

Efficiency and effectiveness in the armed forces

The role of financial information

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1. Introduction

The Netherlands defence organization has an annual budget of about 14 billion guilders – approximately 5% of the National Budget, an amount of money which more than justifies a closer consideration of the role of financial information in this organization. In doing so an age-old paradox immediately emerges: although the financial aspect dominates the allocation of resources for the military organization, it is largely ignored in the use of these resources in internal management control. Managers, even up to the highest levels in the organization, are only to a limited extent confronted with financial decision making. In times of peace the available personnel and material resources are largely fixed for organization units. In financial terms, budgets do not give the unit commander more than a ‘free margin’ of expenditure of 5 to 6 per cent at most (De Bakker, 1998). In missions abroad, too, personnel and material resources to be employed are generally determined in advance to the smallest detail. The complementary financial consequences of deployment during the mission are settled on a reimbursement basis. In neither case, therefore, does financial information play a substantial role in management control on the executive level.

Nevertheless, from an economic point of view we may ask if this situation does not hamper an optimal - efficient and effective – allocation of resources. The economic use of scarce resources constitutes an obvious principle in any military doctrine. The opportunity costs of a choice between alternatives should, therefore, be given adequate attention.

In this contribution we will explore the possibilities for improvement of defence management control through an increased use of financial information. First we will distinguish the application of this information in government institutions in general from its use in for-profit companies. Subsequently, we will deal with the characteristics of economic behaviour in the armed forces that determine the specific application of that information there.

2. Economic behaviour

Economic behaviour can be described in general terms as making a choice between various options of use of scarce resources. This choice mainly concerns the question which use contributes most to the objective(s) of the organization. In making it, two sides can be distinguished in economic behaviour (Fig 1, next page):

1. Maximize the contribution to the objective, given the quantity of resources;
2. Minimize the use of resources, given the contribution to the objective.

The first maximization problem starts from (exogenously determined) resources and tries to realize the greatest possible contribution. The second takes the given contribution as a starting point and aims at the minimization of the required (endogenously determined) resources. An optimal choice implies a mutual tuning of the used resources and the rendered contribution. In commercial companies, motivated by a pursuit of profit, this tuning can obviously be realized with the help of financial information. After all, the financial value of the inputs of resources

(costs) and the rendered contribution (benefits) forms the basis for optimizing management control in terms of output. The returns of the guilders spent, on the one hand, and the costs of

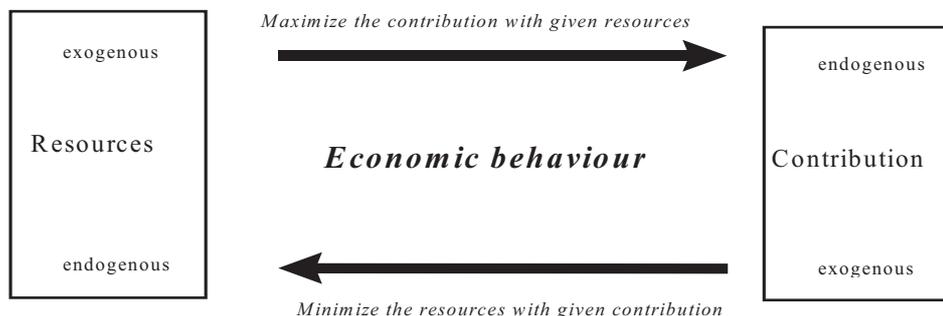


Figure 1: Economic behaviour

the guilders gained, on the other, can be controlled simultaneously in the context of profit maximization. Resources and contribution can both be made endogenous. Thus, in the commercial business world, financial information forms the guiding principle of economic behaviour. It is based on market prices of both the buyer's market (resources) and the seller's market (contribution) (Fig 2).

<i>Buyer's market</i>	<i>Transformation</i>	<i>Seller's market</i>
money ➡ input	➡ processes ➡	output ➡ effect (money)
Resources		Contribution

Figure 2: Economic behaviour in the commercial business world

Government organizations do not seek profit. In principle, as guardians of the public well-being, they have to take into account all relevant consequences of an action. Their products and services are usually not traded on a market, so that the market prices for the contributions are lacking. They are mostly directed at generating goods and services that the market does not or not sufficiently supply. Therefore, the societal contribution is, in principle, not expressed in financial terms, although there are occasional exceptions, notably where activities are of a market-conforming nature. In the armed forces this is particularly the case for the support services, such as maintenance and transport. The eventual product of the armed forces, however, remains problematical, because of its monopoly on violence. As a consequence, the significance of financial information in activities directed at fostering public well-being, is of necessity limited: only for the employment of resources can a financial equivalent be determined. This limitation has far-reaching consequences for the optimization of economic behaviour in the management control of governmental organizations. An unambiguous criterion for this behaviour is absent, and the ensuing handicaps have been described by Anthony and Young (1999: 49-51) in the following five points:

1. Choices with regard to management control cannot be related to a single criterion, with the result that financial and non-financial considerations can continue to vie for right of preference, without the possibility of bringing them together under one clear-cut overall standard.

2. Quantitative assessment techniques that can enhance optimization in complex judging problems cannot be applied, when the relevant aspects cannot be subsumed under a common standard.
3. Performance measurements will fall apart in mere sets of indicators when they cannot be related to a single 'bottom line' (in the commercial world this sort of incorporation can be seen in the Dupont Charts).
4. Decentralization in the organization is hampered when the separate units cannot be given concrete tasks related to the general organizational objectives.
5. Benchmarking (or mutual comparison, in general) of activities will be obstructed when those activities are not similar.

At the end of the day the absence of a single overall measure of performance entails that the management and control of input and rendered contribution will take place in separate evaluation frameworks. The former happens in the budget cycle of the governmental organization, the latter in the policy cycle of the specific policy area. As a result the accountability with regard to management control is breaking up into a measurement of the financial control (based on a comparison of allocated and used budgets), and a measurement of generated activities (in terms of intended and realized objectives). This threatening divide and its ensuing partial approach of weighing issues can be illustrated by the usual systems approach (input - processes - output), as presented in Figure 2.

When the measurement of input and output is based on two different evaluations the assessment of management control will divide into two measurements:

- *Input measurement.* The value of the input is reflected in the available budget, so that measurement will only take into account that budget. The efficiency of the management control is identified with the economy in the spending of the budget and the objective of increasing the efficiency is made equivalent to budget reduction.
- *Output measurement.* The value of the management control is limited to the objectives realized with the output and the effectiveness of management control is identified with attaining these objectives. The extent to which the activities undertaken have contributed to a certain effect is not taken into account. Represented in a diagram (Fig 3)

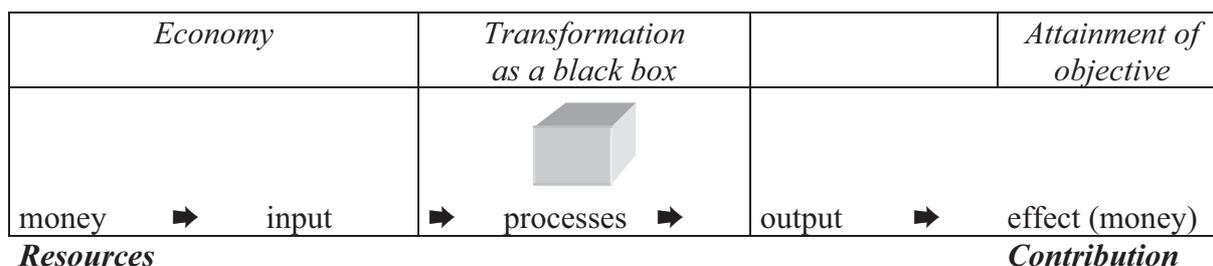


Figure 3: Economic behaviour in a governmental organization

In the following we will elaborate this divide and its consequences for management control in the defence organization.

3. Finance in military management control

The risk that assessment of management control on efficiency and effectiveness falls apart in two separate evaluations of the financial control and the military activities, is very real in the decision making on the Netherlands defence organization. After all, the decisions on the resources to be allocated are made while determining the National Budget, whereas the

contributions to be rendered are established in the NATO Defence Planning Process. An attempt to harmonize both these decision making circuits – complex as they are of themselves – is bound to run into many problems. The resulting shortcomings are, for instance, revealed in the calculation of the defence share in the national incomes of the member states. For the Netherlands, too, this share falls considerably short of the targets that have been established in NATO.

A good illustration of the isolated consideration of effectiveness and efficiency aspects in military management control can be found in the economy policy conducted in the first half of the nineties (Mol, 1995). After the – reduced - volume of the armed forces had been laid down in the *Defence Memorandum* (1991) and the *Priority Memorandum* (1993), a further budget reduction was imposed on the defence organization in the so-called November letter in 1994. Given the by now reduced volume of the operational units, this reduction could only be realized in the support units. Some thirty odd ‘task forces’ began to realize spending reductions in the budgets of these support units, laying down cuts in such activities as maintenance and logistic support, training and education, intelligence and research and accommodation and health care. These cuts were presented unreservedly as ‘gains in efficiency’ without further investigation into their effects on the actual combat power of the organization. In doing so, it was taken for granted that the effectiveness of the organization (in terms of motivation, quality and flexibility) would not be affected - and all this in spite of evident aversion these cuts appeared to encounter among defence personnel. For a sound decision making efficiency and effectiveness aspects should have been explicitly related. After all, a certain deployment capacity of operational units in terms of materiel and personnel can be seriously affected when the necessary support is undermined

The attempt to establish ‘result-responsible units’ in the defence Management Control Policy in the latter half of the nineties has failed to tear down the barriers between the resources and contribution compartments. Nevertheless, the evaluation of the allocation of resources on the basis of their output was the explicit objective of that policy. In order to achieve this, the application of contract management was to establish an unambiguous connection between the resources allocated and performance to be realized with them. This connection has not been established in the actual management contracts. As regards the performance to be realized, these contracts have been limited to inventories of performance indicators deemed relevant. However, so far, people seem to have been reluctant to introduce budgeting in terms of these indicators (Mol, 2000) There is no unambiguous responsibility of unit commanders for target levels with these indicators, nor has authority with regard to the allocation of means really been decentralized. It seems to be very difficult for the defence organization to make a definite choice for a management model. The traditional centralized model with its inherent bureaucratic decision making has by now been deserted, but the defence leadership seem to have second thoughts about the substantial decentralization that is at the heart of the result-responsible unit-concept. (*Sturingsconcept BLS*, 1999; cf. Heijnsdijk, 2000).

In our opinion it is this ambivalence that is hampering optimization at a centralized as well as decentralized level. Only an actual implementation of the drive for result-oriented management, widespread in public service, can effectuate a mutually coherent effectiveness and efficiency of management. In the next section we will describe how to achieve this implementation.

4. Efficiency and effectiveness in the armed forces

As is widely realized the management on ‘result’ in the armed forces faces the special problem that the operational employability of armed forces units can only with difficulty be translated into measurable results. In peacetime the actual result only consists of availability,

which in itself does not represent actual results. Crisis control missions are so frequently dominated by situation specific circumstances, that an assessment of their results remains precarious as well. Even if it can be established unambiguously whether and to what extent the ‘crisis’ – defined in whichever way – has been controlled, the contribution of the intervention to that control can still be open to discussion.

This has caused an extremely problematical relation between possible or actual effects of the activities of the armed forces and the allocation of resources for those activities itself. Most certainly so, in comparison with the business world that sells its products on a market and so gets immediate ‘feedback’ for the incurred expenses through the profits; but also in comparison with other public organizations, in which the performance measurement is less subjected to handicaps (such as the police, although, its activities are similar to the Royal Netherlands Military Constabulary, to a certain extent).

These limitations, however, do not imply there cannot be made a connection between resources and results at all. Even if the contribution of the resources cannot be defined in terms of the ultimate objective – the ‘causa finalis’ of the activities -, it can still often be expressed in intermediate targets as performance or activities. These intermediate targets consist of output or process indicators that can be seen as ‘causa efficiens’ of these activities. Control and assessment of the management on the basis of such intermediate targets have been schematically represented in the figure below.

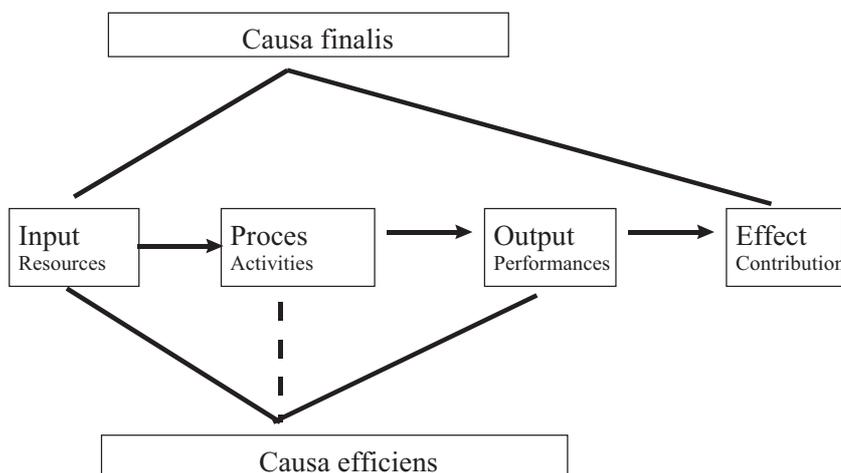


Figure 4: Intermediate targets

If it is impossible to make a causal connection between the activities rendered and the intended effects, the use of resources cannot easily be derived from these effects. In that case the use of resources and the matching result-responsibility will be based on the relation with the ‘output’ as intermediary management target. When the measurability of that output is defective, as is generally the case in the defence organization, that relation can be approached through an orientation on the activities [process indicators] (van den Hooven, 1999).

The key problem in determining efficiency and effectiveness in terms of those activities remains the question to what extent the indicators used can be deemed to adequately represent the intangible final objectives.

It goes without saying that in general the effectiveness of an organization must be measured on the basis of the eventual objective of its activities. Taking this as a starting point we could try to map the relevant aspects that determine the realization of that objective. To that end, Jägers and Jansen (1991), for instance, distinguish four criteria for measuring the effectiveness of an organization. The first criterion is the extent to which the demands and needs of the interested parties in the environment of the organization are met, in short satisfying

external demands. Following naturally from this is the second criterion, the extent to which an organization adapts and adequately reacts to its environment, the so-called flexibility of the organization. The third criterion concerns the way in which the needs of the internal participants are satisfied, the work satisfaction. Efficiency is the fourth criterion, which in this context refers to minimizing the claim on resources. Of course these four criteria mutually influence each other. Thus, the efficiency criterion will correlate negatively with other criteria. In the present tight labour market it proves to be difficult to recruit enough defence personnel and it seems the organization has trouble to present itself as an attractive employer. The criterion of work satisfaction is becoming increasingly more important for the effectiveness of the organization and it causes an increase in the labour costs as a result. When the willingness to make these costs is lacking, the recruitment of suitable personnel with the right qualifications is becoming more difficult which in its turn may affect the effectiveness of the defence organization.

The measurement of effectiveness in this sense will depend on the way in which the criteria are operationalized and the weight that is attributed to the distinctive aspects of the concept of effectiveness. The less concrete the final objectives are, the less relevance this measurement will have, making it all the more difficult to bring the use of resources unambiguously in line with the intended contribution. Especially in the defence organization this tuning is pre-eminently problematical, and a result-responsibility for the use of resources in terms of this ultimate effectiveness is beyond reach of the management there. However, in peacetime it is not the immediate deployment that is most important for the defence organization but only availability. Therefore the bulk of the defence expenditure is only related to that availability. An attribution of expenditures for the year 2000 to objectives, showed that an amount of almost 13 billion guilders out of a total expenditure of 14.2 billion guilders was related to availability (only 550 million guilders could be related directly to peace operations and international co-operation). In the allocation of resources it is this intermediate objective of availability that plays a prominent part.

With a view to this intermediate objective we can attempt to optimize the use of resources in the armed forces. The drive for efficiency and effectiveness expresses itself in the result-responsibility that is required of the units with regard to that availability. For operational units this responsibility can be described in general terms as the readiness of their personnel, materiel and operational readiness. A first initiative to quantify the availability is taken in the report *Operational employability of an F-16 squadron* (Visser, 2000). Here, operational readiness is divided into readiness of personnel and materiel. The readiness of personnel is subsequently specified with the help of indicators for 'proficiency' and 'realized training'. This initiative builds on an earlier – more theoretical – elaboration of the connection between means and contribution with the help of the 'value for money'-analysis (Van Slooten & Vijn, 1998). The amount of money required getting an F-16 ready for deployment was the central element in that analysis. This performance was subsequently broken down into economy, effectiveness and efficiency. This integral attribution of costs, however, does not yield any management information for alternative uses of the resources of production. In the short run the financial claim on the use of many resources is already fixed. The personnel costs, for instance, are largely unavoidable in the short term, as employees have permanent contracts. The alternative employment of personnel in terms of possibilities for use, however, can be influenced.

All the Services are currently setting up indicators for the readiness of personnel (manning, individual proficiency), readiness of materiel (employability) and degree of proficiency (operational readiness). At this moment the targets for both the operational as well as the support units are ready. Besides, the indicators for the operational units have been developed

and are being introduced. The indicators for the inter-service support units are still in the making, and their organization-wide introduction is scheduled for the budget for 2003. Based on these indicators the units to be sent out could, in principle, not only be assessed on their readiness of personnel and materiel but also on their actual suitability for the operation. Thus the availability can, up to a certain extent, also be made concrete in criteria for operational readiness. The resources to be allocated can be related to the contribution that is intended with this readiness. The ensuing task budgeting of result-responsible units enables their management on the basis of financial information with respect to the avoidable costs. Thus, the effects the handicaps in management control summed up by Anthony and Young (1999: 49-51) can largely be reduced .

5. Summary

In this article the role of financial information in the armed forces is discussed against the background of economic behaviour. Economic behaviour envelops the optimization of the relation between resources and contribution. If resources as well as contribution can be expressed in an overall criterion (money), a mutual tuning between the claim on resources and contribution can take place. In the armed forces the public contribution is in principle not traded on a market, so that the profits are not expressed in financial terms. The absence of this overall criterion makes it impossible to assess to what extent the claim on resources is justified by the contributions. Apart from that it is also very difficult to quantify the contribution of the armed forces in other terms and to link them to the claim on resources. This has led the present practice of the management control taking place in separated compartments of resources and contribution, where the concepts of efficiency and effectiveness have been degraded to economy and goal achievement, respectively. The creation of intermediate objectives allows a partial opening of the compartments. An intermediate objective par excellence is the availability of the armed forces in peacetime. A recent calculation has shown that approximately 91% of the expenditure is related to this intermediate objective. With the help of this intermediate objective efficiency and effectiveness can once again acquire meaning for the armed forces.

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