

A system of framework autonomy for scientific councils.

Contributors

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South Africa. Chief Directorate Science Planning.

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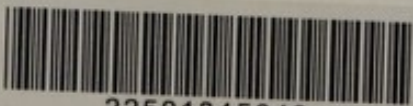


DEPARTMENT OF
NATIONAL EDUCATION

SCIENCE PLANNING

A SYSTEM OF
FRAMEWORK AUTONOMY
FOR SCIENTIFIC COUNCILS

NATED 11-007 (88/04)



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FOREWORD

A SYSTEM OF FRAMEWORK AUTONOMY FOR SCIENTIFIC COUNCILS

Sustained consideration of the importance and supportive role of research/science in a changing world has again focused attention on the relationship between the State and scientific councils (SCs). This relationship is essentially determined with the State's view of -

- the role of science in general and particularly in employment;

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- the contribution which the State could make in this regard; and

- the degree of guidance and control that should be exercised by government in order to achieve these goals.

On the basis of a document prepared by the Commission for Administration (CFA) and entitled "Strategies for the development of science and technology in the Republic of South Africa", the Ministers concerned gave their approval for an investigation to be undertaken into a macro-control system for SCs in which the above matters would be looked at. Such a control system implies greater managerial independence for SCs, which would naturally have had to be exercised within the framework of adequate public responsibility, hence the name "framework autonomy".

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**CHIEF DIRECTORATE OF SCIENCE PLANNING
DEPARTMENT OF NATIONAL EDUCATION
Private Bag X122
PRETORIA**

At a meeting held on 17 April 1988 attended by the Ministers concerned and the Chairmen of the SCs, it was decided, *inter alia*, that -

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- the CFA should submit a report on the findings of this regard;

- the Department of National Education and Finance should be represented in the CFA; and

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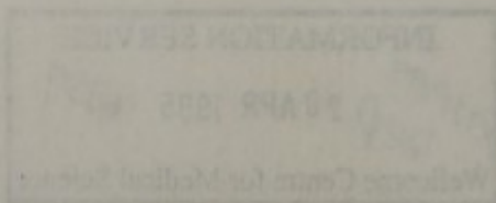
A SYSTEM OF EXAMINATIONS AUTONOMY FOR SCIENTIFIC COUNCILS

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CHIEF DIRECTORATE OF SCIENCE PLANNING
DEPARTMENT OF NATIONAL EDUCATION
Private Bag 1121
PRETORIA
0001

APRIL 1988



FOREWORD

Sustained consideration of the importance and supportive role of research/science in a changing world has again focused attention on the relationship between the State and scientific councils (SCs). This relationship is especially concerned with the State's view of -

- the role of science in general socio-economic development;
- the contribution which SCs should make in this regard; and
- the degree of guidance and control that should be exercised by government in order to achieve these goals.

On the basis of a document prepared by the Commission for Administration (CfA) and entitled "Raamwerkoutonomie met spesifieke verwysing na die rasionalisering van navorsing/-wetenskap en owerheidsbetrokkenheid daarby", the Ministers concerned gave their approval for an investigation to be undertaken into a macro control system for SCs in which the above matters would be looked at. Such a control system implies greater managerial independence for SCs, which would naturally have had to be exercised within the framework of adequate public responsibility, hence the name "Investigation into framework autonomy for SCs".

At a meeting held on 19 August 1986, attended by the Ministers concerned and the Chairman of the CfA, it was decided, inter alia, that -

- the CfA should take the lead in an investigation in this regard;
- the Departments of National Education and Finance should be represented on the investigating team; and

- during the investigation there should be consultation with the SCs and the liaison departments.

In the light of the above decisions an investigating team, representing the above departments, was constituted with a view to the development of bases and measures for the implementation of a system of framework autonomy. The latter consists mainly of two components, namely parameters for -

- staff dispensation levels, and
- finance.

Next it was decided that as a first phase, and with the Cfa as convener, attention would be focused exclusively on parameters relating to staff dispensation levels with the aim of implementing this phase on 1 April 1987. The second phase, relating to financing measures, would begin directly afterwards with the Department of National Education as convener and with 1 April 1988 as the target date for reporting, with a view to implementation from the 1989/90 financial year.

During the course of the investigation there was sustained consultation with the SCs and departments. In addition to contact on an individual basis, there was also consultation within the Committee of Heads of Departments involved in SCs (CHDISC) and the Forum for Central Government Institutions and Scientific Councils (GOSC). (The heads of the SCs serve on GOSC together with the heads of the liaison departments, the Department of Finance and the Office of the Commission for Administration.)

The first phase of the investigation was completed by the beginning of 1987, approved by the Ministers concerned and implemented from 1 April 1987. The investigation into the second phase started in March 1987 and the report was finally

approved by the Ministers concerned during April 1988. The system of base-line financing, as developed in the second phase of the investigation into framework autonomy, therefore forms the basis for the State financing of the SCs from the 1989/90 financial year.

This report is a consolidation of the reports of the team investigating framework autonomy which were compiled by the CfA (Phase 1) and the Department of National Education (Phase 2) as primary authors, respectively. In respect of staff administration and state financing this report therefore contains a consolidated version of the approved policy on the relationship between the SCs and the State's central control bodies.

Mr J.A. Kotzé).

Department of National Education

Dr C.G. Coetzee (Convener: Phase 2)

Dr L.C.A. Stoop

(Assisted by:

Dr F.P. Groenewald

Mr D.P. Vissar).

Department of Finance

Mr E. Niouwoudt

(Assisted by:

Mr B. van Rooyen).

The outstanding co-operation received from the heads and other staff of the SCs and from officers of the various liaison departments is acknowledged with thanks.

This report was translated by the State Language Services of the Department of National Education, typed by Mrs C.W. Vermeulen and printed and bound by the Production Department of the University of South Africa.

approved by the Ministers concerned during April 1988. The
 systems-based financing arrangements for the various
 phases of the investigation, the financing autonomy, therefore
 forms the basis for the State financing of the SCs from the
 1990-91 financial year. The Commission has also
 a this document as a consolidated report of the team
 investigating the financing autonomy which was compiled by the
 CIA - (Phase II) and the Department of National Education (Phase
 I) as primary authors, respectively. In respect of state
 administration and state financing this report therefore con-
 tains a consolidated version of the approved policy on the
 relationship between the SCs and the State's central control
 bodies.

As this has been said in the report, the Commission
 has no views on the financing autonomy of the SCs. The
 Commission's main objective is to ensure that the SCs
 are financially self-sufficient and that they are able to
 raise their own funds. The Commission has also
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ACKNOWLEDGEMENTS

The investigating team for this study consisted of the following persons:

Commission for Administration

Mr L.R. Kluever (Convener: Phase 1 and participation in Phase 2 up to November 1987).

Mr J.D. Raath (from December 1987)

(Assisted by:

Mr J.P. van der Merwe

Mr P.J. Vos

Mr J.A. Kotze).

Department of National Education

Dr C.G. Coetzee (Convener: Phase 2)

Dr L.C.A. Stoop

(Assisted by:

Dr F.P. Groenewald

Mr D.P. Visser).

Department of Finance

Mr E. Nieuwoudt

(Assisted by:

Mr B. van Rooyen).

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Mr. P. J. Vos

Mr. J. A. Kotze).

Department of National Education

Dr. C. G. Coetzee (Convener: Phase 2)

Dr. J. C. A. Steyn

(Assisted by:

Dr. F. P. Groenewald

Mr. D. P. Vlasser).

Department of Finance

Mr. E. W. Wouda

(Assisted by:

Mr. E. van Rooyen).

The outstanding co-operation received from the heads and other staff of the SCE and from officers of the various liaison departments is acknowledged with thanks.

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1. INTRODUCTION

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This report is the result of that investigation.

In the second chapter, attention is given to the foundations of framework autonomy and in particular to the normative points of departure underlying such an approach, and the requirements which must be met. The third chapter deals with the framework in respect of staff dispend-

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1. INTRODUCTION

The changing needs of the broad national economy require that constant attention be given to the supportive role of research/science. Such attention to the role of science (and in particular of scientific councils (SCs)) within the government sector has again

- emphasised the contribution of science in planned development;
- brought out the need for a greater awareness of needs in the State's involvement in science; and
- emphasised the accompanying need for greater management independence for the SCs.

With these three basic considerations as a point of departure, an investigation was undertaken into a system of framework autonomy for the five SCs, namely the

- Council for Scientific and Industrial Research (CSIR);
- Human Sciences Research Council (HSRC);
- South African Medical Research Council (MRC);
- Council for Mineral Technology (Mintek); and
- South African Bureau of Standards (SABS).

This report is the result of that investigation.

In the second chapter, attention is given to the foundations of framework autonomy and in particular to the normative points of departure underlying such an approach, and the requirements which must be met. The third chapter deals with the framework in respect of staff dispensa-

tion levels within which SCs will operate, while the fourth chapter deals with the financing framework*, known as base-line financing.

2. PRINCIPLES OF FRAMEWORK AUTONOMY WITH SPECIFIC REFERENCE TO RESEARCH/SCIENCE* AND GOVERNMENT INVOLVEMENT IN THIS REGARD

2.1 Normative points of departure relating to the effective regulation of relationships between the State and scientific councils

(a) The way in which science is directed, organised, financed and controlled by the Government, has a very real influence upon the extent to which and the way in which it is practised. Consequently, owing to the importance of science to the country and its cost to the Treasury, it is essential that the measures affecting government involvement should be of such a nature that they facilitate the optimal functioning of the SCs.

(b) As in any other country the outputs of science form an essential part of the foundation for the effective development and utilisation of the RSA's resources. This role is made more important by the increasing extent to which the RSA is being cut off from overseas expertise. Measures for government involvement in science must recognise this fact.

* Annexure 1 contains an explanation of certain concepts. Concepts which are used less generally are explained where they appear in the report.

- (c) Owing to the interaction in the RSA between the extent and urgency of development needs, the outputs of science required as a result of this, and the RSA's capability in this regard, it is essential that science in the government sector should always be need-oriented and that SCs should be placed in a position to deal with new problems/matters flexibly.
- (d) The nature and extent (supply) of scientific outputs in the RSA must be geared to the highest possible degree to the country's actual need (demand), and this means that the natural mechanisms of the national system must play a key role in determining priorities.
- (e) Scientific endeavour in every field must be linked as closely as possible with industrial requirements and these links must be developed and maintained by industrial financing based on the value which the outputs have for the industrial field concerned.
- (f) There are clear indications that the results of research are implemented more promptly when a client has to pay for them than when research results are merely disseminated. The same principle holds good in respect of the research needs of Government departments and it is therefore foreseen that SCs will increasingly do research and development work for remuneration on a contract basis for the public and private sectors.
- (g) Within the natural parameters laid down by the principles of operation-oriented viability and public responsibility, SCs should enjoy the highest possible level of autonomy with regard to matters such as internal organisation, operational practices, staff provision and the utilisation of funds.

(h) Efforts must be made to make problem-oriented and applied science self-financing within reasonable limits on the basis of its intrinsic value. However, it is very important for problem-oriented and applied research to be supported by basic research. The outputs of basic research are indispensable because they form the foundation for effective practice-oriented research in practically all fields. In many cases the outputs of basic research cannot be borrowed from other countries, and a lack in this regard leads to stagnation of and a lack of cohesion in applied/problem-oriented research. Typically the outputs of basic research are not directly practice-oriented (able to be commercialised). For this reason it must be accepted in the financing arrangements for science that the cost of essential basic research will have to be borne by the State for the foreseeable future.

(i) There are certain basic differences in the nature, needs and functioning of science between various fields. In view of this, a financing model will have to be flexible enough to accommodate the differences that manifest themselves in respect of the various SCs.

(j) Where there is reference to government involvement in the financing of science a clear distinction must be made between direct (subsidy) financing and payment for research and development work which is done on a "contract basis" for the State. With regard to the latter, it should be accepted that the State can exercise freedom of choice and can have the work done at an institution where it can be served most effectively.

2.2 Requirements for a macro control system for scientific councils

In order to give effect to the above-mentioned points of departure, the following basic approaches must be adopted in a system of control.

(a) In the first place, it is necessary for clear objectives to be set. These objectives must be deduced from the basic, supplementary and supportive service which must be provided on the basis of a country's needs, expressed through government policy. Basic services refer to functions such as the provision of health services, education, water supply and road networks. Supplementary and supportive services include the various facets of resource provision as well as the provision of research results. In the case of institutions with supplementary and supportive objectives, the utilisation of services and products of such institutions by institutions that are responsible for basic objectives, must be the rationale for the extent of such supplementary and supportive activities.

(b) It is clear from the above that it is desirable for institutions with supplementary and supportive objectives to be financed via institutions with basic objectives. The institutions with the responsibility for basic objectives must be able to obtain the services of an institution with a supplementary or supportive objective on contract. In the process it is important that it should be possible to make use of alternative contractors - from the private sector too. However, this does not preclude direct parliamentary grants to institutions with supplementary or supportive functions.

(c) Under the circumstances mentioned in the last paragraph, an institution with a supplementary or supportive objective can have a high degree of managerial independence. This implies the devolution of decision-making on the utilisation of resources (especially manpower and funds) to the institutions concerned. Such an institution basically operates in the market, and market factors regulate the price and quality of services and products. Direct finance provided by the State should be determined in such a manner that it does not negate the role which market factors should play. Ultimately such institutions should be dependent on State assistance only to a minimum essential degree.

(d) With regard to the arrangements for the financing and operation of the SCs there will have to be a delicate balance between essential control and sound managerial independence. In particular efforts will have to be made to bring about an interaction between the level of organisational independence and the degree of financial self-sufficiency of the institution.

(e) In the process of placing these institutions on the road to the final goal, it is clearly desirable to have detailed control measures fall away and to replace them with framework control. On the other hand it is important to ensure sound public accountability throughout.

2.3 Framework autonomy as an appropriate control system for scientific councils

The above requirements for a control system for SCs can be met by means of a system of framework autonomy (or framework control) and in so doing the normative points of departure relating to the effective regulation of relations between the State and SCs can be accom-

modated. The following practical measures form the basis of such a system:

(a) Only maximum expenditure levels must be determined and decision-making on detail must be left to the individual institutions. The application of detail control creates the illusion of control but in practice leads to crippling and time-consuming differences and disputes on detail.

(b) Since the functions of SCs are partially financed by the Treasury, it is clear that in respect of SCs, too, there must be control in order to ensure ordered and effective spending of State funds. For this reason it must be ensured that decision-making on detail always takes place within proper frameworks.

(c) In framework control there is no such thing as an ad hoc deviation to be dealt with by a controlling body, since every institution operates with full managerial independence within the framework laid down. The financing body only comes into the picture with regard to checking and when one is dealing with adjustments in the parameters of the controlling framework as such.

(d) The "financing bodies" referred to in the above paragraph are those departments on whose budget appear transfer payments to the various SCs where such payments are subsidies and not payments for "contracted" services. However, arrangements can also be made to monitor contract allocations with a view to obtaining an overall picture of financing and ensuring the maximum cost benefit for the State.

(e) Framework control must therefore be aimed at core factors (critical parameters) which avoid detail

involvement and make it must easier to bring about equal treatment in broad terms for institutions/-functions.

(f) The core of the framework control approach rests broadly on the following in respect of each institution or group of institutions:

- The determination of core factors which must form the parameters of the framework.

- The design and clear formulation of frameworks, which must be formally approved.

- Making effective arrangements for the regular and ordered provision of essential information for control purposes.

- The determination of structures for introducing adjustments to control frameworks where such adjustments are unavoidable. (Adjustments must be kept to the absolute minimum.)

- The creation of clear measures to come into effect in cases where institutions overstep the limits of framework parameters.

(g) Since framework autonomy is a factor of the organisational relationship between a particular institution and the State, it is primarily aimed at financial measures and accountability.

Next the framework for staff dispensation levels is discussed and then the framework for State financing.

3. FRAMEWORK WITH REGARD TO STAFF DISPENSATION LEVELS

3.1 Control over staff expenditure

Staff expenditure is essentially determined by two factors, namely -

the dispensation levels (remuneration plus fringe benefits) which are applied to the various types and levels of staff; and

the number of staff members* of the various types and levels that are employed.

The system implies that in respect of every SC, overall but nevertheless effective control is exercised over staff expenditure by applying a maximum average (MA) annual expenditure per full-time equivalent unit (FE) of a staff class.

3.2 Advantages of such a macro control system

The advantages of a macro control system over staff expenditure by making use of an MA are the following:

- (a) The MA is determined on the basis of and therefore makes provision for identified remuneration and fringe benefit elements without any detail measures having to be laid down in this regard.

* The question relating to staff expenditure in respect of staff numbers (i.e. the size of the establishment) is part of the financing framework which is discussed in Chapter 4.

- (b) With the MA as a ceiling and with the specified types of remuneration and fringe benefits as a basis institutions can offer any package of remuneration and fringe benefits and these packages can even be put together on the basis of the needs of the individual.
- (c) An institution's management has full autonomy with regard to the determination of dispensation but the MA has the advantage that it facilitates effective overall control.
- (d) Every institution is obliged by the effect of the MA to devote constant attention to staff and remuneration practices.
- (e) There is no such thing as an exception (i.e. deviation from the "general measures") because the institution determines its own measures. Limits are not set "from outside" to the packages which can be allocated in individual cases.
- (f) There are "natural" factors which ensure that individuals in an institution are not remunerated at an unrealistically high level. Allocating individual packages far above the MA will, for example, always be "at the expense" of the packages which apply to other members of the group.

3.3 The implementation of the system

3.3.1 Grouping of occupational classes into staff classes

The existing occupational classes in SCs were divided into three staff classes, and an initial MA was determined for each staff class. In order to be able to maintain each separate MA as well, the public service occupational classes were also divided into three groups on the basis of these staff classes.

It was not possible for a rigid guide-line to be laid down and applied inflexibly in order to bring about this division into three staff classes. The following division was used:

- Line function and related staff (mainly researchers/scientists and technicians) in the Staff Class: Line function and Related Staff (also referred to as Group I);
- General Assistants (those persons who perform work at the lowest levels) in the Staff Class: General Assistants I to III (also referred to as Group III); and
- the remainder of the occupational classes in the Staff Class : Staff other than those in Groups I and III (also referred to as Group II).

(Annexures 2 and 3 contain a discussion of -

- the grouping of occupational classes in SCs into staff classes; and
- the division of Public Service occupational classes in accordance with the three groups (staff classes) in SCs.)

3.3.2 Staff expenditure items taken into account in determining the maximum average

Naturally, only those staff expenditure items which directly benefit a staff member and which cannot be regarded as operating expenses, whether they consist of a salary or a fringe benefit, were taken into account in determining the various MAs. Expenses that are difficult to accommodate within the system owing to technical considerations were not, however, taken into account.

Staff expenditure items were divided into two components, namely -

- a salary component, consisting of that staff expenditure which is affected by an adjustment to the basic salary; and
- a fringe benefit component, which includes the rest of the staff expenditure items.

(This division of expenditure items is given in Annexure 4.)

The result of the division of the staff expenditure items into a salary and a fringe benefit component is that the various MAs which are determined include a separate amount in respect of each of the two components.

As stated, there are staff expenditure items which for various reasons, e.g. because they are reimbursive (a staff member is, for example, reimbursed for the subsistence and travel expenditure which he has to incur in performing his duties) and can therefore be regarded as operating expenses, are not taken into account in the calculation of the MAs. (Annexure 5 contains a discussion of this type of expenditure.)

3.3.3 Basis of calculation of the initial maximum average per staff class

The MA, based on the staff expenditure and the full-time staff numbers, as at 30 September 1986 (taking into account occupation specific adjustments and other

movements in staff expenditure for the period 1 October 1986 to 31 March 1987, and also taking into account further upward adjustments as a result of the so-called "Slenter"), is determined by -

- dividing the total expenditure associated with the salary component of each staff class by the number of staff members (FE units) of the same staff class;

- dividing the total fringe benefit expenditure per staff class by the number of staff members (FE units) of the same staff class;

- totalling the rand value obtained in this way for each of the salary and fringe benefit components; and

- increasing this rand amount -

- . once by a particular percentage, negotiated with SCs, in order to make provision for factors such as employment policy, the vacancy rate of posts, and the state of development of an SC, and retirement and other factors which according to projected expectations will result in expenditure for which the calculated MA does not make provision; and

- . further by a percentage which relates to the degree of financial independence of a SC, to serve as an incentive for greater financial independence (see par. 3.3.4.2(d)).

The rand amount calculated in this way represents the MA of every staff class as at 1 April 1987.

3.3.4 Maintaining the various maximum averages

3.3.4.1 General measures for the adjustment of maximum averages

The successful operation of the framework for staff dispensation levels requires that the MA per staff class be revised from time to time in order to allow adequate manoeuvrability for SCs so that they can all meet their unique requirements with regard to their staff administration practices. For this reason the MA is adjusted every year taking into account any -

- general salary adjustment (in which case the salary component of the MA is adjusted);
- occupation-specific adjustment (in which case the salary component of the MA is similarly adjusted);
- adjustment of fringe benefits (in which case the fringe benefit component of the MA is adjusted);

that has taken place in the course of a year in the Public Service; and

- changes in the degree of financial independence of an SC.

For the purposes of revising the MA, the "basket approach" is followed, in other words, all occupational classes and all fringe benefits in the Public Service form part of the "basket", irrespective of whether an SC has such an occupational class or applies such fringe benefits. For this purpose, as

already indicated, all occupational classes in the Public Service are divided into staff classes that correspond to those of SCs and, as a point of departure, the total Public Service salary account (this represents the salary component of staff expenditure) as at 30 September 1986 is divided into a percentage ratio between such staff classes. This percentage ratio is maintained at the annual revision of the MAs on the basis of occupation-specific adjustments. The intention is that the percentage ratio should be checked every five years and if necessary adjusted.

The calculation of the adjustment to the MA takes place annually as soon as possible after all adjustments in respect of salary adjustments, occupational-specific matters and fringe benefits have been finalised in a particular financial year in the Public Service. The calculated MA is further adjusted after the degree of financial independence of SCs is made known to the Commission for Administration (CfA).

3.3.4.2 Measures with regard to specific adjustments

The calculations with regard to specific adjustments are done as follows:

(a) General salary adjustments

The salary part of the MA of each staff class is adjusted by the same percentage improvement as in the Public Service (say 10% for a full year - i.e. 7,5% for nine months etc.).

(b) Occupation-specific adjustments

The total expenditure relating to occupation-specific adjustments in respect of one or more

Public Service occupational classes (including educators) is expressed in terms of the Public Service staff class (namely the division which corresponds to the threefold division in respect of SCs) as a percentage of that portion of the Public Service salary account which applies to the relevant staff class (division into three). The salary component of the MA of the corresponding group in each SC is adjusted by this percentage and in this way the MA is naturally also adjusted.

Where various implementation dates for occupation-specific adjustments apply, a calculated average implementation date is chosen, taking into account the size and date of adjustments.

(c) Adjustments to fringe benefits

The total expenditure related to adjustments to fringe benefits (including those in respect of educators) is expressed as a percentage of the total Public Service staff account, as at 31 March of the previous financial year, and the MA of every staff class is adjusted by this percentage and this also indicates the adjustment to the fringe benefit component of the MA.

If any of the staff expenditure items in 1.1(c) to 1.1(e), 1.1(h) and 1.1(k) to 1.1(m) of Annexure 4 were to change themselves (in other words not merely an expenditure change as a result of a general salary adjustment or occupation-specific adjustment), this is regarded as the adjustment of a fringe benefit.

If different fringe benefits were to be adjusted from different dates, the same approach applies as in par. 3.3.4.2(b) with regard to the joint date of adjustment of the MA.

(d) Adjustment on the basis of financial independence

As stated in paragraph 3.3.3 there is a further percentage addition to the MA in order to serve as an incentive for greater financial independence (so-called own earnings). At this stage a linear increasing incentive applies, as set out in Annexure 6 and this implies an addition of 0,5% to the MA for every 10% that own earnings increase as a percentage of total income.

In determining the ratio of own earnings to total income, the following definition applies:

- Own earnings: All revenue which accrues to an SC for services rendered in the line function.

- Total income: In addition to own earnings this includes the appropriation from the State in respect of "base-line financing", but excludes funds that are budgeted for in the normal way, for example the funds for

- land purchases and buildings;
- the operation of national facilities and services; and
- agency funds.

3.3.4.3 Further measures in respect of the maintenance of maximum averages

(a) Expenditure on the elimination of disparities between men and women in the Central Government (for example in Education) is not taken into

account in the adjustment of the MA since no such disparities exist in SCs.

(b) The expenditure related to dispensation adjustments for educators are added to the expenditure related to dispensation adjustments in respect of occupational classes in Group I, and the amount obtained in this way is expressed as a percentage of the salary account for both Group I staff and Educators, and the MA of Group I is then adjusted by this percentage. The same procedure is followed to adjust the MA of Group II.

(c) The annual adjustment, if any, to the MA and also, where necessary, the determination of a joint date of implementation of adjustments, as contemplated above, is done by the CfA.

3.4 Control measures

Although the intended system of framework autonomy grants SCs the greatest possible degree of autonomy that can be allowed at this stage within the framework of the government sector, there are, in addition to the MAs with regard to dispensation levels, certain other control measures which must be complied with in order to justify the foundation on which the system is based.

Control measures other than the MAs, in addition to control measures which might possibly be imposed by statute, are the following:

3.4.1 The management echelon

With regard to the management echelon -

- the pensionable remuneration limit is the salary level of a Chief Executive Director (CED) in the

Public Service (in other words the limit does not apply in respect of staff other than those in the management echelon); and

- the number of motor cars which may be allocated in terms of the motor car scheme, is as calculated by the formula set out in Annexures 7 and 8.

3.4.2 Information for control purposes

3.4.2.1 General information on staff expenditure and earnings ratio

Every SC has to submit annual information on staff expenditure set out according to the format given in Annexure 9.

In addition to this information, the Chief Executive Officer of every SC must, as soon as possible after the close of the financial year on 31 March, prepare a certificate containing his Council's own earnings ratio with the necessary definitions.

The information on staff expenditure, as well as the relevant certificate should be made available to the liaison department concerned immediately after the close of the financial year, and this department should channel the information to the other persons/bodies, namely the responsible Minister, the Minister/Department of National Education because of this Department's responsibility for science planning and financial measures, the Minister/Department of Finance, and the Commission for Administration. After the Department of National Education (Science Planning) has completed the necessary clearances, it will submit a recommendation to the CFA for the calculation of the final MA (as at 1 April of the relevant year).

3.4.2.2 Information on leave gratuities

Owing to the fact that expenditure related to leave gratuities and its size is often subject to circumstances which are unforeseen/difficult to control, their effect may influence the actual average (AA) in a particular financial year to such a degree that this may give rise to the MA being exceeded. In order to avoid this problem all expenditure in this regard must take place via an account especially instituted for this purpose and only payments into this particular account are taken into consideration in determining the AA. This measure will enable SCs to retain direct control over the AA and also to build up a reserve fund for paying leave gratuities in order, by so doing, to equalise the expenditure pattern. Only contributions which may be realistically used for leave gratuities in the light of known and projected needs may be paid into the relevant account. Only expenditure in respect of leave gratuities may be paid out of the account. Every year at the time of reporting (Annexure 9) an indication must be given of the balance of the account.

3.4.2.3 Monitoring the actual average against the maximum average

In order to be able to exercise control themselves SCs will be obliged to monitor the AA against the MA on a continuing basis. For this purpose and with a view to the information mentioned in par. 3.4.2.1 it is absolutely essential that SCs should build up a comprehensive data bank from which all the relevant information can be extracted.

3.4.2.4 Adjustments to occupational classes

When an SC converts an existing occupational class into a new occupational class, or institutes a new

occupational class, the new class must, although it will have no effect on the MA, be submitted to the CfA for grouping into one of the three staff classes. For this purpose -

- a short description of the type of work relating to the occupational field;
- an indication of the level at which the work is to be performed;
- an indication of the type of qualification which is set as a requirement, and
- an indication of the experience necessary,

must be given to the CfA when an occupational class is converted/instituted in this way. The CfA must also be informed when an existing occupational class is abolished.

3.4.2.5 Reporting of changes to staff expenditure items

When a new type of staff expenditure item (remuneration or fringe benefit) is to be created in an SC, the relevant details must be submitted to the CfA for approval for its inclusion in the list of staff expenditure items as contemplated in Annexure 4.

The abolition of a staff expenditure item must also be reported to the CfA.

3.5 Dealing with unauthorised expenditure

Unauthorised staff expenditure is calculated per staff class by multiplying any amount by which the AA exceeds the MA by the number of FE units per staff class. This calculation is done at the end of every financial year.

In the system of framework autonomy there is nothing to prevent an SC from temporarily exceeding the MA that might be applicable at any given period in a particular year on the grounds of specific factors.

However, if the AA exceeds the MA as at 31 March of a particular year, irrespective of the actual financial position of an SC, unauthorised expenditure is deemed to have been incurred. In such a case, the SC concerned must report to the responsible Minister, giving the reasons why this has taken place. The matter is dealt with further in the same way as in the case of any other unauthorised expenditure which arises as a result of the contravention of prescribed staff measures.

3.6 Utilisation of an increased maximum average

This system contains no compulsory measure obliging an SC to use the room which is created by an increased MA. In this regard each SC will have to be guided by its own needs.

Similarly there is no obligation on an SC to spend funds that are available for a particular occupational class on the grounds of an adjustment to the service dispensation of occupational classes (in the Public Service), on the strength of which the MA of a particular staff class is adjusted, on occupational classes within that staff class.

In the case of general salary adjustments, too, the utilisation of the increased MA per staff class, and the utilisation of the funds made available for this purpose are left to the discretion of SCs.

However, if the room created by an increased MA, and the funds that are made available are to be utilised in respect of staff expenditure items which do not at that stage appear in the compiled list of staff expenditure

items (see Annexure 4), the relevant control measures must still be complied with (see par 3.4).

This aims at giving SCs the greatest possible degree of freedom in order to deal with problems when they arise.

3.7 Financing of dispensation improvements for scientific councils

Dispensation improvements for SCs are, as an interim measure, still financed from the Budget Vote : Improvement of Service Benefits and the financing amount per staff class is calculated on the basis of the amount by which the MA of each staff class is adjusted, as well as of the qualifying staff numbers (FE units) in each staff class concerned.

The above rule will apply until alternative arrangements have been made.

3.8 Measures for the revision of the framework for staff dispensation levels

It must be stated quite clearly that acceptance of the frameworks as set out in this chapter should not be regarded as an interim measure but as a choice made on the clear understanding that there cannot be a return to the public service measures without sound reasons.

However, practice might necessitate changes to the framework. In this regard the following rule applies -

- no adjustments may take place before 1 April 1988 except in highly exceptional cases; and
- any change in the framework will mean that the matter must be investigated by an investigating team constituted in the same way as the investigating team which designed the framework and on the same basis,

and that any adjustment must be approved by the CFA, the Minister of Finance, the Minister of National Education and the Minister under whom each of the SCs falls.

3.9 Further measures in respect of the application of the framework for staff dispensation levels

- (a) The principles contained in the report were cleared with the SCs, who indicated that they concurred with them. The SCs did express their concern on the restriction contained in par. 3.4.1 (the management echelon ceiling), but nevertheless accepted that such a restriction was necessary.
- (b) It is of the utmost importance that SCs should, from the outset, exercise care in their dealings with staff expenditure and should themselves ensure that adequate room is left between the AA and the MA to provide for unforeseen circumstances. It is, therefore, quite clear that there is a need for a comprehensive information system to monitor the state of the AA as against the MA on a constant basis.
- (c) The mutual exchange of information relating to staff dispensations between the Public Service and SCs will continue to take place on an informal basis.
- (d) Any adjustment to the approved system of framework autonomy in respect of dispensation levels is the responsibility of the CFA and its Office.
- (e) Finally, it is quite clearly stated that the room left by the MA does not imply any increased claim to funds from the Treasury for the 1987/88 financial year.

4. FRAMEWORK IN RESPECT OF FINANCING MEASURES

In order to realise the principles of framework autonomy in respect of financing measures, as set out in Chapter 2, base-line financing was decided upon as a financing model. The guide-lines for the implementation of a base-line financing approach are discussed below.

4.1 Guide-lines for the implementation of base-line financing as a financing model

(a) A financing model based on a base-line financing approach lends itself to a large degree to the accommodation of the normative points of departure stated in par. 2.1, and this is due in particular to the possibilities such an approach offers for flexible and discretionary implementation.

(b) A base-line financing approach implies that the State will directly finance only those essential activities for which operational financing cannot reasonably be obtained and that SCs will be dependent on a direct Parliamentary allocation to the least possible degree. This minimum direct Parliamentary allocation is known as the "base-line".

Further state funds can be obtained only by means of contracts.

(c) The financing basis according to which universities are financed consists of two analogous components namely -

- a base-line amount which provides for the establishment of a basic infrastructure of staff, other current expenditure and fixed assets; and

- a component which depends on the scope of the service that is provided.

This component is determined by formula and is based on a combination of input and output parameters (student enrolments and successes and research publications).

The possibility that an output component can be combined with the calculated base-line amount in the case of the SCs is being kept open, and SCs are being given the opportunity to submit proposals in this regard for consideration.

(d) In order to be able to implement base-line financing, all activities at SCs are divided up down to the subprogramme level into a prescribed programme classification structure (see the report NATED 11-006 (88/03): "An information system for the scientific councils"). Every SC, therefore, provides the division of its total expenditure (irrespective of the source of income) for the 1986/87 financial year in accordance with this programme classification structure.

(e) Next it is decided, on the basis of policy considerations, what programmes/subprogrammes are to be treated as part of the base-line (direct State assistance), and to what extent. For every SC the total cost of each programme/subprogramme is then corrected by the fraction of the programme/subprogramme included in the base-line. The sum of these amounts represent the direct State assistance (base-line amount) for which the SC concerned would have "qualified" in 1986/87. The difference (if any) between the latter amount and the actual appropriate allocation for 1986/87 is to be eliminated over a period of five years from 1987/88. (This "phasing-in factor" is called the f factor.)

(f) In order to maintain the base-line amount for subsequent years in real terms, the cost categories

concerned (staff costs per unit, supplies and services, replacement and renewal of fixed assets) are multiplied by appropriate cost indices (k factors).

(g) Irrespective of what the calculated base-line amount for a specific year is, it will always be subject to its affordability by the Treasury in that particular year. (The factor by which the calculated base-line amount must be adjusted to make it affordable, if necessary, is called the t factor.)

(h) Apart from the above-mentioned annual adjustments, an adjustment in the calculated base-line amount can only take place as an exceptional case where a fundamental broadening of functions is approved for an SC. Inputs in this regard, including inputs arising from problems experienced as a result of changed circumstances, are dealt with annually on a co-ordinated basis.

(i) The following items are not covered by base-line financing, but will be dealt with on a discretionary basis (with, where necessary, recommendations by the Scientific Advisory Council (SAC)):

- Phasing-in the above-mentioned adjustment of the calculated base-line amount as a result of a broadening of functions, particularly in respect of the fixed asset components.

- Agency funds for the allocation of post-graduate bursaries to students and assistance given to researchers at universities, technikons and museums.

- The funds for the operation of national facilities or services by SCs.

(j) The problem which might arise if a downswing in the economy were to lead to a scaling down of contract services, may (largely) be avoided by the planned establishment of reserve funds. Since contracts for Government departments are not subject to cyclical movements to the same extent, increasingly function-oriented research for Government departments will also help to alleviate this problem. However, an adequate degree of sensitivity to the benefits of research on the part of Government departments is a prerequisite for the latter.

(k) Since there is some uncertainty in respect of the historical data on the basis of which the initial base-line amount is being calculated, a revision of the calculated base-line amount on the basis of more reliable data will be desirable after a year.

(l) The successful implementation of the base-line approach presupposes a guide-line for the joint Parliamentary allocation to the five SCs. The budgeting procedure in this regard is summed up in par. 4.2.7.

4.2 Implementation measures

4.2.1 The level of inclusion of the costs of programmes/-subprogrammes in the calculated base-line amount

(a) Capacity Creation Programme (1.0)

Together with the "Service Programme" this is one of the two primary or line function programmes. It includes activities aimed at the creation of expertise and other capacity necessary for the realisation of the aims of the institution. Only the creation of capacity and expertise which is initiated intra-institutionally and is aimed at

the creation of a basic infrastructure is included here.

This programme is fully supported by the State, with only one reservation, namely that in respect of the sub-programme "capacity creation for its intrinsic scientific value" State assistance will be limited to a contribution of not more than 10% of the total expenditure in programmes 1.0 and 2.0. The reason for this restriction is that this type of research should be undertaken largely at universities.

(b) Service Programme (2.0)

This second primary programme includes those activities by means of which the institution's capacity and resources for services are made available to the community or to clients mainly for remuneration. The client will therefore come from outside the institution.

This programme should be completely self-financing and no costs relating to it should, therefore, be included in the calculated base-line amount.

(c) Line Function Support Programme (3.0)

This programme comprises all activities which directly support one or both of the two primary programmes.

It is accepted that the supporting services provided by this programme do not differ in their nature and intensity with regard to the support of programmes 1.0 and 2.0. While programme 2.0 does not qualify for inclusion in the calculated base-line amount, it is logical that the expendi-

ture on support for programme 2.0 should not qualify either. Programme 3.0 is therefore supported in the ratio in which the base-line expenditure of programme 1.0 stands to the total expenditure of programmes 1.0 and 2.0.

(d) Institutional Support Programme (4.0)

This programme comprises all activities relating to the daily functioning and long-term existence of the institution as a whole, and its costs are therefore not directly allocable to one or both of the primary programmes. Services that are included here, are, for example, the provision for planning and leadership at the executive level, the provision of administrative and logistical service and public relations.

The same approach in respect of assistance is adopted here as for programme 3.0.

(e) Auxiliary Enterprises Programme (5.0)

This programme comprises the primary facilities and auxiliary services which were introduced for the use of staff, for example bus transport, accommodation, food and childcare services.

Since the benefits of this programme are experienced directly and exclusively by the particular staff members for whom they were intended, expenditure in this regard will not be included in the calculated base-line amount.

(f) Independent Enterprises Programme (6.0)

This programme includes those activities that are separate from, or do not relate to the institution's primary programmes, for example the ope-

ration of national facilities and services, agency allocations, etc.

The expenditure included here and which should be financed by the State will not be included in the calculated base-line amount, but will be dealt with in the Budget.

4.2.2 Phasing-in of the calculated base-line amount (f factor)

As stated in par 4.1(e) the phasing-in factor (f factor) is intended to eliminate over a period of five years from 1987/88 the difference (if there is any) between what an SC actually received in 1986/87 in the form of Parliamentary allocations and what it would have "qualified" for with the base-line method. The formula according to which the f factor is calculated is as follows:

$$Z = Yf^5 \text{ or } f = \left(\frac{Z}{Y}\right)^{1/5}$$

Where Z = The amount for which an SC would have qualified in 1986/87 with the base-line approach.

Y = The actual appropriate Parliamentary allocation in 1986/87 for this SC.

f = Phasing-in factor.

(NOTE: See par. 4.4(a) for the final decision on the question of phasing-in).

4.2.3 Calculated base-line amount for a scientific council for the base year (year 0 = 1987/88)

The qualifying amount (Z) of an SC for 1986/87 consists of the sum of the qualifying expenditure under the following cost categories:

- Z1, Z2, Z3 = Staff costs included in the MA for staff classes I, II and III respectively.
- Z4 = Cost of supplies and services (including staff cost items not included in the MA).
- Z5 = Cost of replacement and renewal of buildings and land improvements other than buildings.
- Z6 = Cost of replacement and renewal of equipment.
- Z7 = Cost of replacement and renewal of library material.

If it is assumed that the ratio of the qualifying expenses Z1, Z2 ... Z7 to each other is given by a1: a2:: a7, the calculated base-line amounts for the same seven cost categories of an SC for the base year (year 0 = 1987/88) are obtained by dividing the appropriate Parliamentary allocation of the SC for 1987/88 in this ratio (a1: a2:: a7).

The calculated total base-line amount for 1987/88 is then given by:

$$B_0 = (X1 + X2 + X3 + X4 + X5 + X6 + X7)f$$

Where B_0 = Base-line amount in year 0 (1987/88)

X1, X2, X3 = Calculated base-line amounts for staff costs for staff classes I, II and III respectively in year 0.

X4 = Calculated base-line amount for supplies and services in year 0.

- X5 = Calculated base-line amount for replacement and renewal of buildings and land improvements other than buildings in year 0.
- X6 = Calculated base-line amount for replacement and renewal of equipment in year 0.
- X7 = Calculated base-line amount for replacement and renewal of library material in year 0.
- f = Phasing-in factor.

4.2.4 Maintenance of the base-line (k factors)

Base-line financing is based on the principle that the initial base-line amount for each SC is, as far as possible, maintained during subsequent years in real terms. In order to bring this about, the appropriate or base-line expenditures under the various cost categories X1, X2 X7 for the base year (year 0) are multiplied by certain cost indices (k factors) so that the allocation for year n (i.e. the year for which the base-line amount is calculated) will not differ in real terms from that for year 0 in respect of each cost category. (More comprehensive details on the cost categories appear in the above-mentioned report NATED 11-006 (88/03): "An information system for the scientific councils".)

The various cost indices are calculated as follows:

(a) Staff costs

Staff costs are subdivided as follows:

- Staff cost items included in the MA (calculated separately in respect of each of the three staff classes), which are subdivided into -
 - . a salary component; and
 - . a fringe benefit component.

A particular percentage addition has been made to the above-mentioned components as an incentive for greater financial independence.

- Staff cost items not included in the MA.

(i) Staff cost items included in the maximum average

The staff cost items taken into account for the calculation of the MA of each staff class are contained in Annexure 4. The MA of every staff class is maintained in accordance with paragraph 3.3.4 on the basis of general salary adjustments, occupation-specific adjustments and adjustments to fringe benefits that are brought into effect in the public service. The effect of this is that the MA displays a sustained increase, and this increase is built into the formula as the staff cost index for the calculation of the base-line amount for a particular financial year (see par. 4.2.5).

The various cost indices are calculated as follows:

In order to obtain the staff cost index of every staff class for a particular financial year (year n according to the formula), the sum of the salary and fringe benefit components of the MA (before the incentive for greater financial indepen-

ence), as calculated by the CFA for 1 April of that particular financial year for a staff class, is divided by the initial MA minus the addition as an incentive for greater financial independence which applied to the relevant staff class at 1 April 1987 (base year 0 according to the formula).

(NOTE: The percentage addition made to the salary and fringe benefit component of the MA as an incentive for greater financial independence is a variable factor and, since the utilisation of the greater room created by this addition must be financed from own earnings, it is naturally not taken into account for the purposes of calculating the base line amount for a particular financial year.)

The staff cost indices for staff classes I, II and III are indicated by k1, k2 and k3 respectively and the formulas according to which these are calculated are given in Annexures 10, 11 and 12.

The expenditure related to adjustments of the MA that are effected in the course of a particular financial year by the CFA and for which provision naturally cannot be made in the base-line amount for the financial year concerned are financed from the Budget Vote: Improvement of Service Benefits. In this regard, the measures relating to the affordability factor (see par. 4.2.6) apply as far as they affect the possible savings which might be required from the above-mentioned budget vote.

(ii) Staff cost items not included in the maximum average

Items included under this category are set out in Annexure 5.

Since the funds relating to these items make up a relatively small percentage of an SC's total budget and since these items further correspond largely to the items which fall under the cost category: "Supplies and services" for the purposes of the calculation of the cost index, expenditure in respect of these items falls under the cost category: "Supplies and services", and therefore a separate cost index is not calculated for them.

(b) Supplies and services

Under this heading are included all supplies and services needed for the execution of an SC's task, including the hiring of equipment. However, items with a purchase value of more than R100 (June 1985 rand) and an expected life of more than one year, the identity of which does not change appreciably through use, are not included under this cost category but under equipment.

The total Consumer Price Index as calculated by the Central Statistical Service is used here as the cost index.

The total Consumer Price Index for year n is estimated by an extrapolation of the total consumer price index of the two most recent years for which information is available, namely years n-3 and n-2.

The cost index for supplies and services is indicated by k4 and its calculation is given in Annexure 13.

(c) Replacement and renewal of buildings and land improvements other than buildings

Expenditure which falls under this cost category is aimed at maintaining the existing assets at the same functional standard. This includes both large-scale repairs and the replacement of items which is necessitated by normal use and wear and tear and restructuring in order to accommodate users requirements owing to changes in occupation or use.

The Building Cost Index, as calculated by the Bureau for Economic Research of the University of Stellenbosch, is used here as the cost index, with an estimate for year n obtained by an extrapolation of the indices for years n-3 and n-2.

This cost index is indicated by k5 and its calculation is given in Annexure 14.

(d) Replacement and renewal of equipment

This cost category includes all equipment (excluding library collections) which has a purchase value of more than R100 (June 1985 rand) per unit, an expected life of more than one year and an identity which is not essentially changed by use.

The total Production Price Index, as calculated by the Central Statistical Service, is used as a cost index, with calculation for year n by

extrapolation of the indices for years n-3 and n-2.

This cost index is indicated by k6 and its calculation is given in Annexure 15.

(e) Replacement and renewal of library material

In this cost category, use is made of the actual unit costs of books and journals in the natural and human sciences for the years n-3 and n-2, as they apply to university libraries, in order to calculate the cost index for year n. To achieve this a single survey was carried out into the ratio between natural and human science books and journals in every SC.

This cost index (indicated by k7) is estimated for year n by an extrapolation of the actual unit costs for years n-3 and n-2, as set out in Annexure 16.

The cost of electronic information media, falls under "Supplies and services" and not under "Replacement and renewal of library material".

4.2.5 Calculation of the base-line amount of a scientific council for year n

In order to calculate the base-line amount for an SC for year n, the initial base-line amount in year 0 of each cost category is multiplied by the calculated cost index for year n of the corresponding cost category. The formula for the calculation of the base-line amount is as follows:

$$B_n = \left[(X1)(k1)_n + (X2)(k2)_n + \dots + (X7)(k7)_n \right] f^n$$

- Where n = Year for which base-line amount is being calculated.
- B = Calculated base-line amount.
- X_1, X_2, \dots, X_7 = Actual base line amounts for the seven cost categories for year 0.
- k_1, k_2, \dots, k_7 = Calculated cost indices for the seven cost categories (calculation formulas are given in Annexures 10 to 16).
- f = Phasing-in factor.

4.2.6 The affordability factor (t factor)

It was stated in par. 4.1(g) that the calculated base-line amount for a specific year will always be subject to whether it can be afforded by the Treasury in that particular year.

In practice this will mean that the sum of the calculated base-line amounts of all five of the SCs will have to fit into the affordable guide-line amount determined by the Minister of Finance. The calculation formula is as follows:

$$W_n = B_n t_n$$

Where n = Year for which base-line amount is calculated.

- W = Actual base-line amount.
- B = Calculated base-line amount.
- t = Affordability factor.

4.2.7 Budgeting procedure for science

The budgeting procedure for science is contained in the amended Chapters B and E of the "Manual on the financial planning and budgeting system of the State" (Treasury circular TL1/1 of 23 December 1987). In short, this procedure means that -

- the Department of National Education (Science Planning) is responsible for the calculation by formula of the various base-line amounts and for dealing with the budget requisitions for the items dealt with as discretionary items. Information needed for this purpose will be asked for direct from the SC by the above-mentioned department;
- the Minister of National Education, in consultation with the Ministers under whom the relevant scientific councils fall, is responsible for the co-ordination of budget inputs as well as for negotiations with the Minister of Finance on the allocations for the SCs; and
- the total allocation for the SCs is divided by the Minister of National Education in consultation with his relevant colleagues. Liaison departments are informed by the Department of National Education of the amount to be included in their proofs for each of the councils.

4.3 Revision of the initial calculated base-line amount

Since the information system of the SCs at the start of this investigation was not designed to fully provide the information in accordance with the prescribed programme classification structure, and since, as a result, use had to be made to some extent of estimates, a revision

of the calculated base-line amount will be undertaken during 1988 on the basis of the 1987/88 data.

4.4 Further arrangements on the implementation of this framework in respect of financing

(a) In the light of the close correlation between the "appropriate Parliamentary allocation for 1986/87" and the "qualifying amount for 1986/87" the implementation measures as set out in par. 4.2 will be implemented with only the one exception that no phasing-in factor will be applied. The situation as in 1986/87 is therefore accepted as being the result of historical development in an "unforced system".

The implication of this is that the base-line for 1987/88 is provisionally to be maintained in real terms, except for possible problems with the availability of funds.

(b) With a view to giving the SCs an adequate opportunity to adapt to the new system, and to prevent them from being handicapped by cutbacks in contract funds, the possibility of entrenching departmental research funds for a period of five years was recommended by the Forum for Central Government Institutions and Scientific Councils (GOSC). It was suggested that during this period each department should try to keep its expenditure on R & D, as a percentage of its total budget, equal to or above that of the 1987/88 financial year. As a result, the Director-General of National Education, with the concurrence of the Minister of National Education (as the Minister responsible for national science policy), has appealed to those of his colleagues involved to do so.

(c) A fundamental re-evaluation of the system will be undertaken after two years. This means that the system will have to be carefully monitored and fundamentally re-evaluated after the 1990/91 financial year (i.e. in 1991). This gives the SCs an opportunity to adapt to the new approach. The possibility of the incorporation of an output component will also be considered at that stage (see par. 4.1(c)).

5. CONCLUDING REMARKS

The implementation of the system of framework autonomy necessitates certain amendments to the Acts of the SCs which will have to be dealt with by the institutions responsible. The Committee of Heads of SCs (CHSC) was requested to deal with this matter in a co-ordinated manner and to submit proposals in this regard.

(020341097890208)

ANNEXURE 1DEFINITIONS

In this report, unless the context otherwise indicates, the expressions below have the meaning indicated in each case.

1. Base-line financing

The costs of intra-institutionally initiated creation of basic infrastructure (expertise and other capacity) necessary for the realisation of the aims of the institution, which will be borne by the State for the foreseeable future.

2. Management echelon

Persons with gradings equal to or higher than those attached to a post of Director in the Public Service (excluding Chief Specialist Scientist), taking into account the deviation percentages which were provided for SCs up to 31 March 1987 by formula.

3. Maximum average (MA)

The maximum average annual expenditure per full-time equivalent unit (FE unit).

4. Staff class

Each of the three groups into which the occupational classes are divided at SCs and in the Public Service (for purposes of determining the initial MA and its later maintenance, as compiled in Annexures 2 and 3 of the report and as supplemented/amended from time to time).

5. Council

The Council or Bureau concerned on which this report has a bearing.

6. Framework autonomy

Optimum management independence for scientific councils (SCs) with regard to need orientation, organisational measures, financing and control.

7. Full-time equivalent unit (FE unit)

An employee, including a person who is employed on a contract basis, who was employed for twelve months in the service of an SC on a full-time basis, is regarded as one FE staff unit. Part-time appointments, e.g. units who are employed on a five-eighth basis, "services rendered-staff", units who serve as consultants and holiday workers, are calculated as fractions of an FE staff unit and must be converted to full-time equivalent staff in order to be able to determine the total number of full-time equivalent staff units employed in the course of a year. For this purpose, full-time units who are remunerated for additional work, are not converted into full-time equivalent units in respect of time spent on such additional work.

FE units are calculated as follows:

- (a) An employee, including a person who is employed on a contract basis, who was employed on a full-time basis for twelve months:

One FE unit.

(b) A person who works full days, but was not employed for the full period of twelve months:

$$\text{Formula: } \frac{A}{D} = F$$

(c) A part-time unit (as defined in the note below) who was employed for the full period of twelve months:

$$\text{Formula: } \frac{B}{E} = F$$

(d) A part-time unit (as defined in the note below) who was not employed for the full period of twelve months:

$$\text{Formula: } \frac{B}{E} \times \frac{A}{D} = F$$

(e) A casual worker:

$$\text{Formula: } \frac{C}{E} \div D = F$$

In the formulas above-

A = Total number of days worked

B = The number of hours per day worked

C = Total hours worked

D = Total number of normal working days per year (365 minus Saturdays, Sundays, public holidays and any closed periods)

E = Number of working hours per day (normally 8)

F = Fraction of an FE unit (rounded off to the second decimal)

(N.B. In adding up the fractions in order to obtain the number of FE units per staff class, fractions

are discarded in the final total (in other words a total of, say, 4,12 FE units per staff class will only be indicated as 4 FE units).

(NOTE: A part-time unit is a person who is employed every working day for a fixed number of hours fewer than the normal working hours per day (e.g. on a five-eighths basis)).

8. Actual average (AA)

The actual average annual staff expenditure per full-time equivalent unit.

9. Science

For the purposes of this report "science" refers to the following:

(a) Research and development (R&D)

Creative investigative work which is carried out systematically with a view to increasing knowledge and using this knowledge to design new applications.

(b) Research-related activities

. Information services and documentation on behalf of the research effort; and

. surveys of human and natural resources which are made available in a broader context as a basis for scientific work.

(c) Standardisation services

Standardisation and specification services as provided by the SABS.

10. Scientific councils (SCs)

- The Council for Scientific and Industrial Research (CSIR)
- The Human Sciences Research Council (HSRC)
- The South African Medical Research Council (MRC)
- The Council for Mineral Technology (Mintek)
- The South African Bureau of Standards (SABS)

Archivist	
Artisan	
Catering Services Operator	
Catering Services Supervisor	
Clerk	
Copy Setter	
Data Typist	
Dietician	
Draftsman Assistant	
Driver	
Driver/Operator	
Engineer	
Engineer	
Human Science Researcher	
Industrial Economist	
Industrial Researcher	
Industrial Scientist	
Industrial Technician	
Laboratory Technician	
Land Surveyor	
Management Consultant	
Medical Officer	
Medical Researcher	
Medical Technical Officer	
Medical Technologist	
Mineral Law Administration Officer	
Mineral Technology Scientist	
Pharmacist	
Quantity Surveyor	
Radiographer	
Research Biotechnician	
Research Technician	
Secretary	
Laboratory Assistant	
Legal Officer	
Librarian	

GROUPING OF OCCUPATIONAL CLASSES IN SCs IN STAFF CLASSES

1. With a view to the initial calculation of the MA and its subsequent adjustment, all occupational classes found at SCs are divided into the staff classes/groups below, which correspond with a similar group division in the Public Service (see par. 2 below and Annexure 3 in this regard):

GROUP IStaff Class: Line and Related Staff

Agricultural Data Documenter
 Animal House Technician
 Architect

Biometrician
 Biotechnician

Economist: National Accounts
 Engineer

Human Science Researcher

Industrial Economist
 Industrial Researcher
 Industrial Scientist
 Industrial Technician

Laboratory Technician
 Land Surveyor

Management Echelon (as defined in Annexure 1)

Medical Officer
 Medical Researcher
 Medical Technical Officer
 Medical Technologist
 Mineral Laws Administration Officer
 Mineral Technology Scientist

Pharmacist

Quantity Surveyor

Radiographer
 Research Biotechnician
 Research Technician

Specialist
 Specialist Scientist
 Standards Expert
 Standards Technician
 Statistics Adviser

Technician
 Town and Regional Planner

Veterinary Surgeon

GROUP II

Staff Class: Staff other than those in Groups I and III

Archivist
 Artisan Personnel
 Catering Services Manager
 Catering Services Supervisor
 Clerk

Copy Setter
 Data Typist
 Dietician
 Draughtsman Assistant
 Driver
 Driver/Operator
 Electronic Data Processing

- Chief : Data Capturing
- Chief : Data Processing
- Computer Operator
- Data Systems Adviser
- Data Technologist
- Programmer

Engineer Officer
 Financial Administration

- Accounting Clerk
- Auditor
- Financial Administration Officer
- State Accountant

Foreman

General Administration

- Administration Clerk
- Administration Officer

Horticulturalist
 Institute Secretary
 Laboratory Assistant
 Language Practitioner
 Legal Officer
 Librarian

Library Assistant
Local Personnel : Abroad
Media and Liaison Staff

- Information Expert
- Media/Public Relations Officer

Navigation Officer
Nursing Staff

- Nurse
- Staff Nurse

Personnel Secretary
Personnel Administration

- Personnel Clerk
- Personnel Officer

Printing Personnel
Proofreader

Provisioning Administration

- Provisioning Administration Clerk
- Provisioning Administration Officer

Registry Clerk
Safety Officer
Security Assistant
Security Officer
Storekeeper
Superintendent
Supervisor
Technical Assistant
Telephonist
Training Officer
Typist
Workshop Assistant
Work Study Officer

Group III

Staff Class: General Assistant I to III

General Assistant I to III

2. In grouping Public Service occupational classes into staff classes, Educators are regarded as being included in both Groups I and II above, in order to ensure a balanced adjustment of the two MAs concerned.

3. The supplementation/amendment of the above list of staff classes is done by the Cfa in accordance with the measure contained in par. 3.4.2.4.

DIVISION OF PUBLIC SERVICE OCCUPATIONAL CLASSIFICATION

TO THE THREE GROUPS (STAFF CLASSES) IN THE

Document

1. For the purpose of maintaining the staff classes of the Public Service Occupational Classification as follows:

GROUP I	
Engineer	Agricultural Adviser
Environment Officer	Agricultural Data Documenter
Physiologist	Agricultural Data Technician
Plant Pathologist	Agricultural Extension Officer
Plant Breeder	Agricultural Extension Technician
Plant Geneticist	Agricultural Extension Lecturer
Plant Physiologist	Agricultural Management Adviser
Plant Pathologist	Agricultural Meteorologist
Plant Pathologist	Agricultural Officer
Plant Pathologist	Agricultural Product Analysts Technician
Plant Pathologist	Agricultural Product Standards Officer
Plant Pathologist	Agricultural Product Standards Technician
Plant Pathologist	Agricultural Production Economist
Plant Pathologist	Agricultural Research Technician
Plant Pathologist	Agricultural Researcher
Plant Pathologist	Agricultural Resource Officer
Plant Pathologist	Agricultural Resource Technician
Plant Pathologist	Agricultural Specialist Extension Officer
Plant Pathologist	Agricultural Technician
Plant Pathologist	Agricultural Training Officer
Plant Pathologist	Air Pollution Control Officer
Plant Pathologist	Aircraft Maintenance Engineer
Plant Pathologist	Alcoholism Inspector
Plant Pathologist	Analytical Chemistry Technician
Plant Pathologist	Animal House Technician
Plant Pathologist	Animal Production Technician
Plant Pathologist	Architect
Plant Pathologist	Aviation Inspector
Plant Pathologist	Aviation (Civil Aviation)
Plant Pathologist	Aviation (Meteorology)
Plant Pathologist	Bacteriologist
Plant Pathologist	Biometrician
Plant Pathologist	Business Economist
Plant Pathologist	Chemist
Plant Pathologist	Chiropractor
Plant Pathologist	Clinical Psychologist
Plant Pathologist	Clinical Technologist
Plant Pathologist	Community Liaison Officer
Plant Pathologist	Controller, Financial Institution
Plant Pathologist	Corrections Officer

ANNEXURE 3DIVISION OF PUBLIC SERVICE OCCUPATIONAL CLASSES CORRESPONDING
TO THE THREE GROUPS (STAFF CLASSES) IN SCs

1. For the purposes of maintaining the MAs per staff class, the Public Service occupational classes are divided up as follows:

GROUP I

Agricultural Adviser
 Agricultural Data Documenter
 Agricultural Datametric Technician
 Agricultural Datametrician
 Agricultural Extension Officer
 Agricultural Extension Technician
 Agricultural Instructor
 Agricultural Management Adviser
 Agricultural Meteorologist
 Agricultural Officer
 Agricultural Product Analysis Technician
 Agricultural Product Standards Officer
 Agricultural Product Standards Technician
 Agricultural Production Economist
 Agricultural Research Technician
 Agricultural Researcher
 Agricultural Resource Officer
 Agricultural Resource Technician
 Agricultural Specialist Extension Officer
 Agricultural Technician
 Agricultural Training Officer
 Air Pollution Control Officer
 Aircraft Maintenance Engineer
 Airworthiness Inspector
 Analytical Chemistry Technician
 Animal House Technician
 Animal Production Technician
 Architect
 Aviation Inspector
 Avionician (Civil Aviation)
 Avionician (Meteorology)

Biokinetician
 Biometrician
 Business Economist

Chemist
 Chiropodist
 Clinical Psychologist
 Clinical Technologist
 Community Liaison Officer
 Controller: Financial Institutions
 Corrosion Officer

Cultural Officer
 Dental Technician
 Dental Therapist
 Dentist
 Development Expert
 Documentalist
 Economist: Agriculture
 Economist: National Accounts
 Education Systems Officer
 Educators (see par. 6 below)
 Energy Officer
 Engineer
 Environment Officer
 Ethnologist
 Explosives Expert
 Farm Manager
 Forensic Analyst
 Forester
 Forestry Research Technician
 Forestry Scientist
 Geohydrological Technician
 Geologist
 Geophysicist
 Geotechnician
 Health Inspector
 Helicopter Pilot
 Heraldry Draughtsman
 Historian
 Horticulturalist
 Hostel Inspectress
 Hydrologist
 Industrial Technician
 Industrial Technologist
 Inspector of Accidents
 Inspector: Mines
 Inspector: Mining Machinery
 Inspector: Occupational Safety
 Inspector: Occupational Safety (Machinery)
 Inspector: Radiographical Services
 Irrigation Planner
 Irrigation Technician
 Land Surveyor
 Landscape Architect
 Landscape Developer
 Limnological Technician
 Livestock Improvement Officer
 Livestock Improvement Technician
 Magistrate
 Management Echelon
 Manpower Policy Adviser
 Manpower Training Adviser

Meat Inspector
 Medical and Dental Superintendent
 Medical Natural Scientist
 Medical Officer
 Medical Orthotist and Prosthetist
 Medical Physicist
 Medical Technical Officer
 Medical Technologist
 Medicine Control Officer
 Meteorological Technician
 Meteorologist
 Mine Surveyor
 Mineral Economist
 Mining Draughtsman
 Museum Human Scientist
 Museum Natural Scientist

 Nature Conservation Research Technician
 Nature Conservation Scientist
 Nature Conservator
 Nutritionist

 Occupational Therapist
 Oceanographer
 Oceanographic Technician
 Optometrist
 Oral Hygienist

 Palaeontologist
 Pharmacist
 Physicist
 Physiotherapist
 Planner
 Plant and Seed Inspector
 Plant and Seed Officer
 Plant Production Technician
 Probation Officer
 Psychologist

 Quantity Surveyor

 Radiation Control Officer
 Radiation Scientist
 Radiographer
 Regional Magistrate
 Research Veterinarian
 Road Safety Officer

 Ship's Surveyor
 Social Worker
 Soil Expert
 Soil Protection Inspector
 Soil Protection Officer
 Specialist
 Specialist Scientist
 Speech Therapist and Audiologist
 Sport Promotion Officer
 State Actuary
 State Advocate

State Attorney
 State Economic Policy Adviser
 State Herald
 State Law Adviser
 State Law Adviser (Public International Law)
 State Prosecutor
 State Veterinarian
 Statistics Adviser
 Survey Statistician

Tax Advocate
 Techno-economist
 Therapy Assistant
 Town and Regional Planner
 Trade and Industries Adviser
 Trade Metrologist
 Transport System Planner

Vaccine Preparer
 Veterinary Researcher
 Veterinary Technician
 Vocational Counsellor

Water Care Technician
 Water Pollution Control Officer
 Welfare Assistant
 Wine Controller
 Works Inspector

GROUP II

Accounting Clerk
 Adviser (Family Planning)
 Adviser (Nutrition)
 Agricultural Administration Officer
 Agricultural Administration Clerk
 Agricultural Legislation Inspector
 Agricultural Research Assistant
 Air Space Control Personnel (SAAF)
 Air Traffic Communicator
 Air Traffic Controller
 Airport Electrician
 Airport Information Assistant
 Ambulance Officer
 Animal House Assistant
 Appraiser
 Archive Assistant
 Archivist
 Armaments Officer
 Art Assistant
 Artisan Personnel
 Audiovisual Assistant
 Audit Clerk
 Aviation Personnel (SAAF)
 Barman/Barmaid
 Boatswain
 Boiler Operator
 Bridge Builder

Building Caretaker
 Building Clerk
 Buyer (School Hostels)
 Camp Leader
 Canteen Manager
 Care Officer
 Caterer (SADF)
 Catering Services Manager
 Catering Services Supervision
 Chairman and permanent member : Appeal Court for
 Commissioner's Courts and Divorce Court
 Chaplain
 Chargeman
 Chargeman: Rural Areas
 Civic Affairs Clerk
 Civic Affairs Officer
 Cleaner
 Clinical Photographer
 Combat Personnel : SA Navy
 Combat Services, SA Army
 Command Information Officer
 Community Development Clerk
 Community Development Officer
 Community Services Clerk
 Community Services Officer
 Company Controller
 Compound/Town Manager
 Computer Operator
 Console Controller
 Control Officer
 Controller of Medical Records
 Copy Compositor
 Council Assistant
 Court Interpreter
 Court Stenographer
 Coxswain
 Cultural Administration Clerk
 Cultural Administration Officer
 Customs and Excise Officer
 Customs Officer
 Dam Instrumentation Assistant
 Darkroom Assistant
 Data Controller
 Data Processing Control Personnel
 Data Systems Adviser
 Data Technologist
 Data Typist
 Deeds Controller
 Dental Assistant
 Development Administration Officer
 Development Administration Clerk
 Dictaphone Typist
 Dietician
 Discipline Staff: SA Prisons Service
 Dockyard Assistant
 Draughtsman Assistant
 Drilling Inspector

Driver
 Driver/Operator
 ECG Assistant
 Education Administration Clerk
 Education Administration Officer
 Educationist : Prisons Services
 Educators (see par. 6 below)
 EEG Assistant
 Electro-technical Assistant
 Engine Room Attendant
 Engineer Officer
 Environment Affairs Administration Clerk
 Environment Affairs Administration Officer
 Equipment Control Officer
 Executioner
 External Officer

 Factories Control Officer
 Farm Foreman
 Field Ranger
 Financial Administration Officer
 Fingerprint Comparer/Expert
 Fireman
 Fisheries Control Officer
 Fishing Mate/Master
 Foreign Affairs Administration Officer
 Foreign Affairs Assistant
 Foreign Affairs Officer
 Foreman : Cleaning Services
 Foreman : Forestry
 Foreman : General
 Foreman : Grounds Maintenance
 Foreman : Sawmill
 Forestry Research Assistant
 Functional Staff of the South African Police

 Gardener
 General Assistant/Receptionist
 Geology Assistant
 Geophysical Assistant
 Government Administration Officer
 Government Administration Clerk

 Handyman
 Head : Data Capturing
 Headman : Guano Islands
 Health and Welfare Administration Clerk
 Health and Welfare Administration Officer
 Health Field Officer
 Health Supervisor
 Herbarium Assistant
 Household Manager
 Housekeeper
 Housemother/-father
 Hydrological Assistant
 Hydrological Research Assistant
 Hydrometrical Assistant

Immigration Officer
 Import and Export Control Officer
 Industries Development Officer
 Information Journalist
 Information Liaison Assistant
 Information Photographer
 Inspector : Apprentices
 Inspector : Government Motor Transport
 Inspector's Aid : Mines
 Instructor
 Instrumentalist

 Judge's Secretary
 Justice Administration Clerk
 Justice Administration Officer

 Kiln Operator

 Laboratory Assistant
 Language Practitioner
 Laundry Manager
 Leather Worker
 Legal Administration Officer
 Legal Officer
 Liaison Officer
 Librarian
 Library Aid
 Library Assistant
 Lighting Assistant
 Linen Supervisor
 Liquor Affairs Officer
 Liquor Inspector
 Lithographic Operator
 Livestock Inspector

 Machine Attendant
 Machine Operator
 Maintenance Superintendent
 Manager: Camping Site
 Manager: Game Reserve
 Manager: Guest House
 Manpower Administration Officer
 Manpower Administration Clerk
 Marine Draughtsman
 Marine Engineman
 Marine Superintendent
 Master of the Supreme Court
 Meat Examiner
 Media Officer
 Medical Equipment Assistant
 Medical Support Personnel : SAMS
 Messenger (only Chief Messenger)
 Meter Reader
 Meteorological Observer
 Military Information Functionary
 Military Law Officer
 Military Police (SACMP)
 Military Strategy Officer
 Military Terrain Officer

Mill Operator
 Mineral and Energy Administration Clerk
 Mineral and Energy Administration Officer
 Mineral Laws Administration Clerk
 Mineral Laws Administration Officer
 Ministerial Typist
 Mint Superintendent
 Mortuary Assistant
 Museum Assistant
 Musicians : Services Departments

 Nature Conservation Assistant
 Nature Officer
 Navigation Officer
 Nursing Assistant

 Oceanographic Research Assistant
 Orderly
 Organisation and Work Study Adviser
 Orthopaedic Shoemaker
 Orthotic/Prosthetic Assistant
 Own Affairs Administration Clerk
 Own Affairs Administration Officer

 Packer
 Palaeontology Assistant
 Parachute Packer
 Patents and Trade Marks Registration Officer
 Pensions Clerk
 Pensions Officer
 Personal Secretary and
 Personal Secretary (DG)
 Personnel Clerk
 Personnel Officer
 Pharmacy Assistant
 Photocopying Machine Operator
 Photographic Assistant
 Physical Education Assistant
 Physical Education Officer
 Pioneer
 Planning Administration Clerk
 Planning Administration Officer
 Porter
 Principal : Youth Camps
 Printing Production Controller
 Printing Work Planner
 Product Examiner
 Production Adviser : Service Factories
 Professional Nurse
 Programmer
 Project Superintendent
 Propulsion Engine Operator
 Protocol Officer
 Provincial Administration Clerk
 Provincial Administration Officer
 Provincial Inspector
 Provision Administration Clerk
 Provision Administration Officer

Quality Controller
 Quantity Surveyor Assistant
 Quarantine Officer
 Radio Officer
 Registrar : Supreme Court
 Registry Clerk
 Relations Officer
 Restaurant Manager
 Restaurateur
 Revenue Clerk
 Road Workers
 Roads Superintendent
 Rural Development Clerk
 Rural Development Officer
 Safety Officer
 School Caretaker
 Seamstress
 Security Assistant
 Security Officer
 Seismology Assistant
 Sergeant at Arms
 Service Officer
 Settlement Officer
 Ship's Caterer
 Ship's Cook
 Ship's Handyman
 Ship's Mechanic
 Ship's Steward
 Shipping Master
 Shooting Rangement
 Shop Assistant
 Snake Demonstrator
 Special Forces Operators and Officers
 State Accountant
 State Administration Assistant
 State Administration Officer
 State Auditor
 Statistics Clerk
 Statistics Officer
 Sterilisation Worker
 Storekeeper
 Superintendent
 Superintendent: Rural Areas
 Superintendent: Works
 Survey Assistant
 Survival Expert : SADF
 Taxation Officer
 Technical Operator
 Telecommunications Crew (SAAF)
 Telecommunications Operator
 Telephonist
 Third Party Insurance Clerk
 Third Party Insurance Officer
 Trade and Industries Clerk
 Trade Inspector
 Trade Test Officer

Trade Training Officer
 Training Adviser
 Training Officer
 Transport Administration Clerk
 Transport Administration Officer
 Transport Inspector
 Transport Officer
 Tugboat Mechanic
 Tugboat Skipper
 Typist
 Upholsterer
 Usher-Messenger

Vaccine Preparation Assistant
 Veterinary Assistant
 Veterinary Research Assistant

Waiter/Waitress
 Water Care Plant Superintendent
 Water Control Officer
 Water Pollution Assistant
 Water Pollution Control Assistant
 Weed Inspector
 Work Planner
 Work Proficiency Instructor
 Work Study Officer

GROUP III

General Assistant I-III

2. In the case of an occupational class that appears in both the Public Service and one or more of the SCs, the occupational class concerned is included in the same Group as in the case of the SC.
3. Since in the case of SCs Radiographer is included in Group I (and the same division is, therefore, followed above), the related occupational classes of Occupational Therapist, Physiotherapist, Speech Therapist and Audiologist, Chiropodist, Oral Hygienist, Dental Therapist and Therapy Assistant are also included in Group I.
4. In the case of the remaining occupational classes (except for Scheduled Departmental Staff - excluding Therapy Assistant and General Assistant I to III) the technical and professional classes are included in Group I and the rest in Group II.

- 5. Scheduled Departmental Staff are included in Group II, except for General Assistant I to III, which is included under Group III and Therapy Assistant, which is included in Group I.
- 6. With a view to the adjustment of the MA in respect of Groups I and II on the basis as set out in par. 3.3.4.3(b), Educators are included in both Groups I and II.

GROUP III

General Assistant I-III

2. In the case of an occupational class that appears in both the Public Service and one or more of the SAs, the occupational class concerned is included in the same Group as in the case of the SA.

3. Since in the case of SA Radiographer included in Group I (and the same division is, therefore, followed above), the related occupational classes of Occupational Therapist, Physiotherapist, Speech Therapist and Audiologist, Chiropodist, Oral Hygienist, Dental Therapist and Therapy Assistant are also included in Group I.

4. In the case of the remaining occupational classes (except for Scheduled Departmental Staff - excluding Copy Assistant and General Assistant I to III) the following and professional classes are included in Group I and the rest in Group II.

ANNEXURE 4STAFF EXPENDITURE ITEMS THAT ARE TAKEN INTO ACCOUNT IN
DETERMINING THE MA

1. Staff expenditure items, as provided by the SCs, which must be taken into consideration for purposes of calculating the MA, are divided into two components, namely:

1.1 A salary component, consisting of:

- (a) Basic salary
- (b) Allowances that are paid instead of a general salary adjustment
- (c) Service bonus
- (d) Employees' contributions to the pension fund
- (e) Employers' and employees' contributions to the stabilisation account
- (f) Foreign service salary
- (g) Qualification grants/recognitions
- (h) Workmen's compensation insurance
- (i) Overtime remuneration
- (j) Achievement awards (not merit bonuses)
- (k) Leave gratuities
- (l) Insurance against death or permanent disability
- (m) Unemployment insurance
- (n) Severance remuneration (i.e. the payment, over and above the service termination benefits for which a person normally qualifies, of a single, non-recurring benefit on the termination of service owing to reorganisation). (This item was added after implementation.)

1.2 A fringe benefit component, consisting of the following items:

- (a) Housing subsidies and allocations

- (b) Long service recognition
 - (c) Medical Aid Funds
 - (d) Medical expenses (e.g. in respect of injuries on duty that are not covered by the Workmen's Compensation Act and/or in respect of staff who do not share in medical aid funds).
 - (e) Merit bonuses (other than achievement awards).
 - (f) Non-pensionable additions to salary (these are a subsequent addition which entail no expenditure for the calculation of the initial MA and the item is therefore included only in Annexure 9).
 - (g) Study expenditure.
 - (h) Provision of telephones at home.
 - (i) Allowances.
 - Allowances that are paid instead of occupation-specific adjustments.
 - Overseas allowances.
 - Stand-by allowances.
 - Motor car allowances.
 - Risk/danger/hardship/inconvenience/recruitment allowances:
 - . Diving allowances
 - . Shipping (seagoing) allowances
 - . Shift allowances
 - . Shift (night duty) allowances
 - . Inconvenience allowances (extended hours)
 - Secondment allowances
 - Transport allowances (e.g. between residence and place of work)
 - (j) Uniforms, protective overclothing and shoe/uniform allowances.
 - (k) Transport (bus services, subsidies in respect of travelling expenses, etc.)
 - (l) Food.
2. The subsequent adjustment (maintenance) of the MA is dealt with on the basis set out in par. 3.3.4.
 3. The supplementation/amendment of the above list of staff expenditure items is done by the CFA in accordance with the measure contained in par. 3.4.2.5.

ANNEXURE 5STAFF EXPENDITURE ITEMS WHICH ARE NOT TAKEN INTO ACCOUNT INDETERMINING THE MA

1. The following staff expenditure items are not taken into account in determining the MA:
 - (a) Motor car financing scheme for senior officers (see par. 2 below)
 - (b) "Company car scheme" (only applies to the SABS)
 - (c) Official motor cars
 - (d) Exchange rate losses (overseas staff)
 - (e) Entertainment expenses:
 - Actual expenditure
 - Personal allowances.
 - (f) Subsistence costs
 - Domestic
 - Foreign
 - (g) Travelling costs
 - Domestic
 - Foreign
 - (h) Housing provision (guest houses).
 - (i) Membership and registration fees in respect of membership of organisations/attendance of symposiums
 - (j) Statutory levies, registration fees and contributions in respect of Blacks
 - (k) Transfer costs and transport privileges on appointment, termination of service and death
 - (l) Clothing allowances (for overseas trips)

2. Owing to the sensitivity which already exists in the case of the motor car financing scheme and the fact that the Cabinet decided on its application and owing also to certain technical problems in accommodating the fluctua-

ting expenditure relating to recoverable loans, it is not included with the identified staff expenditure items. What is regulated is the number of motor cars that may be allocated and thereafter the rules for participation will be the same as those for the Public Service. (See par. 3.4.1 read with Annexures 7 and 8.)

1. The following staff expenditure items are not taken into account for the purpose of determining the maximum number of motor cars to be allocated and for calculating the number of motor cars to be allocated.

- (a) Motor car financing scheme for senior officers (see par. 2 below)
- (b) "Company car scheme" (see par. 2 below)
- (c) Official motor cars
- (d) Entertainment expenses
- (e) Actual expenditure on motor cars
- (f) Subsidy costs
 - Domestic (including petrol)
 - Foreign
 - (including petrol)
- (g) Housing provision (guest houses)
- (h) Membership and registration fees in respect of membership of organizations/attendance of symposiums
- (i) Secretary level registration fees and contributions in respect of clubs
- (j) Transfer costs and transport privileges on appointment, termination of service and death
- (k) Clothing allowances and overseas travel

2. Owing to the activities which already exist in the case of the motor car financing scheme and the fact that the Cabinet decided on its application and owing also to certain technical problems in accommodating the finan-

ANNEXURE 6

ADDITION TO MA AT VARIOUS RATIOS OF OWN EARNINGS

% own earnings	% addition to MA	% own earnings	% addition to MA	% own earnings	% addition to MA
0	0	24	1,20	48	2,40
1	0,05	25	1,25	49	2,45
2	0,10	26	1,30	50	2,50
3	0,15	27	1,35	51	2,55
4	0,20	28	1,40	52	2,60
5	0,25	29	1,45	53	2,65
6	0,30	30	1,50	54	2,70
7	0,35	31	1,55	55	2,75
8	0,40	32	1,60	56	2,80
9	0,45	33	1,65	57	2,85
10	0,50	34	1,70	58	2,90
11	0,55	35	1,75	59	2,95
12	0,60	36	1,80	60	3,00
13	0,65	37	1,85	61	3,05
14	0,70	38	1,90	62	3,10
15	0,75	39	1,95	63	3,15
16	0,80	40	2,00	64	3,20
17	0,85	41	2,05	65	3,25
18	0,90	42	2,10	66	3,30
19	0,95	43	2,15	67	3,35
20	1,00	44	2,20	68	3,40
21	1,05	45	2,25	69	3,45
22	1,10	46	2,30	70	3,50
23	1,15	47	2,35		

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ANNEXURE 7

FORMULA IN TERMS OF WHICH THE NUMBER OF MOTOR CARS THAT MAY BE ALLOCATED TO SENIOR OFFICERS UNDER THE MOTOR CAR FINANCING SCHEME IS REGULATED IN RESPECT OF MINTEK, MRC, HSRC, AND CSIR

1. The motor car financing scheme for senior officers and the rules for participating in the scheme are applied to SCs in accordance with the guidelines laid down in the Cabinet decision in this regard and in accordance with the instructions of the CFA, excluding the references to salary levels.
2. The formula in accordance with which the number of motor cars which may be allocated in the case of the above SCs is regulated and the participation levels are based on the formula for the provision of top structure posts in SCs as at 31 March 1987 (this formula lapsed for this purpose as from 1 April 1987) and is as follows:

(a) Participation level	Comparable grading in the Public Service	Number of motor cars which may be allocated
III	Deputy Director-General or higher but lower than Director General	CSIR 3 Other CSs 2
II	Chief Director or higher, but lower than Deputy Director General	Determined according to the formula in par. 2(b) below
I	Director or higher, but lower than Chief Director	do

(b) The overall number of motor cars which may be provided at participation levels II and I is determined according to the following formula:

$$(A + 400) \div 160 = B$$

Where A = The sum total of the points calculated by weighting the diplomate and graduate staff in the full-time employ of the Council on the following basis for qualification level:

3 year diploma or degree = 2
 4 year diploma or degree = 4
 Master's degrees and doctorates = 6; and

by dividing the full sum of agency funds administered by the Council by an amount calculated by adjusting the MA for Group I (Staff Class : Line and Related Staff) by a factor which is as follows for the various councils:

CSIR	71,915%
Mintek	71,571%
HSRC	76,756%
MRC	84,017%

(See par. 3(a) below.)

B = the total (overall) number of motor cars which may be provided at participation levels II and I.

(Fractions smaller than 0,5 in the result are disregarded.)

(c) The number of motor cars which may be provided at participation level II is 25% of the overall provision calcu-

lated in terms of par. 2(b) above. In calculating the 25% (number of motor cars) fractions smaller than 0,5 are disregarded, and fractions of 0,5 or more are counted as full units.

(d) The number of motor cars that may be provided at participation level I is what remains of the overall number of motor cars (calculated in accordance with par. 2(b) above) after the 25% for participation level II (par. 2(c) above) has been calculated.

3. General

(a) The system of framework autonomy has had the result that a particular salary can no longer be linked with the post of a Chief Researcher. In the light of this, and for the purpose of calculating the points allocated for agency funds (par. 2(b) above), the remuneration of a Chief Researcher as at 31 March 1987 is expressed as a percentage of the MA of Group I (that is the MA before the addition in respect of financial independence is made) so as to give the same rand amount.

For the purpose of this calculation "agency funds" include the following:

- Agency funds per se for supporting own-choice research at universities, technikons and museums;
- funds for co-ordinated research programmes which are spent externally; and
- funds for external research co-operation (including funds for contract research and part-time research staff).

(b) The number of motor cars calculated in terms of the formula forms the upper limit of provision, and this

leaves the Council free to allocate fewer motor cars than the norm maximums.

(c) In cases where functions and staff are transferred from the Council to another SC or other institution, the number of motor cars per participation level must be recalculated and the necessary adjustments made.

(d) Where reductions in staff numbers result in an over-provision in respect of the number of motor cars, these motor cars may be retained on a personal basis, but the over-provision should be phased out as existing contracts expire.

The motor car financing scheme for senior officers, and the rules for participation in the scheme are applied in the case of SCs in accordance with the guidelines laid down in the Cabinet decision in this regard and in accordance with the instructions of the CEA, excluding the references to salary levels.

The formula in terms of which the number of motor cars that may be allocated at the SCAS is calculated, as well as the participation levels, is based on the formula for the provision of top structure posts at SCs as at 31 March 1987. This formula has been revised with effect from 1 April 1987 for this purpose, and is as follows:

Category 1	1
Category 2	2
Category 3	3
Category 4	4
Category 5	5
Category 6	6

The total number of motor cars that may be provided at participation level 11 is

ANNEXURE 8FORMULA IN TERMS OF WHICH THE NUMBER OF MOTOR CARS THAT MAY BE ALLOCATED FOR SENIOR OFFICERS UNDER THE MOTOR CAR FINANCING SCHEME IS REGULATED IN RESPECT OF THE SABS

(NOTE: In view of the fact that the SABS operates its own "company car scheme" and does not apply the motor car financing scheme for senior officers (as it applies in the Public Service) the formula below will only come into operation if the Bureau replaces the existing "company car scheme" with the motor car financing scheme for senior officers. The two schemes may, therefore, at no stage be operated simultaneously.)

1. The motor car financing scheme for senior officers, and the rules for participating in the scheme are applied in the case of SCs in accordance with the guidelines laid down in the Cabinet decision in this regard and in accordance with the instructions of the CFA, excluding the references to salary levels.
2. The formula in terms of which the number of motor cars that may be allocated at the SABS is regulated, as well as the participation levels, is based on the formula for the provision of top structure posts at SCs as at 31 March 1987 (this formula has lapsed with effect from 1 April 1987 for this purpose), and is as follows:

(a) Participation level Comparable Number of motor
 grading in the cars which may
 Public Service be allocated

III	Deputy Director General or higher, but lower than Director General	2
II	Chief Director or higher, but lower than Deputy Director General	Determined in terms of the formula in par. 2(b) below
I	Director or higher, but lower than Chief Director	do

(b) The overall number of motor cars which may be provided at participation levels II and I, is determined according to the following formula

$$A \div 140 = B$$

Where A = The sum of the points allocated in respect of the staff in the full-time employ of the Bureau weighted according to qualification level on the following basis

St 10	= 1
Tertiary diploma	= 2
3-year degree	= 2
4-year degree	= 3
5-year degree	= 4
6- (and more) year degree	= 5

B = The total (overall) number of motor cars that may be provided at participation levels II and I.

(Fractions smaller than 0,5 in the result are disregarded.)

- (c) The number of motor cars that may be provided at participation level II is 20% of the overall provision calculated according to par. 2(b) above. In calculating the 20% (number of motor cars) fractions smaller than 0,5 are disregarded, and fractions of 0,5 or more are counted as full units.
- (d) The number of motor cars that may be provided at participation level I is the remainder of the overall number of motor cars (calculated according to par. 2(b) above) after the 20% for participation level II (par. 2(c) above) has been calculated.

3. General

- (a) The number of motor cars calculated according to the formula, forms the upper limit of provision and this leaves the Bureau free to allocate fewer motor cars than the norm maximums.
- (b) In cases where functions and staff are transferred from the Bureau to another SC or institution, the number of motor cars per participation level must be recalculated and the necessary adjustments made.
- (c) Where a reduction in staff numbers has resulted in an over-provision in respect of the number of motor cars, such motor cars may be retained on a personal basis, but the over-provision must be phased out as existing contracts expire.

FRAMEWORK AUTONOMY : INFORMATION WHICH MUST BE SUBMITTED ANNUALLY FOR CONTROL PURPOSES

INSTITUTION:

PERIOD: 1 APRIL 19

TO 31 MARCH 19

ACTUAL AVERAGE EXPENDITURE PER FULL TIME EQUIVALENT UNIT (AA)			
EXPENDITURE ITEMS	GROUP I ACTUAL FULL YEAR EXPENDITURE (R)	GROUP II ACTUAL FULL YEAR EXPENDITURE (R)	GROUP III ACTUAL FULL YEAR EXPENDITURE (R)
A. SALARY COMPONENT			
1. BASIC SALARY, ALLOWANCES THAT ARE PAID INSTEAD OF A GENERAL SALARY ADJUSTMENT, SERVICE BONUS, EMPLOYERS' CONTRIBUTION TO THE PENSION FUND, EMPLOYEES' AND EMPLOYERS' CONTRIBUTIONS TO THE STABILISATION ACCOUNT.			
2. FOREIGN SERVICE SALARIES			
3. QUALIFICATION AWARDS/RECOGNITIONS			
4. ACCIDENT INSURANCE			
5. OVERTIME REMUNERATION			
6. ACHIEVEMENT AWARDS			
7. LEAVE GRATUITIES (PAYMENTS - par. 3.4.2.2)			
8. INSURANCE AGAINST DEATH OR PERMANENT DISABILITY			
9. UNEMPLOYMENT INSURANCE			
10. SEVERANCE COMPENSATION			
SUBTOTAL A			
B. FRINGE BENEFIT COMPONENT			
1. HOUSING SUBSIDIES AND ALLOWANCES			
2. LONG SERVICE RECOGNITION			
3. MEDICAL AID FUNDS			
4. MEDICAL EXPENSES (E.G. IN RESPECT OF INJURIES ON DUTY NOT COVERED BY THE WORKMEN'S COMPENSATION ACT AND/OR IN RESPECT OF STAFF WHO DO NOT SHARE IN MEDICAL AID FUNDS)			
5. MERIT BONUSES (OTHER THAN ACHIEVEMENT AWARDS)			
6. NON-PENSIONABLE ADDITIONS TO SALARY			
7. STUDY EXPENSES			
8. TELEPHONE PROVISION AT HOME			
9. ALLOWANCES			
9.1 ALLOWANCES PAID INSTEAD OF OCCUPATION-SPECIFIC ADJUSTMENTS			
9.2 FOREIGN ALLOWANCES			
9.3 STAND-BY ALLOWANCES			
9.4 MOTOR CAR ALLOWANCES			
9.5 RISK/DANGER/HARDSHIP/INCONVENIENCE/RECRUITMENT ALLOWANCES:			
9.5.1 DIVING ALLOWANCES			
9.5.2 SHIPPING (SEA-GOING) ALLOWANCES			
9.5.3 SHIFT ALLOWANCES			
9.5.4 SHIFT (NIGHT DUTY) ALLOWANCES			
9.5.5 INCONVENIENCE ALLOWANCES (EXTENDED HOURS)			
9.6 SECONDMENT ALLOWANCES			
9.7 TRANSPORT ALLOWANCES (E.G. BETWEEN RESIDENCE AND PLACE OF WORK)			
10. UNIFORMS, PROTECTIVE OVER-CLOTHING AND SHOE/UNIFORM ALLOWANCES			
11. TRANSPORT PROVISION (BUS SERVICES, SUBSIDIES IN RESPECT OF TRAVELLING EXPENSES, ETC.)			
12. CATERING PROVISION			
SUBTOTAL B			
TOTAL (A + B)			
‡ NUMBER OF FULL-TIME EQUIVALENT UNITS PER STAFF CLASS			
= AA	R	R	R

MAXIMUM AVERAGE EXPENDITURE PER FULL-TIME EQUIVALENT UNIT (MA)			
	GROUP I	GROUP II	GROUP III
MA (BEFORE ADDITION IN RESPECT OF OWN EARNINGS)	R	R	R
PLUS ADDITION IN RESPECT OF OWN EARNINGS:	R	R	R
= APPROVED MA	R	R	R

UNAUTHORISED STAFF EXPENDITURE			
	GROUP I	GROUP II	GROUP III
CALCULATED BY MULTIPLYING ANY AMOUNT BY WHICH THE MA EXCEEDS THE MA BY THE NUMBER OF FE UNITS PER STAFF CLASS	R	R	R

BALANCE OF THE ACCOUNT FROM WHICH LEAVE GRATUITIES ARE PAID, TAKING INTO ACCOUNT PAYMENTS UP TO AND INCLUDING 31 MARCH 19

R

N.B. THE STAFF EXPENDITURE ITEMS CONTAINED IN THIS CONTROL FORM MUST BE KEPT UP TO DATE AS THE LIST OF STAFF EXPENDITURE ITEMS AS SET OUT IN ANNEXURE 4 CHANGES.

ANNEXURE 10

COST INDEX FOR STAFF COSTS INCLUDED IN THE MA OF STAFF CLASS I FOR A SPECIFIC SC (k1)

$$(k1)_n = \frac{(S1)_n + (B1)_n}{(P1)_0}$$

Where n = Year for which base-line amount is calculated.

0 = Base year

(k1)_n = Staff cost index of staff class I for year n.

(S1)_n = Salary component of the MA (before the addition of the incentive for greater financial independence) of Staff Class I, as calculated by the CfA for the start of year n (i.e. 1 April of the relevant financial year).

(B1)_n = Fringe benefit component of the MA (before the addition of the incentive for greater financial independence) of Staff Class I, as calculated by the CfA for the start of year n (i.e. 1 April of the relevant financial year).

(P1)₀ = The initial MA for Staff Class I as at 1 April 1987 (base year 0) minus the addition as an incentive for greater financial independence.

COST INDEX FOR STAFF COSTS INCLUDED IN THE MA OF STAFF
CLASS II FOR A SPECIFIC SC (k2)

$$(k2)_n = \frac{(S2)_n + (B2)_n}{(P2)_0}$$

Where n = Year for which base-line amount is calculated.

Where n = Year for which base-line amount is calculated.

0 = Base year.

0 = Base year.

(k2)_n = Staff cost index of Staff Class II for year n.

(S2)_n = Salary component of the MA (before the addition of the incentive for greater financial independence) of Staff Class II, as calculated by the CFA for the start of year n (i.e. 1 April of the relevant financial year).

(B2)_n = Fringe benefit component of the MA (before the addition of the incentive for greater financial independence) of Staff Class II, as calculated by the CFA for the start of year n (i.e. April of the relevant financial year).

(P2)₀ = The initial MA for Staff Class II as at 1 April 1987 (base year 0) minus the addition as an incentive for greater financial independence.

COST INDEX FOR STAFF COSTS INCLUDED IN THE MA OF STAFF CLASSIII FOR A SPECIFIC SC (k3)

$$(k3)_n = \frac{(S3)_n + (B3)_n}{(P3)_0}$$

Where n = Year for which base-line amount is calculated.

0 = Base year.

(k3)_n = Staff cost index of Staff Class III for year n.

(S3)_n = Salary component of the MA (before the addition of the incentive for greater financial independence) of Staff Class III, as calculated by the CfA for the start of year n (i.e. 1 April of the relevant financial year).

(B3)_n = Fringe benefit component of the MA (before the addition of the incentive for greater financial independence) of Staff Class III, as calculated by the CfA for the start of year n (i.e. 1 April of the relevant financial year).

(P3)₀ = The initial MA for Staff Class III as at 1 April 1987 (base year 0) minus the addition as an incentive for greater financial independence.

COST INDEX FOR SUPPLIES AND SERVICES FOR ALL SCs (k4)

$$(k4)_n = \frac{3V_{n-2} - 2V_{n-3}}{V_0}$$

Where n = Year for which base-line amount is calculated.

0 = Base year.

k4 = Cost index for 'Supplies and Services'.

V = Total Consumer Price Index.

**COST INDEX FOR THE REPLACEMENT AND RENEWAL OF BUILDINGS AND
LAND IMPROVEMENTS OTHER THAN BUILDINGS FOR ALL SCs (k5)**

$$(k5)_n = \frac{3H_{n-2} - 2H_{n-3}}{H_0}$$

Where n = Year for which base-line amount is calculated.

0 = Base year

k5 = Cost index for the 'Replacement and renewal of buildings and land improvements other than buildings'.

H = Total Building Cost Index.

ANNEXURE 15COST INDEX FOR REPLACEMENT AND RENEWAL OF EQUIPMENT FOR ALLSCs (k6)

$$(k6)_n = \frac{3T_{n-2} - 2T_{n-3}}{T_0}$$

Where n = Year for which base-line amount is calculated.

0 = Base year.

k6 = Cost index for 'Replacement and renewal of equipment'.

T = Total Production Price Index.

COST INDEX FOR REPLACEMENT AND RENEWAL OF LIBRARY MATERIAL
FOR A SPECIFIC SC (k7)

$$(k7)_n = \frac{a_1(A1)_n + a_2(A2)_n + a_3(A3)_n + a_4(A4)_n}{a_1(A1)_0 + a_2(A2)_0 + a_3(A3)_0 + a_4(A4)_0}$$

Where n = Year for which base-line amount is calculated.

0 = Base year.

$(k7)_n$ = Cost index for the 'Replacement and renewal of library material' for year n .

$(A1)_n = 3(A1)_{n-2} - 2(A1)_{n-3}$

$(A2)_n = 3(A2)_{n-2} - 2(A2)_{n-3}$

$(A3)_n = 3(A3)_{n-2} - 2(A3)_{n-3}$

$(A4)_n = 3(A4)_{n-2} - 2(A4)_{n-3}$

$(A1)_n, (A2)_n, (A3)_n, (A4)_n$ = Calculated unit costs of natural and human science books and journals, respectively, for year n .

$(A1)_0, (A2)_0, (A3)_0, (A4)_0$ = Actual unit costs of natural and human science books and journals respectively for year 0 .

$(A1)_{n-2}, (A1)_{n-3}$ = Actual unit costs of natural science books in years $n-2$ and $n-3$ respectively.

$(A2)_{n-2}, (A2)_{n-3}$ = Actual unit costs of natural science journals in years n-2 and n-3 respectively.

$(A3)_{n-2}, (A3)_{n-3}$ = Actual unit costs of human science books in years n-2 and n-3 respectively.

$(A4)_{n-2}, (A4)_{n-3}$ = Actual unit costs of human science journals in years n-2 and n-3 respectively.

$a_1: a_2: a_3: a_4$ = Ratio, determined only once, of an SC's total number of natural and human science books and journals.

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Actual unit costs of natural science journals in years n-2 and n-3 = $(A1)_{n-2}, (A2)_{n-3}$

Actual unit costs of human science books in years n-2 and n-3 = $(A3)_{n-2}, (A4)_{n-3}$

(7k) SC DISCOUNTS

Actual unit costs of natural science books and journals = $(A1)_n, (A2)_n, (A3)_n, (A4)_n$

Actual unit costs of human science books and journals = $(A5)_n, (A6)_n, (A7)_n, (A8)_n$

Actual unit costs of natural science journals in years n-2 and n-3 = $(A1)_{n-2}, (A2)_{n-3}$

Actual unit costs of human science books in years n-2 and n-3 = $(A3)_{n-2}, (A4)_{n-3}$

Actual unit costs of natural science books and journals = $(A1)_n, (A2)_n, (A3)_n, (A4)_n$

Actual unit costs of human science books and journals = $(A5)_n, (A6)_n, (A7)_n, (A8)_n$

Actual unit costs of natural science books and journals = $(A1)_n, (A2)_n, (A3)_n, (A4)_n$

Actual unit costs of human science books and journals = $(A5)_n, (A6)_n, (A7)_n, (A8)_n$

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Actual unit costs of natural science books and journals = $(A1)_n, (A2)_n, (A3)_n, (A4)_n$

Actual unit costs of human science books and journals = $(A5)_n, (A6)_n, (A7)_n, (A8)_n$

Actual unit costs of natural science books and journals = $(A1)_n, (A2)_n, (A3)_n, (A4)_n$

Actual unit costs of human science books and journals = $(A5)_n, (A6)_n, (A7)_n, (A8)_n$

Actual unit costs of natural science books and journals in years n-2 and n-3 = $(A1)_{n-2}, (A2)_{n-3}$

Actual unit costs of human science books and journals in years n-2 and n-3 = $(A3)_{n-2}, (A4)_{n-3}$



