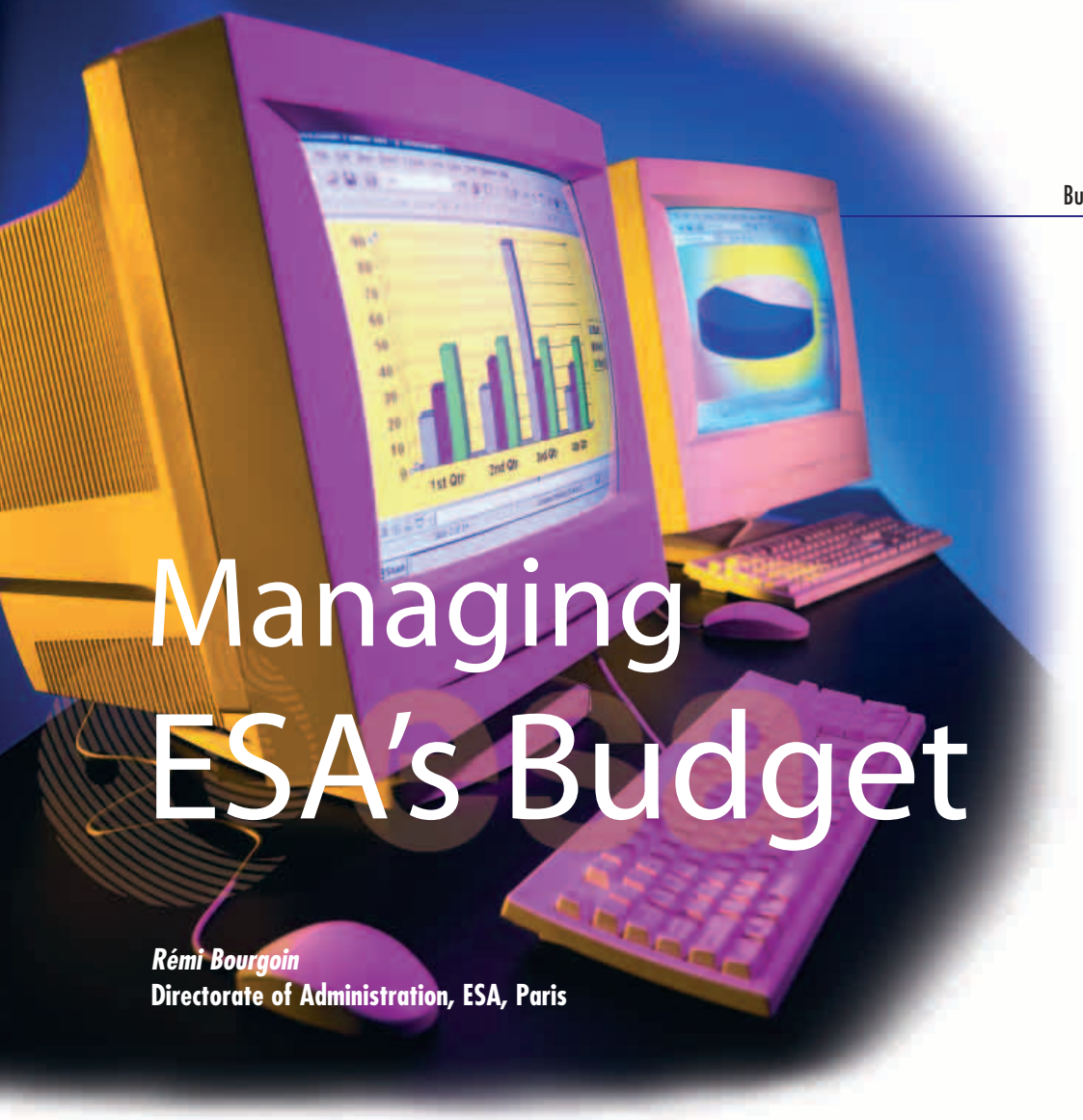

Managing ESA's Budget

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Introduction

Over the past two decades, ESA has successfully funded and completed numerous research and development programmes. One of the keys to this success is that the Agency has been able to use what funding has been available both effectively and efficiently. One area, however, where it was felt that there was potential for additional progress was that of 'funding flexibility'. It was felt that better adjustment to the real programme needs of the Member States' contributions and their 'financing capacities' could benefit both the programmes and the Member States. In the past, ESA has had to face simultaneously a temporary lack of funds in certain programmes and an excess in others. Also, certain Member States have had temporary difficulties in contributing to new programmes, while their contributions to the on-going programmes were not being fully used.

As in other organisations that have to face the uncertainties inherent in managing leading-edge research and development programmes, ESA's budget is not always fully spent at the end of a given year. A certain amount of under-spending is imposed by the financial system itself: because ESA does not have a working capital fund and because the Member States' contributions are not due before 31 January at the earliest, most of the January/February expenditure can only be funded with the contributions arising from the previous year's underspending.

The underspendings result primarily from the difficulties that the programmes have in achieving a 100% accurate budget provision eighteen months in advance* due to the uncertainties introduced by:

– Deviation from the initial programme planning due to political or technical difficulties, unexpected delays in selecting contractors and negotiating contracts, and in industry.
– The fact that the Agency works with many different partners (other space agencies, industrial companies, etc.), whose decision-making might not be finalised when the budgets are being prepared.

* Budgets are prepared in July of year n and they forecast expenditure that will take place at the end of year n+1

The level of underspending varies considerably from one programme to another and from one year to another within each programme. Nevertheless, the total is significant and relatively constant year-on-year. An excess of contributions in one programme cannot, however, be used by another programme. Indeed, the Agency's ruling Convention lays down the legal principle of independence of the so-called 'Optional Programmes' – i.e. those in which not all Member States participate. This rule is designed to protect the interests of Participating States. Funds allocated to one programme by the Participating States cannot be used for another because the scale of contributions is different for each programme.

Even on a temporary basis, a loan between programmes is problematic because it can be viewed as a pre-financing between States. In the past, as an exceptional measure, ESA has managed to organise 'short-term' loans between programmes, but it was difficult due to the lengthy and heavy procedures involved, requiring the unanimous approval of Programme Boards.

It was decided that the best way forward would therefore be to find a mechanism that makes best use of the underspent portion of the contributions, whilst still keeping sufficient operating funds available for financing the development activities of the Directorates, on occasion reallocating the available funds to the most active programmes and thus rewarding managerial and industrial efficiency and rapidity. At the same time, adjusting contributions in this way to real needs should afford some flexibility to Participating States when they encounter temporary financial difficulties in joining new programmes.

The Budget Management System in use in ESA today has been conceived to solve these problems within the framework of the existing legal principles.

The Budget Management System

BMS principles

By definition, ESA budgets cover both expenditure that is certain to occur during the year, and expenditure that is 'uncertain' because it might occur during that year or somewhat later. The underlying principle of the BMS is to identify which expenditure is subject to uncertainty during the budget year and to centralise the contributions financing this expenditure outside the normal programme budgets. This allows for a lower level of financing whilst still covering the same level of Payment Appropriations (PA).

Car insurance is a good analogy. The premiums paid by car owners finance the expenditure incurred as a result of some subscribers being involved in accidents. The premiums are based on the likelihood of accidents occurring. Similarly, the Participating States finance contributions to the BMS in order to cover the uncertain expenditure. Depending on the likelihood of the 'uncertain' PA elements being used, these contributions may be higher or lower, but are in any case less than the financing of the total uncertain expenditure.

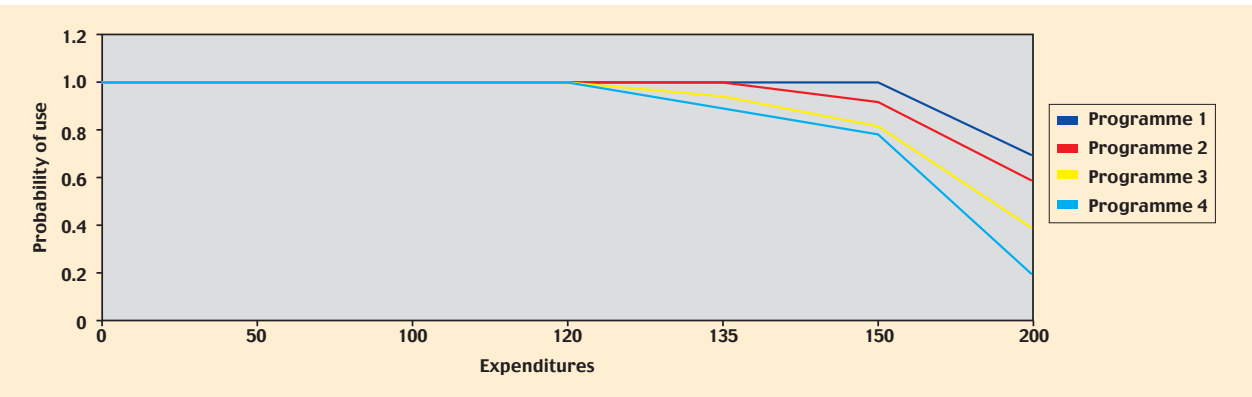
This difference between the contributions, as calculated with and without the BMS, provides some flexibility. This flexibility can be used to reduce the actual contributions whilst retaining the same level of potential expenditure. Alternatively, it can be used by keeping contributions constant to increase the rate of expenditure for programmes that are running ahead of schedule, whilst maintaining the same level of potential expenditure for the others. A mix of the two solutions is also possible.

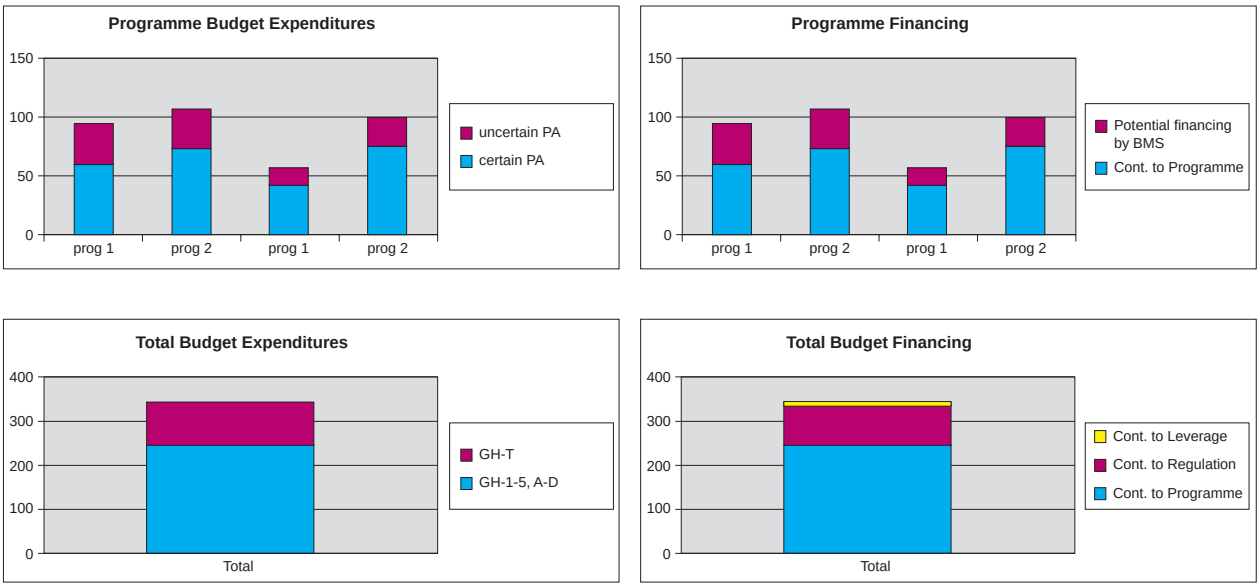
The system gives the programmes a guarantee that all of their expenditure will be financed when necessary. Because financing is always provided according to the contribution scales of the programmes, it guarantees that each contributor covers only his own risks and therefore the legal principles are respected. Moreover the BMS does not affect a programme's Cost at Completion, since it has no impact on the total actual expenditure or the total corresponding contributions of the Participating States. The system supposes, however, that the volume of activities and the level of participation by States in ESA programmes does not decrease drastically over a very short time period, which is very unlikely since the approved programmes are executed over several years.

BMS preparation

In each budget, the Payment Appropriations whose consumption during the year is uncertain are set aside under a specific General Heading* (GH-T). At the time of budget preparation, two sources of data are

* Budgets are divided under General Headings each representing a particular type of expenditure: GH 1 = personnel expenditure, GH 4 = capital expenditure, etc.





available to identify that uncertain expenditure:

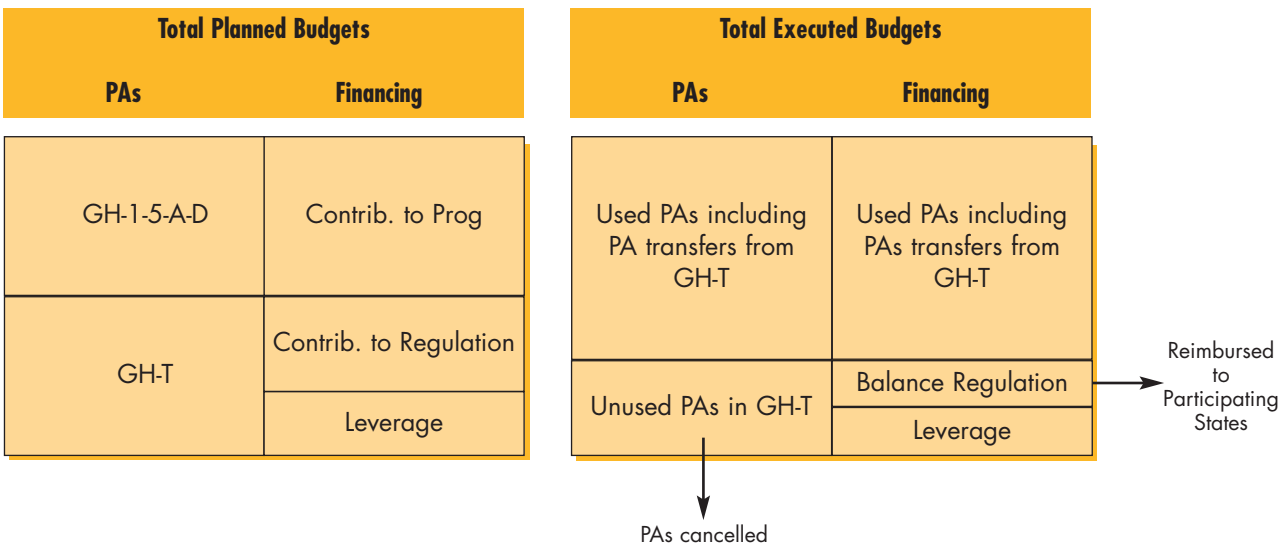
– Statistical tables that show the under-spending per programme over the years.
– Programme Controllers can highlight any expenditure forecasts that they consider involve a degree of uncertainty, which may be qualified as 'high', 'low' or 'unknown'.

From these data, the probabilities associated with uncertain expenditure are first assessed by programme and then ESA-wide. The total amount is then split into two: the part designed to cover the risks is termed the 'Regulation', and the other part not needed to cover the risks is the 'Leverage'. The Regulation and Leverage contributions from the different Participating States are calculated pro-rata based on their shares in the various programmes. In practice, the Regulation contributions are actually called-up, but the Leverage contributions are not.

BMS execution during the year

When a programme has used up its available Payment Appropriation under General Heading GH1-5-A-D (see accompanying diagram) and needs to call on funding from GH-T, PA is transferred via an internal procedure to the appropriate Heading. These transfers are limited to the amount of PA in the particular Budget GH-T, and consequently the total approved budget can never be exceeded.

During the last months of the budgetary year, estimation of the transfers from GH-T becomes precise enough to forecast the balance of the Regulation per Participating State. If there are funds remaining in the Regulation, they can be used to finance supplementary budgets if needed. These supplementary budgets, which do not require additional contributions by Participating States, are subject to the normal budget approval procedure: recommendation by the Agency's Administration and Finance Committee (AFC) and approval by the appropriate Programme Board (PB). The BMS therefore allows redirection of the yearly financing to the most active programmes, without penalising others that are experiencing delays in their payments.

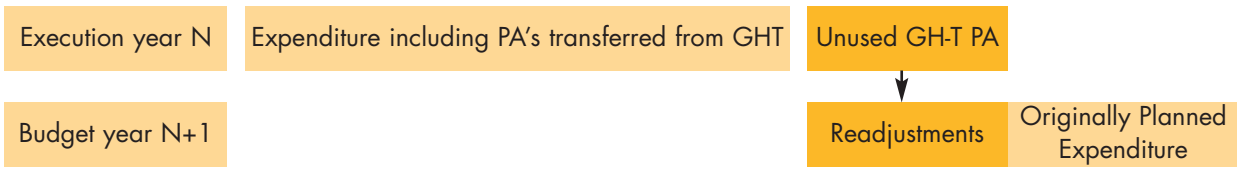


At the end of the year, all PAs in GH-T that have not been used because not all uncertain expenditure arose, are cancelled. The balance of the Regulation is reimbursed to the Participating States.

BMS execution over several years

Uncertain expenditure not occurring during year n will probably arise during year n+1. Hence, the corresponding PAs may be re-inscribed in year n+1, thus increasing the budgets. These are called 'Readjustments'. The budgets n+1 are also constructed with the BMS and therefore with Leverage; the system is designed so that the Leverage of budgets n+1 at least compensates the Readjustments. Consequently the BMS always has a positive or neutral effect on contributions, taking into account the reimbursed balance of the Regulation in the budgets of year n.

* The BMS applies to all Optional Programmes, except the GSTP and PRODEX Technology Programmes, and the associated budgets (CSG Kourou, etc.).



Conclusion

The new Budget Management System that has been outlined here was approved by the ESA Council in October 2000 and entered into force for the 2001 budgets of the Optional Programmes*.

In 2001 it led to a significant 11% reduction in contributions, thus solving some Participating States' difficulties in financing the budgets. At the same time, during the second semester of 2001 it allowed the financing of a supplementary budget without any increase in contributions. In practice, this facilitated the timely implementation of a programme that would have otherwise suffered delays, to the detriment of European industry. Last but not least, it reduced the underspending in the budgets of programmes participating in the BMS.

In 2002 it has led to a 7% decrease in contributions, thereby helping Participating States to participate in the new programmes that were approved by the Ministerial Council meeting in Edinburgh in November 2001. These first results are clearly very promising and should lead to further similar benefits in the future.

On a more general level, the introduction of the BMS has contributed to improving the financial system by introducing the management of planned expenditure according to statistical rules and by introducing the management of Participating States' contributions independently from the programmes to which they contribute, while still respecting the legal principles of the Agency.

These efficient and flexible management principles will also be the foundation for future reforms, in order to ensure that the Agency's financial system can always support its technical endeavours and achievements in the most effective manner.

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