, in the same way as we provide an opinion on the same Financial Statements. The contacts between ourselves and PWC have been enhanced compared to the past four years, in order to avoid overlaps and the risk of a conflict of opinion recalled by the Austrian Court of Audit, as above explained in the previous paragraphs.

Despite our recommendation to retender the contract for additional assurance so far entrusted to PWC, the PFGB, in 2012, enlarged the scope of this contract to include the provision of assurance as established by article I 5.02 of the Pension Fund Rules, namely “assess the efficiency of the management and control system”, core mandate of the Internal Auditor.

Following a competitive tendering process, the PFGB has contracted to the audit firm MAZARS, as from 2013, the role of “Internal Auditor” and the role of assurance provider which has not been renewed to PWC.

The PFGB decision to retender, not taken with unanimous consensus but with a majority, was motivated a) by the need of implementing our recommendation and b) by their interpretation of implementing the CERN Rules (Article I 5.02), assigning to an outsourced “Internal Auditor” both functions of performing “an annual audit of the accounts and financial statements of the Fund” and of assessing “the efficiency of the management and control system”.

We acknowledge the steps taken by the PFGB to implement the new rules of the Pension Fund, however, we consider these steps were not in line with our recommendations.

Therefore, in our last year of mandate, we would like to reiterate that, in our opinion, the optimal audit arrangements at the Pension Fund, which would best mitigate the risks of lack of independence and lack of specialized competences are as follows:

- We consider that the scope of CERN Internal Audit should include all operations of the Pension Fund, keeping in mind that this service may procure the technical competences that are necessary to audit technically specialized operations of the Pension Fund.
- We consider that any additional assurance on the Financial Statements should be procured externally under the supervision of the CERN Internal Audit which would ensure the independence of the assurance provider and the necessary collaboration and coordination with the External Auditors.

Moreover, we have the opinion that the two functions as described by Article I 5.02 have different scope and objectives and require different levels of independence and, therefore, should not be performed by the same company. Contrary to this, the PFGB at majority decided to assign both functions to one company, the external “Internal Auditor”.

Since we will not be further in a position to follow-up this issue, we draw the Council’s attention to the need to review Article I 5.02, with the purpose not to leave its interpretation to the decision at majority of the PFGB itself, and in order to clarify the difference between an external assurance, if needed by the PFGB, of the function of performing “an annual audit of the accounts and financial statements of the Fund” and between “the efficiency of the management and control system”.

### **5.2.2 Internal Audit: since March 2008, no independent<sup>9</sup> internal auditor has replaced the CERN Internal Audit Service**

We endorse, again this year, the analysis of the Austrian Court of Audit regarding the internal audit issue, as integrally reported below:

*“The basic audit principles for internal audit should*

- *ensure that the internal audit is part of the overall control system of the Pension Fund and;*
- *define the reporting requirements.*

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<sup>9</sup> For the concept of internal audit independence please refer to INTOSAI STANDARD GOV 1940 “Internal Audit Independence in Public Sector”.

*The External Auditors were informed that an internal audit was conducted on the Pension Fund's internal trading activity. The report was issued in September 2007 and highlighted a number of weaknesses.*

*The External Auditors noted that no validation or comments on issues raised in this report have been received. This situation has been justified due to the restructuring process of the Pension Fund. The External Auditors were informed that the new Governing Board would deal with the issues raised in the internal audit report.*

*The restructuring of the Pension Fund led to a widely autonomous status of the Pension Fund. In this circumstance the involvement of CERN internal audit regarding the Pension Fund was not properly addressed.*

*The External Auditors are of the opinion that due to the fact that CERN and its Pension Fund form one legal entity the internal audit should be entitled to perform audits in all areas of CERN including its Pension Fund. This would ensure the overall target to improve CERN's internal control system and to avoid any white spots of unaudited areas.*

*The External Auditors are aware that the reporting lines of the internal audit are dependent on the area audited (CERN or CERN Pension Fund). While internal audit reports to the Director General on audits performed on CERN core activities, internal audit should report to equivalent executive bodies of the Pension Fund on audits performed on the Pension Fund<sup>10</sup>.*

We share the view and the analysis of our predecessors and we consider that, since March 2008, the PFGB has not yet replaced the CERN Internal Audit Service with an independent<sup>10</sup> internal auditor.

Considering that the new Pension Fund Rules leave open the possibility for the PFGB to in-source the Internal Audit Service, we therefore renew our recommendation, in line with the opinion expressed in the section 5.2.1 that CERN Internal Audit be “*part of the overall control system of the Pension Fund*”, after clarifying its reporting requirements to both the Director General and the PFGB under

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<sup>10</sup> For the concept of internal audit independence please refer to INTOSAI STANDARD GOV 1940 “Internal Audit Independence in Public Sector”.

the extent of oversight foreseen in the SACA's terms of reference.

Moreover, once the above mentioned recommendation is implemented, as a following phase, we recommend to the PFGB that CERN Internal Audit includes the operations of the Pension Fund in its risk analysis for audit planning, in order to perform as soon as possible, and in full independence, an assessment of “the efficiency of the management and control system” of the Pension Fund as required by Article I 5.02 of the Pension Fund Rules.

### **5.2.3 The Auditee has been involved in the selection of its Auditor, independence might be impaired**

With reference to the above mentioned paragraph 5.2.1, in relation to the tender process successfully awarded to MAZARS, we have audited the tender process.

The “Internal Auditor” should report to the PFGB and therefore, it should be *independent* from the Auditee, which in this case is the Pension Fund Management.

We observed that the Assessment Panel was composed of eight people, of which, four Members of the PFGB, three representatives of Pension Fund Management Unit (PMFU) and one representative of the Procurement Department.

Both PFGB Members and representatives of PMFU participated in all the steps of the tender process and in the assessment of the offers as well as in the assessment of the bidding companies, i.e. scoring the interviews in addition to scoring the offers.

We consider that the participation of an Auditee in the selection process of its Auditor as a possible impairment of the Auditor's independence.

Therefore, considering that the Pension Fund has already committed itself to a contract with MAZARS, we recommend that the PFGB take all possible measures to preserve the independence of the “Internal Auditor” from the Management.

Such measures could include full access for MAZARS to the CERN Internal Audit, in particular in the preparation of their reporting to SACA. The CERN Internal Audit could also be invited to monitor any extension in scope and tasks of the contract with MAZARS, especially when this involves a fee in addition to the contractual fee (around 290 kCHF).

## **6. FINANCIAL RESULTS FOR THE YEAR**

It is fundamental to highlight that some of the values recorded in 2012 are based on actuarial assumptions which differ from assumptions used in 2011, both differing from the 2009, 2008 and 2010 assumptions. Therefore, analysing trends during the years or the evolution of certain values from the past year would not be sound and realistic and could lead to erroneous analysis.

Management provided explanation of the impact of the changes to the actuarial parameters between 2012 and 2011 in the Financial Statement under the paragraph 4 related to “Critical accounting estimates and judgements”.

The Fund net result as at 31 December 2012 rose by 165,5 MCHF, with Net Assets available for benefits equivalent to 3.846,6 MCHF (3.681,1 MCHF in 2011, equivalent to around 4,5% increase).

The positive net result of 165,5 MCHF is obtained by deducting from the positive result of the 2012 Investment of 251,5 MCHF the outcome of the contributions minus benefits and payments which is negative and is equivalent to -86,0 MCHF.

### **6.1 The package of remedial measures for restoring full funding**

As for the development of a clear strategy and as for measures to remedy to the funding gap, they were proposed to the PFGB by the WG2 already at the end of 2009, and on December 2010, the Council approved the document “Proposal by the management concerning a package of measures towards restoring full funding of the CERN Pension Fund”<sup>11</sup>.

The measures proposed were: *i)* an increase in the contribution rate from 30.88% to 34%, *ii)* an additional annual extraordinary contributions by the employers of more than 60 MCHF, *iii)* for current recipients of a pension and those in receipts of a pension as at 31 December 2011, 0% indexation of pensions until a personal loss of purchasing power of 8% is reached.

It is worthwhile mentioning that the mentioned above “negative outcome of the

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<sup>11</sup> Refer to CERN/2947



membership activities” of -86,0 MCHF (contributions minus benefits and payments) would have been resulted a much higher negative income, equivalent to -147,3 MCHF, without the Employers (ESO and CERN) special contributions, equivalent in total to 61,3 MCHF.

**6.2 Special Contributions of 60 MCHF is reducing *de facto* the possibility to finance research projects: in 30 years Pension Fund will subtract directly to CERN Research 1,8 Billion of CHF**

In the 2012 Actuary Report is stated that *“The financial stability of the Fund as at 31 December 2012 is not assured. The funding ratio is below 100% at the end of 2012. It amounts to 40.1% according to the technical assessment in Appendix A (CERN assumptions), and 66.1% according to the technical assessment in Appendix B (WG II assumptions). The CERN PF is unable to fully guarantee its current and future potential liabilities. However, the Fund does not face any liquidity issues to pay current benefits or transfer value payments in the event of the departure of active members. It will also not face such issues over the next 30 years according to the projections made with the WG II assumptions, considering the underindexation mechanism and the special contribution of MCHF 61.3 per year made by the sponsors”.*

It is important to note that the Actuary stated that it would be possible for the CERN Pension Fund to *“fully guarantee its current and future potential liabilities”*, and not to face liquidity issues over next 30 years, *only* considering the followings:

- a)* projections for the next 30 years made by WG II (66,1% of funding ratio),
- b)* (including) the under indexation mechanism and
- c)* (including) the special contribution of 61,3 MCHF per year made by CERN and ESO

Therefore, if the CERN assumptions, which are more prudent, would have been considered (40,1% of funding ratio) in the Actuary Report, it would have resulted in a scenario where the Pension Fund would face liquidity issues to pay current benefits or transfer value payments in the event of the departure of active members.

At the same time, the other two variables (*b.* underindexation and *c.* special contribution of 61,3 MCHF), if not maintained, would trigger the liquidity issues mentioned above.

The CERN and ESO special contributions, which *de facto* reduced in these years the possibility to fund other research projects, in the 30 years period considered by the actuary, will be totalling 1.839 MCHF (around 2 billion of CHF) and, in particular for CERN, we therefore draw the Council's attention to the fact that financing the Pension Fund for 30 years, without increasing the level of contributions to CERN from Members States, would probably result in a financial inability to develop an important scientific infrastructure after the LHC.

Considering the above mentioned issues, it is impossible to assess whether the remedial measures approved by the Council for the actual underfunding will, as at the 31 December 2012, produce the results expected.

### **6.2.1 Special Contributions of 60 MCHF: Reducing finance for Research and paying fees of around 20 MCHF to Investment Managers**

As also stated in paragraph 5.1.2 "Cost control should be enhanced" PWC observed that "*cost are important because they reduce the rate of return on investments*". Furthermore they highlighted as a risk the "*low return on investments due to high costs of administration and asset management*".

According to the latest report of State Street, performance of Alternate Funds were around 2.87% meanwhile the overall performance of the Fund was more than 6.89%. However the estimated fees paid to Investment Managers were around 17 MCHF, which amounts to around 30% .of the CERN Special Contributions to the Pension Fund.

Therefore, we recommend to Management to monitor closely cost-efficiency and to report to the Council the ratio of all the costs of every asset class as a percentage of the special contributions of 61,3 MCHF that CERN and ESO are paying to the Pension Fund, and thus reducing finance available for Research in their respective Organisations.

### 6.3 Funding ratio: sharp decrease from 106% in 2007 to 40,1% in 2012 – not only due to the change in IPSAS assumptions

The Council decided at its 135<sup>th</sup> Session held on 15 and 16 December 2005 to reduce the technical rate from 5.5% to 4.5% as of 1 January 2005.

At 31 December 2008 the technical deficit<sup>12</sup> obtained by applying a technical rate of 4.5%, was -1.345 MCHF compared to a surplus of +274 MCHF as at 31 December 2007.

In 2009, 2010, 2011 and 2012 the technical deficit has been determined using as actuarial assumptions the discount rate based on the 30-years Swiss government bonds' value at 31 December of the reference year (1,16% in 2012; 1,23% in 2011; 2,10% in 2010 and 2,55% in 2009), as recommended by us in our 2008 Report.

This year the technical *deficit* was equivalent to 5.744,7. MCHF<sup>13</sup> with a small decrease of 12,4 MCHF (- 0,2%) compared to 2011 (5.757,1 MCHF).

Notwithstanding the change in the assumptions, but rather due to the severe negative performance of the Fund during the year 2008, the *funding ratio* (percentage of the coverage of the actuarial commitments by the net assets) decreased from 106,3% on 31 December 2007, to 72,7% on 31 December 2008, to 60,1% on 31 December 2009, to 54,8% on 31 December 2010, to 39,0% on 31 December 2011, and only on 31 December 2012 it slightly increased – compared to the previous year – to 40,1%.

	2007	2008	2009	2010	2011	2012
<b>Funding ratio (%)</b>	106,3%	72,7%	60,1%	54,8%	39,0%	40,1%
<b>Technical deficit (MCHF)</b>	+274	-1.345	-2.597	-3.185	-5.757	-5.745
<b>Assumption (discount rate)</b>	4,5%	4,5%	2,55%	2,10%	1,23%	1,16%

<sup>12</sup> Technical deficit is given deducting from the value of the “Net Assets available for benefits” the “Vested pension capital and technical provisions”.

<sup>13</sup> Assumptions made in 2010 to establish the technical assessment according to IAS 26, set following CERN assumptions, differs from 2009 in addition to discount rate for 2 item a) salary increase linked to career change 1,90% in 2010 instead of 1,80% in 2009 and b) for the exit assumptions (0% in 2009 and 3% in 2010). Which have in any case a minor impact than the discount rate.

Although the drop from 72,7% in 2008 to 60,1% in 2009 was mainly due to the use of a different discount rate in comparison to the other years, given the relevance of this negative performance, it is also important to draw the attention of Council to the Consulting Actuary's Report for the Year 2012 that considered, as in previous years, "unsatisfactory" the financial situation for the Fund at 31 December 2012 with a funding ratio of only 40,1%.

#### **6.4 Actuary Report 2012: "an unsatisfactory financial situation of the Fund as at 31 December 2012"**

In the remarks of its 2011 Report, the Actuary highlighted the "negative performance (-2,2%)", observing "*a further deterioration of the financial situation of the Fund (...) mainly due to assumption changes (lower discount rate and updated mortality tables) and to the negative performance (-2,2%)*".

In its report for the year 2012, similarly to what he indicated in 2011, the Actuary wrote that "*The assessment as at 31 December 2012 based on current assumptions shows an increase in the funding ratio of 1.1 point*", but also that "*The (...) results highlight an unsatisfactory financial situation of the Fund as at 31 December 2012, with a funding ratio of only 40.1%. The Fund has no security margin at its disposal which would help cope with a potential slump in the financial markets.*".

In 2012, the Actuary reported exactly the factors that determined this deficit of 5.744,7 MCHF:

- “• *the change in the retained assumption for the discount rate from 1.23% to 1.16% used to make the calculations (MCHF 120,4) (...),*
- *the capitalisation of 3.4% (1.5% salary increase linked to inflation plus 1.9% linked to career change) of future salary increase (MCHF 1.273,9),*
- *the capitalisation of 1% of future indexation of pensions (MCHF 1.119,3),*
- *the general longevity increase observed in Europe and the specific longevity of CERN PF beneficiaries,*
- *insufficient asset return and insufficient contributions in the past compared to the present value of the benefits given to members*".

Finally, the Actuary showed the following conclusions:

- “• *In 2012, we observe an improvement of the financial situation of the Fund due to the payment of the special contribution (MCHF 61.3), gains on pension indexation and to the positive nominal performance on assets of 6.9%.*
- *The financial stability of the Fund as at 31 December 2012 is not assured. The funding ratio is below 100% at the end of 2012”.*

As in the past years, we share the view of the Actuary and, considering the five factors and the current underfunding, we highlight that, even when considering the little increase of the funding ratio, recovery measures cannot assure to produce substantial and long-term effects in restoring the full funding.

#### **6.4.1 Full actuarial review in 2013 will produce projections for drawing conclusions on long-term financial stability**

Moreover, the Actuary, also this year, stated that “*in order to draw conclusions regarding the long-term financial stability and evolution of the Fund, projections using the open fund method (i.e. also considering future entrants into the Fund) are needed*” and it is important to highlight that, according to the combination of hypothesis, models and method that can be used, these projections should be carefully selected.

A full actuarial review will be made in 2013 on the basis of the situation as at 31 December 2012. As last year, we suggest that, in making this review, a consistent approach with past assumptions, method and models, be assured.

Moreover, in order to increase transparency, again this year, we renew our recommendation that the Actuary’s Report should be brought to the Council’s attention directly in the Financial Statements or indirectly, through a specific document where Management would carry out its detailed analysis on actuarial conclusions.

## **6.5 PWC: Strategy and measures to remedy the funding gap**

In their 2008 Management Letter, PWC reported on “*overall comments on the control environment of CERN Pension Fund*”. In that paragraph it was stated that “*(...) the PFGB has to develop a clear strategy and define measures to remedy the funding gap, in spite of the fact that CERN and ESO guarantee the benefits acquired under the provisions of the Rules*”.

For the year 2009, 2010, 2011 and 2012, PWC did not perform any follow-up of this comment, not reporting to PFGB whether a “*clear*” strategy has been developed and, moreover, not following-up whether the “*measures to remedy the funding gap*” were defined and effective.

We therefore suggest to the PFGB to require that the next external assurance provider specialized in Pension Fund matters, will provide an assessment of whether a clear strategy has been developed and the remedial measures were effective in reducing the “funding gap”.

## **6.6 PWC opinion and its disclaimer that “possibilities to remedy the funding gap and the risk capacity regarding investments also depend on unforeseeable events”**

It is also important to highlight that PWC, in their 2011 and 2012 opinions, added two paragraphs stating in the first that “*the Pension Fund governing Board has been monitoring the effectiveness of the measures taken to remedy the funding gap*” and in the second paragraph. “*we would also like to point out that the possibilities to remedy the funding gap and the risk capacity regarding investments also depend on unforeseeable events, for instance, developments on the investment markets*”.

Furthermore, PWC in its 2012 report stated that “*without qualifying our opinion, we draw your attention to the fact that the financial statements show a funding gap of kCHF 5’744’739 and a funding ratio of 40,1% (31.12.2011:39,0%) based on the CERN accounting policy [discount rate of 1,16%] (refer to chapter 2.11). Measures to remedy this funding gap were submitted by the Pension Fund Governing Board to CERN Council and approved in June 2011 and March 2012.*”.

In relation to the measures mentioned by PWC in their certificate, it is worthwhile mentioning that in March 2010, Management presented to the Council for consideration a “*Report on funding principles and policy and measures to restore full funding of the Fund*”<sup>14</sup> that forms the basis for the Council’s decision<sup>15</sup> of December related to the approval of a package of measures for restoring full funding at the Fund.

Furthermore the Council in June 2011 (CERN/2972) approved measures for members joining the Fund after the 1 January 2012 and in March 2012 (CERN/3010) approved an amendment to Article II 1.07 of the Rules of the Pension Fund, all these measures will have an effect in 2012.

We share the view stated by PWC and, considering that “investments also depend on unforeseeable events” and considering that the situation of the underfunding is “unsatisfactory” as defined by the Actuary, we welcome the Council’s approval of remedial measures, some of them starting their effect in 2012, although is premature already in 2012 to have evidence of the structural impact of these measures.

#### **6.7 If Assets are exposed to risks<sup>16</sup>, measures for restoring the full funding are impaired: alternative investment strategies are possible**

As previously stated last year, we recall that it is part of our mandate as External Auditors to provide assurance to the Council that the Assets of the Fund are sufficiently safeguarded and not exposed to risks which could in the future undermine the effectiveness of the measures for restoring full funding and the Fund’s Assets and, consequently, the funding of the Pension Fund.

In particular, the positive impact of these measures implemented by Council, as stated in the previous paragraph, could in the future be reduced if the value of the Fund Assets’ decrease. As stated also by PWC, as reported in the previous paragraph, “*the possibilities to remedy the funding gap and the risk capacity regarding investments also depend on unforeseeable events, for instance, developments on the investment markets*”

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<sup>14</sup> Refer to CERN/2897/RA 4 March 2010.

<sup>15</sup> Refer to CERN/2947 2 December 2010.

<sup>16</sup> According to INTOSAI Standards, “risk” is defined as “the possibility that an event will occur and adversely affect the achievement of objectives”.

In the context of previous audits, we have given robust evidence to the Management that an alternative way of investing the Pension Fund's Assets exists which reduces volatility and risks, especially when it is considered that we are, since 2008, in an abnormal and unforeseeable investment market situation.

Furthermore, throughout the five years of our mandate, while respecting fully Management's prerogative and full operational freedom, we have also recommended comparison of past performance with the hypothetical results of a "minimal-risk" investment policy during the same reference period (for instance investing in Swiss and German bonds, generally accepted internationally as a reference for low risk investments).

The "minimal-risk" investment policy, as illustrated in this comparative analysis, demonstrated to Management that, with alternatives strategies, the Fund could have achieved a good return of investment, even better under certain assumptions, with a reduced volatility and minimal risk.

Therefore, as also stated last year, we conclude on this point by stating that the overall historical investment policy has contributed to a conspicuous loss of Financial Assets, and this loss has largely contributed in further decreasing the funding ratio.

Despite what we have stated in previous years, we have not observed any convergence towards a "minimal-risk" investment policy.

On the contrary, if we analyse, for instance, the information provided by Management in Note 3 of the Financial Statements "Financial risks" we observe that, comparing 2011 to 2012 there was an increase in the value of assets exposed to market price risks, for an example, in Investment Funds (+21.5%) and in Equities (+29.5%).

In addition, there was an increase in the Fund's exposure to foreign exchange risks, for instance US dollars (+27%), which weighted around 50% of the total foreign currencies, and also an increased exposure to credit risk due to the investment in fixed income securities of lower issuer quality, with 25% of securities in category BBB-B in 2012 (compared to 10% in 2011).



Furthermore, it is important to note, as reported in the sensitivity analysis illustrated by Management in Note 3 paragraph 3.2 “Fair value estimation” of the Financial Statements, that the amount of assets classified in “Level 3”, namely the least liquid assets, i.e. not quoted in active markets, account for some 43,7% of the total fair value of the Fund’s financial assets.

Equally, we draw attention to the fact that 996,8 MCHF of the Level 3 category are related to the fair value of Investments Funds. This means that around 25% of the Total Assets of the Funds, classified under Investment Funds, are, in our opinion, not sufficiently liquid especially when considering the maturity of the Fund and the fact that the Fund may face liquidity shortcomings in the coming years.

According to our analysis, also stated in our previous audit reports, the Assets of the Fund have been exposed to risks during the past years and this tendency has not been corrected (for instance by reducing the components of the assets exposed to market, credit, and liquidity risk).

Furthermore, given this analysis, we therefore draw the Council’s attention to the fact that a less risky<sup>17</sup> policy would contribute to stabilising the underfunding<sup>18</sup> of the Fund, would avoid the loss in Financial Assets, and, moreover, would also avoid the expenses related to the external portfolios managers’ fees and bank charges.

Finally, as last year, we draw the attention of the Council to the fact that the special contributions of 60 MCHF, granted as one of the measures of restoring the full funding, which is *de facto* reducing the amount provided by Member States for Research, is in the same manner affected by market risks, and therefore, this reduction in research funding could be further worsened by future loss due to market volatility.

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<sup>17</sup> According to INTOSAI Standards, “risk” is defined as “the possibility that an event will occur and adversely affect the achievement of objectives”.

<sup>18</sup> For information purpose, part of the underfunding is influenced by the ratio contributions/pensions and benefits paid.

### **6.8 The target of 5% return on investment might lead the Fund to take risks at a level that is not compatible with a turbulent and unforeseeable market situation**

In the above mentioned document approved by Council<sup>19</sup>, Management concluded that “*a 5% return on investment is achievable given that (...) the Fund is not a standalone entity and is therefore not obliged to follow a minimum risk policy*”.

Therefore, as also stated last year, we can conclude that the Fund, in order to reach a 5% return on investment, has been allowed to take risks, which cannot be easily quantified since they vary every year, according to the world-market’s situation.

On this point, we therefore continue to draw the attention of the Council that, having a goal of 5% return on investment, under volatile market situations, makes a “minimum risk policy” not applicable, with remaining risks of significant asset loss. In broad terms, the decision on the level of risks to be taken (also referred to as risk appetite), directly impacts the performance achieved.

### **6.9 No disclosure of performance by each asset category according to accounting data**

Until 2007, before the introduction of IPSAS in 2008, Pension Fund management used to publish in the Annual Report, the “*Contribution of Asset classes and Managers to the performance*” with a self-explanatory table called “*Summary of the Annual Performance of each Asset category*”, with the indication of the previous year’s “*performance*”<sup>20</sup> in a comparative column.

Had this information been disclosed for the years 2008-2012, it would have been observed that the overall average decrease in the Assets since 2008, was the combined result of different “*performance*” for different asset categories, with different risk exposure.

We acknowledge that Management during 2012 tried to implement our recommendation of last year requesting that the Custodian provide such information of different “*performance*” for different asset categories, however the information

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<sup>19</sup> CERN/2897/RA.

<sup>20</sup> The term “*performance*” is in this case used respecting the wording used in Pension Fund Annual Report till 2007.

provided by the Custodian is not based on accounting data and they do not take into full consideration all the costs incurred during the year which must be assigned to each asset category.

As also stated last year, considering that IPSAS do not prevent the disclosure of such information but, on the contrary, encourage the disclosure of relevant information, we therefore renew our recommendation to the Management to insert this table into the Financial Statements in order to provide clear information to the Council on what is the yearly return (or performance<sup>21</sup>) for each asset class, the weight of each asset class compared to the total asset, as well as clear information on the administrative and transaction costs for each class.

#### **6.10 Ethics of the Investments: until 2012, no specific policy or disclosure**

As also stated in 2010 and in 2011, specific investments are administered through portfolio's managers, within well-defined parameters provided by the Management.

According to the commonly agreed principle of diversifying the investment, portfolios managers invest in the world market. This policy is also boosted by the fact that, for achieving the goals stated by the Council of 5% return on investment, emerging markets overseas are particularly profitable.

Although all the investment in equities, index, corporate bonds are perfectly traceable and disclosed in the statements provided by the Global Custodian, the Pension Fund has yet no specific policy for the choice of its investment, as far as principles of ethics are concerned.

Therefore, again this year, we draw the Council's attention to the fact that, if Council wishes to monitor this ethical aspect of the Pension Fund investments, such information on investment strategies should be clearly disclosed to Council.

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<sup>21</sup> The term "performance" is in this case used respecting the wording used in Pension Fund Annual Report till 2007.

## **7. AUDIT RESULTS**

### **7.1 Current accounts and Deposits**

In accordance with the International Standards on Auditing 505 stating “*Audit evidence obtained directly by the auditor is more reliable than audit evidence obtained indirectly or by interference (...) examples of situations where external confirmations may be used include bank balances and other information from bankers*”, we asked all the banks related to that declared to have a business relation with the CERN Pension Fund to confirm current accounts and deposits balances as at 31 December 2012.

As for the deposits and the current accounts “out of State Street” we received all the banks’ confirmation letters with the exception of one bank (Natwest). We performed the reconciliation and all variances were justified and explained. We did not observe any material errors and the amounts recorded in the balance sheet are thus verified and confirmed.

As stated above, for the bank for which we did not receive a direct confirmation, we acknowledge that Management made all the efforts to obtain this and, for the reconciliation, we used the copy of the bank’s statement received from PFMU.

#### **7.1.1 Authorized signatories at Banks should be continuously verified**

During our analysis of the bank’s confirmation, we found that, in one case, a person, not authorized in 2012 to operate with the Pension Fund’s bank account, was still included in the authorized list of people recognized by the bank itself. We acknowledge that Management, with letters dated 28 March 2012 and 26 March 2013, has requested to the above mentioned bank the cancellation of this signature.

Therefore, we recommend to continue to verify whether the updating of the signatory list in order to cancel in a timely fashion the signature of officials no longer authorized to deal with that particular bank, and, consequently, to check whether, in the related period, any cash movements have been unduly authorized.

## **7.2 Closure of the relationship with Administration Fédérale des Finances in Berne: this relevant amount of liquidity should be invested only in similar way, in a AAA bank.**

In 2013 the account at the bank Administration Fédérale des Finances in Berne (AFF) will be closed. This was announced with a letter dated 26th June 2012 and motivated by the fact that for AFF, there was no legal basis on which to maintain such an account.

We requested information from the Management relating to this issue and to the exchange of letters between the Pension Fund and the AFF. In the latest letter available, dated 21 February 2013, AFF confirmed closure of this account, however, given the difficult market situation, AFF have granted a supplementary extension of the relationship for six months and consequently the account will be closed on 30th June 2013, in any case declaring that there is no possibility of a future cooperation.

Consistent with our statements in paragraph 6.7, considering that one of our objective is to have assurance that the Assets of the Fund are sufficiently safeguarded and not undermined by risky investments, we therefore recommend to the Management, to invest this consistent amount (around 400 MCHF at 31 December 2012) previously allocated to AFF, in AAA-rated institutions or banks and not to invest it in less liquid financial instruments.

## **7.3 Investment Funds**

At the start of our final part of the audit, at the end of march 2013, we requested from the PFMU all supporting documents needed to verify the correctness of the authorization process for investing in these financial instruments and of the calculation of the Investment Management fees (such documents include signed contracts, decision of the Pension Fund Investment Committee, etc.).

Due to the lapse of time occurred for the acquisition of this specific documentation, we had, necessarily, to limit our audit in this field on some aspects related to legal and financial risk, as follows.

### **7.3.1 Major legal risks which should be given appropriate consideration**

At year end, Investment funds had a sharp increase of 195 MCHF (+22%), from 904,4 MCHF in 2011 to 1.099,4 MCHF in 2012. Of these 1.099,4 MCHF in 2012, 1.003,6 MCHF (91%) are not listed on the stock market. They represent 33% of the Financial Assets and 28% of the Total Assets. In comparison, the 2010 Investment funds weighted only 9% of the Financial Assets (8% of Total Assets).

This substantial repositioning of the architecture of the Statements of the Pension Fund results in an increase exposure to the market instability or tumultuousness.

The estimated direct costs of these investment funds are of more than 16 MCHF. We point out that, in the first draft of Note 18 of the Financial Statements, investment management fees were not disclosed, despite the recommendation we issued in our 2011 Report (refer also to our recommendation stated in paragraph 5.1.3).

The limited time available to analyse the offering memoranda and related signed contracts brought us to limit our audit on legal criticalities such as:

- a) All the contracts examined are subject to non-European jurisdiction, in particular Cayman Island laws and regulations, which may lead to strong difficulties and considerable costs in the event that there is a need to establish a legal dispute.
- b) We noted that the contracts were signed by State Street on behalf of the Pension Fund, stating not to be a “Benefit Plan Investor”. Pension Fund Management, asked for an explanation on this point, declared that State Street’s signatories appear on the Investment Agreement documents as “Transfer Agent” and that this is the equivalent of “Custodian” in a traditional equity or bond mandate.  
State Street is a German bank and the custodian of some investments of CERN Pension Fund. However, in case the Pension Fund falls under the definition of “Benefit Plan Investor” (in particular under ERISA), State Street, acting on behalf of the Pension Fund should have declared that it is a “Benefit Plan Investor”. This would have classified the Pension Fund in a different class of Investor, with limitations on the allowed percentage of its assets to be invested in alternative funds.
- c) The clauses of warning on the risk factors in the offering memoranda are necessarily written in the contracts that govern this type of investment, classified by definition as high risk. We have observed many clauses of particular importance.

As an example, all the Memoranda analysed emphasize the possibility of losing all the invested capital (and also even more). Other examples of clauses entailing major risks are given in Table A.

- d) These kinds of investment have not been approved by the Swiss Financial Market Supervisory Authority. This fact determines that the shares may not be offered to the public in or from Switzerland, but may only be offered to ‘Qualified Investors’.

For instance, in all the Memoranda we were able to analyse, the Supervisory Authorities of many countries (including European countries) are excluded from the possibilities to control these Investment Funds.

On the basis of the specific information provided at the time of our audit and according to the time available, we could not fully assess the impact of the legal risks and how they are interrelated with financial risk factors. For example, what would have been the risk for CERN Pension Fund in case of a trial, out of Europe, and how the legal commitments under other Regulatory framework would have impacted the financial management of such instruments (potential loss, possibility to invest or not in such financial instruments).

At the same time, we have noted that assurance on the Investment Funds has been provided to the PFGB by PWC, through the release of a certificate containing an unmodified opinion over the Financial Statements.

However, we have been informed by the CERN Legal Service that they were not involved in the reviews of such contracts in Investment Funds, which are practically all off-shore contracts.

Therefore, we recommend that the PFGB, as soon as possible, and as a further prudential step, assigns to an independent expert the assessment of the risks linked to the legal clauses of the investment funds’ contracts.

Moreover, we recommend that the selection process of this independent expert be implemented under the supervision of CERN Legal Service and CERN Internal Audit, in order to fully guarantee its independence (please refer also to our recommendation about tendering internal audit paragraph 5.2.3).

## 7.4 Procurement Rules

In the Rules (CERN/2913/Rev.3) approved by the Council in December 2010, in article I 4.03, second indent, it is stated that “the rules governing financial administration of the Fund, **including procurement**, shall be set out in the Financial Regulations of the Fund”. These rules became effective from the 1<sup>st</sup> of January 2011.

However, as last year, we noted that, at the Pension Fund, relevant financial contracts have been excluded, and therefore have not been submitted to Finance Committee for approval, and therefore we renew our suggestion that relevant financial contract are submitted to the approval of the Finance Committee.

## 8. FOLLOW-UP OF RECOMMENDATIONS 2005 - 2011

Following the request of the Council to examine and adopt the external auditor’s recommendations for the past, we have reviewed all past recommendations that were still outstanding, either issued by our predecessors or by us in 2008, 2009, 2010 and 2011.

In Annex 1 we listed two categories of recommendations:

- a. the recommendations that are still pending (not dealt with) or still ongoing;
- b. the recommendations that we now consider as completed and which are marked as closed.

In addition, Annex 1 also includes the comments received from the Pension Fund Management at the time of the issuance of the corresponding Report and the latest status on actions taken by Management.

This year, for the first time, in order to facilitate the follow-up of our Successors we have divided our Follow-up table in *i)* recommendations to the attention of the Management, *ii)* recommendations to the attention of the PFGB and, *iii)* invitation to draw the Council’s attention.



**TABLE A**

**Actions required by the PFGB**

INVESTMENT FUND	Reference/ Page Memoranda	Text	Our judgment	Action required by the PFGB
ARGONAUT GLOBAL MACRO FUNDS	page 12, par. 11	<i>“Dependence on Key individuals. The success of the Fund depends upon the ability of Mr. Gerstenhaber to develop and implement investment strategies that achieve the Fund’s investment objectives. If Mr. Gerstenhaber was to become unable to participate in the management of the Fund, the consequences to the Fund would be material and adverse and could lead to the premature termination of the Fund.”</i>	Contract against the “prudent man” principle. We believe too risky to connect to the presence of a person the performance of an investment, and that this cannot be considered a cautious attitude of an organization that manages public money.	An external independent expertise is required  CERN Legal Service expertise is required.
ALL WEATHER PORTFOLIO LIMITED BY BRIDGEWATER ASSOCIATES, INC	<u>Document written on July 2008</u> PAGE 18	After 13 pages of description of risks factors, which are similar to the other investment funds that we analyzed, we can find on page 18, in bold character, the following declaration: <i>“the foregoing list of risk factors does not purport to be a complete enumeration o explanation of the risks involved in an investment in the Company, etc.”</i>	Contract against the “prudent man” principle. We observe that the Fund’s Company writes in the contract only the clauses of risk factors that are required by the laws, but there are actually many more risk factors, which are not easily to predict and to list; therefore, we believe that it was not a prudent behavior sign contracts without having them submitted to the legal Service; in addition, the risks of this type of contracts are never completely controllable.	An external independent expertise is required  CERN Legal Service expertise is required.
(Same)	<u>Document “Form ADV Part 2A” written on March 31, 2011</u> page 8	<i>An investment in any of the above referenced strategies involves a high degree of risk ... The risk of loss in investing in the strategies can be substantial, including the potential loss of the entire amount invested by a Client in a fund. Separately managed account Clients can potentially lose more than their investment if the account is highly-leveraged. Prospective Clients should therefore carefully consider whether such type of investment is suitable for them in light of their financial condition”.</i>	Contract against the “prudent man” principle. These warnings, like all the others contained in the risk factors, are very important and shift to the subscribers the blame of the losses, freeing the investment manager of the Fund from any responsibility, not only in case of non-performance, but also in case of loss of capital	An external independent expertise is required  CERN Legal Service expertise is required.
STRATUS FEEDER LIMITED	Risk Factors	<i>“Investors must be prepared to lose all or substantially all of their investment (...) Investors should therefore carefully consider whether such type of investment is suitable for them in light of their financial condition”.</i>	See comment above	An external independent expertise is required  CERN Legal Service expertise is required.
(Same)	page 50	<i>“Eligibility and other requirements”. “An investment in the Company can only be made by you if you (...) e) have sufficient funds to afford a complete loss of principal”.</i>	See comment above In addition, we observe, with respect to clause overleaf, that obviously, PF has theoretically sufficient funds, comparing the investment and the total consistency of the Fund. Moreover, having the PF a so serious underfunding, the total loss should not be considered as a predictable and possible consequence of investment.	An external independent expertise is required  CERN Legal Service expertise is required.
MILLENNIUM INTERNATIONAL LTD	Page 1-32	Dissolution of Millennium International: <i>“Millennium International has the right to compulsorily redeem all of its issues shares and thereafter dissolve itself at any time (including during a fiscal year) and for any reason”.</i>	Contract against the “prudent man” principle. The permanence of the Company on the market is left only to their own will, with the alone obligation to redeem shares to the value of disposal; there is no guarantee, even theoretical, to be able to	An external independent expertise is required  CERN Legal Service expertise is required.

INVESTMENT FUND	Reference/ Page Memoranda	Text	Our judgment	Action required by the PFGB
			recoup the losses, if the fund is closed, and not there is no legal protection against this clause, once signed.	
	Page II-11	<i>“The Master Partnership may lose capital through investment losses, withdrawals of capital by the Affiliated Funds to fund their expenses or in connection with equity withdrawals and redemptions by their investor or a combination of investment losses and such withdrawal of capital”.</i>	Contract against the “prudent man” principle. This clause leaves to the Investment Management of the Fund all the choices on the type of investment. The subscriber has no possibility not only of choice, but even to indicate a mode with a lower risk. He accepts all responsibility of losing the capital without any real protection against losses. Clause is certainly not geared towards a principle of prudence.	An external independent expertise is required  CERN Legal Service expertise is required.
<b>MOORE MACRO MANAGERS FUND LTD</b>	Page 21	<i>“There are no limitations on the Fund’s ability to borrow, other than those imposed by law. Borrowing money to purchase securities provides the Fund with the advantages of leverage, but exposes it to capital risk and higher current expenses”.</i>	See comment above	An external independent expertise is required  CERN Legal Service expertise is required.
<b>SEG LS I OFFSHORE, LTD</b>	<u>November, 2011, version</u> Page 12	<i>“Overall Investment Risk. All securities investments risk the loss of capital. The nature of the securities to be purchased and traded by the Master Fund and the investment techniques and strategies to be employed by the Investment Manager may increase such risk”.</i>	Contract against the “prudent man” principle. Additional terms that discharge only to the investor the responsibility for losses, similar to those seen previously	An external independent expertise is required  CERN Legal Service expertise is required.
<b>TWO SIGMA U.S. EQUITY VARIABLE EXPOSURE FUND, LTD</b>	Page 70	<i>“An investment in the Company is Highly speculative, entail substantial risks and is subject to various conflict of interests ... An investor should invest in the Company only if such investor can bear a total loss of its entire investment in the Company, understands that there will be significant volatility in the Company’s performance and has limited need for liquidity in its investment”.</i>	Contract against the “prudent man” principle. See comment above	An external independent expertise is required  CERN Legal Service expertise is required.

**ANNEX 1**

<b>Report</b>	<b>Recommendation raised By Austrian Court of Audit 2004-2007</b>	<b>Comments received from CERN Management at the time of the issuance of the report</b>	<b>Status on actions taken by Management as reported by Austrian Court of Audit</b>	<b>Comments received from CERN Management related to 2012 Report</b>	<b>Status on actions taken by Management as evaluated by Italian Court of Auditors</b>
<p><b>2005</b> <b>2006</b></p>	<p><b><u>IT — Management of the Fund</u></b> The External Auditors recommended that the Administration of the Fund should continue its efforts with respect to the organizational improvement of the Fund's IT system both on the technical side as well as on the personnel resources. This could also include considerations with respect to the availability of "Off- the-shelf "IT-modules for retirement benefit programmes as well as the option for out-sourcing parts of the Fund's administration to specialized service providers.</p>	<p>In order to address this issue and to improve the logistics backup, an IT project was launched in 2005 with the following objectives: -Migrate the in-house built computing systems of the Fund towards Organizational standards (Oracle HR); -Review and improve available functionality by evaluating standard existing products available on the market. Amongst other things successful implementation of the project will ensure improved operational efficiency in the recurrent functional areas of the Fund and lead to an improvement in data security and quality.</p>	<p>Ongoing</p>	<p>The PFMU initiated collaboration with CERN's General Services department (GS) with a view to developing an alternative technical solution.. A steering committee which reports to the PFGB has been created. The current data is being migrated to the CERN Oracle environment and in parallel a new application based on CERN's payroll software is the subject of a feasibility study. GS will provide a detailed estimate based on the specifications. A collaborative webpage has been set up to facilitate the work. This is populated by full documentation of processes, a data dictionary, a rules dictionary and technical specification.</p>	<p>Ongoing</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Audit
<p><b>2008</b> <b>2009</b></p>	<p><b>Current accounts and Deposits</b>                      As also specified in the Report on the Accounts of CERN for 2008, we found that the exchange rates for certain foreign currencies at the closing date used by CERN differed from those same currencies utilized by the Pension Fund and, what is more, in some cases they both differed from the Swiss National Bank's official exchange rates. Since IPSAS have the objective to enhance, among other issues, comparability of financial statements and considering the fact that the two Financial Statements are interrelated, we thus recommend to employ the same foreign exchange rates for both Entities. We consider that for a public funded International Organization a generally world-wide rate accepted as official, published by public institutions such as, for example, the Swiss National Bank or the European Central Bank could be more appropriate.</p>	<p>Since 2009, the Fund's Financial Statements has included a table indicating the year end Reuters World Markets exchange rates used to convert the major currencies in the Fund's portfolios and also the year end cross-currency rates calculated using rates from the European Central Bank.</p> <p>It is only possible to perform an analysis of the impact of the different exchange rates at the year end, using the year end rates. Transactions already reporting during the year cannot be restated and analysed using the different rates throughout the year.</p> <p>The PFMU believes that the inclusion in the Financial Statements of an analysis of only part of the effect of using different currency rates could be confusing and ambiguous for the reader of the Financial Statements.</p> <p>As part of the implementation of IPSAS 30 a sensitivity analysis showing the impact of a 10% shift in foreign currency against the Swiss franc has been included in the 2012 Financial Statements.</p>	<p>Partially implemented</p> <p>An analysis and/or estimation of the effect on the accounts of the two different currency rates is envisaged to be disclosed in the Financial Statements.</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Audit
2008	<p><b><u>Segregation of Duties in the IT Systems. Development — go live</u></b></p> <p>There is no segregation of duties since an external consultant performs the development and go live of applications(...) The CERN Pension Fund IT is fully dependent on an external consultant.</p> <p>We recommended to reduce dependence towards IT external consultancies and to implement effective segregation of duties.</p>	<p>Please refer to the comments under the 2005/2006 IT - Management of the Fund recommendation.</p>	<p>Ongoing</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
2008	<p><b><u>Risk management — strategic decision</u></b>                      Strategic decisions (strategic allocation, tactical margin and investment drivers) are essentially based on qualitative analysis. We recommended implementing quantitative measurement of market risks taken by the PF such as VaR and stress analysis.</p>	Implemented.	Closed

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
<p><b>2009</b></p> <p><b>2010</b></p> <p><b>2011</b></p>	<p><b><u>Consulting Actuary's Report</u></b></p> <p>In order to increase transparency, we renew our recommendation that the Actuary's Report should be brought to the Council's attention directly in the Financial Statements or indirectly, through a specific document where Management would carry out its detailed analysis on actuarial conclusions .</p>	<p>During their meeting on 16 February 2012, the PFGB decided to return to the recommendation that the Actuary's report should be brought to the Council's attention, once the actuarial selection process, currently in progress, has been completed.</p> <p>The new Actuary has now been appointed. This recommendation will be reviewed again by the PFGB during 2013.</p>	<p>Ongoing</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
2009	<p><b><u>Financial Risks versus Performance</u></b>            We recommend improving the level of information already provided, by also mentioning how these risks could interact with one another and what their impact under abnormal market conditions might be.</p>	<p>Implemented.</p>	<p>Closed</p>
2010	<p><b><u>Sensitivity Analysis to be disclosed from January 2013</u></b>            We strongly recommend the PFGB to start to take immediate action for selecting an independent expert, through a technically demanding tendering process, who could implement IPSAS 30's requirements or, as a first step, advise on how to implement such requirements.</p>	<p>A review of the requirements of IPSAS 30 has been completed and discussed within the PFMU.            Furthermore the PFMU considers that it has the necessary expertise internally to implement IPSAS 30.            The Financial Statements for the year ended 2012 are compliant with IPSAS 30.</p>	<p>Closed</p>



Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
<p><b>2010</b></p>	<p><b>Financial Risks versus Performance</b>                  Considering that, 10 years ago, highly speculative financial instruments did not exist, we also recommend making a comparison between these values related to annual performances with the performance that the Pension Fund investment would have gained with a "minimal-risk" investment policy for the same past 30 year (for example, Swiss governmental bonds).</p>	<p>A study by an independent risk consultant was commissioned by the PFGB to address this recommendation, i.e.. to measure the past performance of the Fund compared to a return that would have been realized had the Fund invested all its assets in Swiss Government bonds. The study was carried out for the reference historical period 1994-2010; the reference historical period was subsequently updated to include the 2011 data, not available at the time of the study. For the period 1994-2010, the comparison shows an annual return equivalent delivered by the Fund marginally higher (by 0.1%) than the return that would have been realised with the entire portfolio invested in Swiss Government bonds. With the year 2011 included in the reference historical period, the annual return equivalent of Swiss Government bonds surpasses the performance of the Fund by 0.5%. In conclusion, the past cumulated performance of the Fund would have been enhanced had the Fund invested all its assets in Swiss Government bonds back in 1994.</p> <p>- The study also addressed the question of whether investing the whole portfolio today in Swiss Government bonds would be an advisable option for the future. The simulations, which take into account several future scenarios of increase/decrease in the yield, do confirm that the actuarial target return of 5% cannot be reached by such an investment. This conclusion supports the External Auditors remark that having a goal of 5% return on investment makes such a policy not applicable.</p>	<p>Ongoing</p> <p>The first part of the ORTEC study was communicated to us when we started our audit in 2012, after it had been presented to the PFGB. Therefore, it is following our request, that ORTEC updated their study to include the year 2011 in the historical reference period used. In addition, they used assumptions that were closer to ours, although not identical. This addendum to their initial study fully supports our observations and recommendations and, in particular, demonstrates that alternative strategies are possible in order to avoid future losses in the Financial Assets of the Pension Fund.</p> <p>Although Management is fully responsible for its decisions, the purpose of our observations is to contribute to its enlightened decisions.</p>

<b>Report</b>	<b>Recommendation raised by Italian Court of Auditors</b>	<b>Comments received from CERN Management in 2012</b>	<b>Status on actions taken by Management as evaluated by Italian Court of Auditors</b>
<p><b>2010</b></p>	<p><b><u>Amendments to the Rules and Regulations of the Pension Fund</u></b>                      Chapter I of the new Rules of the Pension Fund provides now a sound legal basis for the Fund's operations, however we recommend that the other Sections, the Application of the rules, Financial Regulations and Procurement Rules be implemented as soon as possible in order to provide the entire legal framework on which the Fund will operate.</p>	<p>Implemented</p>	<p>Closed</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
<p><b>2010</b></p>	<p><b><u>Deviations from SAA</u></b>                      We share the point of view of PwC and therefore we recommend, despite the fact that new principles will be implemented at the end of 2011, that the SAA should have been respected for year 2010 and as a consequence also for year 2011.</p>	<p>The PFMU has obtained confirmation from the CERN Legal Service that the new rules approved by Council in December 2010 replace the prior process to establish the asset allocation. Since the beginning of 2011, the PFIC agreed and updated the “Natural Strategic Asset Allocation” for 2011, including regular updates to the PFIC and the PFGB.</p> <p>In accordance with the Statement of Investment Principles, approved by the PFGB in February 2011, the PFIC in February 2012 reviewed and approved the Natural Strategic Asset Allocation for 2012. The monitoring of the compliance of the NSAA with the risk limit was fully implemented in 2012 and is evidenced in the Internal Control System.</p> <p>This recommendation has been deemed closed by PwC during their 2012 audit where they noted that <i>“In line with the SIPIP, deviations from the NSAA are allowed provided that the Fund’s risk stays below the approved risk limit.”</i> It should also be noted that the Fund’s risk was lower than the risk of the NSAA in all quarters of 2012, as reported by the Fund’s independent risk consultant.</p>	<p>Closed</p> <p>Anyway, deviations from current situation and “Natural Strategic Asset Allocation” are still present.</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
2011	<p><b><u>Internal control environment: investments, as one of the actions to remedy the funding gap, require a constant monitoring of the strategy's effectiveness</u></b></p> <p>PwC recommended in the 2011 Management letter “a critical review of the investments allocated to each category as defined by the Strategic Asset Allocation to ensure a proper monitoring of the Assets”.</p> <p>(...)Moreover, PwC stated that, although “new investment guidelines were implemented progressively in 2011” they found “no evidence of a process implemented for the monitoring of the compliance of these new rules” and they concluded with the recommendation to “implement a monitoring of compliance of the NSAA with the risk limit, and investments guidelines and adapt investment exposure to prevailing market conditions”.</p> <p>Management responded that “during 2012, the evidence that this monitoring process has been fully implemented will be available”.</p> <p>We share the point of view of PwC and therefore we recommend to implement the above mentioned points.</p>	<p>This recommendation has been deemed closed by PwC during their 2012 audit where they noted that “<i>The process for monitoring the compliance with the risk limit has been defined and documented in the ICS system.</i>”</p>	Closed

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
2011	<p><b><u>Full actuarial review in 2013 will produce projections for drawing conclusions on long-term financial stability</u></b></p> <p>...the Actuary states that “<i>in order to draw conclusions regarding the long-term financial stability and evolution of the Fund, projections using the open fund method (i.e. also considering future entrants into the Fund) are needed</i>” and it is important to highlight that, according to the combination of hypothesis, models and method that can be used, these projections should be carefully selected.</p> <p>A full actuarial review will be made in 2013 on the basis of the situation as at 31 December 2012. <u>We suggest</u> that, in making this review, a consistent approach with past assumptions, method and models, be assured.</p>	<p>The periodic review is in progress. The results of previous assumptions and the financial impact of the differences predicted and actual experience will be reported to the ATC in June 2013 to highlight which assumptions need further analysis and potential adjustment prior to selecting the assumptions for the periodic review. The draft report will be reviewed by the ATC and PFGB in September 2013. A final report will be reviewed by the ATC and PFGB in November 2013 and submitted to CERN Finance Committee and CERN Council in December 2013.</p>	Ongoing

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
<p><b>2010</b> <b>2011</b></p>	<p><b><u>Procurement Rules</u></b>                      We recommend that, until the approval of new Pension Fund's Financial Rules, the CERN Procurement Rules are strictly applied and all procurement done for the Pension Fund be included in the return coefficient for Member States.</p>	<p>The Pension Fund Financial Rules were approved by the Council in June 2012 on the recommendation of the Finance Committee (CERN/FC/5639-CERN/3021).</p>	<p>Closed</p> <p>For reference, recommendations on the matter have been introduced in this Report on paragraphs 4.2, 4.3, 7.4 .</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
2011	<p><b>Procurement Rules</b></p> <p>In the Rules (CERN/2913/Rev.3) approved by the Council in December 2010, in article I 4.03, second indent, it is stated that “the rules governing financial administration of the Fund, including procurement, shall be set out in the Financial Regulations of the Fund”. These rules became effective from the 1<sup>st</sup> of January 2011.</p> <p>However, we noted that, at the Pension Fund, relevant contracts are not submitted to Finance Committee for approval, and therefore <u>we suggest</u> that relevant contract are submitted to the approval of the Finance Committee.</p>	<p>The Pension Fund Financial Rules were approved by the Council in June 2012 on the recommendation of the Finance Committee (CERN/FC/5639-CERN/3021).</p>	<p>Closed</p> <p>For reference, recommendations on the matter have been introduced in this Report on paragraphs 4.2, 4.3, 7.4 .</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
2011	<p><b>No formal designation, monitoring and terminating of investment management agreements</b></p> <p>PWC identified that <i>“with the transition to the NSAA [Natural Strategic Assets Allocation], the number of investment management agreements has been reduced to four. However [they] do not have evidence of validation of the choice of the remaining managers by the PFIC [Pension Fund Investment Committee]”</i>. PWC recommended to <i>“implement a more formal process for designating, monitoring and terminating mandates of investment management agreements”</i>.</p> <p>The management replied that <i>“formal procedures for the monitoring and termination of investment agreements will be documented in the Fund’s Internal Control System”</i>.</p> <p>We share PWC findings, and we endorse their recommendation.</p>	<p>This recommendation has been deemed closed by PwC during their 2012 audit where they noted that the formal designation, monitoring and termination of investments management agreements is <i>“Documented in the Internal control system”</i>.</p>	Closed



<b>Report</b>	<b>Recommendation raised by Italian Court of Auditors</b>	<b>Comments received from CERN Management in 2012</b>	<b>Status on actions taken by Management as evaluated by Italian Court of Auditors</b>
<p><b>2011</b></p>	<p><b><u>Controls over Investment Funds</u></b>                      In Note 4.3 of the Pension Fund Financial Statements 2011, Management disclosed that a significant amount of these assets have been valued based on unaudited statements.</p> <p>(...) Although PWC reported to us that recording in the accounts only the “estimates of the net present value provided by the investment funds” could be considered as a possible practice in the private sector. It is our opinion that, at CERN, being an international organization, as a good accounting practice, all the costs and income should be clearly disclosed in the Accounts. <u>We therefore recommend</u> to request from the Fund administrators a clear statement of all the costs incurred (for instance, commission charges etc.) and to disclose them, also in consideration of the relevance of this assets’ component.</p>	<p>An estimate of the fees related to direct investment in funds in 2012 was reported to the PFIC and subsequently included in the Financial Statements as a note upon request by the PFIC.</p>	<p>Ongoing                      See related paragraph.</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Management as evaluated by Italian Court of Auditors
<p><b>2011</b></p>	<p><b><u>Disclosure of information about the annual performance of each asset category</u></b>            Until 2007, before the introduction of IPSAS in 2008, Pension Fund management used to publish in the Annual Report, the “<i>Contribution of Asset classes and Managers to the performance</i>” with a self-explaining table called “<i>Summary of the Annual Performance of each Asset category</i>”, with the indication of the previous year “<i>performance</i>”<sup>22</sup> in a comparative column.            (...) Considering that IPSAS do not prevent to disclose such kind of information but, on the contrary, encourage the disclosure of relevant information, <u>we therefore recommend</u> to the Management to insert this table in order to provide clear information to the Council on what is the yearly return (or performance<sup>23</sup>) for each asset class, the weight of each asset class compared to the total asset, as well as on the administrative and transaction costs for each class.</p>	<p>Disclosure of information about the annual performance of each asset category, taking the form of performance reports from the independent Master Custodian, is reported to the PFIC and PFGB on a regular basis.</p> <p>A note was included in the 2012 Financial Statements showing the Investment Return by Asset Class.</p>	<p>Ongoing</p> <p>The performance calculated by the Master Custodian is based on different elements than the accounting elements.</p>

<sup>22</sup> The term “performance” is in this case used respecting the wording used in Pension Fund Annual Report till 2007.

<sup>23</sup> The term “performance” is in this case used respecting the wording used in Pension Fund Annual Report till 2007.

**POINTS TO THE ATTENTION OF PENSION FUND GOVERNING BOARD**

<b>Report</b>	<b>Suggestions/Recommendation raised by Italian Court of Auditors</b>	<b>Comments received from CERN Pension Fund Governing Board in 2012</b>	<b>Status on actions taken by Pension Fund Governing Board as evaluated by Italian Court of Auditors</b>
<p><b>2011</b></p>	<p>In March 2012, the Pension Fund Governing Board has presented to the Finance Committee and to Council a White Paper on “Financial Regulations of the Pension Fund” for discussion.</p> <p>Finance Committee role in the Pension Fund is limited to only being consulted for approval of the Financial Rules.</p> <p>The “White Paper” presented in March 2012 does not define in detail the role of the Finance Committee for approving procurement above certain threshold nor for approval of the Medium-Term operational Planning and Budget. In comparison, such approval is required from the Finance Committee on the CERN Management part, with the Annual Progress Report and the Medium Term Plan.</p> <p>We are of the opinion that the role of the Finance Committee within this legal framework should be better defined and therefore <u>we suggest</u> to introduce detailed rules on this regard.</p>	<p>The Financial Regulations of the Fund were approved by the Council in June 2012, on the recommendation of the Finance Committee (CERN/FC/5639-CERN/3021).</p>	<p>Closed</p> <p>Although the Rules have been approved, we still continue to underline that the role and power of Finance Committee should be better defined and enhanced.</p> <p>For reference, recommendations on the matter have been introduced in this Report on paragraphs 4.2, 4.3, 7.4 .</p>

Report	Suggestions/Recommendation raised by Italian Court of Auditors	Comments received from CERN Pension Fund Governing Board in 2012	Status on actions taken by Pension Fund Governing Board as evaluated by Italian Court of Auditors
2011	<p><b>Decisions in Pension Fund Committees</b>                      PWC noted that many decisions are regularly taken by PFGB and the Pension Fund committees. They pointed out that it is <i>“afterwards often difficult to find the origin and date of the decision taken”</i> and recommended to <i>“implement a record of decisions with dates”</i>.                      Management replied that they <i>“will request from the Translation and Minutes group a standard annex to the minutes of the PFGB, PFIC and ATC meetings, listing decision taken”</i>.                      We share the point of view of PWC and we thus recommend to <i>“implement a record of decision with dates”</i> and we also recommend that every decision taken by the Board and by the Committees is clearly identifiable and summarized in a text.</p>	<p>This recommendation has been deemed closed by PwC during their 2012 audit where they noted that <i>“Decisions are clearly recorded at the end of each PFGB minutes”</i></p>	<p>Closed</p>

Report	Suggestions/Recommendations raised by Italian Court of Auditors	Comments received from CERN Pension Fund Governing Board in 2012	Status on actions taken by Pension Fund Governing Board as evaluated by Italian Court of Auditors
<p><b>2009</b></p> <p><b>2010</b></p> <p><b>2011</b></p>	<p><b><u>Instruction to specialised auditors</u></b></p> <p>We recommend to the Pension Fund Governing Board to specify in the terms of reference of the tendering process for the selection of the specialized auditor, and in the subsequent contract, a specific clause that any different instruction should be agreed before hand with the principal auditor.</p> <p>Furthermore, as stated also in 2010, although we understand that an independent opinion from an external specialized auditor or consultants could help in enhancing the level of assurance that the PFGB would like to have over the Fund, <u>we recommend</u> that a higher level of assurance be obtained, <i>not systematically from</i> the same service provider <i>but</i> through a tender procedure, on the risks that the PFGB itself would like to monitor and on the areas of the financial statements that the PFGB would consider needing particular audit's attention in a given year. Term of references should be prepared before the starting of the tender process and they should embed input from the SACA and External and Internal Auditors.</p> <p>We should point out that, since 2009, this contract is renewed without a competitive tender and without taking into consideration our comments and recommendations, in particular the necessity of a competitive tender and the timing in delivery of their opinion to us.</p>	<p>Please refer to Article 3 of Contract KE 1938/PF between CERN and PwC relating to the CERN Pension Fund's specialised audit, which contains a specific clause ensuring that the Specialised auditors must incorporate input from the External Auditors, as well as SACA and the PFGB.</p> <p>Following the PFGB decision to rotate the Specialised auditor mandate on at least a 5 year basis, the tender process for the selection of the specialized auditor has been completed under the management of CERN Procurement and in compliance with the Fund's Financial Regulations.. The External Auditors, CERN Internal Audit and SACA were invited to provide input to the terms of reference as part of the tender process</p> <p>The Specialised Auditor's 2012 audit plan (including the proposed timetable) was presented to the External Auditors during the SACA meeting on 4 September 2012. The audit plan was updated to reflect comments from the External Auditors and SACA. The 2012 audit plan was approved by the PFGB on 27 September 2012.</p>	<p>Closed</p> <p>A new recommendation has been issued at paragraphs 5.2.2 and 5.2.3.</p>

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Pension Fund Governing Board as evaluated by Italian Court of Auditors
2010	<p><b>Internal Audit</b> We suggest to the PFGB, as a first step, to assess which level of assurance they would like to have at Pension Fund and, then, deciding if they need a) only an internal audit service b) both together [assurance provider and internal auditor] .</p> <p>We recommend that in the case where the PFGB takes the reasonable decision of enhancing the level of assurance by having both assurance providers together (point b), that two services are not performed by the same service provider or its subsidiaries.</p>	<p>The PFGB assessed the level of assurance it required and at its meeting of 10 May 2012, decided to authorise the PFMU to proceed with preparations for a tender procedure to identify a commercial specialised auditor to perform the internal audit service required under Article I 5.02 of the Rules in 2013.</p>	<p>Not implemented</p> <p>Further recommendations have been issued at paragraphs 5.2.2 and 5.2.3.</p>
2011	<p><b>Internal Audit</b> We share the view and the analysis of our predecessors [the Supreme Audit Institution of Austria] and, having considered that, since march 2008, Pension Fund has not replaced the CERN Internal Audit Service with an independent<sup>24</sup> internal auditor, and having considered that the Rules leave open the possibility for the PFGB to insource the Internal Audit Service, we therefore recommend that CERN Internal Audit be “part of the overall control system of the Pension Fund”, after clarifying its reporting requirements.</p>	<p>This recommendation was discussed by the PFGB and at its meeting of 10 May 2012, the PFGB decided to authorise the PFMU to proceed with preparations for a tender procedure to identify a commercial specialised auditor to perform the internal audit service required under Article I 5.02 of the Rules in 2013.</p>	<p>Not implemented</p>

<sup>24</sup> For the concept of internal audit independence please refer to INTOSAI STANDARD GOV 1940 “Internal Audit Independence in Public Sector”.

Report	Recommendation raised by Italian Court of Auditors	Comments received from CERN Management in 2012	Status on actions taken by Pension Fund Governing Board as evaluated by Italian Court of Auditors
<p><b>2011</b></p>	<p><b><u>PWC: Strategy and measures for remedy the funding gap</u></b>            In their 2008 Management Letter, PWC reported on <i>"overall comments on the control environment of CERN Pension Fund"</i>. In that paragraph it was stated that <i>"(...) the PFGB has to develop a clear strategy and define measures to remedy the funding gap, in spite of the fact that CERN and ESO guarantee the benefits acquired under the provisions of the Rules"</i>.            For the year 2009, 2010 and 2011, PWC did not perform any follow-up of this comment, not reporting to PFGB whether a <i>"clear"</i> strategy has been developed and, moreover, not following-up whether the <i>"measures to remedy the funding gap"</i> were defined and effective.</p> <p><u>We therefore suggest</u> to the PFGB to require that the external assurance provider specialized in Pension Fund matters, will provide an assessment of whether the remedial measures were effective in reducing the <i>"funding gap"</i>.</p>		<p>Closed (because PWC has not been renewed).</p> <p>This task will be probably carried out by the External assurance provider in the coming years.</p>

