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Defense Accounting Control & Economics
Evidence from the Netherlands

Robert Beeres
Eric Jan de Bakker
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Introduction

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An economic interpretation of Dutch military expenditure 1990-2005

Erik Jan de Bakker & Robert Beeres

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Abstract

This contribution analyzes the Dutch defense expenditure from 1990-2005. In 1990 this still amounted to 2.7% of the Gross National Product (GNP), whereas in 2005 it had dropped more than a full per cent. In terms of their tasking, size and composition the Netherlands armed forces have changed drastically over the past fifteen years. This transition, however, is not reflected in the composition of the defense expenditure. The distribution over the operational commands as well as the expenditure categories, salaries, operations and investments have remained relatively constant. The expected economic growth, combined with a constant budget, will lead to a further decrease in the coming years. It is expected that defense expenditure will constitute 1.51% of the GNP in 2006. Based on present policy, this will come down to 1.36% in 2010.

Introduction

The present contribution describes the results of a survey of the allocation of financial resources by the Netherlands defense organization. We analyzed the development of defense expenditure over the past fifteen years and the expected expenditure for the coming five years. We concentrate on the period of 1990-2005 because it was one of great changes, in contrast to the period that preceded it (see Gaeda *et al.*, 2004: 240-241). The changes find their origin in the fact that, although the main tasks of the armed forces have not changed in essence, the activities that ensue from them have. The emphasis on defense against the Warsaw Pact was superseded after 9 November 1989 by peace support operations. After 11 September 2001 this was extended to include the fight against terrorism. Over the past years the Netherlands armed forces have transformed themselves from a large organization hardly ever put to the test into smaller expeditionary forces that are deployed almost continuously. This implies the use of less and different resources than fifteen years ago.

The paper is structured as follows. First, we explain our method of research. This is followed by an analysis of the totality of the Dutch defense expenditure over the period and a discussion of this expenditure in relation to the economic developments in the

Netherlands, defense expenditure in other NATO countries and the expenditure of other government departments. Third, we pay attention to the composition of the defense expenditure, as it is divided over its destinations (the operational commands) and expenditure categories. What follows is a look into the future, in which we analyze the possibilities for development of the defense expenditure and its composition. Finally, in the last section we present a summary of our findings.

Methodology

The analysis

Our analysis is mainly based on time sequences of the expenditures in various compositions. That is why it is useful to consider the basis of the figures presented in the article.

- The situation of the armed forces in 2006 is the standard. The organization consists of four operational commands: the Royal Netherlands Navy Command, the Royal Netherlands Army Command, the Royal Netherlands Air Force Command and the Royal Netherlands Marechaussee Command. The non-operational support is organized in across-the-board organizations: the Defense Materiel Organization (DMO) and the Support Command (CDC). As the management and control model adopted by the Netherlands armed forces is based on the assumption that the degree to which the support resources are used must be visible per operational command (and the authority over the degree of support lies with the operational commanders), the defense expenditure for support is allocated to these operational commands as much as possible.
- For comparison between countries NATO figures are used (NATO 2005: 1-10).
- Comparisons of expenditure within the government and the composition of the defense expenditure take place on the basis of annual reports and are in euros.
- Where real expenditure is presented, 1990 is the standard.

The figures

Unless indicated otherwise, the figures used in this contribution are based on the annual reports of the Netherlands defense organization. For the purpose of correct representation of the time sequences an inflation correction has been applied. There are several possibilities to do this, the most obvious method being the use of the figures applied by the government for the compensation of salaries and material expenditure. These are two different percentages, however. As in the defense organization there has been a shift over the past fifteen years from personnel to materiel expenditure due to the formation of agencies, the use of two different figures is complex. That is why it was

decided not to use these inflation figures, but to apply the consumer price index, as is done by the Central Bureau of Statistics (CBS).

The allocation of the expenditures

The defense organization has changed considerably over the past fifteen years, and the budget and the annual report have followed suit. Therefore, a presentation of the expenditure, in conformity with the annual reports, therefore has little meaning for the composition of the defense expenditure. It would be better to link the expenditure to the defined defense “products” (i.e., “readiness”, “deployment” and “civilian tasks”).

Year	Circumstance	Effect database
2006	Separation of materiel organization from the Services, establishment of the Defense Materiel Organization (DMO)	DMO sectors are distributed over the Services on the basis of their contribution to DMO. Salary, personnel and material expenditure and investments are placed
1997	Transformation of “shared service units” into Defense Interservice Command (now Support Command), units of the Services	The expenditures of the shared service units are charged to corresponding expenditure categories of the Services on the basis of the size of their person-
1996	Establishment of “shared service units” by the Central Staff	The “shared service units” are relocated to the Central Staff for the period of 1990-1996
1996	DGW&T becomes an agency	The DGW&T-expenditure is presented as material expenditure of the Services: 1990-1996 are adjusted by adding the annual expenditure to the material
1994	DTO becomes an agency	The DTO-expenditure over the period of 1990-1995 is allocated to the Services on the basis of the volume of their personnel
1990	Starting point: the Defense Telematics Organization (DTO) and Infrastructure Agency Group (DGW&T) constitute a part of	

Table 1 Framework for allocating expenditures to parts of Dutch Armed Forces

For this purpose, however, the accounting system is still inadequate. Furthermore, in the coming years the database on which the figures presented in this study are based will gradually be introduced. At the same time the arrangement of the budget and annual report will see an ongoing development. The 2006 budget already anticipates on this

situation, 'In accordance with developments in the field of client-supplier relations within the defense organization, the possibility of placing partial budgets for logistic support with the policy articles of the Operational Commands will be considered' (Tweede Kamer, 2005-2006: 14). These developments are meant to express the idea that the Operational Commands have "the money" with which they can supply the necessary funds for support. That is why it was decided to take as the starting point for the database an end state in which the use of support services by an operational command will be ascribed to that operational command. In table 1 the organizational changes and the method of processing in the database are indicated. As the reasoning here is based on the present (desired) situation, the survey begins with a representation of this situation and then reverses in time, as the changes were actually made.

Dutch military expenditure – comparisons

In this section we first analyze Dutch military expenditure for 1990-2005. Secondly, this expenditure is considered in relation to the economic development in the Netherlands. What follows is a comparison of the Dutch defense expenditure with that of other NATO members. Finally, the defense expenditure is compared with that of other government departments.

Defense expenditure- general

Prior to 1992 defense expenditure grew. The 1986 coalition agreement anticipated a real increase of 2% per annum, but in the coalition agreement of 1989 this growth was limited. In 1990 and 1991 defense was allowed to grow 0.6% and from 1992 onwards it was reduced to 0% (Tweede Kamer, 1985-1986: 30; Tweede Kamer, 1989-1990: 51). Then a period of decrease began, due to budget cuts resulting from the changed security situation and budgetary problems (Tweede Kamer, 1992-1993: 68). Table 2 shows that in real terms defense expenditure made a considerable drop, due to the so-called "peace dividend" caused by the coming down of the Berlin Wall (see Besancenot & Vranceanu, 2006: 23). Coalition agreements only indicate cutback targets. The actual realization and the determination of the direction the armed forces organization goes, is laid down in the Defense White Papers and Letters to the Secon Chamber. Here, the most important adjustments for the period 1990-2005 will be presented.

The *Defense White Paper 1991*, with its catchwords of “re-structuring” and “reduction”, was a first step towards smaller but more modern armed forces (Tweede Kamer, 1990-1991: 264), with its translation of the effects of the ceilings agreed between NATO and the Warsaw Pact. Besides, it proposed a new approach for land forces: forward defense in the German central sector, with its army corps sectors, was superseded by “reaction” and “main defense forces”.

Year	Nominal expenditure		Real expenditure	
1990	6,429,661	100%	6,429,661	100%
1991	6,431,484	100%	6,190,071	96%
1992	6,613,006	103%	6,137,685	95%
1993	6,290,718	98%	5,718,474	89%
1994	6,250,073	97%	5,532,158	86%
1995	6,089,205	95%	5,284,086	82%
1996	6,220,322	97%	5,286,843	82%
1997	6,311,405	98%	5,248,784	82%
1998	6,347,716	99%	5,175,473	80%
1999	6,804,472	106%	5,428,453	84%
2000	6,729,881	105%	5,232,891	81%
2001	7,192,188	112%	5,351,543	83%
2002	7,385,758	115%	5,314,868	83%
2003	7,403,905	115%	5,218,342	81%
2004	7,551,518	117%	5,259,270	82%
2005	7,693,175	120%	5,268,365	82%

Table 2 *Defense expenditure 1990-2005 in K€*

Two years after the *Defense White Paper*, the *Priorities Letter 1993* was published: the world was changing faster than had been foreseen two year before (Tweede Kamer, 1992-1993: 3). The most important event was the dissolution of the Soviet Union, which enabled the restructuring of the armed forces. Up to the publication of the *Priorities Letter* the size of the armed forces in times of war determined their organization. After the “falling down of the Wall” the effectiveness and immediate readiness of units for peace support operations became paramount. The transition to an all-volunteer army in order to generate a better deployability in peace support operations was initiated. The 1998 coalition agreement, with a structural cutback of M€170, brought the *Defense*

organization into quieter waters.

The 2000 *Defense White Paper* featured new adjustments and a reduction of resources. On the other hand, an expansion of standing troops was required, which meant a reduction of the number of frigates, F-16 fighter planes and tanks, which in turn led to a reduction of expenditure, along with revenues from the sale of these resources. At the same time new materiel projects were reduced in size and delayed. New helicopters would be commissioned later and quality improvements were postponed.

The 2002 *Strategic Accord*, aimed at a balanced budget and the attainment of a 1% GDP budget surplus in 2006, imposed efficiency targets on personnel of 4% for all government departments. Moreover, price adjustments were not compensated for, which increased the structural reduction to M€380 per annum (see first row in table 3).

Finally, in the *Prinsjesdag Letter* 2003 there was a reduction of M€380. However, in the previous years there had hardly been any room in the defense budget to counterbalance setbacks in expenditure (Tweede Kamer, 2003-2004a: 4). The cutbacks were realized in the personnel and material expenditure through a number of measures, such as the closure of Soesterberg, Twenthe and Valkenburg air bases, the disposal of operational units in Seedorf and the cutting of 9,000 jobs, particularly in the staffs in The Hague.

Year	2004	2005	2006	2007	2008
Reductions	255	300	350	380	380
Intensifications	78	108	148	168	168

Table 3 Financial reductions and intensifications 2003 in M€ per annum

In contrast to these reductions there were also so-called intensifications, laid down in the *Strategic Accord* and *Main Line Accord* 2003 (see second row in table 3; Tweede Kamer, 2003-2004a: 3). These intensifications were aimed at improving deployability in peace support operations and the fight against terrorism.

Defense expenditure, Gross Domestic Product and size of population

A comparison of a defense expenditure expressed in a percentage of the GDP, complemented by a comparison of per capita expenditure is an important indicator for the relative defense effort of a country (see Alexander and King, 2002: 292; Bae, 2003: 68; Beenstock, 1998: 173; Coulomb & Fontanel, 2005: 298-299; Davis, 2002: 153, 164; Grobar, 1992: 140; Kollias, 1995: 308-309; 2001: 597; Maneval, 1994: 224-225; Markowski and Hall, 1995: 97-98, 100; Matthews, 1994: 315; Percynski, 1995: 61; Ramos, 2004: 90; Roux, 2000: 156; Sandler and Hartley, 1995: 8-9; Sezgin, 1997: 386; Struys, 2002: 39; Ward *et al.*, 1991: 49).

Table 4 shows the development of the Dutch defense expenditure as a percentage of

the GDP. The norm of this percentage is widely considered to be 2%. This 2% is the average of European NATO members in 2003. In replying to parliamentary questions in 2003 the Government made the following comment in relation to this average, 'NATO has not expressed itself on a bottom line for quantity of materiel, although it does request its members that are spending less than the NATO average ... to prevent a further reduction and to strive for an increase in the budget' (Tweede Kamer, 2003-2004b: 3 and 7). It is possible to distinguish three periods in table 4.

1. The first period runs from the early to the mid-nineteen nine-ties, with sharply falling defense expenditure in real terms in a stagnating economy. Defense expenditure tumbles from 2.7% to 2% of GDP.
2. The second period runs from the mid-nineties to the change of the millen-nium. In this period the economy expanded steadily whereas defense expendi-ture remained stable. As a consequence, the percentage spent on defense fell from 2% tot 1.7% in five years, causing it to fall below the NATO norm of 2%.
3. The third period, from the beginning of this century, is characterized by a stagnating economic growth and a constant defense budget. This leads to a vacillatingly falling GDP percentage spent on Dutch defense activities.

Year	Expenditure as % of GDP
1990	2.7
1991	2.6
1992	2.6
1993	2.4
1994	2.3
1995	2.0
1996	2.0
1997	1.9
1998	1.8
1999	1.8
2000	1.7
2001	1.7
2002	1.7
2003	1.6
2004	1.5
2005	1.5

Table 4 Development of defense expenditure as % of GDP

Table 5, subsequently, shows that the Dutch per capita defense expenditure has decreased in real terms by as much as 30% over the past fifteen years. The nominal

defense expenditure has risen somewhat over this period. The explanation for this is twofold. First of all, the population has grown by 10% in this period. Second, real defense expenditure has fallen (see table 2).

The above developments can also be considered in an international context. Table 6 presents the development of defense expenditure for all NATO countries [we added Russia to enable a comparison], as a percentage of GDP, over the period of 1990-2005. The data are derived from an annual NATO publication. The order of presentation of countries in the table is from high to low on the basis of the 2005 percentage. The first column concerns the average percentage for the period 1990-1994. The second refers to the period 1995-2000. The other columns speak for themselves.

Table 6 shows that the percentages of the United States, the other nuclear states (France, Russia and the United Kingdom), Greece and Turkey, on the other hand, differ considerably with those of the other countries in that they are higher. If new NATO members are left out of consideration, the ranking of the Netherlands has hardly changed. This means that the smaller countries show more or less the same budgetary behavior. Incidentally, it can also be concluded that, within the “other countries-category”, the new NATO members are certainly not doing worse than the old ones. On the basis of table 6 especially Bulgaria and Romania seem to be putting their best foot forward.

Year	Nominal defense expenditure per capita		Real defense expenditure per capita	
1990	€ 432	100%	€ 432	100%
1991	€ 428	99%	€ 412	96%
1992	€ 437	101%	€ 406	94%
1993	€ 413	96%	€ 375	87%
1994	€ 407	94%	€ 361	84%
1995	€ 395	91%	€ 343	79%
1996	€ 401	93%	€ 341	79%
1997	€ 405	94%	€ 337	78%
1998	€ 406	94%	€ 331	77%
1999	€ 432	100%	€ 344	80%
2000	€ 424	98%	€ 330	76%
2001	€ 450	104%	€ 335	78%
2002	€ 459	106%	€ 330	76%
2003	€ 457	106%	€ 322	75%
2004	€ 464	108%	€ 323	75%
2005	€ 472	109%	€ 323	75%

Table 5 Development of per capita defense expenditure

The Minister of Defense, Henk Kamp, acknowledges that the Dutch percentage is

below the European NATO average. He stresses, however, that, when the nuclear powers and Turkey and Greece are left out of consideration, the Dutch defense expenditure as percentage of the GDP corresponds with the NATO average (Tweede Kamer, 2003-2004a: 6). Furthermore, he states that the Dutch defense policy of the past few years has been one of transformation, with a view to an increase in quality and operational output and reduction of overhead. In actual fact, therefore, the Dutch defense organization is performing better than can be supposed on the basis of the relation between defense expenditure and GDP (Tweede Kamer, 2003-2004b: 11). In fact, with his remark the Minister of Defense is pointing at the problem of a norm setting for the armed forces in terms of input, viz. defense expenditure as a percentage of GDP. Actual performance (ready units and deployment) of armed forces is left out of the equation in such norm setting.

As an illustration of the problems connected with input norm setting, table 7 presents the per capita defense expenditure in US dollars of the NATO countries over the period of 1990-2005. The table has been derived from the same source as table 6. The order of presentation of the countries is from high to low on the basis of per capita expenditure in 2005. So, as in table 6, there is a kind of “ranking”.

	1990	1995	2000	2001	2002	2003	2005
Turkey	5.2	5	4.9	4.2	3.8	3.1	3.2
Greece	4.4	4.6	4.6	3.4	2.8	2.9	3.1
Russia	-	3.1	2.7	3	3.3	2.9	-
Bulgaria	-	-	-	-	-	2.4	2.5
France	3.3	2.9	2.5	2.5	2.6	2.6	2.5
United Kingdom	3.9	2.7	2.5	2.4	2.4	2.3	2.3
Romania	-	-	-	-	-	2.1	2
Poland	-	-	1.9	1.9	1.9	1.9	1.9
Slovakia	-	-	-	-	-	1.8	1.8
Czechia	-	-	2	2	2.1	1.9	1.8
Estonia	-	-	-	-	-	1.6	1.7
Italy	2.5	2.1	2	2	1.9	1.8	1.7
Netherlands	2.3	1.8	1.6	1.6	1.6	1.6	1.7
Norway	2.5	1.9	1.7	2	1.9	1.9	1.7
Portugal	2.6	2.2	2.1	1.6	1.6	1.7	1.7
Slovenia	-	-	-	-	-	1.5	1.7
Denmark	2	1.7	1.6	1.5	1.5	1.4	1.4
Germany	2.1	1.6	1.5	1.5	1.5	1.4	1.4
Latvia	-	-	-	-	-	1.3	1.4
Belgium	2	1.5	1.3	1.3	1.3	1.3	1.3

Hungary	-	-	1.8	1.7	1.7	1.5	1.3
Lithuania	-	-	-	-	-	1.5	1.3
Spain	1.6	1.4	1.2	1.4	1.3	1.3	1.2
Canada	1.8	1.3	1.2	1.2	1.2	1.2	1.1
Luxemburg	0.8	0.7	0.8	0.7	0.7	0.7	0.8

Table 6 Development of defense expenditure as % of GDP NATO countries [Russia added for comparison]

First of all, it should be remarked that per capita defense expenditure is a less useful criterion for comparing countries of a different level of prosperity. The question whether Romania at \$46 is doing better or worse than the Netherlands at \$384 cannot really be answered. When tables 6 and 7 are compared, the relative scores of Bulgaria, Romania and Norway are striking. Bulgaria has a high ranking in table 6, taking a position in the top 5. In table 7 it ranks near the bottom. The same pattern holds for Romania. The rather low scores there are probably caused by a relatively low GDP. Norway scores average in table 6, together with the Netherlands.

Country	1990	1995	2000	2001	2002	2003	2004	2005
United States	1591	1187	1096	1063	1169	1317	1418	1377
Norway	717	650	651	654	774	734	734	671
United Kingdom	842	636	605	612	609	617	616	621
France	654	606	573	567	574	591	608	594
Denmark	505	470	448	470	462	448	445	431
Greece	410	394	505	492	382	323	348	386
Netherlands	473	388	375	383	378	376	383	384
Luxemburg	239	250	292	360	323	334	350	374
Germany	609	351	343	339	339	333	326	323
Italy	408	360	392	385	381	372	357	322
Belgium	434	319	311	297	286	288	293	293
Canada	389	311	270	283	281	285	290	290
Slovenia	-	-	-	-	-	-	167	189
Spain	197	175	174	173	196	185	186	183
Portugal	212	219	215	223	170	165	175	176
Czechia	-	-	112	109	114	124	117	116
Turkey	130	131	148	131	120	114	100	105
Estonia	-	-	-	-	-	-	85	100
Poland	-	-	81	84	83	88	93	97
Hungary	-	-	79	87	82	86	82	73
Slovakia	-	-	-	-	-	-	80	86

Russia	-	60	49	51	59	71	66	-
Letland	-	-	-	-	-	-	57	66
Lithuania	-	-	-	-	-	-	65	63
Bulgaria	-	-	-	-	-	-	47	51
Romania	-	-	-	-	-	-	45	46

Table 7 Development of per capita defense expenditure NATO countries [Russia added for comparison]

In table 7, Norway holds the second position, after the United States. This score is probably caused by a relatively small population. Table 7 is particularly interesting when it is seen as complementary to table 6, because it maps out the differences in level of prosperity. Once again, it is clear that a purely quantitative input norm setting is not ideal to compare countries. In the last instance, what matters is not the quantity of resources that a defense organization can bring to bear, but what is actually achieved with those resources. An output norm setting, however, is still behind the horizon, although the first steps in that direction have been made (see Van den Doel, 2004).

A second remark relating to the above tables is that NATO processes the figures of the individual countries. Not all the countries agree on what should be considered to belong to the armed forces and how it should be allocated. For instance, in countries in the French tradition, the gendarmerie is seen as a military unit. For Belgium NATO does not take the gendarmerie into account, whereas in the case of the Netherlands the Royal Netherlands Marechaussee Command is fully considered to belong to the armed forces. It is for these kinds of reasons, amongst others, that the Dutch Defense budget and annual report figures do not always exactly match those of NATO, which is why the treaty organization makes corrections on the individual country figures to make them comparable.

Defense expenditure and other government expenditure

When defense expenditure grows less than total government expenditure, Parliament – from an economic perspective – is of the opinion that spending an extra euro on defense is less useful than spending it on other government tasks.

Year	% Growth defense	% Growth government
1990	0.0	6.7
1991	2.8	1.5
1992	-4.9	4.1
1993	-0.6	-7.1
1994	-2.6	4.6
1995	2.2	-4.5

1996	1.5	5.4
1997	0.6	5.8
1998	7.2	6.0
1999	-1.1	7.4
2000	6.9	13.6
2001	2.7	2.2
2002	0.2	5.1
2003	2.0	0.1
2004	1.9	14.8
2005	0.0 %	6.7 %

Table 8 Development of growth defense and total government expenditure

Table 8 presents the growth percentages of defense expenditure and total government expenditure (national debt excluded) over the period of 1990-2005. It shows that the armed forces have not always been “on the receiving end”. However, for most years defense is clearly lagging behind with total government expenditure.

Government expenditure is diverse. Therefore, it is useful to look at expenditure development in comparable fields of policy. Of course all government departments are different, but there certainly are similarities. We have decided to compare fields of policy with similar tasks and expenditure character. The Ministry of the Interior as well as that of Justice and Defense are concerned with security. The former two ministries do this from an interior perspective, whereas Defense is outwardly oriented. The development of Interior and Justice expenditure is comparable; real expenditure for Interior have risen from €1.7 billion (1990) to €3.8 billion (2005); that of Justice went up from €1.9 billion (1995) to €3.8 billion (2005). In other words, both ministries have seen a doubling of their real expenditure since 1995.

Year	Ministry of Defense		Ministry of Interior & Justice	
1990	6,429,7	100.0%	3,674,7	100.0%
1991	6,190,1	96.3%	3,710,5	101.0%
1992	6,137,7	95.5%	3,830,4	104.2%
1993	5,718,5	88.9%	4,008,7	109.1%
1994	5,532,2	86.0%	4,464,1	121.5%
1995	5,284,1	82.2%	4,998,8	136.0%
1996	5,286,8	82.2%	5,053,3	137.5%
1997	5,248,8	81.6%	5,415,0	147.4%
1998	5,175,5	80.5%	5,499,2	149.7%
1999	5,428,5	84.4%	6,009,6	163.5%

2000	5,232,9	81.4%	6,522,7	177.5%
2001	5,351,5	83.2%	7,006,5	190.7%
2002	5,314,9	82.7%	7,180,6	195.4%
2003	5,218,3	81.2%	7,468,1	203.2%
2004	5,259,3	81.8%	7,480,3	203.6%
2005	5,268,4	81.9%	7,574,7	206.1%

Table 9 Development of real expenditure internal and external security M€

The rise is caused by intensifications in penitentiary institutions and the judiciary, the police and the asylum seeker dossier.

Year	Defense		Infrastructure	
1990	1,613,2	100.0%	759,5	100.0%
1991	1,478,8	91.7%	680,9	89.7%
1992	1,376,6	85.3%	695,2	91.5%
1993	1,112,0	68.9%	771,5	101.6%
1994	1,149,6	71.3%	2,259,5	297.5%
1995	991,8	61.5%	2,343,1	308.5%
1996	1,161,9	72.0%	2,578,8	339.5%
1997	1,141,2	70.7%	2,784,3	366.6%
1998	1,042,1	64.6%	3,561,5	468.9%
1999	1,180,0	73.1%	3,693,4	486.3%
2000	1,056,6	65.5%	4,019,4	529.2%
2001	1,000,9	62.0%	4,968,3	654.2%
2002	1,010,8	62.7%	4,919,3	647.7%
2003	917,9	56.9%	4,790,5	630.8%
2004	1,060,0	65.7%	4,097,4	539.5%
2005	1,062,1	65.8%	3,959,4	521.3%

Table 10 Development of real investments in defense and infrastructure in M€

The rise of expenditure for internal security is in sharp contrast to that of defense, as table 9 shows. It can be concluded that since 1990 relative attention for external security has decreased, whereas it has risen for internal security.

Table 10 compares fields of policy that have similar expenditure characters. In contrast to most fields of policy, defense has much expenditure for resources that last several product cycles. This expenditure can be termed as investments, with the proviso that, according to the European regulations for national accounts, procurement of military materiel may not be considered as an investment. A comparable ministry in this respect is that of Transport, Public Works and Water Management. A comparison of investments

for military purposes in table 10 with investment expenditure for infrastructure (e.g. roads, rail and dikes) shows that in 1990 investments in military resources was twice as high as that in infrastructure. In 2005 investments in infrastructure were four times higher than in defense.

The composition of Defense expenditure

In this section we first present a general overview of the changes in the composition of defense expenditure over the period 1990-2005. Subsequently, we focus on a number of specific expenditures: salaries, investments, material expenditure and finally the expenses for peace support operations.

Year	Navy	Army	Air force	Military Police	Total
1990	20.9	40.1	19.5	1.9	82.4
1991	21.5	38.4	20.2	1.9	82.0
1992	20.6	38.3	19.1	2.0	80.0
1993	20.1	37.4	18.4	2.3	78.1
1994	19.5	35.3	20.8	2.5	78.1
1995	19.4	34.3	22.1	2.7	78.6
1996	19.5	33.4	24.3	3.1	80.2
1997	19.9	33.3	23.5	3.5	80.3
1998	20.5	32.0	23.5	3.6	79.6
1999	21.0	32.9	20.8	3.6	78.3
2000	21.5	32.9	19.8	3.9	78.1
2001	20.9	32.9	19.5	4.2	77.4
2002	20.2	32.8	19.7	4.6	77.4
2003	20.9	31.4	19.2	5.0	76.4
2004	19.0	32.4	17.8	5.4	74.7
2005	18.3	32.7	18.2	5.3	74.4

Table 11 Percentage operational commands in total armed forces expenditure

Changes in composition, general

If the expenditures for operational commands are expressed in a percentage of the total defense expenditure (see table 11), it is clear that the distribution among these Services has actually remained relatively constant against the background of the previous changes of policy. In spite of a drastically decreased budget the percentage for the Royal Netherlands Navy Command and the Royal Netherlands Air Force Command has hardly changed; only that of the Royal Netherlands Army Command has decreased.

The only Service that has grown is the Royal Netherlands Marechaussee Command (in 1995: 4,000; in 2005: over 6,000 personnel). When, however, only the execution of military tasks is considered, this Command has actually become smaller. After all, smaller armed forces allow for a smaller military police. On the one hand, the growth of Royal Netherlands Marechaussee Command is caused by tasks carried out for other departments (which supply the necessary financial means). On the other hand, the execution of traditional non-military marechaussee and, therefore, defense tasks, such as guarding of the national borders, requires considerably more resources. This has gone at the expense of other, military, defense activities.

The old key for budget distribution, viz. 25% for navy, 50 % for army and 25% for air force, has been obsolete for years now. The actual distribution, however, has gone through a slow change. On the one hand, this is caused by character of the resources; after all, current personnel cannot just be dismissed and obligations entered into for investments can be of a long-standing nature when building and construction activities extend over a number of years. On the other hand, an explanation for these incremental changes can be found in the “championing of their particular Service by individual members of the leadership of the armed forces” (see Berlijn, 2004; Kreemers, 2006: 400 and 403).

Year	Salaries	Ope	Matex	Investment
1990	38.2	7.4	16.6	25.1
1991	37.6	7.9	17.2	23.9
1992	38.0	8.1	17.0	22.4
1993	39.4	7.8	16.7	19.4
1994	37.9	7.3	16.8	20.8
1995	39.6	6.5	17.9	18.8
1996	37.7	6.0	17.3	22.0
1997	37.4	5.6	18.6	21.7
1998	37.6	5.9	18.8	20.1
1999	35.5	5.4	18.5	21.7
2000	35.7	6.6	20.2	20.2
2001	36.1	6.3	20.2	18.7
2002	37.1	6.8	19.3	19.0
2003	38.5	6.5	19.0	17.6
2004	35.8	6.0	18.2	20.2
2005	34.6	6.7	19.1	20.2

Table 12 Percentage of specific expenditures in total defense expenditure

Table 12 provides a comparable picture with table 11 with regard to the distribution in terms of percentages of the defense budget in expenditure categories: salaries, other personnel expenditure (ope), material expenditure (matex) and investment. There are only minor changes over the period 1995-2005.

Changes in the composition, salaries

Over the period 1990-2005, the volume of armed forces personnel has been halved. Table 13 presents the changing mix of categories of personnel. Conscripts were phased out in this period and replaced by more expensive regular personnel on a limited contract (military lc). At the same time the number of unlimited-contract regular personnel (military uc) decreased sharply and the same holds good for civilian personnel.

Year	Civilian Personnel		Military uc		Military conscripts / lc		Total personnel	
1991	23,688	100.0%	52,756	100.0%	40,949	100.0%	117,393	100.0%
1992	22,965	96.9%	51,171	97.0%	39,084	95.4%	113,220	96.4%
1993	22,558	95.2%	50,966	96.6%	25,186	61.5%	98,710	84.1%
1994	21,625	91.3%	52,122	98.8%	24,756	60.5%	98,503	83.9%
1995	21,080	89.0%	53,334	101.1%	13,916	34.0%	88,330	75.2%
1996	19,357	81.7%	35,544	67.4%	19,765	48.3%	74,666	63.6%
1997	19,310	81.5%	34,207	64.8%	21,086	51.5%	74,603	63.5%
1998	18,806	79.4%	32,774	62.1%	21,969	53.6%	73,549	62.7%
1999	18,128	76.5%	32,080	60.8%	21,630	52.8%	71,838	61.2%
2000	17,891	75.5%	30,623	58.0%	21,140	51.6%	69,654	59.3%
2001	17,728	74.8%	29,673	56.2%	21,554	52.6%	68,955	58.7%
2002	17,862	75.4%	29,745	56.4%	23,722	57.9%	71,329	60.8%
2003	17,764	75.0%	28,265	53.6%	25,030	61.1%	71,059	60.5%
2004	15,247	64.4%	26,476	50.2%	22,994	56.2%	64,717	55.1%
2005	14,431	60.9%	25,565	48.5%	23,279	56.8%	63,275	53.9%

Table 13 Development of the volumes of various categories of personnel

In Table 14 salaries for the navy and the air force show a slightly decreasing tendency.

Year	Navy		Army		Air force	
1990	565,700	100.0%	1,252,642	100.0%	460,721	100.0%
1991	541,829	95.8%	1,171,943	93.6%	440,693	95.7%
1992	533,155	94.2%	1,145,544	91.5%	428,827	93.1%
1993	515,158	91.1%	1,086,001	86.7%	425,112	92.3%

1994	497,385	87.9%	983,680	78.5%	401,618	87.2%
1995	515,555	91.1%	962,444	76.8%	399,536	86.7%
1996	520,359	92.0%	922,762	73.7%	378,717	82.2%
1997	508,229	89.8%	911,191	72.7%	367,732	79.8%
1998	509,517	90.1%	888,169	70.9%	368,086	79.9%
1999	500,304	88.4%	872,259	69.6%	368,662	80.0%
2000	483,625	85.5%	840,843	67.1%	355,759	77.2%
2001	499,312	88.3%	852,124	68.0%	374,226	81.2%
2002	502,948	88.9%	871,644	69.6%	382,102	82.9%
2003	496,804	87.8%	889,579	71.0%	389,228	84.5%
2004	466,179	82.4%	830,019	66.3%	352,013	76.4%
2005	455,136	80.5%	790,479	63.1%	335,017	72.7%

Table 14 Development of real salaries for navy, army and air force in Ke

This decreasing trend is in reasonable proportion to the gradual decrease in volume. In the army, however, the real expenditures for salaries have fallen strongly, which is understandable in view of the great changes there: 35,000 conscripts were replaced by 10,000 regular personnel on a limited contract. Besides, the number of regular personnel has fallen by 10,000 since 1995. The disappearance of the lowly paid conscripts coincides with a strong rise in average annual salary in Defense between 1993 and 1995.

Changes in the composition, investments

There has been a lot of attention for the level of investments for many years now. It is not for the first time that measures were taken to boost the investment quota.

Year	Navy		Army		Air force	
1990	490,465	100.0%	598,233	100.0%	360,522	100.0%
1991	479,677	97.8%	492,447	82.3%	372,983	103.5%
1992	421,126	85.9%	472,452	79.0%	340,089	94.3%
1993	351,003	71.6%	395,069	66.0%	257,688	71.5%
1994	305,704	62.3%	352,367	58.9%	401,781	111.4%
1995	244,754	49.9%	258,910	43.3%	418,568	116.1%
1996	245,554	50.1%	289,488	48.4%	569,361	157.9%
1997	220,043	44.9%	329,713	55.1%	521,487	144.6%
1998	238,481	48.6%	263,487	44.0%	488,224	135.4%
1999	321,091	65.5%	392,311	65.6%	406,224	112.7%
2000	319,440	65.1%	320,056	53.5%	289,511	80.3%
2001	303,750	61.9%	326,359	54.6%	276,797	76.8%

2002	275,073	56.1%	289,091	48.3%	286,770	79.5%
2003	307,125	62.6%	212,552	35.5%	209,067	58.0%
2004	266,043	54.2%	347,518	58.1%	216,510	60.1%
2005	217,225	44.3%	351,869	58.8%	269,254	74.7%

Table 15 Development of real expenditure for investment in K€

Thus the 1993 *Priorities Letter* stated the following, ‘In the middle of nineteen-seventies it was decided to increase the quality of the Netherlands armed forces, which led to an increase in investment quota of 23 % in the period of 1975-1977 and 32% in the period of 1984-1986. After that it came down to the present level of 24 % in 1993-1995. The restructuring incorporated in the new plans will allow a recovery of investments in the second half of the nineties; the investment quota will rise from 23 % in 1993-1994 to 26 % in 1995 and 29 % in 1996-1998’ (Tweede Kamer, 1992-1993: 70).

For years now the good intentions have not been attained and reality shows an irregular pattern, in real terms as well as in percentages (table 15 and 16). Table 15 shows that investments in army materiel have kept up with navy investments, in particular. The difference between armed army personnel and armed navy personnel becomes clear. The peak for the air force can be explained by the F-16 Mid Life Update (MLU).

Year	Investment percentage
1990	25.1
1991	23.9
1992	22.4
1993	19.4
1994	20.8
1995	18.8
1996	22.0
1997	21.7
1998	20.1
1999	21.7
2000	20.2
2001	18.7
2002	19.0
2003	17.6
2004	20.2
2005	20.2

Table 16 Development of total investment percentage Dutch armed forces

As investments can be postponed (after all, their use cannot be measured) and expenditure cannot (current personnel has to be paid and materiel must be kept run-

ning), the latter was given priority in times of continuing spending cuts. In this context the Minister of Defense states in his 2003 *Prinsjesdag Letter* that, ‘the structural expenditure shortages have been covered at the expense of investments’ (Tweede Kamer, 2003-2004a: 3). At the moment the coalition agreement deems a 20% investment quota necessary and has taken financial measures to ensure this percentage is met. The last column of table 16 shows that this is indeed the case.

Changes in the composition (materiel expenditure)

The materiel of the armed forces changed between 1990 and 2005 in volume as well as composition (see table 17)

Materiel	1990		2005
Frigates	14	(and 8 under construction)	9
Tanks	913		110
Fighter jets	192	(and 21 to be delivered)	108
Armed helicopters	0		24

Table 17 Selection of armed forces materiel in 1990 and 2005

On the basis of table 17 it can be supposed that the relatively strong decrease of numbers of military systems should lead to a decrease in expenditure of material expenditure. This supposition, however, appears to be wrong. Table 18 shows that real material expenditure is remarkably stable, and there is certainly no ground for speaking of a “structural increase in expenditure”, as the Defense Minister does in his 2003 *Prinsjesdag Letter* (Tweede Kamer, 2003-2004a: 4).

Year	Navy		Army		Air force		Military Police	
1990	208,219	100,0%	497,766	100,0%	288,141	100,0%	10,134	100,0%
1991	226,462	108.8%	471,397	94.7%	295,812	102.7%	10,693	105.5%
1992	230,686	110.8%	455,214	91.5%	290,490	100.8%	11,153	110.1%
1993	199,022	95.6%	424,544	85.3%	264,993	91.9%	12,071	119.1%
1994	187,795	90.2%	411,553	82.6%	256,931	89.2%	16,097	158.8%
1995	205,991	98.9%	418,783	84.1%	265,820	92.3%	16,419	162.0%
1996	199,695	95.9%	406,204	80.6%	247,010	85.7%	18,057	178.2%
1997	264,621	127.1%	392,212	78.8%	264,621	91.8%	22,167	218.7%
1998	263,548	126.6%	386,770	77.7%	263,548	91.5%	24,069	237.5%
1999	266,795	128.1%	397,891	79.9%	266,795	92.6%	30,161	297.6%
2000	253,417	121.7%	407,024	81.7%	294,928	102.4%	36,967	364.8%
2001	246,693	118.5%	437,890	87.9%	296,684	102.9%	41,400	408.5%
2002	229,114	110.0%	440,004	88.4%	276,573	95.9%	43,859	432.8%
2003	221,030	106.2%	395,532	79.5%	305,426	105.9%	41,961	414.1%

2004	207,606	99.7%	391,004	78.6%	286,146	99.3%	44,511	439.2%
2005	228,221	109.6%	423,778	85.1%	268,089	93.0%	55,594	548.6%

Table 18 Development of real materiel expenditure of operational commands in Ke

However, when the term “structural increase” is applied to the number of material pieces of equipment, table 18 provides a basis for saying that the materiel expenditure per piece of equipment has indeed risen structurally. After all, a fall in the volume of materiel should show a decrease of expenditure in figure 18. In an economic sense there is a paradox with regard to the materiel expenditure. The decrease of the number of military systems, for instance, the number of jet fighters, tanks or frigates, causes a decrease in expenditure. The expenditure per remaining item, however, increases, as a basic infrastructure, including know-how, spare parts, tools, have to be sustained. Similar systems often require comparable infrastructures (the engines of a plane and helicopter are often very similar and combined maintenance can lead to cost reductions). When the number of jet fighters decreases, and with it the number of engines, the costs per remaining jet or helicopter will increase

The following reasons can be given for the structural increase in materiel expenditure.

- *In particular stocked but not used materiel was disposed of.* This effect mainly occurred within the army. Mobilizable and stocked items, which needed little maintenance, were disposed of. Army materiel which was actually used and caused expenditure was retained overall.
- *Materiel ages and requires more and more maintenance.* This is the problem which is known in the German armed forces by the term “Teufelskreis” – Devil’s circle. Materiel ages and requires more maintenance, which puts a strain on investments, which in turn makes the equipment in use age even more, etcetera. This may very well have happened with the aging jet fighters of the air force and transport equipment of the army. This reason, however, cannot serve as an explanation for the absence of a decrease of expenditure for the Navy. Most types of ships were superseded before the end of their economic lifespan and for new types a lower materiel expenditure is always expected (see Tweede Kamer, 2005-2006: 13).
- *The changing activities (peace support operations) cause higher expenditure.* In particular in the army the use of materiel has changed in that it is no longer used any more for the North German plain, but in completely different circumstances in crisis control operation. This can have a rising effect on maintenance.
- *Policy changes: contracting out maintenance.* In actual fact this does not mean a rise in expenditure but a shift of salaries for own personnel to materiel expenditure. An example is the maintenance of wheeled vehicles in the army. The workshop has been closed and the maintenance of trucks, in peace circumstances, is outsourced to

Scania. Another example is the contracting out of the long-term maintenance of ships to a private wharf and allowing private companies to do activities on the navy wharf that were previously done by navy personnel.

Changes in the composition, peace support operations

The defense expenditure for peace support operations are calculated per operation and fall outside the normal budget and expenditure pattern.

Year	Additional expenditure	Growth %
1990	1,609,6	100.0
1991	20,624,7	1281.4
1992	78,843,5	4898.5
1993	119,312,3	7412.8
1994	111,404,4	6921.5
1995	91,063,7	5657.7
1996	107,667,0	6689.3
1997	83,529,2	5189.6
1998	87,143,1	5414.1
1999	194,472,5	12082.4
2000	158,517,0	9848.5
2001	144,517,0	8978.7
2002	128,025,0	7954.1
2003	179,666,0	11162.5
2004	177,842,0	11049.2
2005	162,141,0	10073.7

Table 19 Additional expenditure peace support operations in Ke

The additional expenditure is caused directly by the operations and (therefore) has an irregular pattern, shown in table 19 for the period of 1995-2005. The peaks in 1993, 1996 and 1999 coincide with the relatively “large-scope” missions in the Former Yugoslavia (United Nations Protection Force [UNPROFOR], Implementation [IFOR] and Stabilization Force [SFOR] and the Kosovo Force [KFOR], respectively). The 2003/2004 peak is caused by expenditures related to the operation in Iraq: Stabilization Force Iraq [SFIR].

A look into the future

The data presented so far are mainly based on actually realized expenditures. In this section we will devote some attention to the long-term figures 2006-2010. These figures have the present policy - founded in the Government agreement and the (updated)

Prinsjesdag Letter 2003- for a starting point. The present policy has led to relatively large cutbacks over the past few years in particular. The 2006 budget amounts to €7.74 billion and the 2010 budget will come down to €7.63 billion (price level 2005). A difference of less than 2 percent. The conclusion is that the Netherlands is expected to have the same Defense expenditure every year.

When the budgeted expenditure for 2006-2010, based on the 2006 budget, is considered for its composition, it is clear that there will not be any major changes, compared to the 2005 expenditure. This is of course caused by the fact that the long-term figures have the present policy for a starting point.

Commands	2005	2010
Navy	17.0%	15.8%
Army	30.9%	29.1%
Air force	17.1%	17.4%
Marechaussee	4.9%	4.8%
Other. A.o. pensions	30.1%	32.9%
Total	100%	100%

Table 20 Distribution defense expenditure over commands

This is true for the distribution of expenditures over the various Defense units as well as for the various expenditure categories. In table 20 and 21 the expected situation for the year 2010 is compared to that of the real situation in 2005. With regard to table 20 - the percentages relating to the operational commands - it must be said that they also include the service and support units (DMO and CDC), in accordance with the approach used hitherto in this article.

Commands	2005	2010
Salaries	34.6%	33.9%
Other personnel expenditure	6.7%	5.5%
Material expenditure	19.1%	17.7%
Investments	20.7%	22.7%
Other expenditures	19.9%	20.2%
Total	100%	100%

Table 21 Distribution of defense expenditure over specific expenditures

Table 21 compares the long-term data in terms of percentages of the expenditure categories. Here, too, the changes over five years are minor. If the plans are realized, there will be an increase in investments of 10%. This, however, supposes a decrease of expenditure for personnel and materiel.

Above, we have indicated that the GDP is used as a standard for comparing countries. In table - the second row – the expectations about the growth of the Dutch GDP for the period of 2006-2010 by the Central Bureau of Statistics (CBS) are summarized.

Growth expectations	2006	2007	2008	2009	2010
GDP growth %	3.0%	2.75%	2.0%	2.0%	2.0%
GDP growth %. incl. margin	2.75%	2.5%	1.75%	1.75%	1.75%

Table 22 GNP expectations

The expected growth in the first row of table 22 is mainly caused by the increase of labor productivity as a result of a rising capital intensity. In the second row a safety margin of 0.25% for the economy is used, in accordance with custom in the past few Cabinets. When this safety margin is taken into account in the expected growth and a comparison is made of those growth percentages, a future picture of the development of the Dutch Defense expenditure can be presented in table 23 shows that the expected defense expenditure in 2006 amounts to 1.51% of the GDP. This percentage, in the present policy, is expected to fall to 1.37%. On the basis of these data a number of calculations can be made. One example: if we do not want to fall below 1.5% the 2010 budget must be increased by M€800, on the basis of the 2005 price level.

Year	Expenditure as % of GDP
2006	1.51
2007	1.48
2008	1.43
2009	1.40
2010	1.37

Table 23 Development of Defense expenditure as % of GNP 2006-2010

The wish not to fall below a certain level may be partially psychological, but certainly also relative with regard to the neighboring countries. Eurozone expectations, as indicated by the CPB, do not go beyond 2007, when the growth is estimated to be 0.75 % lower than in the Netherlands. If this trend continues it can be supposed that the Netherlands armed forces will drop further below the average for European countries than others.

Summary and conclusion

This paper has analyzed Dutch Defense expenditure from 1990-2005. Prior to the dissolution of the Soviet Union the most important task for the defense organization

was the defense of the national and alliance borders. It required a large number of mostly static units, mainly ground forces. With the disappearance of the threat from the Warsaw Pact the defense organization faced the challenge to transform the armed forces. The objective was to create smaller, more flexible and effective armed forces that could be deployed at immediate notice in peace support operations. The period also shows a strong decline in defense expenditure, the so-called "cashing in of the peace dividend".

When the defense expenditure is related to the GDP, a gradual decrease over the past fifteen years becomes evident. In 1990 defense expenditure still amounted to 2.7% of the GDP; in 2005 this was more than 1% lower. Dutch defense expenditure has fallen by as much as 20% over a period of fifteen years. When the annual changes of these expenditures are compared to the year-by-year changes of the total national expenditure (corrected for national debt), it cannot be concluded that the Defense organization has always footed the bill. There have also been years that the percentage of under-expenditure for the national budget was higher than that for Defense. The reverse, however, did not occur. A comparison with the expenditure of similar ministries indicates that defense lagged behind there. Internal security has been deemed relatively more important since 1990 than external security. Investments in infrastructure have been considered more important than investments in weapon systems.

Although the Netherlands armed forces have changed considerably over the past fifteen years, in terms of execution of tasks, size and composition, this change is not reflected in the composition of Defense expenditure. The distribution over the operational commands as well as the expenditure categories, salaries, expenditure and investments has only been adapted gradually.

The expected growth of the economy, combined with a constant Defense budget, will lead to a further decrease in the coming years. The expected Defense expenditure for 2006 will be 1.51% of GDP. In the present policy this percentage will be 1.36% in 2010. On the basis of these expectations it is possible to calculate that when a Defense expenditure of 1.5% of the GDP is considered acceptable, the 2010 budget will have to be raised by M€800, on the basis of the 2005 price level.

Finally, it must be said that paper has only looked at the volume of financial resources the Dutch government has made available to its armed forces, in relation to the totality of materiel or personnel. Such input indicators are especially suitable to express the size of armed forces. However, with the present technology and expeditionary character of military operations, size says less about their actual output. For the armed forces the relation between input (the expenditure) and what is actually achieved (ready units, actual deployment and civilian tasks) is not clear per se. Subsequent research will therefore be directed at this link between expenditure and Defense output.

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Quality or Quantity: that is the Question

An interview with Col F Groen (RNLAf)

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Introduction

The Dutch Armed forces have seen an enormous change during the last fifteen years. Peace keeping and enforcing have become the major tasks. The amount of troops and equipment has dwindled, so did the yearly budget. The decline of military means is defended by the thesis that “quality is more important than quantity”. Down-sizing the means did not diminish the budgetary constraints however. Due to the new missions, ammunition has to be replenished in a higher rate and military means are wearing out quicker than expected and are in need of extra repair.

The Dutch Ministers of Finance and Defense, Wouter Bos and Eimert Van Middelkoop, respectively, are debating this year’s budget for the Armed Forces. Wouter Bos is adversary as to additional financial support to the Netherlands Defence organization, while Eimert Van Middelkoop, on the other hand, aims to prevent imminent shortages. Should Van Middelkoop fail to obtain the requested financial support, it is expected, a financial gap of 120 million euros will be the result. Against this background, the main question of our interview is “whether many simple, cheap, weapon systems can achieve more than a few complex and expensive weapon systems?” To answer this question, we interviewed Colonel Groen. He has a technical background and is the Director Material Management & Coordination in the Policy Directorate for Materiel of the Defence Materiel Organisation, responsible for preparing and managing the information on defence materiel matters for the National Armaments Director. Next to this his branch provides impartial information and advice on the main armament projects for the NAD, State Secretary and Minister. His answers increased our understanding of the complexity of the renewal of weapon systems.

According to you, why does the theme of “quality versus quantity” seems to constitute a major issue in the Dutch armed forces?

“First of all the expenditure for new equipment is still rising. This means that with the

available budget we can buy less. Secondly, the budget has diminished considerably, so there is less money for replacement. Thirdly, the expeditionary operations are different from those in the cold war period. This means more losses and the wear of material is different and more costly to repair. So equipment has to be replaced more often. These elements together make quality versus quantity a big issue.”

What does the usual decision-making procedure concerning the acquirement of new weapon systems look like?

“In the past, procedures were relatively simple. The available budget was distributed among the various services. The Army obtained half of it, and the Air force and the Navy were to share the other half. Within their mandate the services were free to decide how they would spend their money. Nowadays, Commanders of the Services ceased to exist, tasks are intertwined and operations are joint. This means that everyone has to cooperate and is dependent on each other and equipment investment programs of Navy, Army and Air force have to be coordinated. This is the reason we actually have only one single equipment investment program for which the allocation of money is proposed by the Chief of Defence.”

Do you think that the current way of decision-making is adequate? If not, what kind of adjustments would you like to carry through?

“Decision-making process for investments, the Defense Material Process, is evaluated every five years, but the changes are not always dramatic. Generally, changes are related to aspects that did not function as they were supposed to. This year’s evaluation has just taken place and the House of Commons conveyed some adaptations. Compared to other Ministries within the Dutch Government, The MoD is actually functioning quite satisfactory.”

The last fifteen years the budget for Defence has been cut gradually. For some time now, we spend less than 2% of GDP on Defence, which is the recommended percentage by NATO. This does also influence the amount of materiel we can buy. What is your opinion about this?

The defense policy and the goals of the armed forces require means whose costs are beyond the ability of the budget to sustain. We do not get enough funds for the tasks we are being asked to do. Although I don’t like this at all, we have to face the facts. We live

in a welfare state, which means that a lot of the tax-payers' money is also at the disposal of the departments of Education, Health and Justice. It is not realistic to think that in future there will be more funds available to the MoD. This means, that we will have to do our job with the available money. If in the end not every task can be carried out, some tasks will have to be cancelled. For instance, we may be able to participate in just two missions, instead of in three and will not stay longer than planned. Of course, we have to work as efficiently and purposeful as possible, but efficiency gains are limited. It is our intention to conduct our mission in Afghanistan for a period of two years. Although for an organization like the armed forces, participating in a mission might be the best training we have to keep in mind that you can not repeatedly send your people away and certainly not for too long. That is why we can not stay there much longer. People do not want to go there more than twice in a short period, mainly for reasons that have nothing to do with money. Probably, we could stay on a bit to wait for another country to transfer our tasks, but what happens if there is no country willing to replace our forces? Bear in mind that if we would leave without replacement, all our efforts will have been in vain. At the political level we have to play it hard and make sure other countries will take our place.

According to you, should the Dutch MoD invest in high-quality goods (in-depth investments) or should they expand their capacity (breadth-investments)?

“Vietnam is maybe the best example of winning a war with a minimal amount of weapons. Afghanistan is different. The coalition forces rapidly acquired supremacy due to our high-quality systems. But in a simple environment simple people require and use simple weapon systems and the other way around. In order to be able to anticipate in an adequate way you need to be aware of the skill and possibilities of your adversary and the way a certain conflict might develop. Nowadays, in Afghanistan a lot of high-quality systems were brought in which at the start perfectly suited to the mission, but things may change overnight. Simple verge-bombs can easily destroy more sophisticated systems and thus may have an enormous impact. I do not think it would be useful to return to the use of simple systems, but since we can not afford all the complex systems we have to find the right balance between the two extremes.

For the use of complex high-quality systems in the future, it would be useful for nations both within NATO and the European Union to work together. Such cooperative alliances could facilitate task specialization, under the condition that the levels of mutual confidence are adequate. Already, some of these inter-organizational alliances exist, such as NATO AWACS and the European Air Group or to be established: the NATO Airlift Management Organization, a transport pool with C-17's.

To specify quality you need to measure output, which is quite difficult. Besides, the media not always give the exact information about the status of the armed Forces. In order to stay up to date, the investment-quote has to be at least 20% and at the moment we are at 21.7%, which is quite good! It is good to keep the future in mind, while considering specific investments. For instance, we should only buy or design systems that are easy to maintain and therefore in the long term will save money. This probably also would facilitate updating so the system could stay in service for a longer period. At the moment, the tendency is to decrease the demands, which results in fewer purchases. It might be better to aim at more cooperation in order to decrease the national amount of purchases instead of diminishing the demands.”

Considering this, what is your opinion about the JSF-project investment?

“I think the Netherlands took the right decision to participate in the development of the Joint Strike Fighter. The expenses are already almost met by the profits for the Dutch economy. If the Netherlands will cease to participate, countries like the United States of America will not use the Dutch industry. With exception of building ships the Netherlands is not able to build complete weapon systems anymore. Therefore the only way in which our industry might benefit is to cooperate with industries in other countries. For example France, Germany or the United States, countries who design and produce a lot of systems for their own use. When considering the quality and quantity in other countries, Germany is a solid partner, France is doing well too. The United States has a lot of purchasing power and buys a big amount of equipment which has a positive effect on prices and also sustainment. Besides, the USA is powerful and able to push things and even when cooperating with others, is always leading in decision-making processes. However, since The Netherlands enjoy a good reputation because of knowledge and pragmatic approach many demands and proposal are taken into account.”

Do Navy, Army and Air Force decide themselves what quality equipment should have?

“No, not really. In fact the Chief of Defence is making the propositions. What is important though, is what defense related industry has to offer. And especially what Dutch industry with firms like Philips and Stork can mean for our equipment needs in the future. If these companies are interested in making quality armament and or sub-systems and want to be a player at this very difficult Market, only by European or even global consolidation and enlargement they might be able to survive at the military field and might be able to support our armed forces in fulfilling their needs.”

Is it possible to view quantity and quality apart from one another?

“This mainly depends on the situation. During humanitarian operations like in Congo, there is more need for helicopters and simple terrain vehicles than for expensive and complex systems, such as F-16. Quantity and quality are thus linked to the type of operation and can not be seen separately, especially not during the (re)construction period. Often, we see that the special transport requirements outrank the value of the equipment which is necessary to conduct the operation. This means, sometimes it is actually more profitable to purchase and sell such systems locally.”

Conclusion

The main goal of this interview was to get information about the topic quality versus quantity. Colonel Groen states there is definitely a link between quantity and quality. It is a fact, though, that in some cases there is more need for simple, cheap systems than there is for the complex one. Remember the given example of the differences between Congo and Afghanistan.

To decide whether to buy the cheap, simple systems or the complex and expensive ones is difficult, and sometimes dependent on the rules and statements of the government or the European Union. Sometimes parties have to co-operate to achieve mutual objectives.

To conclude, it depends on the situation and on the rules made by different organizations or governments, whether it is better to have or invest in the simple, cheap weapon systems or in the complex and expensive weapon systems.

Investing in Defense: how much is enough?

An interview with Colonel THW ten Haaf (RNLAf)

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Introduction

The Dutch Minister of Defense, Eimert van Middelkoop, aims to maintain investments at a high level. But, how much should be invested in the Armed Forces? And ... how should the available money be allocated?

The Dutch armed forces operate under difficult and ever-changing circumstances. Therefore, making the right investment decision is a complex process. Due to changing circumstances the need for certain weapon systems might change. It is not unlikely that weapons just bought, might not be of much use in five years time. The following interview with Colonel ten Haaf, tries to shed some light onto the above mentioned questions.

What makes you the best candidate for our interview?

“I am working for the Chief of Defense (CHOD) at the Central Staff. Among other things, the CHOD as the NL defense corporate planner is responsible for directing NL defense planning (e.g. allocating budgets and setting priorities for investment programs) and it is my job to provide him with propositions about the allocation of investment money for the navy, the army, the air force, the marechaussee and the supporting defense organizations DMO and CDC. The final decisions on where and when to invest are made by our political leadership within the political council. I think, considering the fact that trying to find the correct balance of investment possibilities is my daily work, I am well suited to answer your questions. I am not claiming to be the best candidate; I am one of the candidates that has knowledge of the matter.”

For years the policy has been: quality over quantity. This has resulted in a large reduction of materiel and personnel. Over the past years, has quality in the armed forces actually increased or decreased?

“These challenges are solved in a dynamic manner. We stand for quality, instead for

quantity. For example, we used to have 30 Apache helicopters. The upcoming renewal program would be too expensive to upgrade all Apache helicopters. Therefore, we downsized our Apache force to 24 helicopters. This way, we still kept a decent amount of helicopters and we can apply the necessary upgrade programs to all of them. As a result of the focus on quality instead of quantity we were able to allocate enough investment funds to allow for the purchase of much needed new equipment that is now entering the NL armed forces (e.g. new infantry fighting vehicles and new NIMCIS C2 system for the NL Marines). We also strengthened our expeditionary and logistic capabilities with systems like the second LPD and new trucks that can drop-off and pickup loads (*wissellaadsysteem – in Dutch*). All in all the quality of our armed forces has increased and this process is ongoing.”

The Dutch government has decided to participate in the Joint Strike Fighter (JSF) project. If the plans pass, this will require an enormous sum of money to invest in Defense. However, technology is improving rapidly. It can be expected that unmanned aircraft, already in the air, will have great capabilities in the future. According to you, why should we keep on investing in ‘old’ technology?

“At this moment, we are flying F-16 fighter planes. If we keep using these planes, it will cost us a lot of money in the future to maintain, because planes are getting obsolete and technology is becoming outdated. So we have to replace them.

The advantages of unmanned aircraft are:

- They can fly over a much longer period of time than manned aircraft;
- They are already being used in Afghanistan and have proved to be a success in their reconnaissance and surveillance role.

It is a misconception to think that flying those unmanned planes is a lot cheaper than manned ones. We will still need as much personnel as a normal squadron, like operators, maintenance workers and people processing the information that a UAV provides. Another disadvantage is that there is still not a UAV that can carry the amount of sensors, weaponry and self defense equipment that a manned system is capable of. The development of these so called Unmanned Combat Air Vehicles (UCAV's) is still in its infancy and a credible operational UCAV capability is still far away in the future.

The relative effectiveness of UCAV's has to be decided by considering the alternative. The advantages of the JSF are:

- It is an air vehicle with stealth characteristics that can carry a whole array of sensors and weaponry;
- It has more capabilities in the air to air and air to ground role;
- The fighter pilot can, when confronted with a fluid battlefield and quick changes in

the tactical environment, make more rational and effective decisions ('the man in the loop').

I think weighing pros and cons, the JSF at the moment is still the best project of those two, because the advantages of the unmanned aircraft are less than the advantages of the JSF. Probably, the next generation of unmanned combat aircraft will turn the scales but that is still a long way ahead."

How do you determine the necessary investments knowing armed forces have to operate in a dynamic environment?

"Planning for future capabilities is not easy, for several reasons. Firstly, if you need certain weapon systems you have to start planning 10 to 15 years ahead, due to design and construction time. Therefore, our investment plans go years into the future. Secondly, the future capabilities needed may change because we might be operating in theatres not foreseen or are confronted with new types of threat. Thirdly, the amount of money available for investments in the future is not a fixed amount. A new political coalition might agree on different defense priorities and a different defense budget. Consequently funds allocated for defense expenditures will change and this will affect the investments in weapons too. Finally, for large investments, like in a new type of frigates or fighter aircraft, political arguments decide where and when to invest. Considering all those uncertainties, plans are changing constantly. But I think we are able to cope with these uncertainties quite well. We have set a baseline of having an investment quote of minimal 20% within the defense budget."

It's important that the armed forces have the capability to react fast in a changing environment. Wouldn't it be easier to buy 'of-the-shelf' products?

"We buy "of the shelf" if that offers value for money in providing the required defense capability. But we have to ask ourselves also if there is extra value if we participate in the development of military capabilities. The best example or participation is of course the JSF. I think it is essential to participate in the development of that aircraft. It is good for the armed forces because it gives us a certain amount of influence regarding the development of the aircraft and it enables us to buildup experience and knowledge of such a complex weapon system and all its subsystems. This will certainly facilitate the operational introduction of the aircraft. It is also good for the Netherlands because it stimulates the Dutch aerospace and high technology industry and the extra work is good for employment in our country. The same reasoning can be found in the successful

cooperation of our Navy with the NL ship industry.

We should realize, however, that early participation in development projects has a lot of benefits but also comes at a price. Since early participation is not only beneficial for the armed forces but also for Dutch industry, we should expect the Dutch industry to pay for the additional costs of early participation as well.”

The Dutch armed forces have a wide array of weapons that can be used throughout the whole spectrum of violence. Should we not specialize ourselves and limit the amount of tasks we can do?

“No, we aim at providing overall quality whether it is in the high end or in the low end of the spectrum. Focusing on one or a few segments of the armed forces will cause other areas to be neglected and this will be damaging to the overall capabilities of the output of the armed forces. Furthermore recent operations in Iraq and Afghanistan clearly show that there is no strict division along spectrum lines anymore. Within the same theatre troops are confronted with an environment that ranges from humanitarian operations to the highest levels of violence often at the same time (‘three block war’). They must have the proper capabilities to be able to operate effectively in such a fluid and wide changing environment. Otherwise it affects their credibility.”

Certain political parties intend to additionally cut the budget of the Ministry of Defense. NATO wants member states to follow the guideline of spending at least 2% of the national income. The Dutch are already contributing less. If additional budget cuts are made, will we become the laughing stock of our allies?

“No, I don’t agree. I recognize the strain on the NL defense budget, but despite the budget cuts in recent years our country has been able to participate in the top of the NATO members. Although we are below the 2% NATO benchmark we are still in the top ‘8’ of NATO countries with an investment quote of 20% or more. Also we are smart investors by investing not in ‘in place forces’ but in expeditionary forces and capabilities. Capabilities the NATO is in desperate need of. Straining our budget has no effect on how we are perceived in NATO.”

It’s the output that counts. In the recent NATO Multilateral Examinations we were complimented for our contribution to NATO operations and the quality of our Defense Plan.”

Our Leopard 2 tanks have seen actual action maybe once during their life. Since they are not being used, what's the point of having them and keeping them up to date?

“It's important for our armed forces to be diverse and flexible. Embarking on a major land operation in some cases would be unthinkable without the maneuver capability and firepower of tanks. Having little use for materiel now does not mean we will not need it in future operations. A clear example of this is the role of artillery. The role of these assets was often questioned in recent years. Now we see the value of employing the Panzerhaubitze in Afghanistan. Simply stated, we are not discussing the value of having a fire brigade although it remains most of the time in the fire station.”

Conclusion

The amount of money the Dutch armed forces receive for investment depends on the support of the public and political choices that are made. If the public thinks that the armed forces are important and the politicians see the added value in employing NL armed forces to reach political goals then there is the best chance of getting an increased budget for Defense. Nevertheless the amount of money defense gets is depending on political priorities. Instead of hoping for more funds we need to make optimal use of the funds available now. This implies that choices have to be made. Do we choose to sell 6 Apaches to fund the renewal program for the other 24 or do we keep them with the consequence of having to provide for additional Apache investments? Do we have to invest in the JSF or in a new large program of unmanned aircraft? With a constant budget selling hardware to lessen the strain on the budget and to provide for the required operational capabilities is inevitable. For example, by selling our M-frigates to Chili and Belgium, the Royal Netherlands Navy freed funds for buying a logistic support ship and operational patrol vessels with which it will be better suited for its role in supporting land and coastal operations (brown water operations). We conclude that the question ‘How much investment is enough?’ is not a question of simply looking at figures. Looking at figures alone does not cover the real question when it comes to making the proper investment choices for our armed forces. The real question is: How much do I invest and in which capabilities in order to be able to deliver the requested defense output at the correct time? The answer to that question is not simple. It requires an analysis of future developments and threats, a clear strategic vision and an in depth look at the whole chain of required essential operational capabilities. The output of this has to be matched with given budgets. Given all this there is still the need for flexibility in planning given the fact that there always will be uncertainties while looking in the future.

An economic analysis of peace keeping and peace enforcing

Nico Mol

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Abstract

By means of the economic analysis of strategic behavior it is attempted to elucidate the decision making on peace support operations of the armed forces. The analysis reveals that the choice between peace keeping – based on the supposed agreement of the parties involved in the conflict - and peace enforcing – on the basis of escalation dominance – is systematically distorted by the “collective good character” of the intervention. Besides, the implicit economic-game theoretical interpretation of many conflicts as a problem of communication provides a justification for the inadequate employment of resources by the world community.

Introduction

In the decision making on a large number of peace operations the choice between a deployment directed at peace keeping or peace enforcing proves to generate a fundamental dilemma. Needless to say, peace keeping operations in themselves form a much more attractive alternative for the intervening parties than peace enforcing operations: the intervention requires less robust military means – with less risk attached for the intervening military personnel – and the attention can be focused more on providing humanitarian aid and rebuilding of the conflict area than on exercising violence. The dilemma emerges because the assessment of a conflict situation as being suitable for peace keeping must be justified and not based on wishful thinking. All too often, one is tempted to see things through rose-colored spectacles and thus assess the required military effort optimistically. The decision making on the deployment of the Netherlands armed forces in Uruzgan is an emphatic case in point.

The present chapter considers how the economic analysis of rational behavior can make a contribution to this decision making. This is not limited to consumer and producers trading individual goods in a market setting. It is also directed at the strategic behavior of rational subjects in pursuit of a collective interest.

Strategic behavior is characteristic for the situations in which military personnel execute their tasks. After all, they are conflict situations in which rational choices with regard to their nature depend on the actions undertaken by an adversary. Therefore,

the economic analysis of strategic behavior can also be applied to the military actions in those conflict situations. Combat as well as peace operations can be studied from an economic perspective for the rationality of the choices involved in them. In the analysis of the choice between peace keeping and peace enforcing in this chapter the economic analysis will be on peace operations in particular.

Choice of strategy from an economic perspective

The economic analysis of rational choices of strategy is known as game theory. It is concerned with the choice behavior of parties (players) in game situations, i.e. in situations in which behavior of partners or adversaries (*allies* or *enemies*) must be taken into account. The economic analysis of these game situations presupposes that each player tries to reach an optimal result with the resources at his disposal. The results to be attained (the *pay-offs* of the game) depend on the utility functions of the players that are supposed to be given.

In game theory there is a distinction between zero-sum games and non-zero sum games. In a zero-sum game the sum of the pay-offs for the players is the same for every outcome. From an economic point of view a zero-sum game is merely a problem of distribution. In a non-zero-sum game there is a *common interest* at stake apart from the distribution problem. When applied to military-strategic problems, combat operations can be characterized as zero-sum games, as the outcomes in the end are either winning or losing. In peace operations, however, there is a non-zero-sum game situation. Apart from a common interest in keeping or restoring peace, each party involved in the conflict usually attempts to win a position of power for itself. Possibly the common use is highest when peace is maintained, although each party reaches the best result by subjecting the other.

In non-zero-sum games the sum of the pay-offs of the separate outcomes is not always the same. So, the comparison of those outcomes does not only form a problem of distribution; it is also possible to discern a common interest – a “common wealth”. This common interest need not always conflict with the partial interests of individual partners. In so-called *cooperative* games the choices of strategy of players exclusively focused on their own interest can nevertheless lead to a harmonious result through the pay-offs that ensue from the cooperation.

		Player B	
		Strategy 1	Strategy 2
Player A	Strategy 1	1,1	0,0
	Strategy 2	0,0	0,0

Table 1 Pay-off matrix: cooperative game

An example from the military is the classic half tent, an item of infantry equipment (which reduces the individual burden and serves as rain protection during the day). Only when two are used together will soldiers have a roof over their heads at night. Table 1 presents such a cooperative game in the abstract. In table 1 the pay-offs of both players are represented by number pairs, to the left row player A and to the right the column player B. In this case only cooperation - the choice for strategy 1 by both players – will yield a positive result. Many military training exercises aimed at reinforcing unit cohesion are based on the construction of such cooperative games.

An economic analysis of the choice behavior is really becoming relevant in a combination of common interest and conflicting partial interests in so-called non-cooperative games. In this combination the common optimum may become unattainable as a result of strategic behavior of parties. Such non-cooperative non-zero-sum games feature in many conflict situations that give occasion to peace operations. After a brief preview, three game forms will be applied to them.

Peace keeping and peace enforcing

Following the Land Forces Doctrine Publication *Peace Operations* (LDP III 1999) and, incidentally, also the Netherlands Defense Doctrine (NDD, 2005:73), peace operations are considered to be conflict situations that lie somewhere between war and peace, in particular. Control of a conflict can entail different types of peace support operations, for example:

- *Peace making;*
- *Peace keeping;*
- *Peace enforcing;*
- *Peace building;*
- *Conflict prevention, and;*
- *Humanitarian operations.*

This section will concentrate on the contrast types of peace keeping and peace enforcing, which have a special significance in the international legal order, as they are explic-

itly embedded in the UN Charter, in Chapters VI and VII, respectively.

Peace keeping operations. These operations are 'directed at containing, decreasing or solving an (armed) conflict between or within states by intervention of a third impartial power' (LDP III, 1999: 16). Peace keeping activities 'are carried out after a peace agreement or cease-fire had led to an environment in which the (extent of) compliance by the parties is high and the threat of new hostilities low' (NDD, 2005: 76) and based on 'the agreement (or at least consent) of the parties involved' (NDD, 2005: 76).

Peace enforcing operations. These operations 'are carried out to restore the peace between parties, at least one of which does not agree with the intervention of a peace force' (LDP III, 1999: 17). Peace enforcing activities 'are carried out to restore the peace between the warring parties which – in principle – need not always agree with the intervention of the peace force. These activities ... are often characterized by a high intensity of violence or the threat thereof' (NDD, 2005: 76). Peace enforcing operations are based on superior power with regard to the parties involved.

As was said above, peace operations require a correct adjustment of the military activities to the nature of the conflict in which the intervention takes place. The assessment of which approach would be a correct response in any concrete conflict situation is difficult in these operations. Not only does one have to guard oneself against too small a commitment of resources, there is also the danger of using overwhelming force. Too robust an approach can, for instance, cause the warring factions to turn against the intervention force (together), which will only exacerbate the conflicts.

Peace keeping will normally only require limited military action. Information and communication by means of *observers* and *mediators* are often the most important tools for fostering mutual trust, thus lowering the tendency to use violence. Excessive show of force can sometimes hinder the building up of peace, as is illustrated in LDP III (1999: 71-72) with the following example.

'The launch of this operation Restore Hope in December 1992 attracted a great deal of media attention. The first marines came ashore at Mogadishu in the full glare of the television lights. The basic principle of the American government was overwhelming force: UNITAF [Unified Task Force] had 37,000 personnel, the bulk of which – 21,000 men – came from the United States. France sent units from the Foreign Legion units and Belgium and Canada supplied parachute battalions. UNITAF confiscated weapons, secured strategic points and escorted convoys. On 4 May 1993, when the American government considered the situation in Somalia stable enough, UNITAF was succeeded by UNOSOM-II [United Nations Operations in Somalia]. This peace force, consisting of 28,000 military personnel, was to monitor the cease fire and guarantee the distribution of humanitarian aid throughout the country. [...] UNOSOM-II soon became embroiled in fighting with militias of the Somali warlords, who, faced with

UNITAF's the superior military force of the UN had kept relatively quiet until May 1993. On June 5, however, 24 Pakistani "blue helmets" were killed in an ambush by general Aideed's militia in Mogadishu. After that, UNOSOM declared open season on Aideed and offered a reward for information regarding his whereabouts. On 3 October 1993 this manhunt resulted in heavy fighting on 3 October 1993 between Aideed's militia, on one side, and the American Quick Response Force and UNOSOM units, on the other. 18 Americans lost their lives and there were hundreds of casualties among the Somali militia (and civilians). Almost immediately, the American government announced the withdrawal of its military personnel from Somalia. After this bloodletting, UNOSOM-II soldiered on for a while in a highly volatile environment. Between May and October 1993 a total of 69 members of the peace force were killed and some two hundred UN military personnel were wounded. Most western countries withdrew from UNOSOM-II at the beginning of 1994, leaving only Asian and African contingents. Any credibility in respect of the implementation of the UN mandate, however, was by then long gone. The last blue helmets eventually left Somalia in March 1995.'

Peace enforcing, however, explicitly calls for escalation dominance during the intervention. When mutual distrust between the parties is at its deepest, it is only possible to prevent aggression by superior power. Acting too weakly makes the intervening outsiders a plaything in the conflict itself, with all its consequences. Another example, this time derived from Military Doctrine (MD, 1996: 194):

'The warring factions in Bosnia-Herzegovina were continually the peace keeping UNPROFOR operation. Moreover, they had stopped conducting any direct peace talks since early 1994. In order to break the stalemate the international community decided in August 1995 to begin operation Deliberate Force: NATO airplanes attacked Bosnian-Serb targets on a massive scale. The immediate occasion was the shelling of Morale market in Sarajevo, which killed 37 people. These aerial enforcement actions were successful: the Bosnian Serbs pulled back their heavy systems from around Sarajevo and renewed peace talks soon led to the Dayton Accord on the political future of Bosnia. This accord had to be enforced by the NATO IFOR peace force.'

In making the choice between peace keeping and peace enforcing operations, the existence of actual consent, or absence thereof, from the parties is essential. This consent cannot usually be supposed on the basis of the results of diplomatic talks only. After all, it is often only paid lip service to, even if it is not sincere at all. Therefore, intervening outsiders will have to come up with their own analysis of the conflict situation in order to arrive at an adequate response. The central problem in this is how to carry out such an analysis. Starting from the objectives that the parties aim at and the means at their disposal, economic game theory may be able to show which choices are rational.

Furthermore, the economic game theory can be a basis for formulating predictions about the outcomes of the conflict. Below, a number of non-zero-sum games from the literature will be considered to see whether they can shed some light on the problem of choice.

Peace keeping in stag hunts

A *stag hunt* - a game described by Rousseau in 1754 - is a collective attempt of a group of hunters to hunt down a deer. The hunt lasts for an entire day and will only be successful if none of the hunters shirks from doing his duty, for instance, by going after a hare on his own as soon as he sees one. The deer will escape, but this hunter at least is sure of his supper.

In themselves the hunters will be inclined to cooperate, as they like a saddle of venison better than jugged hare. But out of fear that one of the others will not cooperate, they may want to be on the safe side and catch a hare or two. Table 2 presents the *stag hunt* game for the hunters in general terms.

		The others	
		Cooperative behavior	Non-cooperative behavior
I	Cooperative behavior	4,4	1,3
	Non-cooperative behavior	3,1	2,2

Table 2 Pay-off matrix: Stag hunt

In table 2 cooperative and non-cooperative behavior are the two distinctive strategies for each player. In the cooperative strategy the hunter focuses on the deer, in the non-cooperative strategy he goes after the hares. Given the preferences – saddle of venison over jugged hare – the utility levels 1(lowest) to 4 (highest) are attributed to the possible outcomes of the game.

The left-hand figure in each pay-off expresses the utility level of the left player, the I-figure. The right-hand figure expresses the utility level of the other hunters. It is supposed that a single hunter can catch more hares if the others remain focused on the deer, than if the hares are for everyone.

In principle everyone benefits from the outcome <4,4>, as there will be saddle of venison on the menu for everyone that night. If, however, the others show themselves to be untrustworthy partners, cooperative behavior will lead to the *sucker pay-off* <1,3>. While the others go home with one or more hares, you stay behind empty-handed.

The *stag hunt* allows us to characterize the choice of strategy of the players as a balanc-

ing between a *risky* and a *safe* alternative. The risky alternative is the choice of strategy that yields a utility level of 4 or 1. In this choice the player gambles on the greatest good (the saddle of venison), but he can also fall to great depths (an empty stomach).

The safe alternative yields a utility level of 3 or 2. The player does not have to fear a disaster scenario, but his dearest wish will never be fulfilled. No matter what, jugged hare – little or plenty – will be his share. This alternative is the result of the players employing the *maximin criterion*, i.e. choosing the strategy in which the lowest possible outcome is maximal (in this case 2 instead of 1). The optimum to aim for, <4,4>, will only be attained if the players are prepared to take risks. A safe strategy by all will lead to <2,2>. Given their common interest, the hunters will only choose the safe (maximin) strategy when they distrust the others. After all, in itself no one will benefit from that outcome.

When applied to peace operations, it can be said in principle that conflict prevention in *stag hunt* cases does not require a great effort. Peace keeping by observers who keep the parties focused is usually sufficient. The comforting information that the other party is not chasing the hares (either) keeps them both on the right path. Assessing a (potential) conflict situation as a stag hunt, brings with it the recommendation for *peace keeping*. At the same time, this is what makes this view attractive from an international political perspective. For instance, by interpreting potential civil wars as *stag hunts*, the international community relieves itself of the obligation to resort to tough measures. Often this interpretation is the basis – justified or not – for a symbolic contribution to conflict solution.

Peace enforcing in chicken games

In a *chicken game* two young men (to be seen as *gang leaders*) are tempted into proving their metal by racing at each other in a car on the middle of the road at full throttle. The one who swerves to avoid colliding with the other is a *chicken* (coward) and suffers loss of face. Needless to say, such daredevil racing by both parties will lead to a fatal frontal collision. Table 3 presents a *chicken game* in general terms.

		Player B	
		Cooperative behavior	Non-cooperative behavior
Player A	Cooperative behavior	3,3	2,4
	Non-cooperative behavior	4,2	1,1

Table 3 Pay-off matrix: Chicken game

As with the *stag hunt* the *chicken game* has a risky and a safe alternative, and here, too, the greatest good can only be reached through a risky strategy. Safe behavior (swerving) at best yields a loss of face equal to that of the other. In this case, however, the best possible outcome- victory – can only be reached at the expense of the other.

The risky strategy here, therefore, is non-cooperative and does not so much entail the risk of a *sucker pay-off* as that of a body bag. Cooperation in the *chicken game* is safe behavior: swerving to avoid a collision, even if that leads to loss of face.

Armed conflicts can often be interpreted as *chicken games*. A well-known example is the Cuba crisis of 1962: Kennedy's threat of armed action if the Soviet Union does not remove its missiles stationed from the island. In this crisis Kennedy was victorious because Khrushchev eventually made the best of a bad job. In terms of table 3 this can be represented as an $\langle 4, 2 \rangle$ outcome, with the United States being player A. The United States seems to like to play this game in other situations, too. Thus, it has been calculated that it was able to saddle up its allies – the Gulf States - with the cost of operation *Desert Storm* in Iraq, as the latter were afraid it would otherwise not come to an armed intervention. It seems that in the second Gulf war the United States tried to play a similar game with regard to Saddam Hussein's weapons of mass destruction, but their absence caused the (quasi) victory to fall short of the intended pay-offs of that outcome.

When the *chicken game* is applied to peace support, it can be said that high demands are made upon the intervention. After all, in this game situation parties tend to distrust each other by definition. Stationing observers will not negate the ambition to subjugate the other party – nor the fear that the other is planning the same on you. Therefore, in this case, it is only peace enforcement that can offer security guarantees. Safe behavior, $\langle 3, 3 \rangle$, as in table 3 can only be ensured by means of superior power. So, interpreting a conflict situation as a *chicken game* entails an unequivocal recommendation for *peace enforcing*.

The prisoner's dilemma

The best known game form in the literature is without a doubt the *prisoner's dilemma*. After a brief description of this dilemma, its role in shaping peace operations will be discussed.

Two men suspected of committing a crime together arrested by the police and put in separate cells. Each suspect can confess or remain silent and they both know the consequences of their choice, which are as follows:

1. If one suspect confesses and the other does not, the former will become a crown witness. He will go free and the other goes to jail for twenty years;

2. If both suspects confess, they will both be locked up for five years;
3. When both suspects remain silent, they will be jailed for one year for illegal possession of arms.

It is assumed that there is not something like a thieves' code of honor and that each suspect worries exclusively about his own interest. What should the suspects do under these circumstances? The game is represented in table 4.

		Suspect 2	
		Confess	Not confess
Suspect 1	Confess	5 years, 5 years	0 year, 20 years
	Not Confess	20 years, 0 year	1 year, 1 year

Table 4: Pay-off matrix for the two suspects

In the prisoner's dilemma that rational choice for both prisoners would be to confess, this would come down to five years imprisonment for both of them – of course, not optimal in view of the possible outcomes of table 4. If both had remained silent they would have got away with one year. The dilemma, therefore, has a paradoxical outcome. By acting rationally and striving for an optimal result, the players will nevertheless reach a sub-optimal outcome. In general terms (and distinguishing four utility levels) the *prisoner's dilemma* can be represented as in table 5.

		Player B	
		Cooperative behavior	Non-cooperative behavior
Player A	Cooperative behavior	3,3	1,4
	Non-cooperative behavior	4,1	2,2

Table 5 Pay-off matrix: Prisoner's dilemma

What is characteristic for the dilemma – compared to the two games described above – is that both players have a *dominant strategy*. A strategy is dominant when, irrespective of the opponent's choice, it yields the best result for the player. This makes it impossible to weigh up a risky and a safe alternative, as is the case in the *stag hunt* and *chicken game*. In table 5 the non-cooperative strategy is dominant for both players. This choice of strategy for both players will lead to the pay-off <2,2>. This result, however, is not optimal, as with <3,3> they would have done better.

In armed conflicts, too, – for instance in case of an arms race – it often happens that the parties “burn their fingers” in this way. If several states are striving for hegemony, it can be supposed they will all try to maintain strong armed forces. This may lead to a balance of power which could also have been reached at a much lower level of armament

(and so a higher level of prosperity). The sub-optimal outcome of the *prisoner's dilemma* in case the players have to come to a solution for their conflicts themselves often raises the question how third-party intervention could prevent the choice of non-cooperative behavior and foster cooperative behavior, instead. In case of an armed conflict, therefore, this question relates to the successful approach of the intended conflict control. In all cases the key problem for the players lies in guaranteeing that cooperative behavior will be rewarded and not punished by others. If the parties were able to accept a binding agreement of cooperative behavior, an optimal outcome could be reached.

In that case the question is whether in armed conflicts it can be left to the parties involved to reach such an agreement with general consent by all, or that they have to be coerced. In the *prisoner's dilemma* both options are feasible. From the realization that the outcome $\langle 3,3 \rangle$ is to be preferred to $\langle 2,2 \rangle$, the parties may accept coercion. This happens, for instance, when parties make an appeal together for a binding arbitration.

From an ambition to a pay-off of 4 and fear of a pay-off of 1, however, parties can also remain caught in the dilemma. This can be seen when, for instance, the common exploitation of natural resources in disputed border areas will flounder out of fear that the other party will clear (the majority) of the profits.

The interpretation of a (potential) conflict as a *prisoner's dilemma* will lead to the recommendation to ensure good *communication* between parties. This communication can ensure that the parties get a better eye for the common interest that lies in the optimum $\langle 3,3 \rangle$, and, correspondingly, reaching a mutually binding agreement can rely more on consent. A peace support operation that successfully focuses on communication, can stop at *peace keeping*, and need not go over to *peace enforcing*.

Like the *stag hunt*, then, the *prisoner's dilemma* offers the world community an easy way out when confronted with the necessity of an intervention. In virtually all conflict situations it is possible to think up arguments for a diplomatic approach which are difficult to refute. A military solution is only inevitable when real bad guys come into play – a *chicken game*.

Participation in peace operations

Intervention in regional conflicts by the world community usually takes the guise of a joint action of a number of countries not involved in the conflict. Such alliances (like the Netherlands-German deployment as International Stabilization and Assistance Force – ISAF – in Afghanistan in 2003) will have to address strategic problems with regard to the participation in such a collective action. The economic analysis of that participation, too, can shed a light on why the military contributions made often appear to be too small

to allow an adequately robust intervention. For two equal counties these problems can be modeled as in figure 1 (with the simplified supposition that both countries also have the same preferences). Demand curve VA indicates the preferences of country A with regard to the size of the intervention and the contribution that has to be made for that (quantity and price), demand curve VB mirrors this for country B. The total quantity – size of intervention – is the same for A and B, the price per intervention unit is supposed to be constant (measuring unit is the number of personnel sent out).

In figure 1 the combined willingness-to-pay of country A and B for an intervention smaller than Q^E exceeds the costs ($P < P_A + P_B$), for an intervention greater than Q^E it is smaller ($P > P_A + P_B$). Only for Q^E it is true that $P = P_A + P_B$. The combined contribution of A and B are represented by the segment of the rectangle that belongs to the intervention size they have chosen. When A and B each pay for half of the intervention of their preference (so on the basis of P_A and Q^E and P_B and Q^E , respectively), these contribution also make up half of the total size of figure 1.

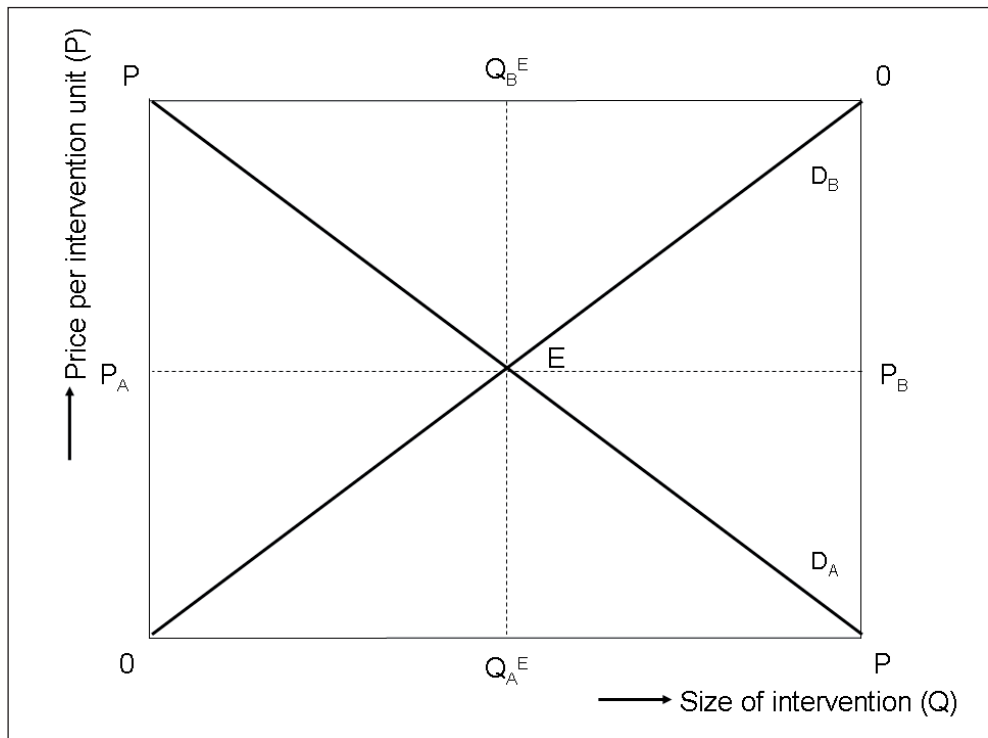


Figure 1 Participation in crisis response operations

Demand curve V_A indicates the preferences of country A with regard to the size of the intervention and the contribution that has to be made for that (quantity and price), demand curve V_B mirrors this for country B. The total quantity – size of intervention – is the same for A and B, the price per intervention unit is supposed to be constant (measuring unit is the number of personnel sent out).

In figure 1 the combined *willingness-to-pay* of country A and B for an intervention smaller than Q^E exceeds the costs ($P < P_A + P_B$), for an intervention greater than Q^E it is smaller ($P > P_A + P_B$). Only for Q^E it is true that $P = P_A + P_B$. The combined contribution of A and B are represented by the segment of the rectangle that belongs to the intervention size they have chosen. When A and B each pay for half of the intervention of their preference (so on the basis of P_A and Q^E and P_B and Q^E , respectively), these contribution also make up half of the total size of figure 1.

In this participation both countries enjoy benefits to the extent of the segment under their demand curves at Q_A^E and Q_B^E , so the trapezoid O-P-E-Q (with $Q=Q_A^E$ and $Q=Q_B^E$, respectively). Conversely, the countries also face costs to the value of the rectangles O- P_A -E-Q and O- P_B -E-Q, respectively. Thus, the result – benefits minus costs – is measured for both countries by means of the triangle P_A -P-E and P_B -P-E. This equilibrium is in principle ideal: the combined benefit is maximal for the intervention size Q ($Q_A=Q_B$).

The resulting equilibrium can, however, be disturbed when either of the countries tries to optimize its contribution for itself on the basis of a supposed demand function of the other. The combined benefit will be smaller, then, but the share of the country that acts strategically will be bigger.

The economic analysis of strategic behavior can make this clear. Figure 2 represents the situation in which country B tries to achieve a strategic advantage, on the basis of assumed cooperative behavior of country A. Country B assumes that, in accordance with its preferences, country A will pay the price P_A that comes with demand curve V_A , irrespective of B's contribution - so, also if country B's contribution does not match its own. Country B can lower its contribution at the expense of country A. It is true, it does not benefit as much (either) from the intervention, but its costs decrease even more, so that on balance it profits from its strategic behavior.

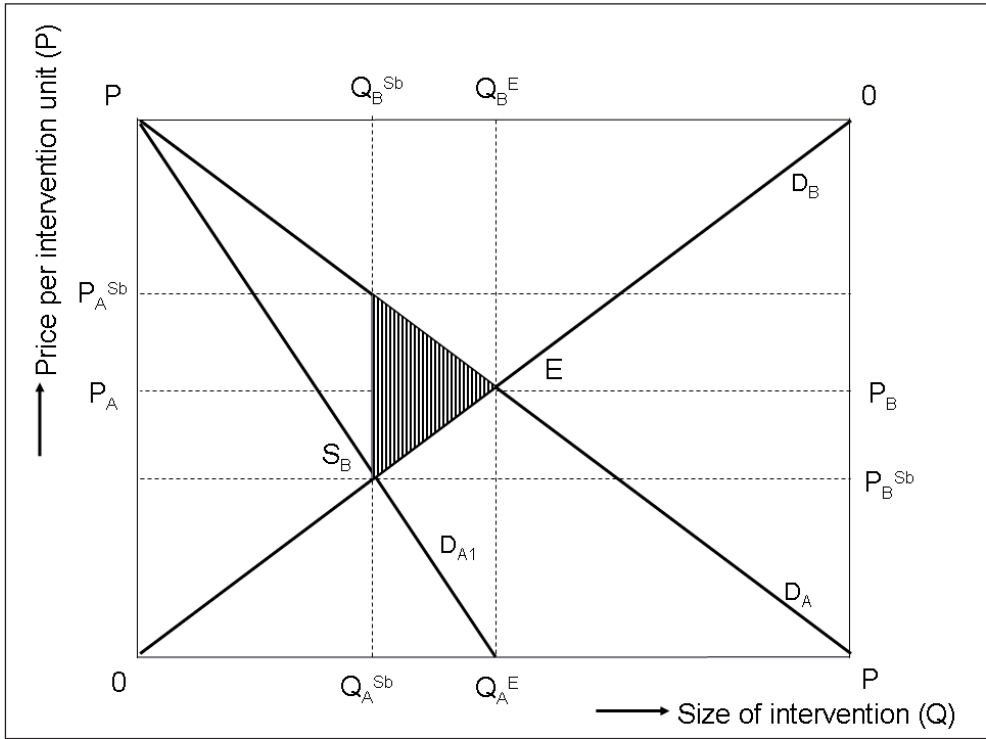


Figure 2 Strategic choice by one of the partners

Starting from country A's contribution in conformity with demand curve V_A , country B can interpret this demand curve as its own average cost curve GK_B : after all, B will always have to pay $(P - P_A) = P_B = GK_B$ in order to realize the intervention. This allows B to deduce its so-called *marginal cost* curve $MK_B = V_{AI}$. This expresses for every intervention size what the extra costs of an expansion of the operation with extra one unit will be for B, so B's share in the costs of the sending out of one extra soldier. Country B's strategic optimum, then, lies in the balance of B's marginal benefits and costs, so at $MB_B = V_B = MK_B$. Moreover, B pays the lower price P_B^{Sb} for the smaller size Q_B^{Sb} , whereas A will have to pay a higher price P_A^{Sb} for the same size Q_A^{Sb} .

The societal consequences for countries A and B are reflected in the fluctuations of their results. The combined loss – with respect to the optimum $Q_A = Q_B$ – is represented by the shaded triangle in figure 2. After all, the combined willingness to pay of A and B exceeds the necessary production costs for the units of the commodity between Q_A^{Sb} (Q_B^{Sb}) and Q_A^E (Q_B). This societal loss is the balance of an improved result for country B, which acts strategically, and a deteriorated result for country A.

More often than not, country A will not accept such strategic behavior in a two-party situ-

ation. A similar strategic reaction of this country will result in non-intervention ($Q=0$), which nullifies the entire societal use of the intervention.

Many peace support operations seem to suffer from this shortcoming of strategic behavior. After an initial assessment for a minimal size for the intervention force, only a small fraction is made available in the actual composition. Often, in the hope that the very presence will curb belligerence, the intervention is limited to a symbolic presence in the conflict region. In fact, this is another example of the world community opting for the easy way out of peace keeping rather than peace enforcing. Such a situation occurred in Bosnia, where in 1992 it was generally believed, rising tension necessitated an intervention of a force of at least several tens of thousands. Only when it emerged that the United Nations could not field such a force, did the civil war actually break out. A similar situation perhaps applied to ISAF, where it was hoped that the exclusive presence in the capital Kabul would discipline the war lords in the entire country. The more robust mission that was established years later and in which the Netherlands also participates (Uruzgan), was supposed to put things right. The continual tribal wars in sub-Saharan Africa can serve as another example of failed funding of the collective good of maintaining international rule of law.

The failing interventions of the world community can be elucidated in a game theoretical sense by specifying the demand functions in figure 2. With those specifications it is possible to calculate the pay-offs of parties as their resultant balances of benefits and costs for the various outcomes. As an illustration the simplest form that demand functions can have is taken, in algebraic terms 1:

$$(1) P = -Q + 1$$

Figure 1 above presents a graphic picture of these demand functions, when the total price ($P = P_A + P_B$) is assumed at $P = 1$ and the maximum price at which A and B are still willing to contribute (with $Q_A = Q_B$) at $Q = 1$. The cooperative balance in this figure gives $P_A = P_B = \frac{1}{2}$ and $Q_A = Q_B = \frac{1}{2}$. In this balance A as well as B (as the aggregated marginal benefits of $Q = \frac{1}{2}$) enjoy the value $\frac{3}{8}$, whereas both only have to pay $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$. So, their pay-offs consists of results to the values of $\langle \frac{1}{8}, \frac{1}{8} \rangle$.

In case of strategic behavior of A and/or B the pay-offs change. When B uses A's demand function as its own average cost function, it will optimize in accordance with figure 2 at $P_B = \frac{1}{3}$, with $P_A = \frac{2}{3}$ and $Q_B = Q_A = \frac{1}{3}$. Its own (non-cooperative) pay-off amounts to $\frac{5}{18} - \frac{1}{9} = \frac{1}{6}$, with A's pay-off reduced to $\frac{5}{18} - \frac{2}{9} = \frac{1}{18}$. In case of non-cooperative behavior of both parties there is no collective good at all: $P_A = P_B = 0$ and $Q_A = Q_B = 0$. Resorting to a matrix form once more, the following survey of all pay-offs of A and B can be given:

		Country B	
		Cooperative behavior	Non-cooperative behavior
Country A	Cooperative behavior	1/8, 1/8	1/18, 1/6
	Non-cooperative behavior	1/6, 1/18	0, 0

Table 6 Pay off matrix: participation in peace operations

So, the corresponding game form is the *chicken game*. In this way the failing intervention can best be explained as risk preference: with the alternative of high intervention costs the risk of (civil) wars is taken for granted in the hope that the region itself will find a solution for the conflict.

As the mirror image of the chicken game when providing a collective good, the *stag hunt* can explain situations of a threatening collective evil. In general, this holds for attempts to prevent escalation of conflicts through mediation. For example, the continual –though rather halfhearted efforts – the world community makes in the Israeli-Palestine problem is founded on the idea that both parties will eventually benefit from the same outcome (peace between Israel and an independent Palestine state). In this line of thought it would only be the deep-going mutual distrust- and ensuing from it, the reluctance of parties to take mutual security risks directed at peace – that would continue to frustrate the attainment of that solution

The explanation of sub-optimal outcomes should, therefore, not be sought too rashly in dominant non-cooperative strategies within the prisoner's dilemma. In many cases risk preference or risk avoidance can yield those results.

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Game theory and asymmetric warfare – is there a match?

An interview with Col (ret) dr. J.F.W. van Angeren (RNLAf)

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Introduction

Asymmetric warfare is hot, because all bigger conflicts fought in the world today are more or less asymmetric. According to Bart Tromp, late professor in the theory and history of international affairs, the war fought between the United States and the Iraqi Army in the last decade of the previous century could well have been the last conventional battle between two armies which faced and strode against each other. The use of terrorism and guerilla tactics ask for a new approach for armed forces that will be confronted with such tactics. The difference is that, where an army normally fights to win, an asymmetrical fighting group's goal is already reached simply when it does not lose. Hence, as long as the group can guarantee their own existence, it is impossible for the opposing party to claim victory. Such fundamental differences in the way war is experienced, ask for new insights from the military commanders involved. By means of this interview we will try to understand this subject better, by hearing the opinion of Colonel (ret.) van Angeren. He specializes in the topics of coercion, asymmetric warfare and game theory.

Colonel Van Angeren, you have done research into the possibilities for the use of game theory within the military organization. How did you come into contact with game theory in the first place?

“Being liable to military service, I was lucky to be able to join the Royal Netherlands Air Force, where I was trained to be a signals officer. After fulfilling this obligation I was able to stay and fulfilled several duties. At Staff School I became interested in Strategy and in that context learned about game theory. Years later I wrote a thesis about coercion. In this thesis I tried to identify all factors playing a role within a coercive strategy and then used game theory to determine their importance, for instance in asymmetrical conflicts. The research of the combination of strategy and game theory I consider far from finished. Because of the current asymmetry of warfare more research is necessary.”

We found the following definition of game theory:

The economical analysis of rational strategic choices is known as game theory. Game theory concerns the behavior and choices of different parties (players) in situations where they have to take into consideration the behavior of other players (allies or enemies). Such situations are known as “game situations”. The economical analysis of these game situations assumes that every player tries to reach an optimal result with the means that are at hand. The possible results depend on the considered usefulness the player conveys to certain functions.

Is this definition correct?

“Yes, this definition is correct. But I do want to make some minor alterations to it. Keep in mind that what we are talking about here are strategic choices. The choice between alternatives is based on maximizing the utility for oneself and the assumed decisions of other players. What is most important here are the motivations of the other player(s). Game theory is a way of looking at a given situation. It tries to explain the process that leads to choices, the behavior of human beings and what they consider valuable. In theory game theory can therefore be used as a tool to predict.”

In what way is game theory anchored within the defense policy en what is your opinion about this?

“I am sorry to say that game theory is hardly anchored within the Netherlands defense policy, although implicitly it has seen some use. The strength of this theory is that it can ‘predict’ human behavior, and thus improve decision-making. So, by using it, decisions could be based more on rational consideration than on ‘gut feeling’. Because looking at reality this way has a lot of potential value to the military, I am trying to bring my thesis to attention.”

Game theory can be used to study situations where two parties of unequal strength confront each other. Such an asymmetry occurs for example when a regular army has to fight guerrilla groups or terrorism. When fighting against guerrilla’s using hit-and-run tactics or terrorists, risk-avoiding players are confronted with players explicitly seeking risk.

What is, according to you, the essence of terrorist threats exactly?

“Terrorists abuse the fact that we (Western armies) have to comply with International Law and treaties such as the Geneva Convention and therefore do not commit atrocities. We do not use violence in a punitive way and we are sensitive to victims. Even victims that do not belong to our own people have an impact on our public opinion and therefore on the operation. Terrorists know this and try to manipulate the press as much as possible to create an atmosphere where the public opinion is against us. They hurt us by making victims and subsequently try to exploit this as much as possible. The difficulty in fighting terrorists is that they are not easy to recognize as such. Terrorists hide within the civilian population and do not have a clear line of defense.”

How could game theory be applied on asymmetrical warfare?

“The application of game theory on asymmetrical warfare would be a good thing. In the first half of the 19th century, Von Clausewitz’s opinion was that an armed conflict is won when the opponent does your will, while the opinion of others is that an armed conflict is won when the opponent is destroyed. My opinion is somewhere between these two. It is not possible to defeat an asymmetrical enemy because they are not recognizable as such.

When an opponent chooses the asymmetrical approach and we a symmetrical one in terms of defeating the enemy, the opponent thereby makes our effort irrelevant which has disastrous consequences. If the premise that game theory provides and requires insight in the differentiation of utility functions is correct, then you can also use this on asymmetrical warfare. By using game theory you can also look from the opponent’s point of view instead of only from your own. This can be very helpful to bring an asymmetrical conflict to a positive end.

I only want to place some marginal comments by using game theory as a tool for prediction. You must clearly ask yourself how certain you are of something before using game theory. There is always a risk that the opponent tries to mislead you. On top of that, certainty can never be totally guaranteed and the amount of risk you are willing to take always has to be taken into consideration.”

Can you give a clear example of a situation where according to you not enough attention has been given to game theory?

“When we take a look at the way the United States dealt with the terrorist threat that comes from Afghanistan we can see that they did not pay sufficient attention to what has to be done when the initial battle has been fought. Right now they are trying to solve an asymmetrical problem with symmetrical manners.”

To end, can you explicate to us some do's and don'ts for dealing with terrorism?

“What you should not do is ‘not think’. For example, the Israeli army bombed a building in Kana last year on top of which Hezbollah rockets were positioned. While this was a legitimate military target, at the same time the building housed an orphanage. Media reports showed that at least 27 children were killed in the blast and needless to say this had major negative results for Israel's position in the public opinion accordingly.

We should focus on more than just the period of conflict. What is possibly even more important is the period afterwards. What kind of peace do you want to generate? A peace imposed by violence is more often than not a temporal solution. Game theory can be used as a means to determine the utility of such a situation. What should you do and do not to utilize coercion as good as possible.”

Colonel Van Angeren, we want to express our utmost gratitude for granting us the time to interview you and we wish you a lot of success promoting game theory.

Evaluating performance of military deployment in crisis response operations

Erik de Waard and Robert Beeres

NL-ARMS 2007, xx-xx

Abstract

This paper contributes to measuring effectiveness and efficiency of crisis response operations. By asking whether it is useful to measure the effectiveness and efficiency of crisis response operations, we directly address the senior leadership of the Netherlands armed forces. We conclude, first, that operational commanders have a need for relevant indicators to analyze the effect of their actions. Second, we show that within crisis response operations it is usually the reconstruction tasks that lend themselves best for performance measurement. Other military tasks cannot, or only with great difficulty, be measured objectively. For these tasks we propose a greater emphasis on steering on input. In this way the organization gets more insight into the employable potential of people and means it can draw from for crisis response operations. Finally, we suggest that the output of the Dutch armed forces can be objectified further by relating it to the output of similar armed forces.

Introduction

Within the government, and the military domain specifically, the use of notions, such as “performance”, “effectiveness”, and “efficiency” have not been in use for a very long time. Thinking in terms of economic concepts, such as revenues, costs and profit was something for commercial enterprises, not for governmental organizations aspiring for “higher objectives” (see Drucker, 1998: 89). Moreover, for the armed forces it could be said that human lives, and possibly the continued existence of the entire state, were at stake. At such times, money should be left out of the equation! (see de Bakker, 2005: 183). Since the 1970s, with the advent of New Public Management (NPM), the use of such terms has become increasingly common practice within the government. At the moment – even within the armed forces – effectiveness and efficiency, performance-orientation, may be felt to be normal, if not something worth striving for.

The NPM movement aims at ‘lessening or removing differences between the public and the private sector and shifting the emphasis from process accountability towards a

greater element of accountability in terms of results' (Aardema, 2005: 8; also see Hood, 1995: 94). Ter Bogt (2006:1) regards NPM as a 'functionalist approach, in that one of the changes it proposes is to increase economic efficiency and effectiveness in public sector organizations'. Aardema (2005: 9) indicates that in the Netherlands 'in the implementation of NPM much attention has been given to improving planning and control'. Within the government NPM was realized through a project called From Policy budgeting to Policy Accountability (VBTB). In this project there are three (the "three Ws") central questions related to planning: "*What do we want to achieve? What are we going to do to achieve it? What amount of money can we spend?*" Related to control, there are the three so-called "H-questions": "*Have we reached what we aimed for? Have we done what must be done? Has it costs as much money as we thought it would?*" In order to answer these questions a link must be made between the policy objectives (expressed in effects to be achieved), the efforts that ensue from them, and the resources to be employed.

Against this VBTB background the Court of Audit assessed in 2002 and 2003 to what extent the 2002 and 2003 budgets of all the Ministries and the 2002 annual account provide information about policy and management effectiveness. One of Court's findings was that, 'information about performance effectiveness in the budgets and annual accounts was absent' (Tweede Kamer, 2003-2004: 12).

Against the same background the Directorate of Policy Evaluation (DGFC, 2006) evaluated specifically for the Defense organization the policy article *Execution of crisis response operations*. It looked into the actual measuring and measurability of effectiveness and efficiency of actual military deployment in crisis response operations. DGFC (2006: 20) found that on the basis of this investigation no well-founded judgments could be made on effectiveness and efficiency of the Dutch contribution to those operations. What can be concluded from this is that on a political-managerial level it is a problem to give a meaningful substance to measuring effectiveness and efficiency of crisis response operations.

The present article attempts to make a contribution to the literature on measuring effectiveness and efficiency of crisis response operations. By asking whether it is useful to measure the effectiveness and efficiency of crisis response operations, we are directly addressing the senior leadership of the Netherlands armed forces.

To this end this contribution is set up as follows. Section 2 presents a concise survey of how concepts such as effectiveness and efficiency can be related to crisis response situations. Section 3 gives a description of the set-up of the empirical study, the findings of which are presented in section 4. Broadly speaking, there are a number of senior managers who do not find it useful to measure the effectiveness and efficiency of crisis response operations, as they think the context in which they take place is too complex. In these circumstances there are so many factors of influence that cannot be controlled

by the commanders and the organization itself. The only thing that can be done to make performance transparent can be described as a sort of broadly shared self-evaluation of the mission. Other senior managers believe that measuring effectiveness and efficiency is useful and should be done better. They want criteria for assessing how they are doing their job. They feel that the Netherlands armed forces, as a reconstruction organization, should use certain criteria to map out their effectiveness. Finally, section 5 contains a summary, conclusion and discussion.

Performance: measuring effectiveness and efficiency of crisis response operations

The control of effective and efficient activity is shaped differently in government organizations than in private companies. For a business company the sale of its products or services leads to financial revenues through the price mechanism. As such, it is an expression of the effectiveness of company. In order to sell the products and services it will have to incur costs, which is an expression of the efficiency. This means that the company can steer on effectiveness and efficiency on the basis of a performance criterion: *profit*.

Government organizations do not seek profit and the relation between effectiveness and efficiency is often harder to identify. This is particularly so because the products or services they supply often cannot very well be defined in terms of financial revenues; after all, more often than not there is no market for the collective good they have on offer. That is why government organizations are financed through the budget mechanism, in which, after the levying of taxes, the political decision making process leads to the establishment of a budget. The organization has to use this budget as effectively and efficiently as possible to deliver goods and services. The result of this situation is that both effectiveness and efficiency - the performance - need to be measured in a different way than in private companies.

Measuring performance is aimed at an organization being directed both at “doing the right thing” (effectiveness) and “doing things right” (efficiency of efforts) (Espejo et al, 1996). Both concepts can be given different emphases in public, non-profit and for-profit organizations. Public organizations traditionally are all about effectiveness - the fire brigade, police or ambulance has to be on the spot as soon as possible. In fact, efficiency (costs) is felt to be of lesser importance in government organizations. This, however, has been changing over the past few years now, with an increased attention for costs (see Skaerback and Thisted, 2004). Berman (2006: 7) states that efficiency as a target is pursued more by profit-organizations, because success there is measured in terms of profit. It must be said, though, in this context that, without objectives, it is impossible to

strive for efficiency. In fact, the concept can be seen as ‘a stronger form of effectiveness in that it presupposes effectiveness’ (Speklé, 2003: 4). Finally, Berman (2006: 9) states that, next to effectiveness and efficiency, public organizations pursue equity as an objective, ‘providing services to all citizens, regardless of their ability to pay for such services’. Depending on the specific situation of an organization, a performance measurement instrument is designed which is, for instance, more geared to effectiveness, efficiency or equity (see, e.g., Burchell, Clubb, Hopwood and Hughes, 1980; Hopwood, 1987; Johnson and Kaplan, 1987; Kaplan and Atkinson, 1989).

Traditionally, for the Defense organization effectiveness, measured by readiness, has held pride of place, with an implicit or explicit prominence of the defense of the territorial integrity of the state, in particular the deterrence a standing army can bring to bear. During the Cold War this readiness was virtually the only criterion on which to assess performance of the armed forces (Hazeu, 1980). On the basis of the then doctrines for the Dutch defense tasks in NATO context - the defense of the North German plain against a concrete threat from the East – precise criteria could be formulated for the required military “readiness”. The norm for the intended level of readiness could be broken down in terms of operational readiness – nature and size of the required “capabilities” and activation terms of anything between “rapid reaction forces” and mobilizable units. The operational readiness could further be specified in proficiency requirements (according to level of training) and the personnel and material readiness on the basis of filling and “fitness for use”. Such norms and requirements, on their turn, were the foundation for the decisions with regard to numbers of conscripts to be drafted and investments in weapon systems and other materiel.

Now that the armed forces have actually been deployed in crisis response operations to an ever-increasing extent, the use of the Defense organization can no longer be primarily described in terms of operational readiness. Actual deployment requires evaluation criteria in terms of actually attained results. They should form the basis for deducing effectiveness and efficiency of the deployment. Apart from that, the requirements for general operational readiness have become more diffuse. Combat power is no longer the leading perspective in all cases. Crisis response operations can often entail a broad spectrum of police and humanitarian tasks, demanding completely different skills. There can be considerable discrepancies between the “capabilities” of the military units deployed and the appeal that is actually made on them. Present peace operations clearly illustrate the increasing blurring of military and police tasks. Besides, the new threats from transnational terrorism make it sometimes all but impossible to delineate the tasks of the Defense organization and the Ministry of the Interior.

Measuring performance - effectiveness and efficiency – of the current expeditionary armed forces can be summarized as in figure 1 (Cornielje, 2007: 16). Underlying this

scheme is the customary analysis of a production process in terms of input (resources), throughput (activities), output (performance) and outcome (effects) (see, e.g., Berman, 2006; Mol and Beeres, 2005 and Tweede Kamer, 2003-2004). In order to analyze this process, it is important to develop meaningful and measurable indicators (see for relevant input (step 1 in figure 1) and output (step 3 in figure1): Van den Doel, 2004: 21-34).

Figure 1 shows that the “production process” of the armed forces can be divided into two sub-processes. The first of these, the steps (1) to (4) in figure 1, is directed at preparing units for readiness, the second, the steps (5) to (8) in figure1 is directed at the actual deployment of these units. In the latter sub-process deployed units can be seen as input for the mission, whereby the eventual consequences for the country (countries) in which the mission takes place (for instance, peace) and the consequences for the country that sends the units (for instance, increased political support) form the outcome.

Figure 1 shows eight steps from input to eventual result. For the corresponding indicators for the first five steps it is (reasonably) feasible to find measurable aspects. It is supposed that with its presence in the mission area the Defense organization generates effective security as a product. The last three steps (6. throughput, 7. output, 8. outcome) relate to the actual execution of crisis response operations, the consequences for the countries in which they take place and the consequences for the countries that carry them out.

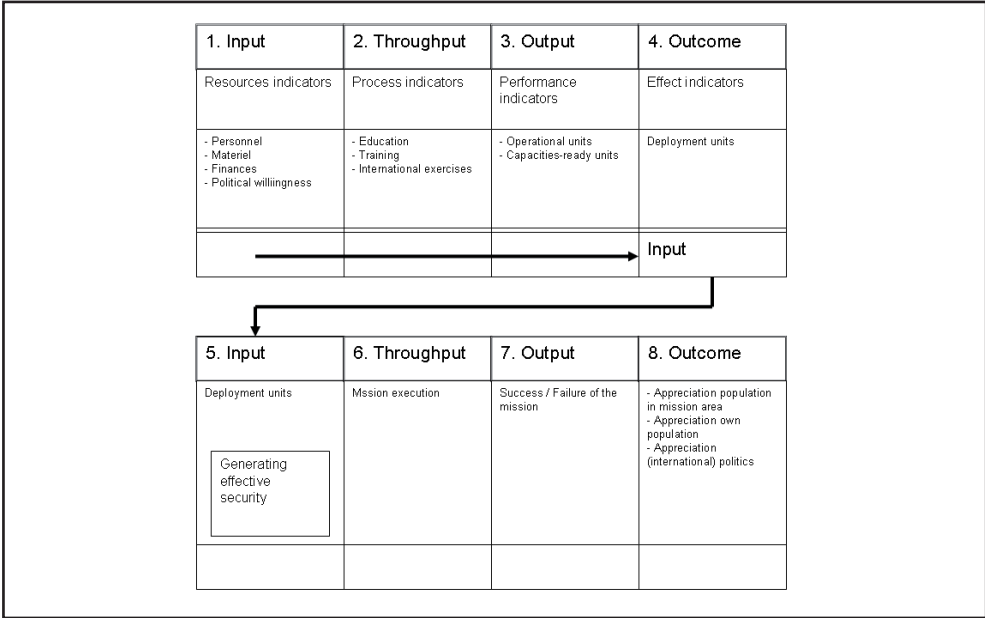


Figure 1 Schematic representation of the Defense “production process”

A recent survey by the Directorate of Policy Evaluation (DGFC, 2006) shows that no founded conclusions can be drawn for the second sub-process of figure 1 with regard to the effectiveness and efficiency of the Dutch contribution to those operations. The survey, directed at the policy article Execution of Crisis Response Operations, reveals that the objectives of crisis response operations have been formulated so broadly and abstractly that no judgment can be made about the effectiveness and efficiency of the policy. Nor is it possible to steer the Dutch participation in international crisis operations on the basis of those objectives.

Furthermore, the survey evaluates for ten crisis response operations in the period 2000-2004 whether the policy was executed effectively and efficiently. On the basis of the available information the Directorate indicates that for the overwhelming majority of the surveyed crisis response operations no separate SMART objectives were formulated and that it is not possible to determine precisely what the Dutch share was in attaining the mission objectives. The above means that no conclusions can be drawn as to the effectiveness of the policy.

It was also concluded that to an extent this problem cannot be solved (DGFC, 2006: 21). In the budget phase the objectives cannot be worked out "SMART-ly" because of continuous changes in the international security environment. 'On the one hand, this can be related to the unpredictable character of the "supply" of crisis response operations as well as their course. On the other hand, the absence of "SMART-ness" is related to the complexity of the political field of force in which the decision making takes place' (DGFC, 2006: 5). It is even indicated that on the political level any concreteness about the SMART-ness of the objectives of crisis response operations is 'sometimes undesirable, because the responsible politicians experience it as a restriction to policy margins' (DGFC, 2006: 6).

It is further indicated that the Netherlands in fact never acts unilaterally and always makes a contribution limited in time and size. This makes it difficult to relate one on one the Dutch contribution and the results attained a crisis response operation as a whole. This, however, gives the Netherlands some freedom of choice with regard to the selection of activities employed by the Dutch units. 'It creates leeway for policy choices and steering of the Dutch contribution. From the usually many tasks to be fulfilled within an international crisis response operation the Netherlands can choose the ones that best contribute to the realization of its objectives and priorities' (DGFC, 2006: 6).

DGFC (2006: 7) concludes that at the level of the policy article it is very difficult to formulate SMART objectives. At the level of the individual crisis response operations it does see possibilities for a more policy-driven approach, particularly through implementation of the VBTB concept. This will allow a more direct relation between (political) policy objectives, which are specified per operation, and the activities employed to real-

ize those objectives (DGFC, 2006: 8, 11). Below, it will be shown to what extent DGFC's findings and recommendations (2006) are endorsed by the senior leadership of the Netherlands armed forces.

Methodology

Within the framework of a larger research into the organizational change process that the Netherlands forces embarked on after the end of the Cold War, the operational performance of the organization was studied in a broader perspective than the DGFC survey. In view of the central problem of this article, some preliminary results of this – much more comprehensive study – will be presented. To be precise, the article will zoom in on the dependent variable performance, using relevant empirical data that have been collected so far. The analysis of this variable is based on the following two central questions:

1. In how far is the Dutch crisis response effort successful?
2. In how far is the Dutch crisis response effort measurable?

In order to answer these questions two different instruments for data collection were used. First, a number of interviews were conducted with 17 representatives from the leadership of the Defense organization in order to form a well-founded idea of the senior leadership's views on performance and measurability of the Dutch crisis response effort. Secondly, a large-scale survey was held among 3,500 officers, varying in rank between major and colonel, from the four Services. The survey concentrated on the higher officer echelons as the comprehensive research requires respondents who not only have experience and knowledge of missions abroad, but, quite emphatically, also have an insight into all sorts of organizational aspects of the armed forces. In total 1,533 persons filled out and returned the questionnaire, resulting in a response rate of 43.8 %. The sample was tested for representativeness by considering the distribution of the respondents over Service and rank. The questionnaire used a validated scale for performance (Volberda, 1998). The survey confirms the reliability of this scale with a Cronbach's Alpha of 0.77. A Cronbach's Alpha value between 0.7 and 0.8 means that the scale used is reliable in measuring the investigated variable, in this case performance.

Results

This section consists of two parts. The first part deals specifically with the first research question, to which end the results from the interview and the findings from the survey are presented in their mutual relationship. The second part focuses on the second question on performance measuring and only uses the results from the interviews.

The operational effectiveness of the Netherlands armed forces

The senior leadership gives a rather univocal answer to the question on the success of the Dutch crisis response effort, as none of the respondents calls it unsuccessful (see table 1). In general, there is a positive assessment. Furthermore, it is striking that 5 respondents do not give an unequivocal yes or no, but leave their opinion in the middle. In fact, these neutral-voters do not deviate far from the yes-voters, as all respondents indicate that assessing the success of a crisis response operation is difficult. The multitude of factors of influence makes it impossible to make objective statements on the effectiveness of this kind of operations. Nevertheless, for 12 respondents the balance is positive, while the 5 mentioned above do not come to a definite yes or no. The arguments given to assess the success of a crisis response operation can be reduced to the five categories that will be discussed below.

Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Yes																	
No																	
Neutral																	

Table 1 Do you think the Dutch effort in crisis response operations successful?

In the first place success is linked to the fact that the Netherlands has participated in a large number of missions over the past few years. Looking back on these operations, 9 of the 17 respondents indicate that, in general, the Netherlands has realized its tasks and ambitions well. Thus, one respondent states, ‘Looking at Bosnia, Iraq and Afghanistan it can be concluded that, given our possibilities, we have been successful’. This sort of general statement is complemented with remarks such as, ‘We reach the objectives that have been set, in spite of the fact that those objectives are not always clearly demarcated, measurable and are highly political’, and ‘We see the results of what we have set out to do in a mission; our being there made a difference’.

In the second place, in the eyes of nine respondents international recognition is an expression of the success of the Dutch effort. Often heard statements in this respect are, ‘we are a valued partner in the eyes of other countries’, or, ‘the Netherlands armed forces

are taken very seriously, indeed, internationally', or, 'we are in the major league', and 'people abroad are always full of praise about the way the Dutch operate'. Nevertheless, one respondent stresses that it is not wise to rely too much on the opinions of other countries, as they may be expressions of (political) courtesy.

Thirdly, personal experience forms a measure for the success of the operations. All respondents have mission experience in leadership positions and three indicated that in their role as military commanders the success is also measured against their own standards. Thus, one respondent states, 'I relate "success" more to the concrete improvements I have seen during my stint in the mission area, such as the restoration of social life in the streets and the number of new companies that were started up'. Another respondent says in more general terms that he judges his operational activities as commander a success, because with his people he has made a contribution to the creation of stability and reconstruction in a mission area, but also because he and his people have returned home safely.

Quality of personnel and materiel of the Netherlands armed forces is a fourth argument brought forward. Five respondents say things like, 'The Netherlands armed forces are professional and well-equipped', 'We have good, professional, level-headed people who reach the result they have to reach', 'Missions have led to an enormous improvement of our own armed forces', and 'The organizational culture as well as the mindset of the personnel has improved, missions abroad are very much part and parcel now of what we do'.

Political-social considerations form the fifth category. In this respect two respondents stress the political appreciation the armed forces receive when they state, 'In general the Second Chamber praises the achievement of the armed forces', and 'Our political leadership is very satisfied about our effort'. Another respondent chooses an angle with relates to the spending of public money. He explains that with the same budget as fifteen years ago the armed forces now realize an investment quota of 20%. Yet another respondent points at the improvement of the image of the armed forces among the Dutch public. According to him there is still a lot to be gained in propagating the armed forces to the Dutch citizen, 'Most citizens have no idea what the armed forces do'.

In answering the first question the senior leadership goes through a sort of self-evaluation, in which a summing up of the various arguments leads to a preponderantly positive self-image about the operational achievements of the armed forces. Volberda's scale (1998), used in the survey, is also based on subjective ratings. The concrete questions that compose this scale are given below. What is striking is that, broadly speaking, three out of the five arguments brought forward by the senior leadership are covered by these survey questions. A general rating about the Dutch crisis response effort is covered by question 1; questions 2 and 3 are specifically directed at international comparison with

other, similar armed forces, and personal experiences and/or expectations come back in question 4.

1. The Netherlands armed forces do well in crisis response operations;
2. In comparison with other similar armed forces the Netherlands armed forces do well in crisis response operations;
3. Other armed forces are positive about our operational achievements in crisis response operations;
4. I am proud to have been sent out or to be sent out as a Dutch serviceman/woman.

The respondents answered the questions by means of a 5-point Likert scale (1 = totally disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = totally agree). Table 2 shows the mean score per question for the entire population, but it also gives the total score for performance. With a mean score of 3.99 for performance the result corresponds with the above-mentioned positive sentiment of the senior leadership with regard to the operational effort of the Netherlands armed forces.

Question	N	Minimum	Maximum	Mean	Std. Deviation
1	1528	1	5	4,06	,560
2	1530	1	5	4,03	,628
3	1529	1	5	3,91	,631
4	1525	1	5	4,12	,788
PERFORMANCE	1526	1,67	5,0	3,99	,511

Table 2 Performance score general

In tables 3, 4, and 5 the results with regard to performance have been broken down per Service, rank and mission experience. The most important conclusion to be drawn from this is that within these sub-groups the positive sentiment remains unchanged. The score on the 5-point scale lies around 4, regardless of Service, rank or times on missions. Furthermore, these analyses yield a number of interesting significant differences (indicated by an asterisk). In a general sense these differences do not detract from the positive self-evaluation, but they are nevertheless worth mentioning and will be discussed below.

To which Service do you belong?	Mean	N	Std. Deviation
Royal Netherlands Navy	3,83*	319	,515
Royal Netherlands Air Force	4,06	371	,491
Royal Netherlands Army	4,04	777	,511
Royal Netherlands Marechaussee	4,05	54	,427
Total	3,99	1521	,511

Table 3 Performance related to Service

In table 3 it is striking that the respondents from the Royal Netherlands Navy scores lower for performance than the other Services. With a final performance rating of 3.83 the opinion with regard to operational effort is still very positive, but in comparison with the other Services it is significantly lower. Probably the assessment is somewhat more moderate because in the eyes of the Navy crisis response operations have not led to drastic operational changes compared to the past. The traditional sea time-shore time structure, in which an operational sea period of 6 months is followed by a shore posting of 18 months to 2 years, remains fully intact. It could even be said that the other Services, by embracing crisis response operations, have more or less adopted this phasing from the Navy. During sea periods the ships can be given all sorts of operational tasks, sometimes under the umbrella of a specific (multi-national) mission, and sometimes not. In other words, sea time is sea time, and it does not matter much for the Navy personnel whether they are employed in a regular maritime patrol, a counter-drug operation in the Caribbean, or in CFT150 in the Enduring Freedom framework. On top of that the Navy with its maritime task holds a rather independent position within the Netherlands armed forces. Of their nature, land and air operations are more directly linked, whereas Navy operations often take place independently. If there is cooperation, this often takes place in international fleet settings. Therefore, this autonomous position makes it hard for Navy personnel to give their outspoken opinion on the crisis response operations of the armed forces as a whole.

What is your present rank?	Mean	N	Std. Deviation
MAJ/Lt Com/MAJ Marines	3,99	815	,519
Lt Col/Com/Lt COL Marines	4,00	563	,492
Col/ Capt/Col/Marines	4,07*	144	,535
Total	4,00	1522	,511

Table 4 Performance related to rank

Table 4 shows that officers at the level of colonel score significantly higher than the other two rank categories. This is probably due to the average level at which colonels work during a mission. Usually this group works on the cross section between the political-strategic and the military operational levels, which makes it possible for them to relate the results of military activities to the complex power play in which they take place. So, in comparison to officers who are mainly focused on the operational execution of tasks, colonels may assess performance more positively.

Table 5 clearly shows that missions have become part and parcel of the Netherlands armed forces. Although it does not fall within the scope of this article, it is worth mentioning that to date 86 % of the field officer population has been sent out at least once.

At the same time the table reveals something that was also brought forward in the interviews: the unequal division of mission burden. A relatively large group (50 %) of the field officers has been only once or even not at all on a mission. This low number of missions stands in stark contrast with the high mission intensity of some functional groups, notably pilots, engineers, special forces, Marines and medical specialists. For some of these groups mission time has been reduced in order to safeguard sustainment in spite of the “shortage”, for example, Apache and F-16 pilots, who are sent out for two a period of two months. However, this tailor-made approach is not possible for all of these groups, which results, for instance, in engineers being faced with a high mission burden as well as regular mission periods of four to six months.

How often have you been on a mission?	Mean	N	Std. Deviation
0 times	3,92*	207	,438
1 times	4,04	556	,514
2 times	4,01	416	,532
3 times	3,97	206	,531
4 times	3,96	84	,469
5 times	4,00	57	,531
Total	4,00	1526	,511

Table 5 Performance related to mission experience

Furthermore, table 5 shows that respondents who have no mission experience score significantly lower on performance than those who do. This result may be explained by another aspect the senior leadership brought forward during the interviews. With the new expeditionary crisis response ambitions of the Netherlands armed forces the necessity for inter-service cooperation has increased enormously. Not a single Service is able to conduct an operation completely independently, from planning to redeployment. Although the cooperation is improving by the day according to the interviewees, there are regular conflicts of interest and differences of opinion on a managerial level during the planning and preparation of a mission between the various Services. Once the composition of the unit that is going to be sent out is complete, other forces gain the upper hand, as on the operational level the tasking of a mission will lead to one common interest. The ensuing task culture minimizes the problems with cooperation. Indeed, when an operation takes place in hostile and dangerous circumstances, cooperation is seen as one the most important conditions for survival. In short, in the preparation phase of a mission there is usually a lot of fuss, but once on a mission this is replaced by a professional culture, in which the participating units realize they need each other and mutual understanding increases. The respondents with mission experience have been in this

positive task culture first hand, which may express itself in their higher score compared to the respondents without this experience. The latter group cannot boast any practical experience and because of that will probably make a more balanced assessment founded on their knowledge of the much less harmonious planning and preparation phases of missions.

Measuring operational performance

From the interviews as well as the answers from the questionnaire it can be deduced that the average Dutch field and general officer assesses the performance of his own organization as very positive. Still, this result cannot negate DGFC’s assertion that no well-founded conclusions can be drawn on the effectiveness and efficiency of the Dutch contribution to crisis response operations. Both cases, interviews and questionnaires, concern self-evaluations, which lend the aspect of effectiveness a preponderantly subjective trait and cause a lack of objective criteria to base well-founded statements on efficiency. Conversely, the question was posed to a very large, representative group of military functionaries who know what they are talking about and who have actual operational experience. It would, therefore, be too facile to disqualify their assessments as too subjective and therefore useless. What is interesting is to see why objective criteria are lacking and whether it would be useful to spend more time, money and effort on making operational performance of the armed forces measurable. In order to do this, it is opportune to return to the in-depth interviews. The second central question was divided into two sub-questions, which were subsequently presented to the top of the Defense organization (see tables 6 and 7 below).

Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Yes																	
No																	
Neutral																	
Focusing																	

Table 6 Do you think it is possible to measure operational performance?

Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Yes																	
Neutral																	
No																	

Table 7 Do you think measuring operational performance is desirable?

In answering the question whether it is possible to measure operational performance, broadly speaking, four answer categories emerge. The yes-voters stress that in practice the armed forces have already been acquiring experience in measuring operations. The no-voters are of the opinion that it is precisely the complex, often political, power field, within which crisis response operations take place that makes the measuring process impossible. The third group does not give a clear answer either way, but these respondents stress the difficulty of measuring operational performance, because of the complex mix of influencing factors. The fourth group holds that measuring operational effectiveness is only partially possible and that the armed forces should focus on those specific aspects that lend themselves for measurement. In boxes 1, 2, 3, and 4 the answers categories are further explained by the actual statements of the respondents.

Box 1: Measuring operational performance is possible and we are already doing it.

Since the 1990s the armed forces have been laying more and more emphasis on achieving concrete objectives, such as the number of returned refugees, the reconstruction of employment and the number of confiscated weapons.

As Dutch armed forces we are not so good yet at measuring, but we should be improving. That is why probably a TNO team will go along to Uruzgan to carry out effect measurements. Effects that can also be measured are, for instance, price development of food, the number of riots, and explosions, et cetera.

We still do far too little output measuring of a mission, in spite of the fact that many KMAR tasks can be measured very well. For instance, the number of trained police personnel, measuring whether norm techniques are applied, the number of street incidents, the extent of cooperation with other police organizations (e.g. EUROPOL), the extent of corruption, and SMART quality plans.

As commander of a unit on a mission I wanted to make my performance measurable and I looked for criteria to gauge the performance of the unit by, such as reconstruction of public life, interviews with war lords, tribal chiefs.

In adopting the PRT concept we have embarked on a strategy directed at making our effectiveness measurable. We formulate "milestones" with regard to reconstruction activities and security sector reform tasks, etc. The criteria that we set up for this are even processed into a template for everyone within the ISAF operation.

Box 2 Measuring operational performance is not possible

In my view measuring the operation is impossible. You can measure on different levels, which makes the results level-bound and subjective. Performance itself is not measurable, because when the shooting starts, different rules apply. Rules that cannot be phrased in management, such as efficiency and effectiveness. I also do not see the point of measuring from a so-called beneficiary perspective. You know beforehand that when you come to a very poor country with a bag full of money, the local population itself will not react objectively either.

In general the operational objectives of missions are quite ephemeral, vague and impossible to objectify and consequently hardly measurable. Creating stability in Bosnia is an important task of EUFOR, but has Bosnia really become more stable and how should that be measured? The same questions can be asked with regard to ISAF's main task, the creation of a "safe and secure environment". In contrast to this there is the question whether it really matters so much that the performance of the armed forces is so difficult to measure. Defense is a producer of non-events. Every day they produce a new day of peace and security. The Dutch population hardly notices this and that is as it should be. Perhaps we should be glad and accept that our objectives cannot be made measurable.

Making missions measurable has little purpose. The public opinion is often more important than the real operation, many aspects of which are not really perceived by outsiders. Often small errors and problems are magnified and widely discussed in the media. On top of that it is very difficult to measure an operation by objective criteria. Different players can all have different opinions.

Box 3 Making operational performance measurable is a very difficult process

Quantifying effectiveness is very difficult. The number of confiscated weapons is not a guarantee of the unit involved.

Political preconditions limit the possibilities but are detached from the task execution of a specific military unit. The fact that insecurity is increasing in Afghanistan cannot be shifted on to the task execution of our servicemen.

Making performance measurable is difficult in case of a crisis control mission. On the one hand, it is a good thing to be able to give account of what you have done to reach your objectives. On the other, it is very hard to prove that you have employed the available resources effectively. Can you map the wellbeing of people? Can security be measured adequately?

Box 4 Making operational performance measurable should be directed at specific aspects

Measuring output? In general, I say “yes, because certain things can be made measurable very well, such as skill at arms, driving skills, level of training, etc.

What you do in an operation cannot be made fully measurable. When the number of ambushes decreases, does that mean it is safer? Conversely, it is possible afterwards to systematically analyze the preset tasks, such as disarming, demobilizing, elections, number of policemen trained, establishing a demarcation zone.

Certain things can be measured very well. For instance, the democratization process that can be measured with elections as milestones. For other things it is questionable whether they can be measured.

Making a military operation measurable in itself is not useful. The number of rounds fired or the number of ambushes prevented, does not say very much about the success of a mission. In my view, it is more about measuring reconstruction activities, based on the principle that the military operation is subordinate to the reconstruction. The number of policemen trained or the successful organization of elections says more about the effectiveness of a mission.

In spite of their equivocal reaction to the first question on performance measurement, eleven out of seventeen respondents answer positively to the follow-up question (see table 3). One of them summarizes this shared opinion, on the desirability of performance measurement in a military-operational context, very well when he states, ‘The tendency for making our performance measurable must be continued. Not only does it ensure structure in our operations, it is also a continuous reminder of our primary task’. Apart from these proponents of performance measurement, there are three respondents who feel that making operational performance measurable is not a good idea. Two of these no-voters (respondents 13 and 17) emphatically base their opinion on their answer to question 2. According to them, measuring operational performance is simply not wise, in view of the aspect of violence, which will always come into play, and the complex mix of influencing factors. The third no-voter, respondent 15, introduces an interesting new perspective with his argument with respect to performance measurement. He states,

‘I think that we must accept that military operations cannot be made measurable. My objections focus much more on the effectiveness of the entire armed forces. Crisis response operations are our core-business and yet we only send out 10 % of our personnel annually, and only 15 % of our money is spent on this main task. Sending out about 5,000 persons a year may meet our ambition level, but are we not making things a bit too easy for ourselves?’

By applying the Ter Beek norm less rigidly, by benchmarking ourselves better with other countries that have similar armed forces, in quantity and quality, by applying

more rigorously the readiness tables and by reaching a higher effectiveness from certain weapon systems, he believes, the total effectiveness to be gained from the armed forces can be increased enormously. With this argument, however, the idea of performance measurement shifts from the output to the input side. In other words, it is not so much the output of actual military operations that matters, but rather the input of a greater number of ready units.

Summary and conclusion

DGFC (2006) states that no well-founded statements can be made about the effectiveness and efficiency of crisis response operations due to the absence of SMART-objectives. Complementary to DGFC (2006), the present contribution has gone into the effectiveness and efficiency of the Dutch crisis control effort. The DGFC report has largely come into being by analyzing the evaluation accounts of ten different missions. This paper is based on concrete statements and opinions of field and general officers from the defense organization. The aspect of effectiveness was investigated by means of the question to what extent the Dutch crisis response effort was successful. Efficiency was analyzed by looking at the extent of measurability of the crisis response effort. The first question was investigated quantitatively as well as qualitatively. 17 representatives of the leadership of the armed forces were interviewed in order to get a well-founded answer to the question. By answering, they went through a kind of self-evaluation, in which the combination of a number of arguments eventually led to a preponderantly positive self-image about the operational performance of the armed forces. Apart from the interviews with senior managers of the armed forces, the operational performance was also investigated quantitatively. In a survey more than 1,500 field officers, from all Services, stated their opinion on the operational performance of the armed forces during crisis response operations. With a median score of 3.99 on a five-point scale the findings of the survey support the above-mentioned positive idea of the senior management. In general, it can be concluded that field officers as well as general officers assess the operational effort of their own organization as effective.

The second questions focused on the efficiency aspect. It was investigated qualitatively only among the group of 17 senior managers. Although this is a difficult process, the majority is convinced that making crisis response operations measurable is worth the effort. Especially in times when the armed forces are deployed more often in specific reconstruction missions, the military commanders increasingly feel the need for usable indicators to make the effect of their activities transparent. In contrast to the overall mission objectives, often couched in vague language, the underlying reconstruction tasks of

crisis response operations usually offer enough substance to be translated into concrete targets or indicators. Examples are the planned rebuilding of public governance in a crisis area, by aiming at re-establishment of the judiciary, the organization of elections and the training of police officers and security forces. Over the past few years the armed forces have made some progress in this respect, but the process will have to acquire more profundity of content in the near future. This military-operational vision with regard to performance measurement is complementary to one of the conclusions from the DGFC report, making a win-win situation a possibility. The report proposes linking the VTBT concept to the level of individual crisis response operations, the underlying reason being that at this level, too, a translation into concrete, measurable activities can be attained.

Taken together, this research, in contrast to the DGFC's findings, justifies the conclusion that it is possible to give an assessment on the effectiveness and efficiency of the Dutch crisis response effort. The fact that more than 1,500 officers are so satisfied with the performance of the armed forces is an indication that the organization is ready for its operational task. It is also true that the choice for a self-evaluation method robs the judgment of a strong foundation. The disadvantage of this is that the aspect of effectiveness acquires a preponderantly subjective ring and that objective criteria are lacking to make concrete statements about that effectiveness. In this context, the authors therefore support the general recommendations of the DGCF report, which urge that the Dutch crisis response effort be objectified. The authors' argument for this, however, is less based on the managerial principles of performance measurement than on its military-operational advantages.

First of all, the research shows that operational commanders have a need for relevant indicators to analyze the effect of their actions. The organization has already taken the route towards operational effect measurement, but the process is still in its infancy and needs to be developed further. It must be remarked here that, in view of the complex political power play within which crisis response operations take place, this should not be solely the responsibility of the armed forces. In this framework seeking a narrower cooperation with the Ministries of Foreign Affairs and Overseas Development is to be recommended.

The research shows further that within crisis response operations it is usually the reconstruction tasks that lend themselves best for performance measurement. Although conditional for the reconstruction tasks, the other military tasks cannot, or only with great difficulty, be measured objectively. For these tasks the authors propose a greater emphasis on steering on input, e.g. degrees of filling, readiness of weapon systems, and the level of skill at arms, driving, physical fitness and operational training of personnel. By steering more emphatically on input, the organization gets more insight into the

employable potential of people and means it can draw from for crisis response operations. If it looks beyond mere readiness of operational units, it may even be possible spread out the mission burden more evenly within the organization. Furthermore, it is important in this respect that education, exercise and training programs, maintenance programs and logistic processes are scrutinized in order to gather usable management information.

Thirdly, the authors feel, the output of the Dutch armed forces can be objectified further by relating it to the output of similar armed forces. This may be a possible task for NATO. By establishing an auditing body within the alliance, directed at scrutinizing operational readiness, the member countries would get a periodic independent assessment about their performance.

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Are there any standards to measure effectiveness and efficiency of missions?

An interview with Col PJ Schaberg and Col JHM Stumpers (RNLA)

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Introduction

The Dutch Government wishes to participate in peace enforcing missions and stabilizing missions. From the early 1990s onwards, the armed forces have taken part in several of such missions, examples of which are the execution of peace enforcing operations in the Gulf area and peacekeeping missions in former Yugoslavia, Cambodia, Iraq, Ethiopia and Eritrea. Generally, more than a thousand soldiers a year are being deployed. Currently, the armed forces participate in the International Security Assistance Force (ISAF) in Afghanistan. Amongst others, this protracted deployment raises questions as to these troops' performance, and whether there are any standards to measure effectiveness and efficiency during missions. We discussed these questions with Colonel Schaberg and Colonel Stumpers who are both working at Central Staff of the Dutch Ministry of Defense.

Colonel Schaberg, why do you think you and Colonel Stumpers are the best suited candidates for the interview?

"I am the Chief of staff of the Director of Operations. On behalf of the Chief of Defense, This Directorate is in charge of the execution of all missions and we control the performance of the various services' expeditionary units, such as Army-troops, Air Force squadrons and Navy ships. So, naturally, we are very interested in the effectiveness and efficiency of the military operation."

Colonel Stumpers, you are also a specialist in this domain?

"I am Head of the Evaluations and Lessons Identified Division. As the name of this division suggests, we are trying to establish how well our troops are doing."

Is there any policy to measure effectiveness and efficiency of peacekeeping operations?

“To measure efficiency or effectiveness, first, you’ll have to know what you want to achieve. Bearing in mind the lessons of the major peacekeeping operation in former Yugoslavia, in 2001, a framework to decide whether to participate in future missions was developed and agreed upon by the Dutch Parliament. By debating the criteria the framework puts forward, the Dutch Parliament now has a tool to help her to decide whether the armed forces should participate in a specific mission and what sort of military action would be required. However, the framework does not elaborate on the objectives the mission has to achieve. Therefore, when the Dutch Parliament decides to participate, military commanders have yet to be informed on the objectives they are expected to reach. In close cooperation between the military commander and representatives of the Ministries of Foreign Affairs and Development Cooperation, these objectives will be defined in the mission area. By conducting a sort of base-line measurement, the so-called “Check Zero”, the gap between actual reality in the mission area and the objectives is established. From this moment, the commander can figure out what lines of action to take. By comparing Check Zero to the stated objectives, the Division gets an idea about how and when to measure the operation’s effectiveness and efficiency. We are aware of the fact that you cannot measure everything, but we feel you do not actually have to do that. Theoretically, it does not sound difficult, but in reality it proves to be complicated to implement the lessons learned by measuring effectiveness and efficiency. The Americans, who have been testing the measurement of effectiveness and efficiency for more than twenty years now, found out that it could take a year before lessons learned were implemented.”

What factors are important when measuring the effectiveness and efficiency of missions?

“Efficiency is limited by the resources and the rules of engagement that are extended to the units on the ground. These factors are different for each mission. First, we have to define what we want to know and how we can express this the best way. This is a two-way lane: we have to consider the results the Government strives at, and also, we have to consider the kind of results the Chief of Defense would approve of. Furthermore, the objectives formulated by the Ministry of Foreign Affairs and the Ministry of Defense are of a generic nature instead of being specific. This makes it hard to assess how much progress is being made. For example, training police officers in Uruzgan constitutes a high priority. It is unknown, however, how many policemen can be trained during the

mission. Should we aim for 500 or 1,000 police officers and, compared to other developments in the mission area, can these numbers be considered good results? Could we perhaps have trained more policemen if the Taliban were paying less money for joining them in fight? Not only will aspects such as these, influence results, but, at the same time, their influence is hard to predict, circumstances are fluctuating and this makes it very difficult to work with pre-set standards.”

Are there new developments in measuring effectiveness and efficiency, e.g. regarding Task Force Uruzgan?

“Yes, there are. Supported by a Dutch institute for applied Defense research, we have constructed an information system for missions, which is used in Afghanistan right now. The system collects information on the status and movement of combat units, persons, communities and all sorts of events. This information enables us to analyze threats, notice certain trends and to see whether our objectives are reached. Diagrams show us whether the situation is improved, has not changed or has deteriorated. To set up more standards is very difficult. At this moment, the Ministry of Defense is not able to evaluate itself. But there are positive developments.”

Are there new developments in the domain of effectiveness and efficiency?

“American military officers started a forum on the internet to share their experiences. In this way, lessons learned are implemented quickly, bypassing bureaucracy as much as possible. This forum looks a big success. The officers who started the forum have been sent to West Point to professionalize and expand their project to all branches of the Armed forces. The internet provides a very effective way to share this sort of information. Therefore, we are following this project closely and we are considering making use of it for our own operations.”

Controlling Defense operations

Disclosures of the Royal Netherlands Army 2001-2005

Robert Beeres and Nico Mol

NL-ARMS, 2007, xx-xx

Abstract

This contribution stresses the need to adjust performance management to deficiencies in results controls, whenever such deficiencies prove to be inevitable. We argue that management control has to reach beyond results into the underlying activities. Deficient result controls should be supplemented by action controls embedded in transformation processes. We argue that performance controls should be based upon opportunity costs implied in the actual use of resources, whenever these costs themselves can be disclosed. We outline a framework for such a disclosure as a basis for management contracting between central management and lower level organization units. We illustrate the framework for the operational units in the Royal Netherlands Army (RNLA), using disclosures in the Budget Memoranda issued between 2001 and 2005.

Introduction

For many years the Dutch Department of Defense (DDoD) seemed to be exempt from most of the performance controls generally required by market pressure. All the conditions for suboptimal performance were present: a monopoly position, ambiguity of targets and a management philosophy aimed at effectiveness instead of efficiency (Meyer & Zucker, 1989). However, since the 1980s, the improvement of management control in the DDoD has been recognized as a major issue in the organization. Notwithstanding the performance measurement system implemented in Dutch central government in accordance with the Government Budget and Accounting Act 1976, accountability for performance within the Dutch Defense organization was generally considered inadequate. Several reforms tried to build performance-oriented control systems on the basis of the performance measures acquired, without any substantial change in the input controls traditionally applied.

As a consequence, attention shifted from the application of results controls in DDoD's mission centers to efficiency improvements in service centers which were considered more promising. In 2003 the DDoD introduced a new governance concept

(Ministry of Defense, 2003b), building upon transfer pricing for its internal service units. As internal services encompass a substantial part of the Defense activities (more than half of Defense personnel being employed in them) considerable gains might be realized by pricing them.

However, in our view this shift of attention may be considered a ‘flight forward’ for the DDoD’s performance management: the actual problems in specifying the results ultimately intended in mission centers should be solved before any market for internal services can be tuned to those results. Otherwise, flaws in mission center controls will only be transferred to the transfer pricing system controlling performance in the department’s service centers.

In this contribution, we stress the need to adjust performance management to deficiencies in results controls, whenever such deficiencies prove to be inevitable. An analysis of management control in the Dutch Department of Defense (DDoD) may therefore provide an excellent example to demonstrate our proposition. We address the control problems encountered in the DDoD’s mission centers. We argue that management control has to reach beyond results into the underlying activities. Deficient result controls should be supplemented by action controls embedded in transformation processes. By investigating the management reforms of the recent past in DDoD, we try to set the stage for such a disclosure of transformation processes in the Defense organization.

To this end, the article is structured as follows. In the next section, we discuss the proposals for transfer pricing contained in the 2003 governance concept for DDoD. Then, in section three, we argue that performance controls should be based upon opportunity costs implied in the actual use of resources, whenever these costs themselves can be disclosed. Section four outlines a framework for such a disclosure as a basis for management contracting between central management and lower level organization units. Section five illustrates the framework for the operational units in the Royal Netherlands Army, using disclosures in the Budget Memoranda issued between 2001 and 2005. The final section summarizes our findings.

Transfer pricing in the Dutch Department of Defense^I

Historical background

Following the Government Budget and Accounting Act 1976 oriented at legislative budgeting, in 1984 a reform labeled self-management was introduced in Dutch central government to improve (internal) management budgeting in government organizations. Self-management triggered many initiatives to define and measure performance indicators. By substituting performance controls for the input controls traditionally applied,

competencies and responsibilities could be decentralized to lower levels of management. Self-management should be based on contracts between central management and organization units. The contract would specify both the targets for results attained and the resources provided to realize those targets. During the 1980s, all departments of the Dutch central government started projects to develop performance indicators to measure relevant targets for production in self-managing organization units.

The concept of self-management got substantial support in the DDoD as well. Specifically, logistic support units implemented elaborate systems of performance indicators in so-called task programs, specifying measurable yearly targets for production in these units. Actual values for the indicators were periodically submitted and analysed in evaluation reports (Mol, 1996). However, devolved competencies and responsibilities remained negligible in the management contracts. The development of large sets of performance indicators proved inadequate as a foundation for responsibility accounting for the activities performed. Responsibilities for diverging ex ante/ex post indicator values generally could not be established: many external causes can always provide for many alternative explanations. Thus, central management remained unwilling to reduce its control over inputs by decentralization of competencies to lower levels of management. The self-managing units were not managing themselves at all.

In the 1990s, subsequent to these 'bottom-up initiatives' to improve performance management in Defense, a formalized 'top-down reform' was implemented to arrive at responsibility for results in the Dutch Defense organization. The organization was subdivided into result responsible units (RRUs). The RRUs were controlled by means of management contracts with respect to services provided and resources consumed. Contract-based management control was supposed to reduce the burden of bureaucracy. However, again the contracts largely failed to specify the performance controls required for that purpose.

Transfer pricing for internal services

From this perspective, alternative ideas developed in the Ministry of Finance have recently been presented as a solution. These ideas focus upon the application of market mechanisms in government, rather than the budget mechanism characterizing the performance budgeting proposals in all self-management reforms. The basic objective is to create demand and supply relationships between (consuming) departments and (producing) agencies. The budget mechanism only remains in vigor with respect to the (consuming) mission centers of government. The (producing) service centers are paid through transfer prices.

Within the DDoD, these ideas were embraced enthusiastically. It was readily acknowledged that over half of the employees of the Netherlands Defense organization work

in its service centers, rather than in the operational mission centers. With respect to those service units, the introduction of market instruments fitted perfectly in the new governance concept (Ministry of Defense, 2003b). According to this new concept, the operational and service units within the Navy, Army and Air force will be directly subordinate to the Chief of Defense (CHOD), formerly known as the Chief of the Defense Staff (CDS).

As is generally acknowledged, the integration of the armed forces magnifies the complexity of Defense planning and control. Planning and control harmonization between the present RRU has to accommodate a vast increase in the number of transactions to be harmonized. This complexity is generally considered to exceed the scope of control of the RRU management control system.

The introduction of transfer pricing between operational units and service units may thus constitute a logical consequence of this increase in complexity. Present budgeting systems for all RRUs will be replaced by a dichotomy of budgeted operations, on the one hand, and priced services (paid out of those budgets) on the other. The centralized planning and control harmonization model will thus give way to a decentralized market exchange model, as any complex economic system would require (Neave, 1991).

Requirements for transfer pricing

In the design of internal markets, generally four types of transfer prices are distinguished: (1) market-based transfer prices, (2) marginal cost transfer prices, (3) full-cost – eventually full-cost plus a mark-up - transfer prices, and (4) negotiated transfer prices (e.g., Merchant and Van der Stede, 2003). Then, the question is to what extent each of these types might be applied to Defense. The new governance concept, however, does not elaborate on the type of transfer pricing it has in mind. So, instead, we will have to inquire into the feasibility of the alternatives ourselves, to assess the prospects for the reform intended by it.

With respect to the first alternative, we lack benchmarking opportunities required to assess the validity of market prices in the environment of the Defense organization. Even when services are comparable to any market supply – as in, for instance, maintenance facilities – availability requirements for Defense (capacity not actually used in times of peace) will cause price differentials. Assessment of divergences resulting from strategy - as opposed to inefficiency – is usually a matter of subjective judgment. For instance, military salaries differ from civil levels. When outsourcing is out of the question, transfer prices should be adjusted to these differences. But, in the package deals involved in military employment, cost allocations that are required for this adjustment would be fairly arbitrary.

With marginal cost pricing we encounter the familiar problems arising from negligible

variable costs in the production of Defense: costs are to an overwhelming extent committed – they directly result from capacity planning based upon ‘availability’ requirements. For the Netherlands such calculations amount to about 95% of total costs (De Bakker, 1998; Van den Hooven & Mol, 2000). Marginal cost pricing may only be relevant to a minor part of services, for instance, for specific civil modes of transport (buses) already rented on a regular basis from outside suppliers. The prices paid to these suppliers can obviously be easily charged to the operational units actually using the transport facilities rented (see Ministry of Defense, 2004b).

In assessing the remaining alternatives, both negotiated prices and full cost allocations may imply a great deal of trust that decentralized clients will behave in accordance with central management objectives. A self-balancing economic system of transfer payments to co-ordinate economic behavior at lower levels of the organization does not necessarily enhance the span of control from the top. Generally, information asymmetry puts the CHOD at a disadvantage in the assessment of efficiency and effectiveness of this behavior. The agents will have superior knowledge of the activities involved.

Checks and balances can - in principle - be established by the application of benchmarks and the possibility to refer to best practices stemming from them. Countervailing power for the CHOD results from accountability for variances and the shift of the burden of proof (for realized indicator values) to the organization units induced by variance analysis. However, application of benchmarking in the DDoD is generally hampered by the monopolistic services produced in the department.

Conclusions from agency theory

From an agency theoretical point of view, a trade-off between budgeting and pricing of service centers may be perceived with respect to direct and indirect control costs in the application of these coordinating systems in government organizations (Mol, 1998). Direct control costs encompass the resources used up in the budgeting system, on the one hand, and the internal market transactions on the other. As expected under the new governance concept, bureaucracy costs of the former may exceed transaction costs of the latter. Indirect control costs will consist of the agency losses stemming from decentralized decision-making – but with respect to them there is no clear-cut intuitive outcome of the benefit-cost comparison of both alternatives.

Essentially, a system of transfer pricing focuses management control at CHOD level on (budgeted) operational units. On the one hand, then, agency losses may be reduced when operational units negotiate supply from service units, enforcing efficiency in service delivery with the power of their purse. Opportunity costs involved in paying for these services out of their own budgets will immediately be recognized by the operational units themselves – as any outsourcing will reduce spending opportunities on resources

of their own. On the other hand, however, the assessment at lower levels of the opportunities forgone will proceed from objectives pursued at those levels as well. From the point of view of the CDS these objectives may be distorted by goal incongruence, offsetting the efficiency gains stemming from a presumed superior knowledge of production wielded by those decentralized decision-makers. Ultimately, then, the trade-off depends on the extent of these incongruities. Or alternatively, on the extent to which decentralized decision-making can be trusted to proceed in accordance with performance objectives intended at the top.

In the absence of Weberian bureaucracies – internalizing those performance objectives without any interference with objectives of their own –, goal congruence may not be presupposed to exist in advance. Conflicting interests should thus be clearly perceived, to judge whether any decentralization of decision-making might nevertheless be justified.

In this respect, an assessment of potential conflict may proceed from the distinction of ‘client supported’ and ‘public supported’ organizations, as modeled by Anthony and Young (2004). In client-supported organizations, the goals of top management and mission centers converge in principle. Both will address effective demand in the environment of the organization. Revenues obtained by mission centers are as relevant to top management as they are to those centers themselves.

This convergence, however, may not occur in public-supported organizations. Income received by top management from public budgets may be spent in accordance with quite different utility functions, depending on the decision-maker that actually governs the ultimate choice. Conflicting interests are intrinsically embedded in principal-agency relationships, where budgets allocated to agents imply a (re) distribution of the principal’s income as well.

In public-supported organizations a prerequisite condition for decentralized management control, then, is first and foremost the existence of measurable (SMART; i.e., Specific, Measurable, Acceptable, Realistic, Timely) objectives in terms of which decentralized decision-making is evaluated.

The introduction of transfer prices can be justified as a ‘second step’ whenever the objectives have been smartly identified in an antecedent system of responsibility for results. A successful implementation of management controls for operational units necessarily precedes any devolution of controls for service units in a transfer pricing mechanism for Defense. But in the present management control system this prerequisite condition is not (yet) fulfilled.

Management control for operational units in Defense

Performance management should be adjusted to the deficiencies inherent in the results controls within the DDoD. A lack of validity of the indicators used in performance measurement may cause harmful side effects in their application, requiring supplementary control mechanisms to overcome those impediments (De Bruijn, 2002). In this section we distinguish three layers in these impediments, each giving rise to further adjustments in the management control systems of the DDoD.

In the first layer, we note the relevance of a differentiation between RRUs in view of the measurability of their outputs and the homogeneity of their activities. On the basis of this differentiation the applicability of output or throughput controls may be assessed, to reduce the tightness of traditional DDoD's input controls. Supplementing the familiar input-output dichotomy, alternative types for management contracts can be identified, based upon process and outcome indicators, respectively.

In the second layer, we stress the need to adjust the planning and control cycle to those diverging contract types. Both to remain in control and to maintain decentralized accountability at the same time, specific shortcomings in the RRU contracts should be balanced by matching controls in contract execution. Reviewing past experiences shows that RRU management control continued to apply a uniform control framework. Clearly, this uniform system had to be based upon (minimum) accountability requirements fulfilled in all RRUs without exception. Those requirements then had to refer to resource consumption – inputs used instead of results obtained – exclusively. Thus, contrary to the intended responsibility for results, traditional input oriented controls continued to dominate Defense management.

In the third layer, we further inquire into the obstacles underlying this failure to tailor controls to decentralized organization units. These obstacles result from both the resource budgeting system applied in the RRU contracts and from compliance to expenditure limitations prohibiting the application of accrual accounting to match resource consumption with results obtained.

We conclude that performance management can only partially be built upon financial information systems. To control actual decision-making within decentralized organization units additional management control systems have to be installed. In the next section these additions are investigated.

Differentiation in management contracting

Ideal type performance budgets specify outputs and costs. Principals and agents may agree on such output budgets, whenever the former are satisfied to get value-for-money, and the latter are adequately compensated for their efforts in value creation. However,

management contracts remain incomplete when output definitions fail to specify all necessary requirements or when costs are insufficiently standardized. Performance budgets, then, are incomplete with respect to output targets, with respect to cost standards, or with respect to both of these conditions. Generally, we distinguish four types of performance budgets (table 1).

		Measurable outputs?	
		Yes	No
Standardized costs?	Yes	Output budget	Process budget
	No	Task budget	Input budget

Table 1 Typology of performance budgeting

Responsibility for results in management contracts depends on the specifications in the performance budgets underlying them. In the development of the responsibility for results concept in the DDoD in the beginning of the 1990s, this dependence was clearly recognized. Accordingly, a 1993 Defense Policy Memorandum (Ministry of Defense, 1993) suggested the application of the budget typology to Defense activities: output budgeting for service centers, process budgeting for operational units – under conditions of peace –, and task budgeting for peace-keeping operations of the armed forces. Traditional input budgeting would only remain effective for staff units of the DDoD.

However, the Policy Memorandum did not elaborate on the consequences of the application of the respective types. Thus, in implementing responsibility for results in the designated RRU in the Defense organization, guidelines determining how responsibilities and competencies should be matched in contract execution failed to arise. The ‘contracts’ actually agreed upon consisted only of a listing of product and budget elements, without any adjustment of the management controls previously applied.

In this way, responsibility for results remains indeterminate. Principals and agents merely agree on targets for performance indicators and budgets. Principals are free to impose budget cuts, while agents are equally justified in presenting inadequate results. Without any hesitation, then, performance indicator values far below targets may be reported. For instance, readiness for use, generally targeted at 90%, has been ‘shamelessly’ reported by RRU commanding officers at 70% or less, arguing that external causes were to blame for these poor results.

Adjustment of planning and control to contract differentiation

Contract management ideally entails two-sided agreements between central management and organization units. The organization units commit themselves to producing the services specified in the contract. Central management guarantees the necessary

resources for production. Output targets and standardized costs embedded in the agreements constitute accepted benchmarks to judge performance. Management control is thus based on output controls, and decision-making with respect to resource consumption can be highly decentralized. In this 'best of all possible worlds', management control has the following characteristics:

1. budget authorization: budget authority is decentralized for controllable costs;
2. budget execution: decision-making on resource consumption - within the boundaries set by the budget - is devolved to the organization units;
3. budget limitation: allowable cost levels are adjusted during the budget period to changes in contracted outputs and to changes in non-controllable circumstances;
4. budget evaluation: both variances in outputs realized and costs incurred are evaluated in terms of efficiency and effectiveness.

We will now review the contracts in DDoD with respect to the four characteristics above. We will document the persistence of input controls resulting from the inability to adjust control to specific deviations from this ideal type (cf. Mol, 1999).

Budget authorization

In RRU contracts costs have to be allocated to contracted results. The cost allocation requires a two-step adjustment procedure of the expenditures in the DDoD financial information system. First, expenditures have to be transformed into expenses for resources consumed. Second, expenses have to be allocated to the cost objects specified in the contracts. The first step, the adjustment of expenditures to expense elements, is carefully planned in the 'responsibility for results' reform. In accordance with this reform all RRU resource budgets consist of three parts:

1. An expenditure budget including all personnel and material resources for which the rule expenditure equals expense applies. This part is specified by four items in a line-item format:
 - military salaries and related expenditures
 - civilian salaries and related expenditures
 - other personnel expenditures
 - material expenditures
2. A part for material resources, where resource consumption in the budget period may deviate from purchase. For this part of the budget a 'cost module' should be fitted into the departmental financial information system (e.g., with respect to expenses on fuel and ammunition - generally the most important items in this part of the budget).
3. A part for transfers from other organization units, the so-called drawing rights. Services received from other RRUs are being accounted for in view of the required

planning harmonization. However, in principle they are not controllable during the budget period: they should be agreed upon in advance. Resource costs incurred for their production remain part of the (expenditure/cost) budget of the service center RRU. The mission center RRU budgets only specify the deliveries the operational units are entitled to. These deliveries are summed up in lists of considerable length in the contracts: up to a hundred items may be specified for training facilities (distinguished in a number of categories), maintenance of weapon systems, equipment and vehicles, housing and infrastructure of several kinds et cetera. A general complaint with respect to this specification of 'drawing rights' understandably concerns the enormous amount of paper work involved.

These three-part listings of resources bought or hired, used or received, stand apart from the listing of performance indicators elsewhere in the contracts. No attempt is made to engage in the next step of cost allocation by transforming the line-item format of the budget in a program format.

It is not clear, moreover, how such a transformation can be accomplished. The numbers of items involved, the lack of data on the specific use of those items, and the deficient linkages between the three parts of the budgets in the existing information systems would make the exercise far too complicated. Thus, cost allocation would not even be feasible in the RRU resource budgets. Authorization of RRU resource budgets, therefore, necessarily refers to expense on resources, instead of results obtained. This obviously prevents the development of performance controls in budget execution.

However, additional deficiencies arise in budget authorization. In the RRU expenditure budget all (direct) labor and material costs are devolved to the responsibility center. The RRU budget is thereby supposed to reflect full cost, irrespective of cost controllability. Obviously, the overwhelming majority of these resource costs are non-controllable. Salary payments normally constitute the bulk of the expenses involved. Controllable items will be restricted to fringe benefits (e.g., expenditures for representation and education). Generally, only 5% of budgeted expenses may be considered controllable – thus not only responsibility for results, but even responsibility for resources, is largely absent in the RRU management contracting system.

Budget execution

Following the line-item format of the budget, competencies in budget execution are demarcated in terms of input controls. For all RRUs, uniform competencies are specified in the categories of the so-called PIOFAH model generally applied in Dutch central government. These categories are:

- P: personnel
- I: information

- O: organization
- F: finance
- A: procurement ('aanschaffingen' in Dutch)
- H: housing

For each RRU, personnel volumes and functions are determined in advance. Changes in P-functions and salary levels are permitted within boundaries. Delegated recruitment for military personnel is restricted. For civilians these restrictions apply mainly to senior salary categories. I-systems for internal use may be freely installed. EDP equipment, however, should fit in a central Information Technology Plan. Internal O-structure may be decided upon by the RRU itself within the boundaries set by the determined personnel formation. With respect to the F-function minor out-of-pocket expenditures do not require prior approval and for some resources switching between sub budgets is allowed. In the A-controls a set of articles to be bought directly at the market (without intervention of Defense procurement centers) is specified. Finally, the H-facilities for Defense are centrally managed, RRU competencies usually being limited.

Restrictions of RRU competencies in the PIOFAH categories are a regular cause for complaints in the Dutch Defense organization. The restrictions, however, are inevitable by default of performance controls with respect to competencies delegated to the RRUs. Moreover, controls are not being related to performance characteristics of the RRUs. For some organization units these uniform controls may be considered adequate, for others they will be perceived as serious obstacles to the performance ultimately intended.

Budget limitation

RRU expenditure budgets – the basic and most important part of their resource budgets - are provided with the usual fixed ceiling spending limits characteristic of expenditure budgeting in general. Without benchmarks for resource costs of intended outputs, no trade-off of budget discipline and target realization needs to be accounted for. In this way, 'decentralized budgets' have no relevance to performance motivation either. RRU budgeting cannot be supposed to enhance efficiency or effectiveness, as spending limits are imposed regardless of performance.

Budget spending is only motivated by the drive to exhaust authorized resources. This behavior does not contribute to an improved cost consciousness in the RRUs. However, cost consciousness is supposed to be the single most important objective of the result-oriented management control framework. In this respect, the impacts of the responsibility for results framework may even be counter-productive. Accidental windfalls in non-controllable items - not distinguished as non-controllable in the budget and thus possibly not recognized as such - may be spent (within the RRU's PIOFAH competen-

cies) on whatever benefits the RRU itself envisages. An equally accidental setback may, however, be presented as requiring budget adjustment: flexibility of budgets in which 95% of expense is non-controllable may be argued insufficient for the 'endogenous' compensations otherwise needed. In fact, under the RRU management contracts flexibility of budget spending in organization units has been reduced, in particular since salary payments have been included in the budget. Thus, though responsibilities for budget spending may have formally increased, accountability for budget spending has actually materially decreased.

Budget evaluation

As already implied in the control characteristics discussed above, performance evaluation with respect to the contracts agreed upon in terms of efficiency and effectiveness is found wanting. First, product and budget elements in the contracts are not linked to judge performance on the performance indicators (if any) listed. Budgeted expense cannot be related to performance, prohibiting variance analysis with respect to the figures presented. Second, the application of input controls in budget execution further reduces accountability for results obtained. Controllability of cost is obscured in the 'full-cost' budgets and decentralized competencies in decision-making on resource costs are restricted.

Disclosure of transformation processes in management control

All endeavors to implement a system of decentralized management control in the Defense organization failed to answer the question of which competencies with respect to resource use should actually be delegated to make units responsible for results. Competencies on resource use considered in the PIOFAH approach are related to expenses - adjusted expenditure - not to activities performed. A next step to arrive at some responsibility for results is a shift from the resource budgets applied in the RRU contracts to 'accrual budgets' in accordance with private business practice.

However, budgeting in public-supported government essentially differs from budgeting in client-supported private business. First, valid linkages between resource costs and performance may be established in private business. The market mechanism prevents the distortion of control by deficient performance indicators. In government, only target values for performance - agreed upon in advance - can be used as benchmarks to evaluate indicator values realized. Generally, in this setting only a loose coupling between cost and performance indicators may be warranted - indicators only provide indications and nothing more. Second, budgeting in government organizations ultimately depends on appropriations in legislative government budgets. These appropriations define external expenditure limitations. They have to be observed, whatever objectives may have been

set in the RRU's management contracts. Responsibility for results will inevitably be overruled by the restrictions imposed on the budget itself. Budgetary responsibility will adjust to this priority and address first of all controllability of expenditure within the limits set.

As has been noted already, budgetary responsibility for controllable expenditure must necessarily be narrowly restricted. Specifically, where budgetary flexibility for current expenditure in Defense is limited to about 5% (95% of expenditure being 'committed'), discretionary decision-making only addresses a fringe of minor expense on representation, traveling, et cetera. To decentralize decision-making on committed costs may imply obvious inefficiencies, as capacities have to match between the organization units, as crowding-out of investment by consumption may occur and windfalls in committed costs may be very arbitrarily distributed (specifically expenditure freed by retirement of personnel may have purely incidental impacts). The idea that decentralization of responsibilities and competencies should involve expanded opportunities for decentralized decision-making on expenditure or expense budgets will thus imply a mission impossible in advance. The decisions addressed may only reflect degrees of economy in spending the discretionary 5% of budgeted resources, and controls applied to those decisions might rightfully be judged 'penny wise, pound foolish' in this respect.

Furthermore, increased decentralized competencies to substitute budgetary resources for each other (e.g., switching between personnel and material) does not materially affect responsibility for results either. Therefore, we conclude that the pursuit in the RRU management control system will remain fruitless – and the implementation of the new governance concept defined for Defense, which has been shown to depend upon this pursuit, as well.

In our view, however, the scope for budgetary decision-making is misrepresented in the assumption that the committed 95% of expenditure has to be considered non-controllable for the RRUs. Decision-making on the use of committed resources does not only cover the commitment as such; it equally encompasses actual use of the resources in budget execution. Discretionary decision-making on resource use may reflect opportunity costs incurred, even when no alternative resources are involved. Committed resources are not necessarily restricted to specific purposes. They may be committed to rather general purposes instead. Thus, we will have to enquire into the alternatives available for resource consumption, to assess the decentralization of competencies actually at stake.

Usually, committed costs are associated with capital investment. Outlays on military equipment – weapon systems – may be acknowledged to commit resources for sometimes very specific purposes. In the Air Force and the Navy the selection of certain types of aircraft and ships may restrict resource use for operational units of these Services to a

large extent and for a considerable length of time. In such cases, committed costs have become non-controllable in all relevant senses. And this lack of controllability may not only affect capital costs themselves; it may affect all related ('complementary') personnel and material costs as well. The choice of a specific weapon system may thereby fully determine budgetary spending for some RRU.

However, in the labor-intensive production processes of many other armed services – specifically, but not exclusively, in the land forces – this argument does not hold. Labor may be put to many alternative uses, notwithstanding fixed expenditure on military and civilian salaries. Even capital expenditure like soldier equipment can be judged variable in this sense, as the use of this complementary expenditure will depend upon the use of labor itself.

Obviously, discretionary decision-making in the RRUs will not be reflected in its expenditure or expense accounts. Management control cannot be based upon the financial accounting system actually applied in present DDoD management contracting. However, additional control systems are largely absent: opportunity costs of labor are hardly visible to central management. The controls applied to RRU budgets do not prevent actual use of labor to be predominantly determined by RRU objectives and priorities. As management contracts specify requirements for expenses exclusively, these objectives and priorities generally remain implicit in RRU contracting – and as a result tight input controls are being applied in the endeavor to redress the distortion of decision-making stemming from them.

Our analysis of the control problem embedded in the RRU management contracting system can be summed up as an argument to establish more transparency in RRU resource use, contrary to the actual emphasis on resource provision. Responsibility for results may be based upon opportunity costs implied in the use of resources, whenever these costs themselves can be revealed.

In our view, an assessment of resource use in activities performed may be developed as an extension of accounting systems already applied in other government organizations. Building upon earlier research (Mol and De Kruijf, 2004) these mechanisms are outlined in the next section. Subsequently, their application to Defense is examined in section five.

Resource use in activities performed

In the labor-intensive services of government organizations variable costs of labor employed on the basis of unrestricted contracts are pivotal in establishing or evaluating efficiency of performance. Budgetary accounting for management control will not be

able to assess this variability in purely financial terms. Salaries paid will usually express relevant costs only to a very limited extent: the bulk of payments is fixed and independent of activities performed.

To disclose variability, the allocation of time within the fixed labor force will have to be addressed. Generally, however, accounting systems are not tuned to the measurement and allocation of labor time needed for this purpose. Additionally, heterogeneity of labor – in volume and price – may prove to impede the calculations required. But nevertheless, actual possibilities to disclose opportunity costs of labor time are rarely exhausted in government organizations. In our view, the possibilities are not exploited in the DDoD.

In this respect, Mol and De Kruijf (2004) show that management reports in Dutch central government address decisions on labor time at very different levels of disclosure. Typically, they distinguish four levels of disclosure:

1. At the lowest level, information is restricted to (productive) labor time, measured in hours or full-time equivalents (FTEs). At this level, variances can be detected with respect to authorized staffing levels and divergences caused by leave of absence, detachment elsewhere or training programs. This level is generally recognizable in management reports within Dutch central government. Authorized budgets are generally accompanied by agreements on personnel formations of organization units, usually with fixed FTE capacity constraints and often including specifications in function groups (salary levels). Variance analysis in terms of unfilled vacancies and – prominently – sick leave percentages is common practice. The sick leave indicator may weigh heavily in human resource management as a yardstick of employer-employee relationships.
2. At the second level, a distinction between direct and indirect labor is made. Information at this level may give a clue to assessing burdens of overhead and it may provide an idea of priorities attached to different tasks in organization units. Hours locked up in ‘back office’ paper work – as opposed to direct operations – and allocated to specific tasks can be monitored and reported for all organization units engaged in primary processes. Familiar examples in Dutch government relate to the (regionalized) police organization. For many years this organization has professed its commitment to increase actual presence of the police force ‘at street level’ – unfortunately, with limited success as about two-thirds of working hours remain locked up in back-office desk activities.
3. At a third level, labor time is allocated to measurable activities (contrary to tasks circumscribed in general terms only). It allows the assessment of workloads and the performance of variance analyses with respect to them. In more or less homogeneous processes – as exemplified by several inspection services in Dutch central government - such an assessment should be feasible. Reviews of performance reports, visits

to inspect producing facilities, procedures to assess compliance with regulations, et cetera, may be sufficiently standardized to allow for measurability in 'numbers of services provided'. For organization units with a fixed (personnel) capacity developments of these numbers over time may indicate increasing or decreasing 'stress' and interorganizational variances may *ceteris paribus* be interpreted as productivity differentials.

4. At the fourth level of disclosure, the labor time allocated to activities is additionally standardized. Thus, information on hours actually worked permits performance evaluation in terms of efficiency. Clearly, at this level opportunity costs will be revealed – and conditions will thereby be fulfilled to move on to contractual relationships with mission centers, ultimately permitting a next step towards transfer pricing as well. For a number of organizations in Dutch central government this level has already been implemented. The (national) cadastral organization, the agency for road traffic control and – to some extent – the internal revenue service have developed information systems to monitor the relevant variances. In all these cases management control has effectively been embedded in benchmarking for decentralized organization units.

However, even while only the fourth level of disclosure will provide a really firm base for management contracting, a move upward from the first level to the second and third may certainly pave the way. The decrease in information asymmetry between principal and agent established by decision revelation at any higher level of disclosure might trigger renewed incentives to realize the potential of 'self-management' in the struggle against bureaucratic paralysis in government organizations. This proposition may hold for the DDoD as well. Thus, in the next section we will investigate the possibilities for such an upgrading of management control in a number of mission centers within the DDoD.

Disclosure of opportunity costs of labor time

In all organization units of Defense, decision-making processes regarding activities imply choosing the use of the fixed available labor force. While the size and composition of the unit's staff may be given at the onset, the commander controls to a large extent whatever is being done with this 'production capacity'. Generally, the commander's decisions will have only minor consequences for the unit's total expenditure – but they may be decisive with respect to actual performance of the unit.

We have investigated how the opportunity costs embedded in commanders' deci-

sions are being reflected in the information disclosed on the activities performed. Our research has been directed at the disclosures made by the Royal Netherlands Army (RNLA), in particular, as disclosures made by the land forces are usually expressed in labor time (e.g., man hours or days), instead of air time, police time, or sea time. We focus on the part of the RNLA that is responsible for preparing operational units for deployment in the international peace keeping and peace enforcing operations in which the Netherlands participate. To date, September 2007, this part of the RNLA is called the Land Forces Command (in Dutch 'Commando Landstrijdkrachten'; CLAS). The 2002 Budget Memorandum calls this part of the Army I (GE/NL) Corps. In the 2003 Budget Memorandum it was called I Division <<7 December>>. Finally, the 2004 Budget Memorandum refers to OPCO: Operational Command.

As a matter of fact, the development in the disclosures made in the 2002, 2003 and 2004 Budget Memoranda (issued between 2001 en 2003) and the 2004 Annual Account (issued in 2005), correspond to the levels 1, 2, 3, and, arguably, to level 4 distinguished in section four of this paper. The 2005 Budget Memorandum (issued in 2004) corresponds with the disclosure level in the 2004 Annual Accounts. However, in the 2006 Budget Memorandum (issued in 2005) disclosures return to below level 1.

A Level 1 Disclosure: I GE/NL Corps

According to the 2002 Budget Memorandum (Ministry of Defense, 2001: 58), I German- Netherlands Corps (I GE/NL Corps), within RNLA, is considered the most important supplier of operational readiness of the units.

The Dutch part of I GE/NL consisted of:

- I Division << 7 December>>,
- II Air Maneuver Brigade
- Special Forces (in Dutch: 'Korps Commando Troepen'; KCT);
- the Dutch part of the Command Support Brigade.

Furthermore, the Memorandum states training and exercise to be the key-activities that will lead to operational readiness at the right time. Training and exercising is considered to be preparation for the actual deployments. The consequences of these points of view may be quantified as follows in table 2:

Activity	Measurement unit	Realization 2000	Expected 2001	Estimate 2002
Training/exercise	Man days	520 000	560 000	580 000
Deployment	Man years	1900	1700	1600

Source: Ministry of Defense (2001: 58)

Table 2 Level 1 disclosure: Productive hours for training/exercise and deployment

We consider the disclosures in table 2 to be level 1 disclosures. Both ‘items’ specify the total productive labor time available for ‘training’ and ‘deployment’ realized in 2000, expected for 2001 and estimated for 2002.

A Level 2 Disclosure: 1 Division 7 December

In 2002, I (GN/NL) Corps ceased to exist. The 2003 Budget Memorandum (Ministry of Defense, 2002: 63) stated that due to the formation of the High Readiness Force (Land) Headquarters (HRF(L)HQ), 1 Division <<7 December>> had assumed all tasks concerning the conduct of management formerly performed by I (GE/NL) Corps. From this time, 1 Division <<7 December>>, within RNLA, has been considered the most important supplier of operational readiness.

1 Division consisted of:

- Division Staff,
- NL-part of HRF(L) HQ,
- Air Maneuver Brigade (AMB),
- Mechanized Brigades,
- Division Combat Support Command (DCSC),
- Division Logistical Command (DLC).

The 2003 Budget Memorandum (Ministry of Defense, 2002: 64), besides specifying the total amount of available labor time (level 1 disclosure), also globally differentiates between types of labor as quantified in table 3 (level 2 disclosure).

1 Division 7 December (in: man training days)	Training/Exercise	Realization 2001	Expected 2002	Estimate 2003
AMB	VI			22,500
	VI			76,000
13 Mechanized Brigade	V			18,000
	Field training exercise			5,000
41 Mechanized Brigade	V			8,280
	V			24,440
43 Mechanized Brigade	V			27,760
DLC	IV			14,250
DCSC	V			39,100
Other training/exercise	I-IV			86,400
	I-IV			43,200
	I-IV			268,070

Total	560,000	580,000	633,000
Source: Ministry of Defense (2002: 64)			

Table 3 Level 2 disclosure: Differentiating between types of labor

Table 3, second column, acknowledges various levels of training and exercise. The lowest level (I) refers to individual military training. Above the level of the individual soldier, the Army distinguishes training and exercising at group (II), platoon (III), company (IV), battalion (V), and brigade (VI) level.

Because of the fact that labor time is allocated to measurable (clusters of) activities (i.e., level I-VI), table 3 could be interpreted as a level 3 disclosure. However, the 2003 Budget Memorandum (Ministry of Defense, 2002: 64) states, 'because battalions can be deployed during peace operations, and brigades are considered as platforms for peace-enforcing operations, training and exercising at the levels V and VI are disclosed separately'.

On account of this remark, we consider the information presented in table 3, a level 2 disclosure, as the 2003 Budget Memorandum does not aim to measure labor time for specific activities. Instead, it measures labor time allocated to peace-operations and non-peace operations. According to us, table 3 offers an idea of priorities attached to different tasks in organization units.

A level 3 Disclosure: OPCO

In 2003, 1 Division <<7 December>> is not mentioned anymore. The Operational Command (in Dutch: Operationeel Commando; OPCO) is introduced. The 2004 Budget Memorandum (Ministry of Defense, 2003a: 46) announces that, from January 1st 2004, OPCO will be operational. Moreover, within RNLA, OPCO is considered the main supplier of operational readiness. In 2004, OPCO consisted of:

- Staff,
- NL-part of HRF(L) HQ,
- Air Maneuver Brigade,
- Mechanized Brigades,
- Combat Support & Support Command (CSSC),
- Division Combat Support Command (DCSC),
- Division Logistical Command (DLC),
- Operational Staff

The available labor time within the above-mentioned organizational units is allocated to level II-VI training and exercising, as presented in table 4.

Type of unit	Man training days				Budget	*
	II/III	IV	V	VI	€1,000s	
HRF(L)HQ						
Staff	3 000			2 000	275	
Staff Support Bn	5 000				275	
CIS Bnt	5 000				275	
Special Ops Staff	170				9	
Special Forces Coy	30 533	6 241			2023	
Core Staff Log Bde				1 032	57	
Core Staff Engineers Bde			600		33	
11 AMB						
Bde Staff	3 110		3 350	2 000	465	
Infantry Bn	46 890	28 780	30 510		5 840	
Mortar Coy	2 200	1 300			193	
Engineer Coy	2 200	1 300			193	
Air Defense Coy	2 200	1 300			193	
Other units	6 700	10 000			919	
Mechanized Brigades						
Bde Staff	2 600		2 600	2 000	396	
Mech Inf Bn	32 238	32 044	10 100		4 091	
Tank Bn	20142	10 440	4 500		1 930	
Brig Recon Sqn	17 900	3 038			1 152	
Field Arty	25 256	9 259			1 898	
Mech AD Arty	9 000	4 350			734	
AE Coy	14 907	4 658			1 076	
Other units	38 461	13 673			2 867	
CSSC						
ISTAR module	13 445	4 415			982	
AE Bn	6 474	2 100			472	
Engineer Bn	5 554	6 520	6 200		1 005	
Bridge Coy	2 400	1 300			204	
NBC-Coy	2 100	1 100			176	
Recon Bn	3 038	8 805			651	
DLC						
Supply-Transport Bn	7 867	4 252	320		4	
Mat Services Coy	19 718	7 603	320		1 520	
Medical Bn	20 616	6 197	320		1 492	
National Reserves Bn					11 800	
NL-part CIMIC Group North (CGN)					28	
Total budget					43 908	
Source: Ministry of Defense (2003a: 48)						

Table 4 Level 3 Disclosure: Labor time for activities

In table 4, columns 1-5, in great detail, describe the amount of labor time the organizational units belonging to OPCO, have available for the various level of training and exercising. In our view, the information in table 4 represents a level 3 disclosure: labor time is allocated to measurable activities.

The last column in table 4 represents the opportunity costs of allocating labor time to the different activities concerning training and exercising. This column provides an insight into the financial impact of training and exercising. Please note, the exceptional positions of the National Reserves Battalion (NRB) and the NL contribution to CIMIC [Civil Military Cooperation] Group North (CGN). According to the information presented in table 4, the NRB, while refraining from training and exercising, costs about €12 million, whereas, CGN takes part in the training and exercising, with seemingly no financial consequences to the Dutch tax payers.

OPCO still Alive and Kicking: A Level 4 Disclosure?

The information presented in table 5 is derived from the 2004 Annual Accounts (Ministry of Defense, 2005: 38-39). The 2004 Annual Accounts present a variance analysis relating the budgeted labor time (of table 4) to actual labor time spent within OPCO in 2004 on training and exercising.

Type of unit	Man training days						Amounts * €1000s		
	II/III	IV	V/VI	Total	Total	Variance	Bud- get	Real- ization	Vari- ance
	Real- ization	Real- ization	Real- ization	Real- ization	Budget				
HRF(L)HQ	31173	2305	9215	42693	53576	-10883	2947	2349	- 598
Staff	3533		1500	5033	5000	33	275	277	2
Staff Support Bn	6067			6067	5000	1067	275	334	59
CIS Bn	5607	750		6357	5000	1357	275	350	75
Special Ops Staff	120			120	170	-50	9	7	- 2
Special Forces Coy	15686	1555		17241	36774	-19533	2023	948	- 1075
Core Staff Log Bde	160		7315	7475	1032	6443	57	411	354
Core Staff Engr Bde			400	400	600	-200	33	22	- 11
AMB	10476	33125		53561	141840	-88279	7803	2946	- 4857
Bde Staff	120			120	8460	-8340	465	7	- 458
Infantry Bn	6000	30670	9960	46630	106180	-59550	5840	2565	- 3275
Mortar Coy	975	460		1435	3500	-2065	193	79	- 114
Engineer Coy	504		9960	504	3500	-2996	193	28	- 165
AD Coy	693	425		1118	3500	-2382	193	61	- 132
Other units	2184	1570		3754	16700	-12946	919	206	- 713
Mechanized brigades	55078	57333	28990	141401	257166	-115765	14144	7777	- 6367
Bde Staff	2754	300	60	3114	7200	-4086	396	171	- 225
Mech Inf Bn	12885	14786	23362	51033	74382	-23349	4091	2807	- 1284
Tank Bn	6021	6709	3480	16210	35082	-18872	1930	892	- 1038
Bde Recon Squ	6886	4640		11526	20938	-9412	1152	634	- 518
Field Arty	5730	10	298	6038	34515	-28477	1898	332	- 1566
Mech AD Arty	3564	3570		7134	13350	-6216	734	392	- 342
AE Coy	6079	16800	1680	24559	19565	4994	1076	1351	275
Other units	11159	10518	110	21788	52134	-30347	2867	1198	- 1669
CSSC	8046	15020		30161	63451	-33290	3490	1650	- 1840
ISTAR module	2142	2640	7095	5282	17860	-12578	982	291	- 691
AE Bn	1620	1250	500	7245	8574	-1329	472	389	- 83
Engineer Bn	1305	5810	4375	8115	18274	-10159	1005	446	- 559
Bridge Coy	861	2130	1000	2991	3700	-709	204	165	- 39
NBC-Coy	960	2440		4620	3200	1420	176	254	- 78
Recon Bn	1158	750	1220	1908	11843	-9935	651	105	- 546

DLC	28374	25420		57449	67213	-9764	3696	3160	-536
Supply-Transport Bn		12865	3655	25214	12439	12775	684	1387	703
Mat Services Coy	13860	10905	1900	26520	27641	-1121	1520	1459	- 61
Medical Bn	4065	1650	1755	5715	27133	-21418	1492	314	-1178
NRB	188273			188273		118273	11800	10355	-1445
NL-CGN	532			532	528	4		29	29
Totals	321952	133203	58915	514070	583774	-69704	43880	28266	-15614

Source: Ministry of Defense (2005:38-39)

Table 5 Level 4 Disclosure? Variance analysis

In table 5, columns 2-4, describe the amount of labor time actually spent on the various activities related to training and exercising. Columns 5-7 relate the total hours worked to the total hours budgeted. As table 5 (column 7) shows the analysis is negative in most cases. This means, the total amount of work is less than budgeted. Columns 8-10 transfer the so-called man training days to financial entities. The number at the bottom right entails a negative amount of about €16 million.

This number corresponds with 69,704 hours less training and exercising than originally budgeted. The 2004 Annual Accounts explain the variances in general terms, 'due to the operational deployments during 2004 the training and exercise program has been adjusted. Also, vacancies and the need for unforeseen support have caused adjustments to the plans. Thus, the number of realized man training days lags behind the budget. This rather large adjustment has been partly compensated for by non-budgeted man training days assigned to the National Reserves Battalion' (Ministry of Defense, 2005: 39).

A level 4 disclosure is not so much about analyzing variances as such, but, rather about analyzing variances of standardized work processes. By means of standardized normative values, it becomes possible to diagnose the degree of efficiency by which such work processes have been conducted. The question remains whether the measurable activities stated in table 5 are standardized measurable activities.

On account of military experience, we presume level I-IV training and exercising to be standardized. Level V-VI training and exercising, on the other hand, often prove to be less standardized. Therefore, diagnosing the efficiency should not pose to be any problem regarding training and exercising at levels I-IV. However, such a diagnosis has not been made. For this reason, we doubt whether the Annual Accounts represent information at a level 4 disclosure.

In the timeframe following the 2004 Annual Accounts, information on the relationship between activities and labor was disclosed in the 2005 Budget Memorandum (Ministry of Defense, 2004a: 45). The information disclosed corresponds with the disclo-

sure level in the Annual Accounts of 2004. However, in the 2006 Budget Memorandum no quantitative disclosures concerning the relation between labor time and activities can be found. We would like to suggest further research into this area.

Summary and Conclusion

The introduction of transfer pricing under the new governance concept of the Dutch Department of Defense will enhance the need for improved performance controls in the operational units of the department – the ‘consumers’ of the priced internal services. In the absence of reliable result controls, we argued that action controls based upon a disclosure of the opportunity costs implied in the use of resources should prevent the control losses otherwise incurred. In the past years we have seen some efforts being made to provide for such a disclosure in the Defense Budget Memoranda and Annual Accounts.

To our regret, in the 2006 Budget Memorandum those efforts to open the black box of (training) activities in the department’s operational units are discontinued. Presumably, the benefits from the additional information are considered insufficient to justify its costs. In our view, however, the potential to apply the disclosed information to decision making in the department had not yet been actualized. Specifically, no attempt has been made to diagnose the variances disclosed in the accounts in terms of the decisions underlying the budgets. Maybe the department’s centralized management does not believe in this potential for an improved management over its mission centers – but we doubt that it will overcome the complexities resulting from its new integrated governance structure without the increase of transparency intended in the disclosure of operational activities.

Notes

1. This section is based on Mol and Beeres (2005)

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vanaf hier is het nieuwe tekst

Preparing military units for their tasks, the challenge of measuring operational readiness

*An interview with Brigadier General R Verkerk (RNLMC) and
Commander HW Zwier (RNLN)*

Jelle Arts, Roel de Laat, Stefan Wildenberg and Christiaan van der Linden

NL-ARMS, 2007, xxx-xxx

Introduction

Because armed forces are financed by taxpayer's money, it is necessary that they are operating in an effective and efficient way. To achieve this, good training is vital. New missions of the Dutch armed forces, for instance in Afghanistan, show that the operational preparedness for tasks is vital. As a result, the focus on measuring the readiness of military units has increased considerably. The main perspective for the interview is to establish how to achieve that troops are combat-ready and how their effectiveness and efficiency is ensured. The officers interviewed, Brigadier General Verkerk and Commander Zwier, works for the Netherlands Chief of Defence (CHOD). He is responsible for ordering and measuring operational readiness states of military units. The answers given provide a realistic insight into the process of unit preparation and performance measurement.

You were asked to tell us something about this subject. Could you first elaborate on your definition of "preparing military units"?

"First of all, when ordering and measuring operational readiness, military units are addressed at battalion level or its equivalents within the Navy and the Air Force. Military units are equipped with weapons and military personnel. Preparing those units for their tasks takes place in two stages. The first stage focuses on the preparation for conducting generic tasks. Individuals and their equipment are brought together and training at various levels is undertaken. The second stage optimizes units for conducting specific tasks, related to a specific mission. During this stage, situations that may be encountered are addressed and trained for. Attention is given to the potential threat as well as specific cultural and terrain conditions that are expected."

Why is measuring of readiness while preparing military units, an important item at the moment?

“As representatives of the Ministry of Defence, we have a duty to scrutinize our own performance aiming at optimal effectiveness and efficiency. Effectiveness is increasingly important as we conduct more and more real world operations. Efficiency also attracts more attention than before; as a result of the reduction of the Defence budget over the past years and the increased focus of Parliament on the ways at which public money is spent.”

How do you measure the level of preparation?

“Measuring performance takes place at various levels within units. Performance measurement at sub-unit level mainly assists the unit commander in monitoring progress made by his unit. In a battalion, for example, sub-unit monitoring starts at platoon level. This, we feel, is the right size for to start measuring performances, because different platoons have different tasks. At sub-unit level, performance measurement is not conducted continuously, but at specific times, when they should be prepared for their generic tasks. But I have to stress that generic capabilities may (or will) have to be enhanced based on specific mission requirements. Performance measurement and reporting to the CHOD takes place at battalion level or Navy and Air Force unit equivalents.”

Why is it so difficult to measure effectiveness and efficiency of preparation?

“Basically, these are two separate questions. Effectiveness and efficiency cannot be mentioned in one breath. Generally, the effectiveness of a platoon is measured after completing the process of preparing for generic tasks. Because this is a standardized process, it is not possible to counter all possible (mission) circumstances. Therefore, it is difficult to declare a military unit ready other than for generic tasks. We are a process-based organization in which no clearly defined output can be measured. What we measure is the overall preparedness for generic tasks. Important is to determine how well a unit performs during a training period, and based on the results, we assess the unit's ultimate effectiveness. A problem is that measuring a unit's effectiveness is largely based on specific training situations. Therefore, the representativeness of the results regarding actual performance in action remains questionable.

There are examples of units testing to measure effectiveness in a different way. For example, the Dutch Air Force measures squadron effectiveness also by comparing them to similar squadrons of other countries within NATO.

The measurement of the efficiency of a unit is easier. Because the budget of a military unit (not only in money but also, for instance, the use of supplies) is related to unit tasks and programmes, measurements mainly consists of checking whether a unit has achieved its goals whilst remaining within the budget. As long as this is the case, it is considered efficient. On the longer term, efficiency has a different meaning. In order to prepare military units, a lot of supporting activities are produced “in house”. This may be inefficient, given the potential of sourcing out such services. Therefore, we should regularly ask ourselves whether internal services required for training should be provided by the armed forces or be outsourced in order to be more efficient.”

Are there differences in determining effectiveness and efficiency in this process between the Air force, the Navy and the Army?

“There is a difference in how and what the different services of the armed forces measure. In general, their aims and objectives are the same. Operational readiness is broken down into three parts: materiel and personnel readiness and the level of training achieved.

Materiel readiness is measured in amounts of equipment available, but also, for main systems, the equipments working order is measured. The ways in which the services measure material readiness vary because of the differences in nature of equipment. On account of this variation, transparency suffers, which poses a challenge for the Directing Staff, including the Defence Staff. Improvement is expected as new information systems are being introduced.

At present, personnel readiness measurement is largely based on measuring quantity assuming that individuals are well trained on an individual level. The output of the measurement is a percentage, which indicates the availability of personnel to perform unit generic tasks. A concern is the underlying assumption. We should not only measure quantity but also quality. By quality, I mean the level of individual training and the physical condition of individuals. The problem is that this is very difficult to measure objectively. The only way to judge this at present is to ask the unit commanding officer’s opinion. In the long run, an updated Personnel Information System may help the commander forming his opinion. In this way, measuring quality is likely to improve. Still, it will remain difficult to objectively measure the effectiveness of a unit, since there will always be immeasurable factors, such as crew moral.”

Management control of ICT-services

A case study within the Defense organization

Christiaan Davids

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Abstract

This contribution discusses an empirical investigation into the management control system (MCS) of the Defense Telematics Organization (DTO), by means of a model originating from the profit sector (Van der Meer-Kooistra and Vosselman, 2000). The model describes how contractual relations can be brought about between an outsourcing party and a supplier and how these two parties can cooperate and control the risks that come with the outsourcing of activities. The application of the model to the relation between DTO and the defense organization indicates that a bureaucracy-based management control pattern is the most suitable at the moment. Actual practice is in line with this. Furthermore, the research shows that the present organization of the MCS may cause high transaction costs. Finally, it appears that the developments in the DTO market, combined with the vision that the regular and operational information provision are becoming more and more intertwined, have an impact on the considerations with regard to positioning DTO within the Defense organization, the government organization, or as an external partner. Subsequently, this positioning problem has consequences for the “fit” of a specific type of MCS.

Introduction

Failing management control systems (MCS) and processes in organizations can have serious consequences, as the notorious Enron and Ahold cases have all too clearly shown. That is why management control has been the object of several research projects (see, for instance, Bisbe and Otley, 2004:1). Van der Meer-Kooistra and Vosselman (2000) have carried out an empirical research into the manner in which management control relations between for-profit organizations have been realized and can be controlled. This relation is known as *interfirm* relation and it comes into existence the moment a for-profit organization decides to outsource tasks, services or products (Van der Meer-Kooistra and Vosselman, 2000: 1-2).

The Van der Meer-Kooistra and Vosselman model is based on contracting theories,

such as transaction cost theory (Williamson, 1985), in which specific attention is given to the role of trust (Van der Meer-Kooistra and Vosselman, 2000:1). One of the outcomes of the research is that trust plays an important role in outsourcing and that drawing up large contracts, one of today's paradigms, is not always an optimal choice. Following Van der Meer-Kooistra and Vosselman's research, Langfield-Smith and Smith (2003) carry out a case study in a power plant that has outsourced its ICT services. This research, too, confirms the importance of trust in outsourcing. It can be said that the importance of trust in *interfirm* relations between for-profit organizations has been established and it is interesting to investigate whether these insights can also be detected in the management control of internal outsourcing (*intrafirm*) in not-for-profit organizations.

The aim of this investigation is to gain an insight in the applicability of the Van der Meer-Kooistra and Vosselman model by analyzing the process that gave rise to the establishment of an agency for ICT services and the contracts and agreements drawn up in the Ministry of Defense. The central question of the research is: *To what extent can the Van der Meer-Kooistra and Vosselman model be applied to the internal outsourcing of ICT services within the Ministry of Defense and in how far does this model provide a better insight into internal outsourcing within the national government?*

To this end, the paper is structured as follows. The following section will go into the research design. Section three describes the organizational model of the defense organization focusing on the position of DTO, information provision and information and communication technology. Then, the Van der Meer-Kooistra and Vosselman research model will be presented and the sub-question relating to the extent to which it is applicable to the Ministry of Defense will be dealt with. In the fifth section the results of the research will be discussed with regard to the variables of the model. Next, on the basis of these results, the hypothesis of the model will be described and compared to the actual MCS. Finally, the results of this research will be analyzed further and a number of conclusions will be drawn and some recommendations given.

Research design

The research is directed at the analysis of the internal outsourcing of ICT services within the Ministry of Defense to DTO. Other (internally) outsourced services and products in the Ministry of Defense will be left out of consideration. This research is carried out in the form of a case study with the Ministry of Defense and DTO and their relation for its objects of research. Apart from the assessment of documents, directives, guidelines and reports, six functionaries were interviewed by means of semi-structured interviews.

- Defense Audit Board (ADD) - 2 functionaries; one on management level and one on executive level.
- Directorate of Information Management and Organization (DIO) - 2 functionaries; both are policymakers.
- Defense ICT Implementation Organization (DICTU) - 1 functionary; works as a senior staff member with the Smart Buyer Organization.
- DTO – 1 functionary; works at management level within the Economy and Finances (control) organization.

Defense Telematics Organization: managing ICT services

The Defense Telematics Organization (DTO) came into existence in 1998 through an amalgamation of the telematics units of the Services (the present-day Operational Commands -OPCOs) and the Duyverman Computer Center agency. Its purpose was efficiency (market conformity in prices) and a qualitative impulse through scaling up. DTO is organized as an agency – an internal independent service unit of a Ministry (national government), based on a result-oriented management model (Kraak and Oosteroom, 2002: 9). The DTO agency carries out and keeps accounts of its activities with the help of an accrual accounting system as opposed to the cash system of the Ministry. DTO uses tenders, contracts and gives account by means of an annual report. It provides ICT services, including advice, integration, development and control of information systems and ICT infrastructures, primarily to the defense organization. DTO employs well over 2,000 employees and has an annual turnover of €250M. Its objective is to provide integral market-conform ICT services to its customer in conformity with the market, with exclusivity, reliability and availability for key concepts.

Vital ICT tasks for the Defense organization, such as the control of information systems and networks, have been exclusively placed with DTO. This also goes for services with special security requirements. Thus, DTO controls about 40,000 work stations and the underlying ICT infrastructural components and hundreds of (defense) applications. For the other types of services DTO has right of tender.

The individual defense units draw up contracts with DTO, specifying which products and services are purchased at what price. In order to prevent having to establish preconditions and conditions of delivery each time a product or service is delivered, a framework agreement was drawn up between DTO and Directorate-General of Finance and Control (on behalf of the other defense units). This framework agreement describes the general and specific conditions the supplier and the customer have to meet. Examples of such general conditions are price indexation, acceptance, secrecy and settling of dis-

putes. Specific conditions concern annulment, maintenance, error reporting, security and times of control.

Increasingly, DTO services are also provided to other Ministries, in particular in the field of Public Order and Safety. Thus, DTO provides, amongst others, ICT control to the Ministry of General Affairs, Internet services and all carrier services for the C2000 communication network of the Ministry of Internal Affairs, ICT control for the Immigration and Naturalization Service of the Ministry of Justice, and the control of the organ donor system of the Ministry of Welfare, Health and Sports. Furthermore, DTO was recently chosen to provide the communication network between all Ministries, the so-called Hague-circle.

Up to this moment DTO has remained a part of the Ministry of Defense. In 2001 an investigation was carried out into the advisability of an independent DTO, which in November 2002 resulted in the decision not to make it independent (outsourcing) but to impose a concrete efficiency target for the next three years on DTO. After this period, at the end of 2005, the decision not to outsource the ICT services was to be reconsidered, with the extent to which the efficiency target was attained as an important factor. In 2006 this efficiency operation was to lead to a structural lowering of prices, amounting to €64M. The reasons in 2002 for deciding not to outsource DTO for the time being had mainly to do with uncertainty regarding the security aspects of the control of the Defense communication network (Netherlands Armed Forces Integrated Network - NAFIN). Moreover, it was expected that DTO would be able to work more efficiently. On 22 November 2005 the Defense Secretary-General informed the Second Chamber about the reconsideration regarding the outsourcing of DTO. In his letter he writes the following (Second Chamber, 22-II-2005):

'I come to the conclusion that the developments since 2002, within the Defense organization and the entire national government, have shed a new light on the reasons at the time for considering outsourcing. Therefore, for the coming years outsourcing is not an option. DTO remains a Defense unit. As for services rendered to other Ministries, the present policy is to be continued, with the main focus on the field of public order and safety. This level of ambition befits a limited capacity, as rendering services for other Ministries cannot be at the expense of the quality of service for the Defense organization'.

This clearly shows that DTO will not be outsourced the coming years and that it is going to broaden its market. This means a gradual increase of external clients, which will make DTO less dependent on the Ministry of Defense.

IP and ICT

The defense organization is strongly dependent on information provision (IP) and information and communication technology (ICT) which enables it. IP is one of the most important foundations for Defense operations as well as management and control. An MOD analysis over the period 1996-1998 shows that information provision has developed into a major production factor. The operational decision making process as well as the political process is strongly dependent on correct and timely information. In fact the decision making process is not merely supported by IP but entirely dependent on it.

Adequate information provision generates “competitive potential in winning the war”, whereby a distinction between information provision for operational and managerial and support purposes is increasingly hard to make. Currently, the defense organization is introducing Enterprise Resource Planning (ERP) to support logistic and financial processes. This ERP support must also be used during missions abroad, which only underlines the integration of managerial and operational IP. The development of concepts/visions like “Network Centric Warfare” allows an information flow from the soldier/sensor to the highest possible level. Stimulated by this sort of developments, procedures and organizations will adapt to the new possibilities. Partly due to the possibilities that future technology is going to offer (and up to an extent is already offering), the role of IP is changing from supporter to “enabler”. In order to meet the defense organization’s demand for IP, a sourcing strategy has been set up. In this context sourcing means the making of a choice for and entering into a relation with a number of internal/external suppliers, who deliver certain products and services against payment. The sourcing strategy of the defense organization concerns the choice for in-or outsourcing of the supply of IP services and products and was mapped out in 2002. Its objective is to make IP and ICT services as efficient as possible on the basis of two important principles:

- DTO supplies all vital IP products and services;
- For non-vital IP products and services the market will be approached, while DTO has the right of tender, just like the other parties in the market.

Specific requirements have been set for vital products and services with regard to reliability and exclusiveness. In view of its tasks the defense organization provides a large number of vital products and services from a societal perspective, and as a consequence the proportion of vital tasks and products will be high and so will DTO’s share of the IP supplied.

ICT control

Information, Communication and Technological (ICT) infrastructure (all ICT tools combined) are necessary to realize IP. The control of non-operational ICT infrastructure is carried out by DTO and that of operational ICT infrastructure by the OPCOs. It was intended (and realized in the second half of 2006) to place the separate ICT control within the OPCOs in a so-called Joint CIS Group (JCG) for efficiency purposes. The distinction between operational and non-operational IP is a different cross-section of the IP area than vital and non-vital. For instance, vital IP can be supported by operational ICT and in that case it will not be controlled by DTO but one of the OPCOs. Eventually, this distinction cannot be made very sharply because, for instance, the infrastructure of the glass fiber network (Netherlands Armed Forces Integrated Network) is controlled by DTO and NAFIN can be an element in OIP. In short, operational ICT is ICT that is actually used in operations.

Management control of DTO

In practice, the MCS of DTO is mainly realized by the Central Staff and the defense ICT implementation organization. Four elements of the Central staff, viz. the Directorate of Information Management and Organization (DIO), the Directorate of Financial and Economic Affairs (DFEZ), the Security Authority (BA) and the Defense Audit Service (ADD) are particularly relevant for the MCS of DTO. It is DIO's task to carry out the preparation, implementation and control with regard to IP policy, corporate architecture and IP plans. DFEZ is responsible for financial control of IP and ICT. One of the tasks of BA is the policy with regard to information security for the entire Ministry and in that capacity it lays down requirements for IP and ICT with regard to reliability, continuity and exclusiveness. Finally, ADD controls DTO's financial management, the financial annual report and the reliability requirements.

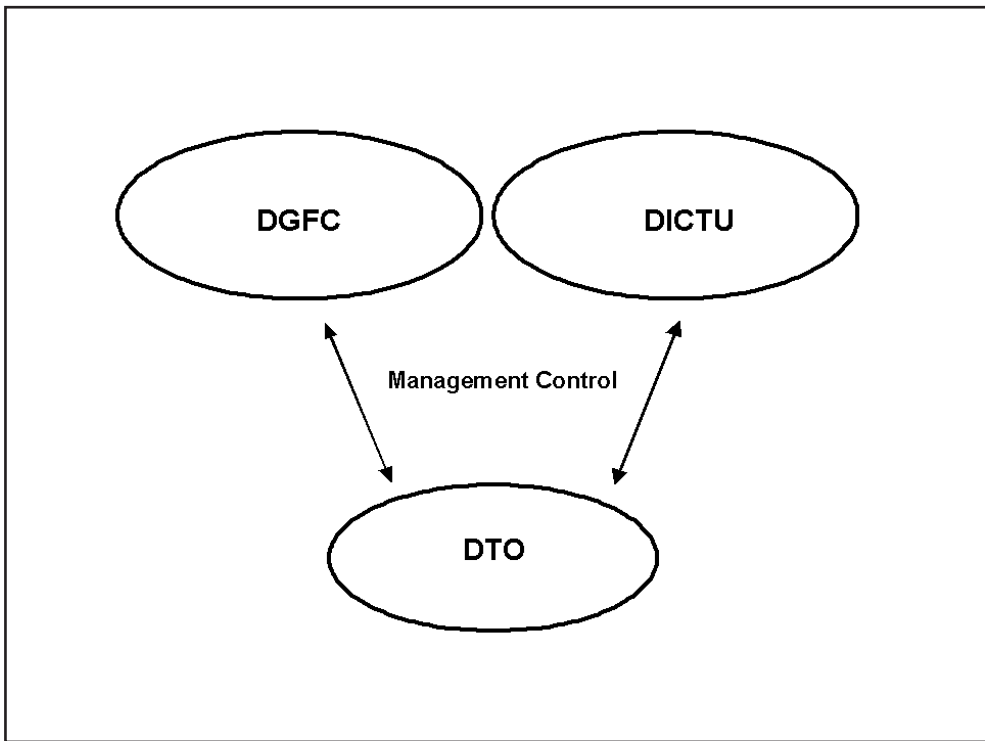


Figure 1: DTO Management control

Apart from these central staff elements the Defense ICT Implementation Organization (DICTU) is the point of contact for the Defense units (for instance, the OPCOs) and suppliers for IP and ICT matters. This implementation organization has taken over the functional control from the defense units and represents the functional clients with respect to the ICT organization. In this way DICTU can be seen as a form of shared service center (Strikwerda, 2003). The immediate occasion for establishing DICTU lies in the developments for outsourcing DTO in 2001-2002. To enable this outsourcing, it was decided to design an interface between defense clients and market parties. DTO MCS can be presented schematically as in figure 1.

In brief, the present research concentrates on what is represented below the two arrows in figure 1. They represent the relation between the Ministry of Defense and the DTO agency.

Research model

In this section Van der Meer-Kooistra and Vosselman's model for outsourcing rela-

tions is presented and discussed. It describes how contractual relations can be brought about between an outsourcing party and the supplier and how these two can cooperate and control the risks that ensue from the outsourcing of activities (Van der Meer-Kooistra and Vosselman, 2000: 53). In essence, the model consists of three tables, which will be discussed below.

The model defines three management control patterns that are relevant for outsourcing relations (hybrid governance structures): a market-based, a bureaucracy-based, and, finally a trust-based pattern. The three patterns are characterized in table 1.

Pattern Phase	Market based	Bureaucracy	Trust-based
Contact	- Competitive tendering	- Pre-selection of potential suppliers; - Tender procedures; - Detailed selection criteria	- Trust, originating from friendship, previous contractual relations or reputation
Contract	- No detailed contracts - Payments based on standardized activities or output	- Detailed and elaborate contracts; - Payments based on real activities or output	- International contracting; framework contracts; contractual trust; - Loose relations between activities and output
Execution	- Periodically, ex post competitive tendering	- Supervision; - Performance measurement and evaluation, detailed ex post information processing; - Direct intervention	- Personal consultation and coordination; - Development of competence trust and goodwill trust; - Process-oriented and culture-based control mechanisms

Table 1: Management control patterns

Van der Meer-Kooistra and Vosselman argue that an outsourcing relation consists of three phases and that it is relevant to distinguish them as a management control pattern can differ per phase. The three distinctive phases are the contact phase, contract phase and implementation phase and they are called an extended make-or-buy decision, for short. Table 1, in which the characteristics of the predicted types of management control patterns are worked out, forms the core of the model. It brings together the characteristics of the various distinctive management control patterns in the separate phases of the extended make-or-buy decision. When, for instance, there is competitive tendering in the contact phase, the management control pattern is market-based. When there is much mutual contact in the implementation phase and the parties have confidence in

each other's abilities to realize the task, the management control pattern is more trust-based. The descriptions in the table are an abstraction of reality and the contact phase, for instance, will not actually be described in a single phase. It is, however, possible to establish with the help of the descriptions in the cells what the management control pattern will resemble most in reality.

The appropriateness of either of these patterns is determined by three contingency factors, viz. transaction, transaction environment and transaction party characteristics. Table 2 presents the variables that determine these characteristics and thus influence the appropriateness of the distinctive management control patterns.

Transaction	Transaction environment	Transaction parties
<ul style="list-style-type: none"> - Extent and type of asset specificity; - Frequency and reputation; - Duration of transactional period; - Measurability of activities and output 	<ul style="list-style-type: none"> - Uncertainty of future contingencies; - Extent of market risk; - Institutional environment (legislation, systems and organizations) 	<ul style="list-style-type: none"> - Information asymmetry; - Reputation; - Familiarity with cooperation in networks or specific parties - Risk attitude; - Negotiating power

Table 2: characteristics of the contingency factors

Finally, in the third table the three distinctive management control patterns (see table 1) are related to the contingency factors identified in table 2. With the help of this third table it becomes possible to predict which pattern is most appropriate with certain characteristics of contingency factors. Subsequently, with this prediction it is possible to determine from table 1 what the characteristics of the predicted management control pattern will be and vice versa.

When, for instance, there is low asset specificity and high repetition of transactions, the model predicts a market-based management control pattern. Subsequently, table 1 shows that in the contact phase competitive tendering is characteristic of a market-based management control pattern. The descriptions in this table, too, are an abstraction of reality and the party characteristics, for instance, are not usually covered by a single cell. By analyzing and comparing reality with theoretical descriptions of characteristics it is possible to determine a structure, which leads to the prediction of the appropriateness of a specific management control pattern.

Applicability of the model

The Van der Meer-Kooistra and Vosselman model was developed for outsourcing to an external organization. This brings along a specific risk element between the partners with respect to the transactions they have agreed on. Each of the parties involved in

the outsourcing bears its own share of the risk when one or other of the parties does not live up to the contract or when the circumstances surrounding the transaction change.

As was said above, the Ministry of Defense has placed an important part of the supply of ICT with DTO. This agency is a shared service center within the ministry and there is a clear client/supplier relation. This relation between an agency and the ministry which incorporates it, the so-called mother ministry, cannot be fully compared to the relation in an outsourcing with an external partner. The most relevant difference is the above-mentioned risk element. The agency, after all, belongs to the organization, so in the final instance all risk is borne by the Minister, and there is no risk-sharing between the organizations. In view of this difference it is necessary to investigate the applicability of the model for this particular case study.

	Market-based	Bureaucracy-based	Trust-based
Transaction characteristics	<ul style="list-style-type: none"> - Low asset specificity; - High repetition; - Measurability of activities and output; - Short and medium-term contracts. 	<ul style="list-style-type: none"> - Medium to high asset specificity which can be protected by contractual rules; - Low to medium repetition; - Measurability of activities or output based on contractual rules; - Medium to long-term contracts 	<ul style="list-style-type: none"> - High asset specificity; - Low repetition; - Activities or output difficult to measure; - Long-term contracts
Transaction environment characteristics	<ul style="list-style-type: none"> - Many potential transaction parties; - The market price contains all market information; - Social and institutional factors are irrelevant 	<ul style="list-style-type: none"> - Future contingencies are known to a certain extent; - Medium to high market risk; - Institutional factors influence contractual rules 	<ul style="list-style-type: none"> - Future contingencies are unknown; - High market risk; - Social embeddedness; - Institutional factors influence relation
Party characteristics	<ul style="list-style-type: none"> - Not important, for there are various parties with the same characteristics, which makes changeover costs low 	<ul style="list-style-type: none"> - Competence reputation; - Medium risk-sharing attitude; - Asymmetry in negotiating power 	<ul style="list-style-type: none"> - Competence trust; - Experience with networks; - Experience with contracting of parties; - Risk-sharing attitude; - No asymmetry in negotiating power

Table 3: Contingency factors and management control patterns

In order to assess the relevance of the model for the relation between DTO and the Ministry of Defense, first the applicability of table 1 must be looked into - a necessary step, since for the applicability of this part of the model the various phases in the outsourcing relation must be recognizable and investigable. The relevance of table 1 and 3 need not be tested for applicability as it concerns transactions between DTO and the MOD. In the execution of the case study itself the characteristics of this transaction, and the circumstances surrounding it, are investigated.

Table 1 shows the characteristics of the various distinctive management control patterns in the different phases of the extended make-or-buy decision. The test of this table focuses on the question whether it is possible to distinguish the various phases in the extended make-or-buy decision. The different management control patterns do not have to be tested for relevance beforehand. They are based on the theory described and during the execution of the case study it is investigated which pattern can be recognized in reality.

In 2001 there was the possibility that DTO was going to be outsourced and standardized contracts were drawn up in anticipation, to be subsequently presented to a market party. As described above, it did not come that far. DTO was not outsourced, but the contracts have been used for an agreement between the Ministry and DTO.

Looking at the different phases of an extended make-or-buy decision, it can be concluded that some sort of contact phase can be recognized in this preliminary phase leading up to the drawn-up contracts. Secondly, it is possible to distinguish a contract phase as contracts between the mother ministry and the agency were drawn up. Finally, the execution phase can also be investigated separately because of the presence of a contract phase and the services and products delivered by DTO following that phase. The conclusion is that Van der Meer-Kooistra and Vosselman's model does not need any adjustments for the present research.

Results

This section discusses the results of the survey with regard to the variables from the above model. The data from documentation and interviews are structured and specified on the basis of contents and structure of the model. To this end, first, the three contingency factors, viz. characteristics of transactions, environment and parties, will be dealt with. These three contingency factors are composed on the basis of the variables that eventually predict the suitability of each of the three management control patterns. All variables are presented in a graph and subsequently discussed. Next, the role of trust in the relation between the defense organization and DTO is dealt with, after which these data are used to fill in the model and to analyze the ensuing results.

Contingency factors

Characteristics of the transactions

The characteristics of the contingency factors were discussed in the previous section. With the help of document analysis and interviews the several variables were analyzed and assessed on a scale ranging from low, to medium, to high. Figure 2 presents them in a simple survey.

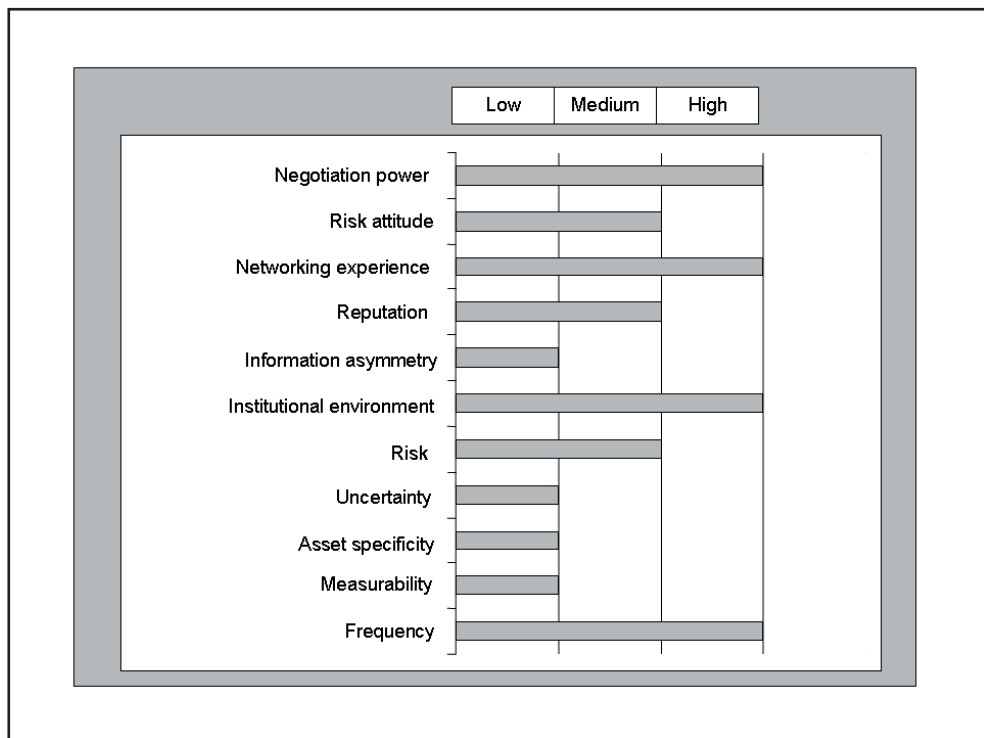


Figure 2: Survey of scoring variables

Transactions: type and frequency

DTO supplies services and products that are used in the day-to-day Defense management. The most telling example of this is the provision of work stations. The framework agreement distinguishes eight DTO services and products, ranging from development and implementation of software to control, detachment and supply of goods. According to the interviewees the frequency of these transactions can be ranked as high. The volume of transactions is likely to increase in the future due to the increased extent of automation, in general, and developments which may give DTO a larger role in operational operation provision, in particular.

Transactions: measurability

The answers the interviewees gave show that the measurability of DTO services and products is felt to be difficult. On the one hand, there is the shared insight that the measurability for component or environment level is relatively simple. On the other, the measurability of the actual services or products appears to be problematical as these are usually realized by different components and environments, such as a firewall or main-frame and a UNIX environment. Eventually, it is all about the measurability of actual services and products, as this is particularly relevant for the client.

An instrument in the framework of measurability is the General Notification of the ADD, which is specifically directed at exclusiveness, availability and reliability of components and environments. Another instrument to be used is the benchmark, which makes it possible to set up so-called reference groups, although they will have to be adjusted for the bureaucratic environment, for instance, of which DTO constitutes a part. Thirdly, DICTU has been mentioned as an instrument to further professionalize the demand, Defense, side. A professional demand side has a positive influence on the measurability of the products as it is known what to measure in the first place. Furthermore, the SLAs that are agreed upon contain a section on the reporting with a view to making the service or product more transparent for the client. The measurability of the services or products that are eventually provided are experienced as low to middle at best at the moment.

Transactions: asset specificity

The DTO services and products might be used in other organizations without extremely high switching costs. The banking world, where also high requirements are set for reliability, availability and exclusiveness of IP and ICT, could serve as an example. What is interesting here is that the physical switching costs of the applications, environments, et cetera, are exceptionally low when compared to companies that employ heavy machinery and specific productions halls, for instance. This is underlined by a regular testing of alternative locations. Conversely, it can be said that where security and effectiveness are priorities for the defense organization, efficiency is less important. There are few market parties that are prepared to give guarantees with regard to security and effectiveness, whereas it is demanded by the defense organization.

Furthermore, the volume of services and products supplied to the defense organization cannot easily be delivered by a market party. In other words, there is not an extensive pool of ICT companies that can produce the volume required by the defense organization at the moment. A comparison of DTO and market prices is also seen as difficult, due to the specific defense requirements for the services and products. A much-heard remark in this context is that one is not comparing likes to likes. However, benchmarking does take place and its existence has, for instance, led to the conviction that DTO's control of work stations must be cheaper.

Several interviewees have indicated that DTO's personnel have a lot of DTO and Defense oriented knowledge and that the agency is highly dependent on them. When someone leaves, it regularly emerges that essential elements of his or her job have not been described and that there is no one in the market who possesses that know-how.

Finally, two trends emerge, each with its own impact on the development of future asset specificity. First of all, there is the defense policy to use as much as possible Commercial Off the Shelf (COTS) products; so, not designing its own application for personnel management, but applying PeopleSoft, for instance. If this development continues, asset specificity will decrease (further), as the acquired know-how and products can (more) easily be used in other organizations. What goes against this development is the Defense vision that operational IP (OIP) and non-operational IP are increasingly becoming intertwined. OIP comes with specific requirements and characteristics (like deployment in mission areas, et cetera). If this intertwining is really increasing, asset specificity will grow, in spite of the application of COTS. This is due to a personnel specificity and asset specificity, such as special mobile networks, computers that can operate between - 20 degrees centigrade up to + 50 degrees centigrade, et cetera.

In conclusion, site, physical and dedicated asset specificity are at this moment ranked as low to medium. Personnel specificity, in particular, is assessed as medium to high.

Transactions: (sub) conclusion

Frequency of transactions is high, due to the services and products DTO delivers to the defense organization. Measurability is low to medium, with the proviso that measurability increases in parallel with a growing experience in measuring ICT. Asset specificity is low to middle, caused largely by an increased use of COTS products instead of designing solutions by the defense organization itself. One element of asset specificity, asset specificity for personnel, is experienced as medium to high.

Characteristics of the environment: uncertainty

After a brief period of uncertainty in 2001 and 2002 the relation with DTO with regard to the vital provision of services has become extremely stable at the moment. It has even been said that it is a relation to last forever. However, the letter of the Secretary General (SG) to the Second Chamber in November 2005 shows that outsourcing is not quite off the agenda. This is also underlined by the establishment of the Joint Service Group (JSG), at which occasion it was indicated that it would be more efficient to join DTO and JSG, but that this strategy was not pursued, due to the possible outsourcing of DTO. In such a case, after an amalgamation, the control of OIP would have to be disentangled again. With respect to the non-vital service provision, uncertainty is low, as DTO's role is clear – it is one of the parties that can submit tenders. New technologies

or developments, such as the introduction of ERP, will not lead to much uncertainty in the relation.

Characteristics of the environment: risk

The risk of DTO providing insufficient products and services is assessed as medium. For the continuity of management the risk is felt to be higher, but possible damage does not usually go beyond the level of being a nuisance for the client. However, due to the dependence on IP and ICT the risk of the service provision does increase.

A relevant example of the increase of risk is the development of DIV online, a project directed at replacing archives and paper flows by digital archives and workflow applications. The more archives and paper flows are replaced by digital archives and workflow applications, the greater the damage in case of problems with availability or loss of data. At the same time risk will also increase when DTO is more involved in operational information production. The chance of anything going wrong rises proportionally to the level of automation or automation support. But with operational information production the damage is usually considerably greater than with non-operational information production. In the current service provision the NAFIN network, C2000 and ODYSIS are seen as risky, in particular with regard to the potential damage.

Characteristics of the environment: influence of institutional environment

DTO is embedded in the governmental agency model as well as in the governmental organization. Specific influences are the rules and regulations with regard to agencies, for instance, the value of net assets, the obligation to use the Ministry of Finance's loan facility and the prohibition to offer commercial services outside the government (the so-called third market). Furthermore, DTO has to comply with the rules and regulations for governmental organizations, such as the obligation to report, legislation with regard to state secrets and the position of DTO personnel.

Characteristics of the environment: (sub) conclusions

The uncertainty in the environment that influences DTO and the relation with DTO ranks low. This is underlined by the fact that the position and the role of DTO within the defense organization is felt to be clear. The risk of DTO's services and products is medium, although it must be noted that an increasing dependence on automation and a growing intertwining of OIP and non-OIP will push it up. The influence of the institutional environment is high as a result of the rules and regulations pertaining to agencies and governmental organizations.

Characteristics of the parties: information asymmetry

DTO is consulted or plays a role in the development and formulation of new policies. Benchmarking ensures a decrease of information asymmetry with regard to management and the cost of a service or product. The establishment of DICTU as an intermediary between client and DTO also contributes to the reduction of information asymmetry.

There is a two-weekly consultation between DTO and DICTU in which new developments are discussed. Furthermore, DTO is prepared to voluntarily allow inspection of its management. It did so in the past, for instance, for the cost model of its network services, and, apart from the obligatory reports, it also sends its quarterly internal management report to CDC.

Finally, DTO also employs military personnel that return to other defense units in due course. They take with them a lot of know-how about the ins and outs of DTO and they often stay active within the IP field. In conclusion, the information asymmetry between the defense organization and DTO is mostly assessed as low.

Characteristics of the parties: DTO's reputation

DTO's reputation is seen as an important variable influencing the relation with the defense organization. Broadly speaking, DTO has a low reputation among workers in the IP field and its image is influenced negatively by the truck system for vital IP. Because of this, clients, the defense units, do not often have objective means of comparison. Another negative influence on DTO's reputation is the recently renovated organization in the IP field. The result is that is not clear for everyone what the role of DIO or DICTU is. When certain aspects of IP are not properly taken care of, eyes are immediately turned to DTO, undeservedly so.

Furthermore, DTO is known as a company with a high level of expertise. The comment that is sometimes made with regard to its expertise is that it states too easily that it has a certain expertise; while during the execution of a project this is proven wrong. DTO also has the reputation of quickly grasping what a client wants, which, amongst others, is due to the long-standing duration of the relation. Apart from that application control in particular enjoys a good reputation, whereas the timeliness of delivery is felt to be low, and contrary to what is expected of DTO, its reputation for availability is falling.

Characteristics of the parties: experience with networks

Experience in working with a variety of companies and institutions is high for both DTO and the defense organization. For example, the defense organization uses several partners in the implementation of ERP, while there is also cooperation with market parties in the field of IP or services and products are purchased from these companies. DTO

itself regularly uses sub-contractors for specific products and services, the most important of which is KPN, which supplies a large part of the infrastructure for networks.

Characteristics of the parties: risk attitude

The risk attitude of both DTO and the defense organization is influenced by the importance they attach to reliability, availability and exclusiveness of IP and ICT. In the past few years, the controlled introduction of new technologies and services needed has become more important. This is underlined, for instance, by the establishment of DICTU, which has created a considerable extent of pull (through the professionalizing of demand). The push role of DTO is decreasing as a consequence.

Research by Gartner, IBM and Microsoft underlines that there is a considerable level of control within the defense organization and DTO. However, this does not mean that in all cases there is a reactive attitude towards anything new or different. Both parties acknowledge a certain measure of risk taking. In connection with this, it is interesting enough that DTO takes risks with regard to determining its own targets (for improvement), as they are often high, and sometimes too high. Taken together, the risk attitude of DTO and the defense organization is ranked as medium.

Characteristics of the parties: difference in negotiating power

As was expected, the interviewees ranked the difference in negotiating power as high; after all, in the end the defense organization is plainly the boss. This is also clear from DTO's Products and Services catalog (PDC), which is approved and published by the defense organization. That this does not go just like that is made clear by the example of the Blackberry (an integrated telephone and personal digital assistant – PDA). DTO wants to offer a Blackberry, and its clients would very much want to have it. The defense management, however, thinks it is too expensive and superfluous, so up to now it simply has not happened.

The defense organization has also imposed a tasking on DTO to offer cheaper services and products and by doing so makes clear who has the most power in the end. This tasking was imposed after it had been decided not to outsource DTO. Often, however, the power of defense is not played out so tough and in practice the parties approach each other on an equal footing.

Characteristics of the parties: (sub)conclusion

Taken together, the characteristics of the parties can be described as follows. There is little, if any, information asymmetry between the parties. The reputation of the service provider is low to medium at best. Both the defense organization and DTO have relatively much experience in working in networks. Their risk attitude is low to medium,

with a preponderance for control. The difference in negotiating power is high; in the end the Minister of Defense is in charge and this also holds for DTO, in spite of its special position as an agency.

Trust

Trust in this research has been divided into three elements: competence trust, contractual trust and goodwill trust. The findings of the research will be discussed per separate item.

The role of trust: competence trust

DTO is seen as a company which can boast a lot of expertise. In this context it can be said that there is a certain form of competence trust. What decreases this trust is DTO's tendency to say too easily that something can be done or that it has the required know-how, which in practice is not always the case. In this respect it has been indicated that there is a healthy distrust. Furthermore, DTO is also faced with a shortage of ICT personnel. As a result, it was indicated, sometimes lowly qualified or incompetent personnel are hired, especially at middle management level, which is felt to be a problem. Finally, it was indicated that a trend is becoming visible that DTO's reliability and security of its service provision are deteriorating. If this is indeed the case, this will create a tension with regard to trust in DTO in general and to competence in particular.

The role of trust: contractual trust

The relation with DTO has existed since 1998, and because of this there have been long-lasting business contacts influencing contractual trust. Several interviewees indicated that DTO is not known for its timely delivery and agreements about this are not always honored. In any case, there is no broadly shared confidence that DTO is always as good as its word. It was also indicated that the client has to ask the right questions, and that DTO will not point at the right direction on its own initiative. On the other hand, the defense organization sometimes does not honor its agreements with DTO, in particular with regard to payment of services and products. More than once there is disagreement about who has to pay what after the work has already been carried out by DTO. Nevertheless, there is a certain extent of trust with both parties that the money in the end will be paid. Of course, this is because in the last instance it is one and the same company, which more than once prompted the term Mickey Mouse money during the interviews.

The role of trust: goodwill trust

The duration of the relation between DTO and the defense organization has a positive

influence on the extent of mutual openness. After the period 2000-2002, during which possible outsourcing was an issue, the level of goodwill trust has found the way up again. A sure sign of this is that DTO is involved in new developments and that it has played a clear role in defining the sourcing strategy. DTO's role at the moment is clear and that creates a basis for more mutual openness.

DTO is not always good at communicating and maintaining the minimal requirements necessary for supplying a service or product. A good example of this was the taking over of the work stations of the OPCOs, where control was insufficient. Once they had been taken over, what was required was a good invoicing, which is difficult when a good idea about quantity and quality of these work stations is lacking. In all fairness, though, it must be said that the OPCOs were not immediately ready to recognize that the transfer was not quite up to the mark on their end.

The role of trust: (sub)conclusions

In general, there is trust in DTO, in spite of its low-ranking reputation. However, several interviewees indicated that the extent of trust is strongly person-directed – it depends with whom you do business and it is not directed at the entire organization. Divided into its constituent elements, it can be said that the extent of competence trust is reasonably high, contractual trust is relatively low and goodwill trust is medium to high.

Predicted and actual MCS

On the basis of the results of the different variables and the forms of trust in the relation between DTO and the defense organization it is possible from the model to determine with the help of the third table which management control pattern is most suitable to manage and control that relation. Besides, this section will describe the actual MCS, which will subsequently be compared to the predicted one.

Predicted MCS

Below, the third table from the model, which contains the characteristics of the variables per type of management, is presented. The variables that correspond to the results are in bold type.

When the results of the transaction characteristics are compared to the three management control patterns, it is clear that they partially correspond with the description of a market-based pattern and partially with a bureaucracy-based pattern. The transaction environment characteristics seem to fall mainly within the bureaucracy pattern. Conversely, the party characteristics show features of a bureaucracy-based as well as a trust-based pattern. Looking at all three contingency factors, it is clear that the column

with the variables that predict a bureaucracy-based pattern is clearly predominant. As was indicated in the explanation of the model, in practice a pattern will never completely match the reduction of reality in this model. In the present research it can be concluded that the results of the variables and the prediction of the variables for a bureaucracy-based pattern match best.

	Market-based	Bureaucracy-based	Trust-based
Transaction characteristics	<ul style="list-style-type: none"> - Low asset specificity; - High repetition; - Measurability of activities and output; - Short and medium-term contracts. 	<ul style="list-style-type: none"> - Medium to high asset specificity which can be protected by contractual rules; - Low to medium repetition; - Measurability of activities or output based on contractual rules; - Medium to long-term contracts 	<ul style="list-style-type: none"> - High asset specificity; - Low repetition; - Activities or output difficult to measure; - Long-term contracts
Transaction environment characteristics	<ul style="list-style-type: none"> - Many potential transaction parties; - The market price contains all market information; - Social and institutional factors are irrelevant 	<ul style="list-style-type: none"> - Future contingencies are known to a certain extent; - Medium to high market risk; - Institutional factors influence contractual rules 	<ul style="list-style-type: none"> - Future contingencies are unknown; - High market risk; - Social embeddedness; - Institutional factors influence relation
Party characteristics	<ul style="list-style-type: none"> - Not important for there are various parties with the same characteristics, which makes changeover costs low 	<ul style="list-style-type: none"> - Competence reputation; - Medium risk-sharing attitude; - Asymmetry in negotiating power 	<ul style="list-style-type: none"> - Competence trust; - Experience with networks; - Experience with contracting of parties; - Risk-sharing attitude; - No asymmetry in negotiating power

Table 4: Predicted Management Control Pattern

Actual management control system

Actual management control system: Contact

The contact phase started at the moment when the intention to outsource DTO was made public, between 2000 and 2002. One of the things the defense organization did

back then was to carry out a marketing research to investigate whether there are enough potential suppliers to deliver the service. Apart from that, DTO's level of service supply was mapped with the help of an external company and all contracts that had still been running up to that moment were gathered. On the basis of an insight into DTO's level of service supply at the time and the contracts, a framework agreement was drawn up (ROK) that could be concluded with an external supplier. When it was decided not to outsource DTO, it was used as a framework agreement between the defense organization and DTO.

Actual management control system: Contract

The individual defense units draw up contracts with DTO, specifying what products and services will be purchased and at what price. In order to avoid having to establish general and delivery conditions between DTO and DGFC (on behalf of the other defense units) each time a product or service is delivered, a framework agreement was drawn up, describing the general and specific conditions that the client and DTO have to meet. The actual order for the delivery of services or products is given by the conclusion of a Further Agreement between the client, the defense units, and DTO. The Further Agreement forms part of the complex of mutual rights and obligations that are agreed upon by the client and DTO.

The Further Agreements are standardized for the eight categories of services and products specified in the Framework Agreement, so that an individual defense unit does not have to draw up design and organization of the NOK with DTO, but that there is an across-the board standardization. The categories are: advice, training and incidental services, development and implementation of systems and software, software maintenance, control and operation of ICT infrastructure, network services, detachments, work station services and commodities. Together, ROK and NOK constitute the contract instrument that has to ensure uniformity and standardization of contracting with DTO.

The Further Agreement specifies, amongst others, conditions on prices, invoicing, agreements on quality of the services or products to be delivered and the program of requirements in which the client lays down the requirements for the result to be achieved. Appendixed to the Further Agreement, there is a Service Level Agreement (SLA), in which agreements about the operation of the service are described. They relate to form, mode and frequency of contact by the parties and reporting by DTO. Unless otherwise agreed, all contracts for control and/or maintenance are concluded for a period of three years, with a three-month term of notice.

In conclusion, contracting takes the structure of a Framework Agreement and in case of actual purchasing of services or products, a Further Agreement is drawn up, and if required, an SLA is added to the NOK. Agreements about services and products are

detailed; from pricing and invoicing to quality guarantee, reporting and consultation. In general, the contracts are relatively long-term to a minimum of three years.

Actual Management Control System: Control

The defense organization's MCS for DTO is given shape through different organization elements. DGFC, in particular DFEZ and DIO, is responsible for an important part of the MCS. It encompasses, for instance, the instructions for budget accountability and cash management. These are examples of result and action controls. DIO draws up the policy with regard to the defense organization's IP. DTO has to follow and make concrete this policy insofar as the implementation of the policy is DTO's responsibility. Furthermore, BA on the Central Staff level plays an important role by laying down rules and regulations for DTO with regard to the requirements for reliability, availability and exclusiveness. This relates in particular to common reliability requirements and the regulation that DTO has to draw up a security plan for its information systems. There is also personnel control, related to requirements for personnel, for instance, in the form of a mandatory periodic screening. Finally, ADD is an organizational part which is particularly directed at control of DTO, in financial as well as operational respect. This operational control is reported to the Secretary General through the DTO General Notification and it covers processes, as diverse as configuration control, changes control and, at component level, a firewall.

As for its management, DTO receives directives and report duties from CDC with regard to, for instance, the obligation to meet baseline material operations and financial control. On top of that DTO is obliged to send quarterly reports to CDC according to top report guidelines. On receipt of these reports, CDC sends them along with similar reports of other organizations within CDC to the control staff. The procedure for reporting was changed as of 2006 with the adjustment of the structure of the top reports by means of the 2006 management control instruction. DTO will follow this new approach. For the present research the changes to the contents are not relevant.

Within CDC, DICTU plays a prominent role with regard to the MCS. It does not only lay down the requirements for the applications in its role as functional controller, but it also receives various operational reports. Incidentally, the defense units (such as the OPCOs) also receive reports and draw up requirements for applications and environments. Seen from the perspective of the MCS, the defense units play a minor role as the purchasers of products and services.

Actual Management Control System: characterization

The next step is to compare the actual management pattern with the descriptions of the management control patterns from the model. Below, the table containing the char-

acteristics of the three distinguished management control patterns is presented. In case there are matches with the actual management control pattern bold type is used.

Pattern Phase	Market based	Bureaucracy	Trust-based
Contact	- Competitive tendering	- Pre-selection of potential suppliers; - Tender procedures; - Detailed selection criteria	- Trust, originating from friendship, previous contractual relations or reputation
Contract	- No detailed contracts - Payments based on standardized activities or output	- Detailed and elaborate contracts; - Payments based on real activities or output	- International contracting; - Framework contracts; - Contractual trust; - Loose relations between activities and output
Execution	- Periodically, ex post competitive tendering	- Supervision; - Performance measurement and evaluation, detailed ex post information processing; - Direct intervention	- Personal consultation and coordination; - Development of competence trust and goodwill trust; - Process-oriented and culture-based control mechanisms

Table 5: Results DTO management control pattern

The results point at a bureaucracy-based pattern. It should be remarked here that after the decision not to outsource DTO the relation between DTO and the defense organization takes place within a single organization - in terms of transaction cost theory -, one hierarchy. It goes without saying that in such a case a pattern similar to bureaucracy will develop. Furthermore, the present MCS is much more elaborate than an MCS for an outsourcing relation with an external organization, where direct intervention with an efficiency tasking, extensive “unpaid” operational IT audits by own auditors and inspection of management, financial control and material control are to a large extent superfluous.

Discussion and conclusions

The Van der Meer-Kooistra and Vosselman model brings together insights from transaction cost theory and trust, being specifically developed for hybrid organizational forms according to the definition of the transaction cost model. In this research the model

was used to investigate whether it can be applied to relations within a single hierarchy, specifically the relation with an agency, and whether this application helps to understand how this relation came into being and how it is managed and controlled.

First of all, the model in this case study yields unambiguous results with regard to the predicted and actual management control pattern – a bureaucracy-based pattern in both cases. Second, at the time it was considered to outsource DTO, it was decided to establish DICTU in order to set up an univocal professional interface between the defense organization and a future market party. At the same time a contract structure was designed in the form of a framework contract, with underlying detailed agreements, to relate the market party with the defense organization. Had DTO been outsourced, the chosen structure would, according to the model and on the basis of unchanged results for the studied variables, have been suitable to control an outsourcing relation with a market party. This means, conversely, that the present structure and organization of the MCS is suitable for DTO with regard to various elements and need not be adjusted in case DTO is outsourced after all. In this case study the model yields the insight that the present management control structure can be explained on the basis of the contingency characteristics. This explanation, however, is only possible with an insight into the historical situational factors, in this case the background of the development of the relation between DTO and the defense organization. Thirdly, the application of the model and the established fit prompts the question whether the transaction costs of the chosen DTO organization are nor relatively high. When asset specificity, the uncertainty concerning the transactions and their frequency are considered, the transaction cost theory predicts that outsourcing to another organization, with the ensuing long-term relation, is the most efficient (Williamson, 1985: 79). In particular due to uncertainties with regard to security and the control of its own glass fiber network, the defense organization decided not to outsource DTO. At the same time an MCS was established to control the relation with another party with a clear risk problem. In spite of the focus on a greater efficiency of DTO (the imposed efficiency target), there is now an MCS that may be superfluous to a certain extent for a situation in which the transaction take place within one and the same organization. This makes it probable that the organization of the MCS itself causes the transaction costs to be relatively high. There is, as it were, a hybrid structure within an organization. It is interesting that interviewees indicated that the present MCS sometimes lacks logic and is not always properly understood; why draw up a contract elaborate penalty bonds within one organization? Fourthly, the application of the model has yielded insights which explain the development of a market for Public Order and Safety, and with it a shift from DTO to a government shared service center. In this way the relation acquires more characteristics of an actual outsourcing relation between two market parties, for which the present management control structure is broadly suited.

As was said above, the present control structure is expensive within a single hierarchy. It is expected that the establishment of the Shared Service Center will bring lower prices due to a higher filling of the fixed capacity and by economics of scope (lowering of production costs). Conversely, there may be extra transaction costs for a hybrid control structure. Seen from this perspective, it would be an understandable move to try to earn back the transaction costs that are already being incurred at the moment.

In conclusion, the case study shows that the defense organization has the policy to apply as many COTS products as possible. When this development continues asset specificity will decrease further. According to transaction cost theory, this specificity is the most important variable influencing the choice between market, hybrid and hierarchy. The lower the specificity the more the market becomes an option as a suitable governance structure, even making long-term contracts unnecessary (no need for hybrid organizational forms) in case of an extremely low specificity. After all, there will be enough market parties then and in case of any dissatisfaction with the service supply or products it is easy to switch. What goes against this development is the vision of the defense organization that operational information production and IP will become increasingly intertwined. Operational information production brings along specific demands and characteristics (such as employment in mission areas). If this intertwining keeps indeed growing, asset specificity, (in spite of the application of COTS, and in particular due to specific personnel and asset specificity) will not decrease. In that case the choice for a market-based governance becomes unlikely, and even a hybrid governance structure may prove to be unsuitable. In short, if the intertwining between OIP and IP increases, an organization element that is incorporated within the hierarchy is the obvious choice. As was concluded, the defense organization's present MCS for DTO may be an expensive construct.

Conclusions

The study shows that the Van der Meer-Kooistra and Vosselman model can be applied to the situation in the Ministry of Defense. In particular the predictive variables are relevant for understanding why and how the present defense management control structure for DTO is designed as it is. Besides, the study underpins the recommendations in the research by Van der Meer-Kooistra and Vosselman and Langfield-Smith and Smith to expand the model with the variables of culture and historical situational factors. The application of the model to the relation between DTO and the defense organization indicates that a bureaucracy-based management control pattern is the most suitable in the present conditions. The actual pattern is in line with this. The results with regard to the predictive variables largely correspond to the results of earlier studies in the world of business. All three studies show the model to be relevant for the prediction and explanation of the management control relation of choice.

With the MCS the Ministry of Defense has established a pattern that is suitable for an actual outsourcing relation. On the basis of this it can be concluded that the MCS causes high transaction costs for a relation within a single company. The reason for this is the choice for placing the services and products in an agency. This brings along certain borders between the organization that have to be managed and controlled by the MCS, which has become so extensive due to the possible outsourcing of DTO. So, a part of the present organization lies at the root of this situational factor, causing high transaction costs. The level of transaction costs may be offset by efficiency gains and quality improvements by DTO, which can be attributed to the present structure of management and organizational design.

Taken together, the developments in the delivery of products and services by DTO in the internal government market of Public Order and Security, the realization that IP and operational information production are getting more and more intertwined and the application of COTS exert a strong influence on the suitability of the management control system. These variables conflict with regard to the suitability of a management control system and the consideration to position DTO within the defense organization as a government shared service center or external partner.

The present research can be categorized as a theory testing study within the category of theory oriented research. The research was carried out by means of a single case study. Because of the application of the model in a case study and the first application of the model to an intrafirm relation, its generalization force is limited. Any comments on the relation must be viewed with these limitations in mind. The extent of generalization force of comments with regard to the consistency of the model, however, has been compared to two other studies, lending the insights in the model more generalization force.

Recommendations

The research emphasizes the need for further research into the variables culture and historical situational factors as predictive variables for the suitability of a management control system. In order to validate the model further and to expand it, it is advisable to investigate these two variables explicitly in outsourcing relations. The model could also be used to assess whether an existing management control pattern is suitable for an agency when a decision to outsource must be made. It may yield insights that can be employed in the re-design of the MCS in case of an actual outsourcing. In the period of 2000-2005 DTO was given a tasking to make its prices more in conformity with the market. On the basis of the research it is to be expected that the MCS brings along high transaction costs for DTO. It would be interesting to investigate in how far these expectations can be given more substance and how the possible extra costs for management and control

can be made transparent. This would create a better insight into the effectiveness of the establishment of an agency for ICT service provision. Finally, the research has shown that the developments in the delivery of products and services by DTO in the internal government market of Public Order and Security, the realization that IP and operational information production are getting more and more intertwined and the application of COTS combined have a strong and probably conflicting influence on a management control system. In this context it is advisable to study these developments further and to assess how they influence the future of DTO and the organization and structuring of IP and operational information production within the defense organization.

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[Interview]

The influence of (de)centralization on motivation

An empirical study

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Abstract

This paper investigates how top management can use management decentralization to influence motivation of employees within the Royal Netherlands Air Force. The different types of decentralization under investigation relate to the degree of concentration of power and the segregation of duties, instruments and responsibilities. The three types of decentralization considered are: limited vertical decentralization, vertical decentralization and clean decentralization. The general hypothesis, that decentralization has a positive or negative effect on motivation dependent on the type of decentralization, is tested in a survey among 112 managers working on ten different departments or military airbases in the Netherlands. The paper contributes to the extant literature in at least two ways. First, it adds to the limited literature that examines complex influences on motivation. Second, the paper explicitly recognizes the role of decentralization in the optimal organization of businesses in order to influence the motivation of employees in a positive way.

Introduction

Decentralization occurs in larger companies that operate in an unpredictable, uncertain environment (Zimmerman, 2003). This applies to a large extent to the different Services that fall under the responsibility of the Ministry of Defense (MOD). Due to their specific tasking the Royal Netherlands Command Navy, the Royal Netherlands Army Command, the Royal Netherlands Air Force Command and the Royal Netherlands Marechaussee Command, each operate, in their own specific terrain, in an unpredictable and uncertain environment. They also qualify as large businesses with staff numbers of 11,000 (Navy), 34,000 (Army), 13,000 (Air Force) and 6,000 (Marechaussee). That is why in the mid nineteen-nineties the Ministry of Defense decided to introduce a decentralized management structure which came into effect as the new “Defense Management Model” in 2003. At this moment, the Netherlands defense organization is undergoing a comprehensive restructuring aimed at guaranteeing structurally affordable expedi-

tionary armed forces. An essential element in this is the revision of the management model and the overhaul of the top structure in order to allow optimal management and accountability to Parliament by the political leadership (Ministry of Defense, 2003).

The defense organization is seeking a new equilibrium: a well-balanced match of the tasks and available resources. This ensures the affordability of the armed forces and leaves room for investments. Cooperation, interdepartmental as well as international, and performance-oriented functioning are the keywords in the process of change.

In order to further improve the efficiency of the defense organization, policy making, execution and control are segregated. This causes a change in the management organization of the MOD. The staffs of the political and civil leadership and the Services have been amalgamated in the new Central Staff, led by the Secretary General, which gives guidance to the Operational Commands, the Support Command and the Defense Materiel Organization. The Defense Management Model was established on 31 October 2003, and the bulk of the restructuring of the organization was completed in 2006.

In the new organizational structure the Central Staff makes the policy that is implemented by the Operational Commands with the support of the Support Command and the Defense Materiel Organization. The paramount management instrument is the Policy Planning and Budgeting procedure. It encompasses the policy vision, the defense plan, the budget (including the policy agenda and long-range estimates), accountability and policy advice to the political leadership.

The various Commands have divided up their organizations into several "result responsible units"; in business administration terms: business units. Although this Defense Management Model has been in use for several years now, there are still indications from delegated managers that they cannot "really" be held accountable for their units, as duties and instruments and responsibilities have not been segregated properly. In spite of the fact that the decentralized structure should enhance that managers feel responsible for their task, everyday practice shows that this is not always the case and that managers also feel it that way. This has its repercussions for the managers' motivation and effectiveness with regard to the organization's objectives.

This paper discusses the possible effects that the manner of decentralization has on the motivation of the delegated manager within a non-profit organization like the Royal Netherlands Air Force Command. The next section deals with the theoretical background, leading up to a number of hypotheses. Subsequently, the method of investigation will be highlighted, after which the results will be presented. Finally, a conclusion will be given and recommendations will be made.

Research object for empirical study

This survey was carried out within a non-profit organization in order to neutralize the influence of a performance bonus system. As the survey focuses on the manner of delegating and its influence on the motivation of the delegated managers, the choice for a non-profit organization (or in this case a government organization) is slightly more obvious. Within profit organizations people are more reluctant to talk about motivation, as this is often linked to merit pay. Within the non-profit sector it is often easier to elicit non-biased answers on motivation as the link is absent here. Partly because the author works for the Ministry of Defense and is thus better positioned to access internal sources and archives, the survey is carried out within the Royal Netherlands Air Force Command.

The Defense Management Model was introduced in the Royal Netherlands Air Force as of September 2005, but, in contrast to the other Commands, it was decided not to change the degree of decentralization, while staying within the limits of the so-called “Blueprint Control” (which will be formalized after an evaluation in 2007). There is still a 2nd (staff of the Royal Netherlands Air Force Command) and 3rd (several airbases) level within the Royal Netherlands Air Force Command, the 1st level, being the Central Staff, as was seen above.

So, within the air force there is a decentralized organization and management structure. The Commander (manager) of the Air Force (2nd level) is held accountable for the deployment and maintenance of the “flying” Service and all aspects that this entails. This highest commander has delegated his responsibility to several commanders of different units (level 3). The airbase commanders are accountable for their “product”. Each unit commander (level 3) has his own delegated task, such as F-16 tasks, military helicopter aviation, physical air defense. But these unit commanders have delegated through their responsibilities to the respective squadron commanders of the various logistic, maintenance, support and flying squadrons.

In order to allow as broad a survey as possible, all disciplines are represented, covering management areas, such as logistics, personnel and organization, management, security, technology. The units involved in the sample were:

- the three F-16 units: Leeuwarden, Volkel and Twenthe airbases;
- two helicopter units: Soesterberg and Gilze-Rijen airbases, together making up the Tactical Helicopter group;
- the air transport unit: Eindhoven airbase;
- Air Operations Control Station at Nieuw Millingen;
- the Royal Netherlands Air Force Command's Logistic Center;
- the Royal Netherlands Air Force Command's Training Center;

- the Royal Netherlands Air Force Command's Head Quarter, incorporating the Staff.

Literature review

Decentralization

Most larger organizations consist of business units (Zimmerman, 2003: 172), often formed as a result of mergers, takeovers or decentralization. Generally speaking, organizations decentralize to grow and develop. An increased size and complexity often makes it hard for the central leadership to oversee all decisions that have to be taken. Duties, but also instruments and responsibilities, have to be transferred to lower decentralized management levels. This segregation causes a relation between centralized and decentralized, with the central leadership remaining accountable for the direction and course of the organization (Merchant & Van der Stede, 2003).

In addition, decentralization is often seen a consequence of (or remedy for) a company operating in an unpredictable and uncertain environment (e.g. Thompson, 1967). Galbraith (1973) claims that, especially in times of uncertainty, information is needed on the work floor and that decentralization can provide it. Waterhouse and Tiessen (1978) and Gordon and Miller (1976) also suggest that decentralization is an adequate response to a dynamic, uncertain environment. The logical conclusion would then be that managers operating in an uncertain environment should be able to exert a bigger influence on decision making, or in other words: not only decentralization but also delegation of responsibilities. But as the central leadership will remain responsible for the direction and course of the organization, this also immediately creates an area of tension; not only between the interest of the company as a whole and that of the individual decentralized units, but also between the delegating manager (the manager who delegates instruments and responsibilities) and the delegated manager (the manager who receives them).

Research often approaches decentralization as a variable from agency theory (Indjejikian, 1999; Merchant & Van der Stede, 2003). At the heart of this theory is the relation between the principal (employer) and the agent (employee). Central is the assumption that employees mostly act out of self-interest as much as they can and do not have the organization's interest at heart. Apart from that, it is impossible for the principal to observe every activity of the agent. As there is always an information asymmetry between principal and agent, it is of importance to find a match between the principal's and the agent's objectives. The extent of the agent's discretion to (not) act (in the interest of the organization) depends on the power of decision he has received from the principal (segregation of duties, instruments and responsibilities). It also depends on the measurability and verifiability of his actions and the reward system attached to it. To bring the

objectives of principal and agent closer together, rewards are often used. By rewarding an agent for activities aimed at the realization of the organization's objectives, he is focused on attaining them. But the use of reward systems, in particular, often leads to a neglect of alternative management tools, such as (de)centralization, however great their influence on this agency problem may be.

The question to what extent an organization has a centralized or decentralized management depends on the degree of decentralization and power of decision (Zimmerman, 2003: 164). That is why Merchant & Van der Stede (2003) called centralization a solution to prevent control problems. But in most (even smaller) organizations it is not possible to centralize all critical activities as managers do not (cannot) have the required knowledge and capabilities, so other solutions must be looked for.

According to Zimmerman (2003: 172) one of the most important mechanisms for solving the agency problem is the (decentralized) hierarchical structure that segregates decision management and decision control. In all hierarchic organizations there is a division in which managers have supervision over employees. Decision management refers to those aspects of the decision making in which the manager initiates or implements a decision, whereas decision control is all about monitoring a decision and approving or rejecting it.

By means of this structure Zimmerman (2003) indicates that an organization can make the division of the power of decision between the higher and the lower management more efficient and effective when the organizational structure is equipped with three systems: one to measure performance, one to reward or even punish performance and one to divide power of decision. He compares these three systems with a three-legged chair; all legs must be equal to make the chair stand straight. A change in one system automatically calls for a change in the others, but this is not always done consistently. An important element of the performance reward system is the internal accounting system. When this is changed, without adaptations to the reward and decision power systems, the total system is out of balance. This can cause a manager to be assessed on the wrong grounds (rewarded or punished) and to be given the wrong powers of decision. According to the 'controllability principle' (Zimmerman, 2003: 209) managers must be held accountable for the decisions for which they have power of decision. But an all too rigid application of this principle may lead to deceptive results and even dysfunctional behavior. Merchant (1998) and Egan (1989), too, stress the importance of giving managers and employees clear, measurable objectives they can influence.

On the basis of these objectives the managers and employees must be assessed and rewarded (Anthony and Govindarajan, 1992). In this way the agent is motivated to focus on the "right" objectives and to reach them. In the agency theory rewards are almost always presented in this context; attaining the intended objective will lead to a

reward. But other possible motivational aspects within the organizational structure are often neglected. Not only the reward system, but also the performance measuring and the decision power system can have motivational effects (Zimmerman, 2003: 171). In a decentralized organization where different managers of sub-units have different needs, the right decentralization of duties, instruments and responsibilities will allow them to make the right decisions. This will have a positive effect on the managers' performance and thus on their motivation (Sathe and Watson, 1987: 72).

Concepts and types of decentralization

Systems to divide power of decision occur in every hierarchical organization. In the bulk of the literature several forms of decentralization are distinguished. Decentralization is about the spreading of power of decision and delegation of duties, instruments and responsibilities (Mintzberg, 1989: 113). Delegation of authority through decentralization implies that employees are empowered for certain activities and decision making (Lee and Koh, 2001: 687). When all the power is concentrated in a single position this is called a centralized structure; to the extent that power is distributed over a number of individuals, it is possible to speak of a relatively decentralized structure. Mintzberg distinguishes vertical decentralization (delegation of formal power to line managers lower in the hierarchy) and horizontal decentralization (the extent to which formal or informal power is transferred from the line hierarchy to non-managers, such as executive personnel, analysts and members of support staffs). He also makes a distinction between selective decentralization (the distribution of power with regard to different decisions about different places in the organization) and parallel decentralization (where power over various types of decisions is laid down in one place in the organization). Overall, Mintzberg (1989) distinguishes six types of decentralization:

- *Vertical and horizontal decentralization*: All power rests with the strategic top. In these forms of decentralization there is no delegation. Decision management and decision control lie with the top management;
- *Limited horizontal decentralization (selective)*: The strategic top shares power with the staff, which standardizes the work of others. In this type the top management has transferred a number of steps in the decision making process, but more in a consultancy form. Even though the staff has some power here, as it advises the management, the eventual decision making is done by the management and the degree of delegation is limited. In addition, the lower management levels do not see this form of delegation as delegation, as they view the staff more as a management organ;
- *Limited vertical decentralization (parallel)*: The managers of units directed at certain markets are given power of decision for most decisions relating to their line units. This form of decentralization involves the limited delegation of power of decision to

the lower management. Not all power is transferred the lower management, only a part of the decision management is delegated;

- *Vertical decentralization*: Most power lies with the executive core low in the organizational structure. In this form the lower management has all decision powers and there is “only” monitoring by the top management. This is the ultimate form of segregation of decision management and decision control;
- *Selective vertical decentralization*: The power of decision is spread over various places in the organization, over managers, staff experts and executive personnel, working together in teams on various hierarchical levels. This form is specific for a project organization in which special teams have been formed;
- *Clean (pure) decentralization*: Power is shared more or less proportionally by all members of the organization. This is the ultimate form of decentralization. The power of decision is distributed proportionally over the higher and the lower management. The steps in the decision making process (decision management and decision control) are divided equally.

Hage and Aiken (1967) define a number of pre-conditions which decentralization must meet in order to be effective and work positively for an organization. In doing so, they further make Mintzberg’s forms of decentralization operational. First of all, the delegated manager must be given the authority to take the necessary decisions. Apart from that, “job satisfaction” is an important variable indicating the extent to which an employee holds a positive attitude towards his or her work. “Commitment” is described as the degree of an employee’s identification and involvement with the organization. Organizational commitment reflects an employee’s trust in the values and objectives of an organization and his readiness to cooperate in them to the benefit of the organization.

Hage and Aiken (1967) bring all these variables together in a number of measures for the degree of decentralization. The first is participation in decision making, which reflects the extent to which managers can influence the routine decisions of an organization. They relate to the basic decisions on allocation of resources, such as manpower and funds. The second scale, job codification, measures the extent to which there is work of which the tasks are clearly specified. This has a strong (implicit) relation with participation in the decision making. The more centralized an organization is, the smaller the number of people who have to take the most important decisions. For this the management needs a set of decision making tools in view of work and time pressure. The higher the extent of centralization, the more job codification. The third measure is degree of hierarchy. As decisions are taken according to the organizational model (command structure), Hage and Aiken (1967) think ‘hierarchy’ is the most logical term for this.

When employees can take their own decisions with regard to their activities, they are less dependent on a higher authority, which brings less hierarchy and social control with it. Conversely, when for every decision an immediate higher authority has to be consulted, there is more hierarchy. By means of these criteria it becomes possible to operationalize and measure decentralization. Hage and Aike's (1967) final scale measures the control on rule observation. It relates to the extent of hierarchy, as employees who feel constantly checked, also feel more dependent on their superiors.

Motivation

As motivation is a subject that involves people personally and has kept them occupied for so long, it is an intriguing topic for popular contemplation as well as scientific study. Motivation is important to keep people focused on the objectives. As it cannot be measured directly and is a complex phenomenon indeed, there is much that is not clear. This has spawned a great variety of definitions and theories, which makes it necessary to first consider the concept of motivation by studying a number of them.

'Motivation is the complex of factors (including drives and motives) which stimulates and focuses behavior. Motivation is not a personal quality. It is the willingness to make an effort for something. It ensures that behavior is "activated", "directed", "maintained or stopped"'.¹

'Being motivated means that you are moved to doing something. Someone who does not get a stimulus to do something is seen as unmotivated, whereas someone who is activated into attaining an objective is motivated' (Ryan and Deci, 2000: 54).

'Motivation is a psychological characteristic contributing to the extent to which someone makes an effort' (Stoner and Freeman, 1999: 342).

In the literature there is a basic distinction drawn between intrinsic and extrinsic motivation.

'In extrinsic motivation people are moved because of a stimulus from outside. The origin of the act lies outside them, they are stimulated from outside to fulfill existential or material needs. The motivators are, for instance, money or status' (De Moor, 1993: 14).

'Extrinsic motivation is a variable that is related to activities undertaken for their clear consequences or material value' (Ryan and Deci, 2000: 60).

'In intrinsic motivation people work of their own accord. They act without mediation of other persons or factors; individuals are motivated by the act itself when the objective to be attained

lies in the act itself. They are stimulated to act from within. The motivators find their origin, for example, in the nature of the work; being able to work independently, having responsibilities or experiencing self-development, self-appreciation, skills, capabilities and personal competence' (De Moor, 1993: 14).

'When someone is motivated intrinsically he is motivated to do something because it is fun or there is a challenge in doing it'. (Ryan and Deci, 2000: 56)

There exists a lot of research, for instance, into "work and motivation". Reward for the work done is of course a motivational factor, but also the work itself, appreciation from the boss or colleagues can motivate. People have different quantities and types of motivation (Ryan and Deci, 2000: 54). So motivation is a broad concept. Below, the scientific literature on decentralization and motivation will be discussed further.

Decentralization and motivation

In the economic literature motivation is often incorporated in models for understanding and predicting the effect of extrinsic incentives on employee motivation, for example, the expectancy theory and need theory (Stoner and Freeman, 1999). But the relation between segregation of duties, instruments and responsibilities and motivation is one in which decentralization has an effect on intrinsic motivation (Spreitzer, 1995: 1444, Lee and Koh, 2001: 687). Deci's cognitive evaluation theory (1975: 61) states that intrinsically motivated employees meet two needs: the need for competence and the need for taking decisions. Intrinsically motivated behavior is increased when the feeling of competence and right to take decisions become stronger (Kunz and Pfaff, 2002: 280). This relation is described in the literature on psychology. Thomas and Velthouse (1990) define this specific form of motivation as "empowerment", whereby mention is made of an increased intrinsic task motivation. Empowerment is a term that was very popular in the 1980s and which is now making a comeback. Recent studies have defined the concept to make it useful for organizations (see Conger and Kanungo, 1998; Thomas and Velthuis, 1990; Boren, 1994; Harari, 1994; Rothstein, 1995; Keller and Dansereau, 1995; Spreitzer, 1995; Lee and Koh, 2001). Thomas and Velthouse (1990) develop four dimensions to measure and explain empowerment:

- *Meaning*: the value of an imposed task or objective, based on the employee's ideals and standards;
- *Competence/self-efficacy*: the employee's confidence in being able to execute the imposed tasks;
- *Self-determination*: the employee's conviction that he can make choices with regard to initiating and regulating imposed tasks;
- *Impact*: the extent to which the employee is convinced he can influence the outcome

of imposed tasks (also see: Lee and Koh, 2001 and Spreitzer, 1995). The absence of one of the dimensions causes empowerment, and with it the motivational effect, to decrease or even disappear. So, together, the four specify an almost complete set of dimensions for measuring and understanding empowerment and with it (intrinsic) motivation (Thomas and Velthouse, 1990; Spreitzer, 1995).

Hypothesis design

As a basis for this research the following central question was formulated:

To what extent does the decentralization form of the central management influence the motivation of the delegated manager within a non-profit organization such as the Royal Netherlands Air Force Command?

Mintzberg's (1989) decentralization classification gives a description of different forms of decentralization. Each form has a different division of power. Limited vertical decentralization is a form of decentralization in which delegated managers have to deal with "shared" power. There are factors (non-external) over which they have no control and because of that they do not perceive "real" decentralization according to the four dimensions of Thomas and Velthouse (1990). As the delegated managers have to deal with shared power (limited vertical decentralization) their participation in the decision making is smaller and the degree of hierarchy is higher. According to Hage and Aiken (1967) this has a negative impact on "job satisfaction" and commitment, which in turn will have a negative influence on their motivation:

Hypothesis 1: Limited vertical decentralization has a demonstrably negative effect on the delegated manager's motivation.

Conversely, it is expected that in the case of vertical decentralization the managers perceive the decentralization as a full delegation of duties, instruments and responsibilities, as the power of decision is placed with the executive core. There are no factors over which they have no control, which causes them to experience full decentralization according to Thomas and Velthouse's (1990) four dimensions. As the manager is not confronted with delegation shared with other delegated managers or the management (vertical delegation), his participation in the decision making and the degree of hierarchy is greater. According to Hage and Aiken (1967) this has a positive influence on "job satisfaction" and commitment, which in turn will have a positive influence on motivation.

So,

Hypothesis 2: Vertical decentralization has a demonstrably positive effect on a delegated manager's motivation.

Mintzberg (1989) also describes a clean form of decentralization, in which the power is evenly distributed over the top management and delegated management. According to Thomas and Velthouse's (1990) four dimensions, this form of decentralization will also have a positive influence on the delegated manager's motivation, as he can still make autonomous choices and influence decisions. This corresponds to Hage and Aiken's model (1967), as participation in decision-making and the degree of hierarchy are still high. Although there is delegation of power of decision to the lower management, this is not full delegation such as with vertical decentralization. As the delegated manager does not have to deal with delegation shared with more delegated managers, but shared with the management (clean decentralization), this will have a positive influence on motivation. That is why this form of decentralization and its ensuing effect is presented and measured in a separate hypothesis. So,

Hypothesis 3: Clean decentralization has a demonstrably positive effect on a delegated manager's motivation.

Research method

For the execution of this research a combination of research methods, in particular an archives survey and a questionnaire, was used. For the latter 140 delegated managers of the 2nd and 3rd levels in the Royal Netherlands Air Force Command were approached. In smaller samples statistic analyses become less reliable (due to non-response) (Baarda and de Goede, 1995). It is expected that the response percentage will be lower than in interviews, but the reliability of the results will be higher, nevertheless. In interviews there is the danger of managers giving socially acceptable answers due to the presence of the researcher (Baarda and de Goede, 1995).

The selection of managers to measure the variable motivation was done by means of a strategic sample in order to improve the usefulness of the data. This, however, can be a disadvantage for the purpose of generalization of the research. For the delegated manager contingent the following two preconditions were set:

- They are managers who have a delegated package of duties, instruments and responsibilities (in whatever proportion and degree);

- They are managers who lead at least three co-workers, so that there is a possibility of “delegating through” and managers have a clearer perception of decentralization than otherwise.

In the questionnaire the respondents were asked about a number of personal characteristics, such as: gender, age and work place. By comparing these data with the same characteristics of the contingent, it was possible to get an idea of the representativeness of the sample. Finally, the variable ‘decentralization form’ was initially investigated by means of an archives survey. This was done as the decentralization form must be laid down in official policy documents within the organization (e.g., regulations for control, management agreements, memorandum of understanding.). In addition, the survey instrument for measuring the degree of decentralization on the basis of the index developed by Hage and Aiken (1967) was used.

Quantifying the variables

In order to test the hypotheses and to answer the central question, the various variables that are incorporated in it were quantified and incorporated into a questionnaire consisting of 47 questions in total. Part one relates to the general qualities of the contingent, part two and a number of self-designed questions from part four measure the varying motivation. Part three and a number of self-designed questions from part four measure the varying decentralization. The rest of this section explains how the variables of decentralization and the delegated manager’s motivation were made measurable and how they were incorporated into the questionnaire.

Decentralization

Decentralization is a difficult concept to measure. This research uses the “index of centralization”, developed by Hage and Aiken (1967), which consists of four scales.² The first, *participation in decision making*, gives an indication of the degree to which employees in various positions participate in the decision making on the allocation of resources and the establishment of the organizational policy. In the questionnaire a 5-point Likert scale was used, in which 1 indicates low and 5 is high. The higher the score is, the greater is the degree of decentralization. The second scale, *job codification*, measures the extent of standardized work, so in how far tasks are clearly specified. This has a strong (implicit) relation to participation in decision making, as the more centralized an organization is, the fewer people have to take the most important decisions. To this end the management needs a set of decision rules for reasons of work and time pressure. The more centralized an organization is, the more there will be job codification. In the questionnaire there were five questions making use of the Likert scale. The higher

the score was, the greater was the degree of decentralization. The third scale, *the extent of hierarchy of authority*, determines the degree to which employees are allowed to make decisions with regard to their own job, without having to consult a superior. A low score in this 5-point Likert scale indicates little dependency on a superior; the lower the score is, the greater is the degree of decentralization. The final scale, covering *rule observation*, was measured with the help of two questions. It is related to the degree of hierarchy of authority, as employees who feel constantly checked, also feel more dependent on a superior. A low score on this 5-point Likert scale means little control, so little dependency on a superior. The lower the score is, the greater is the degree of decentralization.

The questionnaire also uses a number of self-designed questions on expectancy, agreements, delegation and measurability. These questions are assessed in relation to the indexes described above, whereby the variable decentralization as well as motivation is analyzed in a broad sense. In answering the questions a 7-point Likert scale was used, where 1 indicates “totally disagree” and 7 “totally agree”.

Type of decentralization

To be able to give an answer to the classification of types of decentralization as they are phrased in the hypotheses, there is a question in the questionnaire about the place in the organization that a manager works. As was indicated above, various units of the Royal Netherlands Air Force were approached. The managers can be divided over three “workplaces”, which were given meaningful names for the interviewees in the questionnaire and which can be related to Mintzberg’s classification.

To begin with, it is expected that the managers who are active in an “operational workplace” at the 3rd level (not within a staff body) experience decentralization as a full delegation of duties, instruments and responsibilities, as power of decision should be placed with the executive core. That is why this group will be classified under vertical decentralization when assessing the answers.

Managers working in the staff of a unit of an airbase are expected to be “sharing” power. As they do not belong to the operational core of the 3rd level, or to the Staff of the Royal Netherlands Air Force Command (2nd level), it is expected that they will have to share power (limited vertical decentralization) and that their participation in the decision making is smaller and the degree of hierarchy higher.

Finally, managers working at the Staff of the Royal Netherlands Air Force Command (2nd level) are expected to experience a clean form of decentralization, according to Mintzberg’s classification (1989), as the power is divided equally over the management of the 1st level (Central Staff) and the 2nd level (see Royal Netherlands Air Force Command, 2004).

Motivation

The assessment of the variable motivation is done by means of Spreitzer's questionnaire (1995), developed on the basis of Thomas and Velthouse's (1990) four dimensions. In his study Spreitzer (1995) constructed and evaluated his scale. Kraimer, Seibert and Liden (1999) made an independent evaluation of the scale and the questionnaire. The questionnaire was used by several scientists, such as Kraimer, Seibert and Liden (1999); Liden, Wayne and Sparrowe (2000); Spreitzer (1996) and Spreitzer, Kizilos and Nason (1997). It was also discussed in great detail in Hochwlder and Bergsten Brucefors' study (2005). As the questions are interdependent, a 7-point Likert scale was used, where 1 represents "totally disagree" and 7 "totally agree".

Results

General description of the data

Of the 140 questionnaires, 112 were returned (response percentage 80%), 107 of which were usable for analysis. Four questionnaires lacked the answer to one question, and one lacked 11 answers (an entire page was skipped). As the response percentage was high, those five questionnaires were not included in the sample, so the final response percentage was 76%. Table 1 provides some characteristics of the people who returned the questionnaire.

		n	%			n	%
Type of employee	Civilian	10	9.3	Rank	Pte	0	0
	Military	97	90.7		Cpl	0	0
	Total	107	100		Sgt	3	2.8
			WOI		16	15	
Gender	Male	85	79.4		WOII	0	0
	Female	22	20.6		Lt	13	12.1
	Total	107	100		Capt	30	28
			Maj		29	27.1	
Age	20-30	14	13.1		Lt-Col	11	10.3
Distribution (years)	31-40	46	43		Col	4	3.7
	41-50	36	33.6		Gen	1	0.9
	51-60	11	10.3				
	Total	107	100		Total	107	100

Work place	Operational	65	60.7	Time in function (Years)	<1	22	20.6
	Staff 3 rd lvl	33	30.8		1-3	64	59.8
	Staff 2 nd lvl	9	8.4		4-6	17	15.9
	Total	107	100		7-10	2	1.9
					>10	2	1.9
					Total	107	100
Education	University					20	
	Higher vocational education					36	
	Royal Netherlands Military Academy					21	
	Middle vocational education					13	
	Lower vocational education					17	
	Total					107	

Table 1 Characteristics of respondents

Table 1 shows that 9.3% are civilian employees. This can be explained from the characteristic work place, which shows that 91.5% of the respondents come from military air bases, where there are relatively few civilian personnel. The percentage of women within the CLSK (2006) is about 8%, so a response percentage among women of approximately 20% is rather high.³ The 30-50 age group is the largest in the sample. This is caused by sampling among managers who mostly belong to this age category. A lower response of the 51-60 category can be explained by the low retirement age of military personnel.

The division in ranks can be related to the management functions and the military ranks that go with them. In the NCO segment managers hold the rank of Sergeant (Sgt), but more often Warrant Officer (WO). This is reflected in the response percentages. In principle, any Commissioned Officer rank can mean a management function, but the most (direct) leadership functions are to be found in the Captain (Capt) and Major (Maj) ranks. This, too, is reflected in the response percentages. The lower response percentages among Colonels (Col) and Generals (Gen) can be explained by the organization of the ranks system according to the pyramid system.

The response percentages on work place show the distinction on the basis of the principle discussed in the previous section. Thus, an operational work place (60%) is associated with vertical decentralization, the staff of a unit (30%) with limited vertical decentralization and the staff of Royal Netherlands Air Force Command (10%) in Breda with clean decentralization.

This is where most (direct) managers are to be found and this is also the target group of the select sample, as they experience the consequences of centralization the most. More than half of the respondents (52.3%) have a Higher Vocational or University education. Almost 34% have a Higher Vocational education, which is probably caused by the

fact that NCOs with a completed Higher Vocational education are allowed to apply for officer ranks under certain conditions.

The duration of a function varies between 1 and 3 years for the respondent group. This is caused by the mandatory duration of a posting of two to maximum five years.

Testing hypothesis Hypothesis 1

Hypothesis 1 expresses the idea that limited vertical decentralization has a demonstrably negative effect on the motivation of the delegated manager. Table 2 shows that there is a significant (p-value, 0.000) and rather strong positive relation between vertical decentralization and motivation (0.598), in contrast to the expected negative relation. This means that the more there is limited vertical decentralization, the more the manager's motivation will rise. Besides, the regression analysis shows that (limited vertical) decentralization influences the delegated manager's motivation for 35.7%.

Decentralization	Test	Motivation	P-value
Limited vertical decentralization	Pearson Correlation	0.589	0.000; significant at 0.01 level (2-tailed)
	N	33	
Vertical decentralization	Pearson Correlation	0.278	0.025; significant at 0.05 level (2-tailed)
	N	65	
Clean decentralization	Pearson Correlation	0.665	0.051
	N	9	

Table 2 Outcomes hypotheses

Testing hypothesis Hypothesis 2

Hypothesis 2 supposes that vertical decentralization has a demonstrably positive effect on the delegated manager's motivation. Table 2 shows that there is a significant (p-value, 0.025) positive relation between vertical decentralization and motivation (0.278). This means that the more there is vertical decentralization, the more the motivation of the delegated manager will rise. The regression analysis shows that (vertical) decentralization influences the delegated manager's motivation for 7.7%.

Testing hypothesis 3

Hypothesis 3 supposes that pure decentralization has a demonstrably positive effect on the motivation of the delegated manager's motivation. Table 2 shows that there is a positive relation between vertical decentralization and motivation (0.665). This means that the more there is pure decentralization, the higher the motivation of the delegated manager will be. The significance value of table 5 shows this relation stops just short of being significant, however, at a significance level of 5%. The regression analysis also

reveals that (pure) decentralization influences the delegated manager's motivation for 44.3%.

Other results

Apart from the relations between forms of decentralization and motivation, it is also interesting to determine how the various decentralization and motivational aspects relate. What is striking here, first of all, is the significant relative relations. According to the respondents, the more there is hierarchy (so less decentralization), the less there is:

- *meaning* (-0.217): so, a manager values an imposed task or objective less when it is given to him hierarchically;
- *self-determination* (-0.405): the conviction that a manager is given the opportunity to make his own decisions decreases;
- *impact* (-0.389): the degree to which the manager thinks he can influence things decreases;
- *participation in decision making* (-0.359): the extent to which a manager can influence frequent decisions decreases, and
- *job codification* (-0.320): the measure of standardized work decreases.

The first four aspects are in line with expectations, but the negative relation between hierarchy and job codification is surprising. Apparently, there is less job codification when there is a hierarchical relation. This is also supposed by Hage and Aiken (1967: 82). There is also a significant positive relation between hierarchy of authority and rule observation. This shows that in a hierarchical relation between the higher and lower management there is more attention for rule observation. Apart from that, the logical and significant negative relation (-0.254) clearly shows that the more there is rule observation, the lower the manager's conviction with regard to his self-determination is.

Another positive correlation is that between the aspects "meaning", "competence", "choice", "impact" and "participation in decision making".

The more a manager:

- feels competent;
- is convinced he can make his own choices;
- has the feeling he can influence the outcomes of imposed tasks, and
- participates in the decision making,

the more he will value an imposed task or objective. This is entirely in line with the intrinsic motivation model, presented by Thomas and Velthouse (1990), amongst others.

Finally, it is shown that "participation in the decision making" and "choice" have a significant positive relation to "job codification". This correlation is hard to explain, but

a possible explanation is the idea that more participation in the decision making and self-determination will lead to more regulation of imposed tasks (Deci and Ryan, 1985).

Discussion and conclusions

In the above sections the conclusions with regard to the hypotheses have been described and where they did not tally with the predictions in the research model, they were elaborated upon. In table 3 the outcomes of the hypotheses are brought together once more.

Hypothesis	Predicted relation	Result	Significant	Rejected/Supported
1	-	+	Yes (0,0%)	Rejected
2	+	+	Yes (2,5%)	Supported
3	+	+	No (5,1%)	Rejected

Table 3: Findings hypotheses

The table shows that there is a demonstrable relation between the form of centralization of the central management and the delegated manager's motivation. On the one hand, this answers the most important part of the central question: does centralization influence a delegated manager's motivation? On the other hand, however, it is still impossible to give an unequivocal answer to the question about the extent of this influence. On the whole, this influence has a positive character, although the theoretical presuppositions on which the hypotheses 1 and 2 are founded, are not supported. There are various reasons that can explain why the results of the research do not match the predictions. In this section several possible intrinsic causes have been indicated. Below the limitations of the research and some ensuing recommendations will be discussed.

The above conclusions were drawn on the basis of 107 analyzed questionnaires. Although the size of the sample is more than sufficient to base conclusions on, the answers given are of a qualitative nature and only allow limited generalization. Nevertheless, the outcome of this research has shown that in making the choice for a certain management model, and with it the (de)centralization of an organization, the influence of this choice on the motivation of the managers involved must be taken into account.

It is of course possible that the research was not conducted in the most optimal and correct manner. Perhaps a case study or experimental environment would have yielded a better outcome. Questionnaires have often been the butt of criticism and are called "the poor man's experiment" as they are liable to the risk of interviewees giving the

“socially desirable” answers and because of their consistent impotence to exclude alternative hypotheses (Smith, 2003: 117). This manner of research, therefore, has a number of drawbacks. First of all, there is the relatively small number of questionnaires (140), although response can certainly be called high (107). However, it offers rather limited possibilities for generalization, and this can only become better by increasing the size of the sample. Another important limitation of survey-research is that it hardly possible to draw causal conclusions; case studies and experiments are more suitable in that respect. A solution for this problem is repeating the surveys, but that would have to be done in the context of a broader longitudinal research. Apart from that, the research used a number of methods, such as Thomas and Velthouse’s (1990) and Hage and Aiken’s (1967), which may have become obsolete to such an extent that the results may be distorted. It must be possible to develop more applicable research methods, a requirement which can be met by adding a section of self-designed questions to the questionnaire. This is of course not sufficient in itself, but developing an adequate research instrument is worth a final paper or research report.

In spite of the fact that as many units and work areas within the Royal Netherlands Air Force Command as possible were involved, there is the possibility that this research has only a limited external validity. The research was purposely limited and to lend it wider external validity it is necessary to expand it to non-profit companies and institutes, which will yield a broader survey of situations and relevant factors of influence.

The response percentage can be called rather high (76%), but the number of civilian employees that reacted is fairly low (9.3%), with the result that the findings may not be not representative for the entire Air Force. Therefore, a possible recommendation could be to repeat the research among the civilian employees for generalization purposes.

The research was directed at the influence of different forms of decentralization on the motivation of managers. It goes without saying that decentralization is only one among many factors influencing motivation. Motivation is a complex phenomenon and understanding it requires much additional research. At the moment there is quite a substantial body of scientific literature on a number of factors of influence, such as rewards and style of leadership. It is certainly interesting to investigate whether there are more variables (for instance, corporate culture) influencing the motivation of managers. This would provide a better idea of the motivation structure of employees, so that choices with regard to organization and management can be coordinated better.

Finally, there is always the danger that the results of the questionnaire were influenced by the possibility that the “language” used in the survey did not meet the perception of the environment of the respondents. The questionnaire was adjusted as much as possible to the “corporate language” as the writer works for the organization. There remains, however, the danger of using jargon not understood by the respondents.

Notes

1. See <http://www.motivatiepagina.nl> and www.zelfontplooiing.nl/motivatie.htm
2. The index of centralization was used by several researchers. Acorn, Ratner and Crawford (1997) use it in their study, where reliability (by means of Cronbach's alpha) is considered to be sufficient (0.69 for participation in the decision making and 0.85 for the degree of hierarchy).
3. See <http://www.werkenbijdeluchtmacht.nl/WBL/Content.asp?Name=statistiek>

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New junctions of command

An interview with Captain Drs CL Turnhout (RNLN)

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Introduction

Due to financial constraints, armed forces are being down-sized, and due to the need for joint operations the organizational structure of the Dutch Armed Forces has changed drastically. Policy-making has been centralized. Navy, Army and Air Force are brought under one command and support has been concentrated. The services have been confronted by major changes and suffered a loss of autonomy. Services do not make policy anymore in their domain and their commanders in chief are history. Their wings are clipped even further because, from now on, acquisition and maintenance of equipment are concentrated for all services. Fifteen years ago, the idea was to decentralize authority and responsibility, because decision making and accountability at the work floor level was considered best suited to reality and the best incentive for effective and efficient organizational results. Now, we see authority and responsibility went up the chain of command again. According to theory, less responsibility means less motivation. The questions we would like to ask are as follows. Are the commanders of the services less motivated because of the new junctions of command? Are they annoyed not to decide on all aspects of the service they used to command? Is the separation between policy and implementation in reality the same as in theory? The main question is: how are the new junctions of command influencing the commanders' working life.

What is your relationship with the subject?

I was involved in shaping and implementing the new structure of command for the Navy. So I am aware of the consequences this new structure has, especially from an organizational and managerial point of view. The most striking change, in my opinion, was the strict division in the operational domain between supervision of the Commander of the Armed Forces and the executive responsibility of the operational commanders. In the former constellation the commanders in chief possessed the integral responsibility for the operational outcome of their service, including the management of personnel,

material and financial means. In the new situation the operational commanders are responsible for the operational readiness of the assigned assets, but are heavily relying on other authorities for the timely and sufficiently availability of the means. Also the supervising Commander of the Armed Forces within the corporate decision-making has to share the responsibilities for personnel, equipment and finance with other functional policy directorates.

Is the separation between policy and execution in reality the same as it is written on paper?

On paper, they made a clear separation between the Central staff, the Operational commands and the Shared Services, including the Defense Material Organization. This would shape the organization more effectively and would clarify the responsibilities.

It is a challenge to introduce such major changes, especially in an organization such as the armed forces. The key players are still tuning their place, responsibilities and mandates in the new structure. Central Staff has to learn to play the game and to combine all different aspect of operations, materiel, personnel and finance. Functional processes and goals have to be synchronized to make integral decisions. Some parts still need an improved fulfillment.

Do you expect this model to persist or are there shortcomings, through which modifications are required?

According to the new structure, the commanders of the Navy, the Army and the Air Force are responsible for achievement of their goals set by the Central Staff. In order to do so, they should be able to re-allocate their means. They should have the possibility to re-arrange their finances and to re-distribute their funds between exercises, training, education, maintenance and other support. This is only possible, if they are allowed to prioritize. This, however, until now is not fully possible, because only part of the finances are controlled by them. Other players, like the Defense Materiel Organization, are in charge of the budget for maintenance and they can change their priorities until the last moment. The introduction of a new client-server accounting system proves to be difficult. That is why not everybody is convinced yet.

Are the new junctions of command topic of conversation in the Defense organization?

The Navy implemented the new model totally, by a complete redesign of its processes and organization. All elements of the Navy are involved in the change-process. The fleet and the marines are integrated both operationally and managerially. This is, in accordance with the new philosophy of the model of command where maritime forces have to fulfill a more profound role in support of land operations. As a consequence of this complete business redesign the processes, connecting points and functionality of the Navy is fully tailored on the architecture of the new business model for the Netherlands Defense organization. The reorganization of the other commands has been less drastically. I expect the other elements of the armed will also follow to make further steps in adjusting their organizational set up to the new situation.

If theory proves right, by now, commanders should be less motivated to do their job due to the new structure. Policy-making and supervision are not a commander's responsibility anymore. Is the decrease of motivation really a problem according to you?

The new model of command fits is suited to joint and expeditionary operations, which are relatively new. During the Cold War, the "theatres" of the Army, Air Force and Navy were separated, also outside NATO areas. Because the "theatres" of the services are becoming more and more common, the services increasingly will have to work together. During the same period that joint operations appeared necessary, the budget has been decreased, which had to be countered by more efficiency. These two factors together inspired the drastic changes. Allocation of money and prioritizing of investments is easier when the artificial divisions between the armed forces as far as policy is concerned are removed. The budgetary decrease was countered by concentrating support functions and by integrating the formerly separated policy staffs.

We are, by the way, not the only country where armed forces are being reorganized. This is an undeniable trend within NATO member states.

So, everybody in the armed forces will understand this change is a logical one.

If the new model of command would be implemented completely and according to the stated objectives, I still see a challenging and therefore motivating responsibility for the operational commanders to ensure the operational readiness of there assigned assets. This however requires that responsibilities and mandates are tuned in accordance with the original intention of the business model. Once the operational commanders will have access to the required levers of control motivation would not be a great problem.

The new setup calls for teamwork and teamwork always is a motivating enterprise.

What is your own experience regarding the implementation of the new model of command?

I believe it is a good model that will definitely be effective for the organization, but I do have my doubts about the new model's implementation. This is because the new model is not yet as operational as it should be and it is still in development. I expect that the model stays the way it is now, although the way it is implemented will always be a point of debate. Like in every large and complex organization teamwork is not always a nature of law but it requires the right distribution of responsibilities, mandates and instruments. This is the big challenge that I see for further implementation and improvement of the new defense organization.

Are the operational commanders still thinking long term, since they are mainly concerned with the short-term realization and are no more involved with policy development?

Central Staff focuses mostly on long-term policy but the operational commanders do have an advisory function and each operational commander has his own staff for managerial support and advice. This staff is engaged in the development, priorities and discussions.

To what extent does current policy conflict with the capacities and opportunities of the operational units and how are possible imperfections being solved?

An important aspect of the model is that the operational commanders are positioned directly under the Commander of the Armed Forces. This means, the latter has an important integrating role. He must be able to unambiguously preside over them. The decision-making has to be in line with financial, personnel and materiel considerations. This is a huge challenge, especially when new crisis response operations are started. The operational commanders have to guarantee these operations are possible. The operations need to be feasible in terms of materiel, personnel and finance. Decisions have to be made about the priorities, because such operations mean other things have to give way. All key-players have different interests, when allocation of resources is concerned.

That is why, on behalf of the operational commanders, the Commander of the Armed Forces has an important role to play. This fact is just dawning upon us.”

Do you believe the new model of command has a positive/negative influence on our organization?

I believe that the new model will be beneficial to the organization. It was clear that some changes were needed, mainly because of the new joint and expeditionary operations and by the shortage of finances. By cutting down the expenses and increasing efficiency, we are on the right track, but definitive checks and balances have to be made in the near future. The direction we are heading for is the right one. Attention should be paid to tools required by the new model. The communication between Central Staff and Operational Commanders is the aorta of the new model. This aorta should be kept open and treated with respect. Demand and supply of means for the commands and prioritizing are essential elements in the model. These elements still need more attention; otherwise the new model of command will fail. Also, an unambiguous policy is needed to improve the transparency of financial flows.

Private Financing for Armed Forces: Practice and Explanation

Eric Jan de Bakker

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Abstract

This contribution addresses the concept of Private Financing (PF). First, the way in which PF has been successfully applied in the United Kingdom is described. Second, the core of PF is discussed. Third, the method itself is elaborated upon together with the economic principles and hypotheses in an attempt to explain the fundamental elements of the method.

Introduction

Generally speaking, and seen from within a historical context, armed forces have always been regarded as being an autonomous organization capable of taking care of business themselves and getting the job done properly. First and foremost, this viewpoint applied to the efficient procurement of weapons and, subsequently, to the acquisition of a diverse array of support services.

These support services encompassed:

- resources for logistic support (i.e., transport ships, means of communication, supplies, weapon repair facilities, IT, and food supplies);
- training resources (i.e., flight simulators); and
- infrastructure (i.e., barracks, schools, and offices).

During recent decades, however, this self-sufficient method of procurement of supplies and services has undergone a gradual metamorphosis in Western countries. Weapons are still procured by the armed forces themselves but an increasing appeal is being made on commercial parties for other secondary deliveries. This subtle shift has manifested itself in several ways. If necessary resources are readily available and being offered by commercial parties, then it would seem to be a simple and logical transaction to purchase these resources on a contractual basis from within this public-sector market. This could also possibly be combined with a downsizing of resources within the armed forces.

A concrete example, which is being applied in the Netherlands in the container transport sector, is the repair of military wheeled-vehicles. In the past, these vehicles were

always repaired in the army's own workshops, however, this work is now outsourced to a private-sector company, which has resulted in the closing down of the army's workshop.

Privatization is another option. This alternative has not been used very frequently in the Dutch armed forces. The most recent example which can be given occurred approximately 20 years ago when the army contracted out the production of ammunition to EuroMetaal in Hembrug, Netherlands.

A new development is that the armed forces take the initiative to invite market parties to invest in means of production which are specifically intended for the armed forces. Subsequently, the armed forces pay these market parties a "user fee" for access to these services. This method is applied on a regular basis in the United Kingdom (UK). Due to its apparent success in the UK, the Netherlands has decided to tentatively follow suite. Plans exist to establish a new Dutch army headquarters with supposed financial backing of private funding; these office buildings will be constructed on existing MoD property in the city of Utrecht and will accommodate 2,000 people. The Dutch army will subsequently pay a "user fee" based upon the number of employment positions available.

The introduction of Private Financing (PF) for the Dutch armed forces is a good reason to delve into this relatively new subject matter. This contribution highlights this concept so as to enable others to acquire an insight into its applications, as well as in the procedures and principles that can explain the success of PF. Firstly, the example of how PF has been successfully applied in the UK will be looked at; secondly, the core of PF will be discussed in depth; thirdly, the method itself will be further elaborated upon together with the economic principles and hypotheses in an attempt to explain the fundamental elements of the method. Finally, the essential issues will be summarized.

Examples in the United Kingdom

The country that is most advanced in putting theory into practice is the UK. In 1992, private financing was introduced in the UK under the name of "Private Finance Initiative" (PFI). The first projects which were contracted out by the British Ministry of Defense (MoD) occurred in 1996. Table 1 shows that the private investment sum has fluctuated quite strongly in the past few years. Compared to the MoD's annual investment amount of between £5 billion (2001) and £6.2 billion (2005), private financing certainly does not take the lion share in gathering capital goods. The types of projects are also quite diverse. Private financing was used in several simulation projects, in particular, flight training for fixed-wing pilots as well as for helicopter pilots. Also infrastructure was privately funded, varying from: offices, to the reconstruction of the MoD-headquar-

ters in Whitehall, London, to barracks which are the property of private parties. The largest infrastructural project which has been undertaken is the reconstruction of barracks, where 18,000 service personnel - 20 % of the British Army - are accommodated in one large complex (see table 1, with a Capital Value of £1.257 billion).

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Infrastructure			219	40	429	112		20	584	27	1257
Simulation		206	165	105	22	92					
Telecom/IT	41	104	12		67	15		1361			
Transport						105	175				
T e c h n i c a l											
Equipment.			17		35		83	165	450	114	
Total	41	310	413	145	553	324	258	1564	989	141	1257
Source: NAO (2006); amounts in M£, recorded in the years the contracts were signed.											

Table 1 Private investment MoD UK 1996-2006

Infrastructure and simulation are far removed from normal military operations, a fact that makes their use of private funding not so unusual. The areas of telecom, transport and technology, however, are projects that can really be considered as “support-to-the-frontline” as can be seen in the following overview:

- “Naval Communications” for submarines (Telecom, Capital Value M£58; contract in 2000);
- “Heavy Equipment Transporter”, a contract to ensure the availability of heavy transport capacity, encompassing an investment in 92 vehicles (Transport, Capital Value M£65; contract in 2001);
- Field Electrical Power supplies, providing generators to support the requirement of electricity in the field (Technical Equipment, Capital Value M£74; contract in 2002);
- Strategic Sealift, a contract to ensure the availability of ferry services for exercises and operations, entailing six ships (Transport, Capital Value M£175; contract in 2002);
- Skynet, a consortium of, amongst others, EADS, provides SHF and UHF connections, encompassing the launch of three satellites (Telecom, Capital Value M£1,316; contract in 2003);
- Engineer vehicles, which encompass the delivery of engineer vehicles in operative condition, to a total of 4,000 vehicles in 100 different types (Technical equipment, Capital Value M£114 m.; contract in 2005).

The largest privately-funded project is not listed in Table 1 since the negotiations have not yet been completed. It concerns the “Future Strategic Tanker Aircraft” (STA); an airplane used for the delivery of airlift and tanker services (air-to-air refueling) which

will supersede the fleet of VC10 and Tristar airplanes. In 2005, the AirTanker consortium, composed of EADS, Rolls Royce, Cobham and Thales companies, was chosen as “preferred bidder”.

The PF method

Characteristics

The PF method was developed by the UK Treasury and is used by several British governmental bodies. It is used in a similar manner by the governments of other countries, amongst others, the Netherlands. For this reason, the method can be described in a general sense, and this is best done by means of a defense example. Suppose that certain armed forces have a requirement for simulation training for fighter pilots and that this training cannot be provided by commercial parties in the desired form, since the specific means are not available. One is confronted with the following choice: either procure a trainer or invite the market to do it. In the latter case, the PF method requires that not the trainer itself, but what must be achieved with it, should be the central issue. This is done by specifying the number of pilots to be trained, the quality standards of the training, and the period over which the performance must be realized. Subsequently, market parties are invited to come up with ideas to meet these requirements. The best proposal from an economic perspective wins. The winning consortium then builds the trainer and provides the accommodation services. The ministry pays a user fee, for instance, per trained pilot.

Apart from private ownership, the PF method also has another characteristic, namely, the combination of service delivery as seen in relation to the ownership of the capital good. This additional characteristic emphasizes that it is not just about the capital good itself, but also about the use of the flow of services that can be provided with that capital good. An airplane has use because it can transport passengers or freight. A barracks derives its use from the possibility to accommodate and train a number of service personnel there. In the PF method, then, the use is expressed in a specification of the performance to be realized with the capital good, such as the transport of a number of passengers in a certain period of time, with indicated quality, or the number of service personnel to be accommodated in a certain way. Implicit in this is the expected support required. The method results in the successive phases of a capital good - which are usually contracted out separately or which the government provides partially itself - being combined, as much as possible, in a single long-term contract. Apart from design and construction, the above-mentioned reconstruction of the MoD in London encompassed “asset management, cleaning, reprographics, mail, catering, management information,

reception, portering and internal planting, text preparation, records management, conferences and meeting, space planning, overnight accommodation and laundry, grounds maintenance, parking management, pest control, nursery, space planning" (NAO, 2002: 38). These services are to be delivered over a period of thirty years. Their large volume is also borne out by present value of the user fee. This was more than M£700, while the capital value of the projects amounted to about M£200 m. in the year 2000.

The example indicates that the service delivery can be extremely diverse -- and expressed in money -- voluminous. It means that it is inescapable that PF is always linked to putting out to contract, which nowadays is often indicated as "outsourcing" or "contracting out". It subjects service delivery to competition, something it used to be immune from (Domberger and Jensen). This is the third characteristic of PF.

Method

The basic principle of PF is that the bringing together of the characteristics of private ownership, outsourcing, and the combination of the service delivery into one contract will ultimately lead to increased efficiency. The process begins with the government specifying its long-term goals. Market parties unite in consortiums and make (innovative) proposals to meet certain standards. These proposals are tendered in competition, which guarantees the lowest possible user fees. Since the contracts have such a long duration, the economic considerations by the consortiums are made over the entire period. The emphasis on the specification of the performance eventually required, lessens the requirements for design and construction. This gives room for the private parties to:

- determine for themselves the manner in which the various phases are designed; and
- decide which composition of labor and capital will meet the required performance standards; and
- strive for such a cash flow pattern of expenditure that the present value is as low as possible.

Financing banks play an important role in the way this leeway is used. Since their money is at stake, they will provide the necessary pressure on the quality of the proposals. The combination of competition with the abovementioned activities is an incentive for the market parties to carefully size up the risks of what the government asks them to do, and to come up with efficient solutions.

However, this approach does not always work. The British example shows that certain preconditions must be met in order for PF to become a success. Thus, the Treasury states, 'Evidence suggests that PFI is appropriate where there are major and complex

capital projects with significant ongoing maintenance requirements. Here the private sector can offer project management skills, more innovative design and risk management expertise that can bring substantial benefits. However, PFI is unlikely to deliver value for money on other areas where the transaction costs of pursuing PFI are disproportionate compared to the value of the project or where fast paced technological change makes it difficult to establish requirements in the long term' (2003: 2). Apparently, PF works well when the projects are complex and large. It is not recommended when:

- the transaction costs are high compared to the value of the contract; these are costs related to drawing up and carrying out the contract
- the performance to be delivered is unclear.

It is for this reason that PF is no longer used in the UK for IT projects, since technological changes became too unpredictable (Treasury, 2003: 87).

The uncertainty about whether PF generates excess value, or "Value for Money" (VfM), as it is known in the UK, makes it necessary to determine this per project. This is done by comparing the user fee to be paid with the expenditures which the State would incur if it were to finance the capital good itself and were to operate it in the usual manner, taking into account the transactions costs that would be incurred with these options.

The efficiency of PR explained

Explanation

PF has three characteristics: private ownership, outsourcing, and combination of services. In the previous section, another precondition was added: the use of PF must yield VfM. The principles and contentions that can help explain why -- and in which cases -- PF leads to VfM, will be presented below.

First of all, the characteristics will be discussed from the private-public perspective. The principle in this is that the government should only be granted means of production in exceptional cases, for instance, when the market fails, and generates services with them. Secondly, the characteristics will be viewed on the basis of the proposition derived from economic organizational theory that an organization should only produce services itself and have ownership of means of production if the transaction costs are lower than when those means of production were not owned by itself. Thirdly, there will be a discussion on life-cycle management as an explanation for the combination of services, after which the calculation of VfM will be briefly looked at. Finally, these insights will be combined and related to PF.

Private-public relationship

The first angle with regard to ownership and outsourcing is the role of the government. Defense is seen as a truly public good because it does not cost anything extra to let an additional individual benefit from it, and it is difficult to exclude any individuals from benefitting from it. The consequence of this is that defense is financed by compulsion: taxes. Being a public good does not necessarily mean that the government produces this good itself: financing and production are two different things. The fact that the needed weapons are usually produced by companies, already makes this distinction clear. The Defense organization is the owner and soldiers use those weapons, however, not everything is outsourced. A defense organization also owns companies, schools, and infrastructure. For this type of situation, it can make use of companies, for instance, by hiring offices and outsourcing weapon maintenance. Apparently, it is a matter of choice who is going to be the owner or who produces services. This brings up the issue of what this choice between public and private should be based upon.

There are a number of reasons not to embrace ownership and production by the government in advance. Stiglitz (1988: 198-205) mentions, amongst others, the following:

- Organizational incentives provided by government are different from those of companies. Government units do not have to worry about bankruptcy and generally do not face competition, causing the absence of a built-in mechanism urging for efficiency in decision making. There is no price mechanism, nor are there competitive forces to ensure the delivery of services at minimal costs.
- Personal incentives are different. On the one hand, in contrast to the world of business, in a government organization, salaries rarely reflect the success of that organization. On the other hand, it is easier to lay off personnel in the business world, which makes the incentives of reward and punishment for good or bad performance, respectively, stronger in business companies. These incentives must be related to the objectives of an organization, which in a business company are profit and market share. As personal incentives are also directed at success of the company, this will ensure a central position of the objective. This is not so with the government, whose objectives are more numerous and not always unambiguous. Social (employment) and other political objectives blur the image and, in the absence of personal incentives to strive for efficiency, give occasion to pursue other, personal, objectives.

Stiglitz (1989: 32) also stresses that inefficiency is not exclusively a government thing. Business companies, too, especially the larger ones, where ownership and management are not unified in one person, find it difficult to make their employees act in the interest of the organization -- known as "agency costs". However, Stiglitz (1989) expects that the combination of the abovementioned organizational and personal incentives is a reason to expect more inefficiency within the government.

This expectation is supported by research. Because of the ready availability of data, most scientific research deals with comparable companies that may or may not be owned by the government in certain countries. One such research was held into the relation between ownership of 23 comparable air lines and their growth. It was found that companies financed by the government had a slower growth and made fewer efforts in cutting costs than those in private hands. Not all research leads to the conclusion that private ownership is preferable. Caves and Christensen (1988) compared two Canadian railway companies, one in private, the other in public hands. They showed that in this case it was not so much ownership that determined efficiency, but that competition forced the public company to be more efficient. Vining and Boardman (1992) brought all this research together and they conclude that ownership does matter and that, where there is enough competition, private ownership is preferable from an efficiency perspective.

An interesting research, though not directed at companies, was conducted by Karpoff (xxx), who investigated 92 Arctic expeditions for their degree of efficiency in the period between 1818 and 1909. Fifty-seven of these expeditions were privately financed and the others were initiated by governments. Karpoff (xxx) found that the public expeditions had the largest monetary resources, lost the most ships, and suffered the most fatalities and scorbutic patients. The private expeditions, in contrast, achieved the most prizes. The North-West passage as well as the North Pole were first discovered by them. While searching for an explanation, Karpoff (xxx) discovered that in the public expeditions those who initiated them were never the ones to execute them and that separation caused the expedition leaders to be badly motivated. Besides, insufficient advantage was taken of important innovations at the time with regard to clothing, diet, and mode of transport in Arctic circumstances.

Research conducted by the British National Audit Office (NAO) into PF indicates a preference for private initiative. One example is the construction of the "Joint Services Command and Staff College", which was put into use in 2000. When the costs of PF for this project are compared to those of financing by the government, the offer of the market party proved to be 10 % cheaper. According to NAO, the explanation for this is a better handling of the risks (NAO, 2002: 20). As Table 2 shows, in this contract many risks related to the construction and service delivery were transferred to the market party. Besides, the commercial risk - the use of the buildings, including services - lies partially with the market party. Thus, any possible future reductions of the British armed forces with an ensuing smaller demand of facilities have been anticipated.

Risk	Party bearing risk	Details
Design and construction	Contractor	Contractor did not receive any payment until start of service delivery
Availability	Contractor	Payments to contractor are reduced if it fails to make new facilities available for use by MOD
Performance	Contractor	Payments to contractor are reduced if it fails to provide support services to the required standards
Inflation	Shared	
Demand	Shared	MOD has guaranteed to buy a certain level of usage but the level of this guarantee decreases in later years
Residual value	Shared	

Table 2: Example of risk allocation (NAO, 2002: 19)

Transaction costs

Transaction costs occur when a supplier delivers goods or services to a customer. In fact, they are coordination costs related to this transfer. They can occur within a single organization or between organizations. When, for instance, armed forces decide to do their own weapons maintenance, the costs will be for planning and arrangements about production, management and production monitoring. When supplier and customer belong to two different organizations, they will consist of costs for finding the other party, drawing up a contract, managing the contract and monitoring contractually agreed upon performance. The volume of the production costs together with transaction costs of the various performance modalities determines which method of delivery is the most efficient.

According to the theory developed by Williamson (2003), the level of the transaction costs is related, amongst others, to the uncertainty surrounding the transaction and the specificity of the capital goods. This uncertainty is caused by a lack of information and the “incomplete” contracts as a result of this. It can have several causes:

- the difficulty to specify what the characteristics of products or services should be,
- insufficient measurability of performance, and
- opportunism of contract partners.

A situation which presents little uncertainty, for instance, is the delivery of bread to a barracks. When a barracks needs bread to feed its personnel, it will be decided not to bake it oneself, but to buy it. From a transaction cost perspective the explanation for this is as follows. There are many customers and suppliers for bread. This makes it a clear product and negotiation about the price is hardly necessary. Therefore, such a contract will bring along few costs related to the drawing up of the contract and performance

monitoring. At the other extreme are military actions. It is virtually impossible to draw up a contract with a supplier, as it is not known in advance what actions are going to be like. This is caused in particular by the fact that the decision about which means to deploy is related to the means the adversary is going to field. Because of this, a contract for military action will, as Fredland states, “inevitably be quite incomplete” (2004: 207). Besides, it is very hard to determine whether the soldiers deployed have had enough training and the measurability of their performance is very difficult. Therefore, according to the theory, the transaction costs are so high that it is better that one’s own troops carry out the actions.

The level of transaction costs is also determined by the extent to which specific means are needed for contract performance. These special resources may be physical, such as buildings or machines, or they may be intangible, such as specific training or know-how of personnel. A means is specific when the possibilities for application are limited, excluding alternative use. When a supplier is invited to invest in resources that are specific, it is clear that an alternative use of these means is much less profitable. The supplier will try to limit the risk by demanding a contract with a long duration, or by making allowance for it in the price of the service. Such a mutual dependency will lead to protracted and difficult negotiations, resulting in high transaction costs.

Seen from a statistical perspective, the evidence for the role of transaction costs is found by studying contracts. Thus, Keith Leffler and Randal Rucker investigated the structure of 200 contracts for uprooting trees. They found that the choice for the manner of payment (a lump sum for all trees versus payment on the basis of the number of uprooted trees), in line with the transaction cost theory, was related to the costs of drawing up the contract and monitoring performance. Paul Joskow investigated investments of electricity companies in relation to the contract duration for 277 coal deliveries. He found that when the companies were built in proximity of a single mine, the contracts were considerably bulkier than the contracts for coal delivery to companies that were not dependent on a single mine. Kirk Monteverde and David Teece collected data on the extent to which specialist design expertise influenced the structure of American motor companies. They found that the large companies produced their own components if specific expertise was required. Aric Rindfleisch and Jan Heide, amongst others, have compared this type of empirical studies and in general they support the theory.

The theory on transaction costs has been complemented by Sanford Grossman and Oliver Hart, amongst others, with regard to specific investments, with the notion that “property rights” have consequences for the motivation to either reduce the costs of the contract during the term of agreement, or to improve the quality of the service, or to innovate it. They assume that contracts can never fully specify the rights and obligations of the partners. On the assumption that a private partner is the owner, this can motivate

him to invest during the term of agreement if this means a reduction in costs. Because of the incompleteness of the contract, the private owner can combine this with a reduction of quality. Being the owner, the profits will fall to him. The expectation is that he will be somewhat less inclined to innovate or improve the quality of the service delivery. After all, he will have to negotiate about this with the partner, which might mean he will have to share the profits. Still, according to Andrei Shleifer, this is not a reason for the government to seek ownership, for, “The weak incentives of government employees with respect to both cost reductions and quality innovation underlie the basic case for superiority of private ownership” (1998: 138). With this, he concurs with Stiglitz’ arguments in the first perspective and he supports it by giving the same empirical evidence. According to Shleifer, from an economic perspective, there is a limited number of circumstances in which the government should hold property. Amongst others, he mentions:

- when there is a considerable chance that cost reduction could lead to a reduction in quality which cannot be covered by the contract,
- when innovation is relatively unimportant,
- when competition is weak,
- when damage to reputation is unimportant (this means that firms for which reputation is important in the acquisition of orders, are less inclined to lower costs and quality simultaneously).

Therefore, Shleifer thinks that it is a logical decision that the United States airplane ‘Air Force One’ is not in private hands. A private party might see an opportunity to reduce personnel costs by lowering the quality of the personnel, or to cut costs by choosing perilous flight routes in order to save fuel. However, the ultimate safety of the President of the United States warrants public ownership.

The proposition that uncertainty and specificity of the investments influence the transaction costs is confirmed by the use of the PF method. There are three reasons for this. First of all, the long term nature of agreement of the contracts - 25 years is not unusual - ensures the absence of a competitive element that would otherwise keep the supplier on his toes. This requires incorporating a “regulatory framework”, containing elements such as standard of service delivery, payment structure of the basis of output, penalty clauses, standards of delivery of the agreed output (Fourie, 200: 22). Secondly, the contracts are voluminous, as the combined service delivery is very diverse, indeed. Thirdly, this kind of contract is unusual in its length and composition, which affects the certainty. Standards are lacking and the result is a protracted, expensive contracting-out process. Apart from the fact that the drawing up of the contract requires a lot of effort and specialist know-how for both sides, government and business companies, numerous hired advisers, such as lawyers, economists, and corporate finance specialists are

needed. Moreover, they are needed right at the onset, even before the construction starts, and this is a heavy burden on the Present Value of a project. In the reconstruction of the MOD in London, for instance, the expenditures for advisers of the State amounted to almost GBP 9 m., GBP 7 m. for financial economic experts, and GBP 2 m. for legal advice (National Audit Office, 200b: 18). This is a lot of money, especially when taking into consideration that this was not the first project in this field, so that those involved could profit from the experience gained with other PF infrastructural projects.

Government reports in the Netherlands as well as in the UK regularly announce initiatives to reduce these costs, for instance, by standardization of the contracts. However, the costs remain higher than for the usual contracts, due to of their “tailor-made” character.

Life Cycle Management

When the investment within a budget is the sole objective, there is a tendency to place less emphasis on the importance to issues that will emerge later in the life cycle. This may lead to the use of cheaper materials with a shorter working life or a design that could demand extra operational costs. It is argued, however, that if the entire life cycle is taken into account from the start, combined with performance standards for use, the various phases can be tuned much better.

Benjamin Blanchard and Wolter Fabrycky defend this proposition, indicating that in the construction of any capital good, more should be taken into account from the outset than just the design and construction alone, ‘Experience in recent decades indicates that a properly functioning system that is competitive cannot be achieved through efforts applied largely after it comes into being. Accordingly, it is essential that engineers be sensitive to utilization outcomes during the early stages of system design and development, and that they assume the responsibility for life-cycle engineering’ (Blanchard & Fabrycky, 1998: 19). This method of designing must start with a “definition of need”, in which a needs analysis is linked to “system operational requirements” (Blanchard & Fabrycky, 1998: 20). This is similar to the performance standards used in the PF method. They acknowledge that this approach is not widespread as yet, which they attribute to the fact that the producer of a capital good is usually not the user and that ownership, use, and maintenance are not in one and the same hand. In their views, armed forces are positive exceptions to this rule, as they are often involved in design, construction, and operations which gives them an interest in overseeing and controlling the entire life cycle.

Unfortunately, this interest is presented too optimistically. There are two reasons for this. First of all, the division between the responsibilities for technology, procurement, supply, maintenance, and the use of the systems appear to cause too little attention for optimizing the entire system. The United States Army is currently trying to break them

down, by introducing the “Soldier Focused Life Cycle Management” in 2005. It is a program which focuses on performance per system and the costs incurred for that and it is intended to bring the various organizations into line (James Pillsbury, 2005: 4).

The second reason is of a budgetary nature. In most countries, as in the Netherlands, budgets are directed at the means that have to be purchased: personnel, weapon systems, supplies. The division runs almost parallel to the organizational division indicated above. This method ensures optimization of the partial budget. Thus, it can be imagined that from a stock management perspective ammunition is purchased for systems that are not used for military actions, whereas there is no budget for maintenance of systems that are employed. David Osborne and Ted Gaebler give many instances of this. Ever since their book “Reinventing Government” was published fifteen years ago, people have been aware that more should be budgeted on the basis of what must be achieved.

It is often called the biggest advantage of PF that it enforces de-partitioning and budgeting on what must be achieved. The method combines the functions of design, construction, maintenance, logistics and operations. By not specifying in the long-term contracts how and what must be built but instead, laying down what requirements the service delivery must meet, the supplier will be stimulated to make the present value of the costs for the total life cycle as low as possible. As Grout states it, “there are strong incentives to build the right type of asset when revenues depend on a flow of suitable quality services from the asset” (Grout, 1997: 63). This forces entrepreneurs to think long-term and, “This is generally seen as a tremendous competitive advantage over traditional contract” (DeWulf et al.: 78).

Determination of Value for Money

The PF method uses guidelines, laid down in the manuals in the UK and the Netherlands, for the financial determination of Value for Money. As VfM is a pre-requisite for using the method, it is useful to carefully consider this calculation. The first point of criticism is that the risk approach is too limited, since it is only directed at measurable risks.

Froud (2003) conducted research into all hospitals in the UK that were built with PF in the period 1987-1998. If risk transfer was not taken into account, she found that public financing was preferable for all hospitals. With risk transfer, the balance was tipped in favor of private financing (Froud, 2003: 576). This also applies for the building of Staff College in the UK, mentioned above. Without risk transfer, the public option cost M£197 and the private option M£200. By the risk transfer of M£26, the private option was more efficient (NAO, 2002: 20). Apparently, the determination of VfM is very sensitive to risk transfer. This may prompt the question whether, as Stroud says, the method was designed precisely in this way, ‘while effectively disguising the extent to which the

public sector retains the inherent risks of the project' (Froud, 2003: 577). The argument for this is that uncertainties and non-measurable risks are left out of the equation. In fact, they are actually created by the way in which PF is put out.

Risk is the measurable chance that the outcome is different than intended. This can be assessed statistically for construction, operations and profitability of projects. However, there are also non-measurable or unmeasured risks here. Non-measurability refers to those situations in which various outcomes are possible, but for which no historical data exist. The changing East –West relation and its consequences for armed forces is an example of this. A PF contract, with a duration of 20-30 years, restricts the possibility of the government to respond to a changing environment. In other words, it limits the flexibility. The criticism is that PF is too focused on measurable risks, which is a technical approach. It leaves out of consideration what Fourie and Burger call “guestimates” (2000: 13). On top of that, according to them, the PF also creates risks which are not taken into account either. The most important created risk is caused by the service delivery approach, in which services have to be identified beforehand. It is unlikely quality standards for service delivery will remain the same during the 25 years of a PF contract. A changing quality or volume means new negotiations, with the ensuing extra costs.

At the same time mention must be made of risks which also exist in other contracts, but which become bigger due to the specific PF construction. Froud (2003) and Fourie and Burger (2000) point out the risks which ensue from dependency on market parties, in particular:

- Risk of underachievement. When investments are made specifically for service delivery, the entrepreneur may assume that, should they occur, the government will bail him out of difficulties. In that case a “moral hazard” appears: not the contract party but the government itself bears the risk, whatever the contract says (Fourie and Burger: 2000: 27). An example is the privately funded “The Royal Armouries” museum, where the commercial risk lay with the private party. The number of visitors was lower than expected and closure threatened. The government deemed this unacceptable and lent a financial helping hand and assumed the commercial risk (Froud, 2003: 584).
- Risk of bankruptcy. In crucial services the above-mentioned moral hazard will occur in case of failure. In case of an impending failure of less crucial services, whose temporary suspension is surmountable, a bank which has lent the money for the realization of the capital good, will go in search of a company to take over the activities. That this is not a hypothetical situation is shown by the failure of the Jarvis firm, which had concluded many PF contracts. The losses for shareholders and banks were heavy and the contracts were sold on. According to “The Economist”, the failure was caused by the fact that Jarvis ‘was a famously bad contractor’. If the failure is caused by the

contract, the companies will be reserved and ask the government for more money. In both cases, the government bears a certain risk (Fourie and Burger, 2000: 26). Incidentally, this risk can be limited by demanding, prior to concluding the contract, that the contract party contribute capital of its own. A more favorable debt/equity ratio can absorb shocks.

What Froud (2003) and Fourie and Burger (2000) see as risk should be expressed in the transaction costs. In the theory on this topic, there is much attention for “moral hazard” and “hold up”. If these situations occur, the transaction costs will rise. Needless to say, this is possible in a conceptual sense, in reality it will be difficult to estimate these expenditures. It is a reason not to rely exclusively on the figures for VfM when taking decisions about whether a project is suitable for PF.

The second point of criticism concerns the comparison of private and public financing. A government bond has the lowest possible interest, because there is no risk involved. After all, there is certainty that the government will always honor its obligations, as it has the power to collect the necessary money by levying taxes. Investing in capital goods means that one denies oneself something with a view to future profits. As the future is uncertain, so is future profitability. The question is whether this uncertainty must be expressed in present value calculations of investments undertaken by the government itself, as it can borrow without any risks. The starting point in PF constructions is that there should be an equal “risky rate” for private as well as public financing. Hirshleifer (1966) supports this view when he argues that if the government undertakes projects with a lower profitability than is customary in the private sector, this will push out private projects with a higher profitability. This is not Pareto-efficient with uncertainty (Hirshleifer, 1966: 268). Another argument for this is offered by the comparison of taxpayer and shareholder. The latter bears the financial risks in a company. Similarly, the taxpayer can be seen as the shareholder in government investments, because he bears the risks there. The argument is that the market is better able to diversify the risks, as the capital market is many times bigger than the government’s purse (Van Ewijk and Vollaard, 1999: 110).

There is also an economist school that advocates a “riskless rate”. Renowned economists, such as Paul Samuelson and Kenneth Arrow, indicate that the more there are mutually independent investment projects, the better the risks can be diversified; windfalls and setbacks will compensate each other. This “risk pooling” (the principle of insurance) can be done far better by the Government than any company, provided it is of a considerable size. Coupled with a large population, which has to bear the risks, it makes the remaining risk in fact negligible. Only for very big investment decisions (such as the Delta Works in the Netherlands) should a higher risk be taken into account. These contending visions also call for caution with regard to conclusions, often presented as “firm”, about the VfM calculation carried out according to the guidelines.

Conclusion

Efficiency within private companies is deemed to be better than that within government, 'Only because the continued health and survival of the firm is at risk due to seller competition and consumer freedom of choice, are managers sufficiently 'incentivised' to deliver maximum efficiency' (Fourie and Burger, 2000: 7). In other words, the starting point of PF is that since an entrepreneur deals better with risks than the government, and since the risk is efficiency's engine, the entrepreneur is more efficient than the government. The discussion in the previous section, however, shows that this principle requires some qualification.

Firstly, this is required for a situation in which there are few market parties. Since competition will be limited, this is precisely the type of circumstances armed forces often find themselves in with respect to their military means.

Secondly, the costs of the transaction have not been taken into account. These costs can be so high that private production is not efficient. This can be caused by the modest volume of the investment, the high specificity of the means, but also by an uncertainty about required level of service delivery in the further future. In general, the specificity of military means is less than is often supposed since most of them can also be used by other armed forces. The British situation is a case in point, with Skynet now being used by other nationalities as well. The uncertain future is a different story. Military operations are subject to change and will, therefore, make other demands. This uncertainty will influence the style of contracting.

These qualifications of the basic principles, however, should not lead to abandoning private production. Apart from Schleifer's argument, from an economic perspective, effects of scale and shared use of overcapacity are reasons for this, as is borne out by British defense projects. An example of effects of scale is the PF of engineer vehicles, encompassing more than 100 different types, which are also available commercially. PF was chosen here as controlling these many types seemed to be too costly, given the small scale on which they occur within the armed forces (NAO, 2006b: 49). An example of the effect of shared use of capacity is the "Strategic Airlift". Here, the overcapacity was consciously created in case a deployment in a major conflict would require ferry capacity. The overcapacity is commercially exploited as long as the MOD does not need it. Yet another example is the FSTA project, in which it is intended that air planes are used in an alternative way by the consortium. Both effects can contribute to efficiency.

In the previous sections, efficiency and VfM have been presented as leitmotifs for PF. It was already suggested that caution is required in the calculation. A further qualification must be made towards the end of this contribution, because one may ask oneself whether VfM, as it is used in the PF method, is such a good motive. In contrast with a private company, in which profit and shareholder value are leading, the government has

many -- often conflicting -- objectives. Thus, contracting out, can be undesirable from a political motive -- such as electoral loss -- even if it may be efficient. At the same time, these other objectives can lead to PF.

This situation may occur when a government organization wants to undertake a project for which there is no money. For the short term, PF may give the impression that the problem becomes smaller since more funds can be invested than was originally anticipated. This reason why the British MoD embraced PF in the construction of their Staff College, for “it was questionable whether the large capital outlay involved was affordable” (NAO, 2002: 1).

A Minister of Finance can be faced with a similar problem when his government must make certain investments whereas the reality of the national debt simply does not allow this as a viable option. PF will help him out because when the economic ownership of a capital good is in the hands of a market party, the national debt is not burdened. In the short term, this may seem like an adequate solution. However, PF can unfortunately not be used structurally for this purpose because it ultimately does mean “buy now, pay later”. This is the reason why the motif of VfM remains paramount.

Finally, it must be said that, apart from VfM, there may be other factors of importance in the determination whether PF can be used in any individual case. This calls for cautionary measures and convincing argumentation. When the necessary prerequisites and criteria can be met within a competitive market situation, when the service delivery requires innovative thinking, and when the created capacity can be used by others too -- whether they be market parties or armed forces -- it is a realistic expectation that PF is a good method for acquiring capacities.

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Private Finance Constructions for Defense

An interview with LCol Drs RJ Berkhout RC (RNLA)

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Introduction

Following the footsteps of the United States, the United Kingdom and many European countries, The Netherlands' government is implementing Public Finance Constructions (PFC) as a means of financing and realizing public infrastructures. Being preceded by the Ministry of Traffic, Public Works and Water Management, the Dutch Ministry of Defense (MoD) is picking up on this trend of having private parties finance assets for Defense. The new Headquarters for the Army is going to be built in a PFC-way. We interviewed Lieutenant Colonel Berkhout who works at Central Staff and he is one of the only officers having experience with private finance because he is a member of the working group to realize the new army Headquarters.

Why do the armed forces use Private finance, although they have approximately one billion euro per year to invest?

“Before answering this question, first, let me explain what PFC means by telling you about the example of the “Kromhout” project. The army needs a new headquarters, to accommodate 2,000 civilian and military employees. To fulfill this need, a PFC-construction is decided upon. Not only does the private consortium that will be selected finance and deliver the building, but also the consortium will take care of supporting services, such as maintenance, catering, child care, cleaning and reception. So, actually, the army does not request only the building by itself, but we concentrate on the whole range of requirements: room to work for 2,000 persons, according to specific standards and definitions.

PFC-financing is based on the notion that civil enterprises are better suited to supply specific services and goods and therefore, will, eventually, be cheaper than projects fully financed by the government. Simply put, the government should stick to its core business and hire others for support. The Ministry of Defense will select the consortium of enterprises that makes the best offer, in terms of costs and quality. As soon as the

product is ready for use, the MoD will pay the consortium a preset amount of money for a preset period of time.

PFC-financing benefits the efficiency of the MoD; by PFC-financing, the maximum result can be achieved from using public funds. The MoD also saves on its allocated budget. Most of these savings will have to be returned to the Ministry of Finance. However, the MoD and the Ministry of Finance have agreed that a certain percentage of money saved by PFC will be returned to the MoD. This percentage also works as an incentive for efficiency to the MoD.

In my opinion, PFC is an excellent way to employ public funds in an efficient manner. Within the MoD, PFC is most useful for purchasing long lasting assets.”

PFC-contracting does not sound easy ...

“Drawing up a profitable PFC contract takes a considerable amount of time. As soon as the MoD decides to contract out a project, an offer is placed on the international market (in accordance with international and national economical policy). Several consortiums formed for the project at hand can make their offers and propose original solutions. These consortiums usually consist of -at least- some banks, architects, contractors and logistical enterprises.

Usually, the process of selecting a consortium will be divided into several phases. First of all, consortiums have to give a presentation introducing their ideas and a scale model. The MoD will be especially interested in the extent to which the presented plans prove to be unique and in the originality of solutions to problems. Secondly, based on the price-to-quality ratio, a selection will be made. The presented plans have to fit within the MoD’s pre-set financial boundaries. Eventually, the consortium that fits in best acquires the contract and starts production.

From the first phase of selection onwards, enterprises have to invest a lot of money in designing exact and real plans, thinking up and defining solutions and creating presentations and scale models. As the project develops, the civilian consortium will also be confronted with interest and exploitation costs. Besides, the consortium entirely finances the services it provides. This means, the stakes are high, which puts additional pressure on the process.

Not only are the stakes high to the consortia concerned, but the same applies to the MoD. Dealing with PFC contracts is completely new to us and we are relying heavily on our PFC-advisers. To decrease the transaction costs, the Ministry of Finance has decided to introduce PFC-knowledge. These specialized centers will act as consultants to assist governmental departments in their search for additional knowledge and expertise to exploit the governmental assets.”

Do enterprises show a lot of interest in this new method?

“In spite of the financial risks involved in taking part in the selection for a PFC project, enterprises are more than willing to take their chances. The MoD is a part of the government, so the consortium is almost certain of payback. Moreover, a public contract enhances the reputation of the enterprises within the consortium.”

Does MOD already have a policy to deal with PFC?

“There are many possibilities to acquire services outside the armed forces themselves. The idea is that you do not need to own the assets. Actually, we are forced to look for other ways to provide us with necessary services. Due to down-sizing, the armed forces can ill afford, for instance, the same level of in-company maintenance they used to have. Therefore, we are looking to cooperate with commercial and public partners to provide such services, which should be mutually beneficial. Possibilities are outsourcing, operational leasing or partnerships with other armed forces and PFC. PFC, therefore, is seen as just one of the possibilities, but certainly not the only one.

Let me give two more examples to illustrate the abovementioned. First, maintenance of military transport vehicles used to be done in Defense workshops, but not any more. For a period of 10 years, we have contracted a commercial firm to maintain the vehicles and train military personnel to be able to maintain the vehicles during operations. Secondly, another interesting development is the so-called “partnerships with other armed forces”. Within NATO, the European Union and the United Nations have decided to team up to find out whether their combined efforts may lead to less costly services. The best example in this field may be aircraft maintenance.”

Who pays the bill?

Controlling the Royal Netherlands Marechaussee: 1993-2002

Peter Jongejan

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Abstract

This paper describes the interest for financial control within the Ministry of Defense and the operational commands during the final years of the previous century and the first few of the present one. It specifically considers the Royal Netherlands Marechaussee from a Services perspective. Also the relation with the Central Staff is discussed. It is an account of the way in which assessment of the financial management by the departmental accountancy service and the Court of Audit prompts action and reaction from the parties involved.

Introduction

From the 1980s onwards the financial management of the public sector has enjoyed great interest. Up to an extent this can be explained by the broadly-held belief that this sector is ineffective and inefficient (Hood, 1995; Lapsley, 1999). By means of the New Public Management (NPM) concept it is tried to improve effectiveness and control. Key concepts, such as “competitiveness” and “customer”, make their entrance suggesting comparability with the private sector. Besides, “accountability” is supposed to guarantee that business is conducted in a decent way, in emphatic contrast to the private sector.

Hood (1995) associates NPM with seven dimensions of change. Broadly speaking these dimensions can be divided into two categories: one related to the distinction of public and private sectors with regard to organization and forms of “accountability”, and another referring to the limitations to “discretion” by means of strict regulations. The first category encompasses the tendency towards smaller units and the striving for more competition both between organizations within the public sector and between organizations from the public and private sectors. Examples of the second category include: tendency towards more “explicit and measurable standards of performance” and “output measurement”.

Within the Netherlands Ministry of Defense the introduction of the *Defense Management Policy* in 1993 can be seen as an example of the recognition of the increased

importance of effectiveness and efficiency for management. Incidentally, apart from the updating of this policy in 1999, literature on the improvement on defense management at home or abroad is still scarce (Grondlund and Catasus, 2005).

The present contribution discusses the interest for financial management within the Ministry of Defense and the operational commands around the turn of the century. In most cases this interest did not spring from the need for good financial management, but rather from the interest of internal and external auditing institutions, which was based on legal regulations. In particular the Royal Netherlands Marechaussee is the subject of this article, along with its relation with the Central Staff. In the latter half of the 1990s the Royal Netherlands Marechaussee went through a period of strong growth and, from the perspective introduced above, this constitutes a contribution to the NPM literature on the actual developments with regard to the financial management within a defense organization.

An element in the striving of the Royal Netherlands Marechaussee (KMAR) for maturity was the independent execution of tasks in the realm of financial management, which, since the independence of the Royal Netherlands Marechaussee in 1969, had been the responsibility of the Royal Netherlands Army (RNLA). The article describes the efforts it takes to get the quality of financial management up to a reasonably acceptable level.

Taking over financial management tasks is related to other developments in the Royal Netherlands Marechaussee. An interesting factor in this is that official and political institutions had shown an increasing interest for the Royal Netherlands Marechaussee since it had taken over the national police tasks in civilian airports. However, this was only one of several expansions facing the organization. Moreover, there was an emerging feeling of unease (mainly from outside the organization) with regard to the manner of management that had hitherto been used. The fact that the Royal Marechaussee budget exceeded the psychological limit of half a billion guilders in the mid-1990s, undoubtedly contributed to this increase in interest. In those days the Royal Netherlands Marechaussee was the only Service that was still growing, although it would of course always remain the smallest! The fact that the largest expansions took place in the civilian task, was not always applauded. The taking over of the financial tasks by the Royal Netherlands Marechaussee coincided with the attention of the auditing institutions for the quality of the management. In the Service's own view this quality would, in general, be able to stand the test of criticism, but for the departmental accountancy service and certainly the Court of Audit it was below par. Studying the course of the process of improvement of the financial management will reveal whether any lessons can be learned from it.

On the one hand, the article is based on documents of the auditing institutions, while, on the other hand, it is written from the experience of the author, who, as a Royal

Netherlands Marechaussee controller, was in the thick of it. For years the author was involved in the development within the Royal Netherlands Marechaussee, but he has tried to reflect as objectively as possible on the spirit of the period. Although there are certainly elements in the Defense organization still struggling with financial management, the pressure seems to have subsided somewhat and a retrospect on these turbulent times does not come amiss.

The development of the financial management will be positioned in the complex of developments that for many people determined the image of the Royal Netherlands Marechaussee around the turn of the century. An analysis of the (formal) reports of the departmental accountancy service and the Court of Audit will provide an insight into the improvement in financial management. A question that should be answered is whether the Royal Netherlands Marechaussee stood a fair chance or that it was bound to fail from the outset.

The prelude: September 1993

Central Organization

The Defense Policy Management Framework, the guideline for economic-organizational action during the final years of the last and the beginning of the 21st century had finally come to completion.¹ It had been a job of years and through the procedure of hearing both sides with the Services this document had come into being. It formed the cornerstone of the new management system. In typical NPM-speak it was the era of “result- responsible units”, “main line management”, “integral management” and “clear agreements on performance and budgets”. Besides, it was a re-confirmation of the autonomy of the commanders-in-chief, delegated through to the lower commanders.

The Royal Netherlands Marechaussee

The Royal Marechaussee (KMAR), too, dutifully played its role in the talks with the Director-General of Finance and Control (the concern auditor), not necessarily with the idea that the newly-developed notions would be directly applicable to their own organization, but more as an observer of the new thinking with which the “big” Services were going to be confronted. At that moment it was clear to only few what was in store for the KMAR. Hitherto the organization had led a rather carefree existence under the lee of the Hague reality. In spite of a number of personnel reductions the organization was fairly stable and the budgets were small compared to the other Services. Many KMAR commanders felt that they could get by with the execution of their investigative tasks (entrusted to the organization since 1814) under the auspices of the Minister of Justice

in line with the 1993 Police Act. Only a few people showed any interest for the new direction and they often did so on a personal title.

Result-responsible units

The other Services often saw the new philosophy as a confirmation of their own autonomy, as a consequence of which authority and responsibilities were placed on lower levels in their organizations. There was a general striving for defense units to adopt an organizational form which allowed them to work as effectively and efficiently as possible, a principle which was embraced within the Royal Netherlands Army (RNLA).

For a correct understanding, the reader is advised that until 1 July 1969 the KMAR had been part of the RNLA. In that year, the Royal Netherlands Marechaussee went its own way, taking along a (limited) budget of its own and drawing rights to specific expertise within the RNLA. Already in that year it was clear that, in view of the size of the organization and the supposed symmetry to the RNLA, it would not be viable to give the KMAR policy capacity in fields such as personnel, materiel and finance.

This situation worked more or less until the 1990s, but the introduction of the new management policy proved to be a good occasion for both KMAR and RNLA to reconsider their relation which had been the result of history. While the RNLA showed a tendency to withdraw within its own Service, there were some within the KMAR who held the opinion that the time was ripe to accept (more) responsibility. This idea took root in particular within the economic-financial functions, while at the same time the remainder of the KMAR Staff still largely clung to the existing working methods.

It should be borne in mind here, that until well into the 1990s, the KMAR's financial service was provided by the RNLA. This did not only concern central transactions (obligations and expenditures coming from the KMAR Staff), but also decentralized transactions (obligations and expenditures coming from the decentralized units in the country). The Economic Control Department of the KMAR Staff collected the invoices that had come in and after accompanying them with a statement of delivery from the Head of the Executive Support Section (on behalf of the KMAR Commander), presented them for payment to the RNLA. Decentralized transactions went through the RNLA accountants in the country, and as the KMAR districts and sections had hardly any financial authority, these transactions were limited in number. A considerable part of 1994 and 1995 was devoted to transferring the financial tasks of the RNLA to the KMAR. This, however, was not the only *tour de force* that the KMAR was facing in that period.

Challenges

In the course of 1993 the decision making that was eventually to lead to the transfer of tasks of the Aviation Service of the National Police Corps to the KMAR, per 1 January

1994, was finalized. The responsibility for border control at the airports had already been placed with the KMAR and by the above date the organization also assumed the police and security tasks at the civilian airports. Manning the new district (Aviation) gave reasons for concern. Not only had the National Police carried out its task with a limited number of tenured personnel, but there was also little enthusiasm on the side of National Police officers to join the KMAR, which made it very hard to fill the units at the airports. Surplus personnel of other Services found their way to the KMAR; moreover, there was an extensive use of detachments, which had its consequences for the filling of regular functions elsewhere in the country. In a financial sense the KMAR had an extra expenditure, which led to financial tussles between the Ministries of Defense and Justice. However, the KMAR now had an organic unit within its organization with its own pay function. In that respect the Aviation District was ahead several years compared to the rest of the Service. Besides, the financial procedures were not always in line with what was customary within the Defense organization and adjusting them to this system was a major challenge in the financial policy field.

On top of that, in the course of 1994 the KMAR was given the new task of Mobile Surveillance of Aliens, for the fulfillment of which the organization was expanded with roughly 500 full time equivalents and the budget adjusted accordingly. The semi-permanent assistance for Amsterdam and The Hague was terminated and the personnel was made available for the new task. The later years of the decade saw other expansions of the KMAR task package, for instance, as a result of the Schengen Agreement, an intensified aliens surveillance and cross-border crime.

The 1991 Defense White Paper initiated comprehensive restructuring and reduction of the Netherlands armed forces. After the fall of the Berlin Wall the security risks diminished because of the dissolution of the Soviet Union and there was talk of cashing in on the "peace dividend". In that phase the KMAR was the only Service still growing and, as was indicated above, part of the superfluous personnel elsewhere in the armed forces found their way to the organization.

The transfer of National Police tasks at the civilian airports did not go unnoticed by the Court of Audit. At the beginning of 1995 they published a preliminary report that was not well received by the KMAR leadership.² It tackled the KMAR on a number of points for which the formal responsibility had not yet or only recently been transferred. In a reaction the KMAR hired an external consultancy to draw up a plan for improvement. Clearly, this was an ill-starred undertaking.

Interdepartmental Policy Survey (IBO)

The turbulent environment in which the KMAR found itself throughout the nineties was further accentuated by the Interdepartmental Policy Survey (IBO), to which the organization was subjected through 1997/1998.³ Annually, the Ministry of Finance (on behalf of the Cabinet) formulates a number of government-broad survey assignments, carried out by interdepartmental working groups. In the case of the KMAR, management and control were the subject of research, and although the choice for these aspects was of course not a random one, there were only few who were happy with it. As said above, the implementation of the new management philosophy within the KMAR proved difficult. For a long time it was thought that decisions could be taken by the seat of one's pants, and now it had to be established whether for the KMAR, too, a more result-responsible management and control would be feasible. A complicating factor in this is that although the Ministry of Defense has the control over the KMAR, the responsibility lies mainly with the Ministries of Justice and the Interior. This means that the audit of the KMAR should also be carried out by external parties.

It was not long before the working group discovered that there was no such thing as "result-responsible management and control" within the KMAR, and they, subsequently, made recommendations, adopted by the Government, to realize it over time. Under the name *KMAR Management Policy 2000* a lengthy process was begun which was to lead to the desired result. The activities that were initiated and carried out in the final years of the previous century (but also in the beginning ones of the new century) determined to a large extent the context within which the KMAR operated in that period.

Above, an overview has been given of the circumstances in which the KMAR operated in a (managerial) sense in the late 1990s. In summary, it comes down to the organization having steered into a dynamic environment, characterized by a strong growth of personnel, the take-over of National Police tasks at the civilian airports and the introduction of new tasks and changes in the management style as a consequence of the Interdepartmental Policy Survey. These changes asked a lot of the organization and its personnel. In the following the consequences of taking over the financial tasks will be discussed.

Financial tasks

In the meantime, a start had been made within the framework of the decentralization of the RNLA with delegating tasks to lower echelons in the organization (district or result-responsible unit-level). As was said above, this development had an impact on the KMAR. The RNLA had indicated it was going to terminate the age-old service support to the KMAR by the end of 1995.⁴ It was decided that the take-over of the financial con-

trol task by the KMAR was to bring no additional expenditures. For the receiving party this meant that acceptance did not take place at the expense of already existing (police) tasks.

The talks with the RNLA about the take-over of financial tasks made good progress, and they eventually led to the actual establishment of a financial function in the KMAR staff on 1 January 1996. Four RNLA functions were earmarked for the KMAR under simultaneous transfer of the relevant budgets. Likewise, at a later stage, personnel and financial transfers took place within the framework of the establishment of the (decentralized) administrative groups at some six locations all over the country (for each of the five districts and the training center). From that moment onwards the KMAR held the complete responsibility for the financial processes. The financial expertise seemed to have been guaranteed. The functionaries that had been taken over from the RNLA came from its (decentralized) financial function field and where no personnel had been taken over (but only financial transfer had taken place) the KMAR could carry out its own selection procedure to find the right talents.

The above shows that in a “technical” sense the conditions to allow financial control had been met. The question, however, remains whether the change in organizational culture kept up with the developments that led to the managerial change. In other words, was the organization “ripe” to bear certain forms of responsibility when in the period after 1969 these responsibilities had continually lain with the RNLA? This is a question which will be dealt with later. It soon appeared, however, that partly because of the growth of the organization, especially in the KMAR staff, the activities had been underestimated. Soon, there were arrears in payment and a number of administrative procedures needed to be accentuated in order to settle commitments and payments correctly.

Now that financial control had found its place within the economic control of the KMAR staff, the organizational form of the economic control department as it had long been in existence, was approaching its (provisional) completion. In mid-1996 the KMAR implemented the internal control policy vision of the Director-General of Finances and Control. This meant that the internal control function became a separate section of department of economic control of KMAR staff.

Audit system

The KMAR had always had an internal audit section, whose personnel was supplied by the RNLA. Audits were directed at anything but financial matters for there hardly were any in the old situation. The establishment of its own verification and pay function also necessitated the auditing of these aspects, of course, not only for the finances of the central staff but also for those of the training center and districts.

For a good understanding of this audit system it should be said that it involved a tripartite construction of auditing institutions. At the basis there is the above-mentioned “own” internal audit for the Service itself. Next, comes the departmental accountancy service (now the Defense Audit Board), which uses the input from the internal audit. It issues statements about the order, regularity and accountability of the annual accounts. The departmental accountancy service holds an independent position within the Defense organization with regard to the Services and it comes directly under the Secretary-General. Finally, Defense is subject to the audits of the Court of Audit, which audits the ministries and reports to the Parliament in the form of a “report accompanying the financial statement”. In its turn, the Court of Audit uses the results of the audits of the departmental accountancy service. Besides, for judgment purposes it has access to the separate Defense units at all times.

As every link in the audit system uses the findings of the previous link, it becomes necessary to build in quality guarantees. This can also mean the making of mutual agreements with regard to the domains to be audited, and the aspects which will get most attention. Of course, this does not free any of the institutions of its own responsibility with regard to the quality statements it has to issue on the management under investigation. It goes without saying that from time to time tensions may arise between the different auditing levels. Thus, the remark may be heard that the internal audit section is first and foremost there for its own Service. It may also be that at this level, but also at the level of the departmental accountancy service, there is a certain “hedging” against presenting too rosy a picture of reality to the next higher level (some aspects have escaped notice). But it can also seem that the auditors from the departmental accountancy service come from an entirely different department and do not bear in mind enough the interests of their “own” organization. In this way an over-control may occur with the intention of reducing, in quality and quantity, any possible new remarks of the Court of Audit (most has already been said). In addition, it cannot be excluded that (other) interests of one’s own Service may come under pressure unintentionally.

The findings of the internal audit section (of the KMAR staff) are laid down in reports that are confirmed by the KMAR commander in the last instance. Since the take-over of the financial tasks from the RNLA the audit of the financial policy pursued has also made up part of those reports. As indicated above, these reports are used by the departmental accountancy service for its KMAR audits. Visits of the departmental accountancy service to the KMAR staff, the districts and the training centers makes up an emphatic part of the system of auditing. Subsequently, the accountancy service draws up an annual so-called basic report per Defense unit, which, amongst others, contains a judgment of the financial management. Then, the service issues a statement regarding the annual account and financial control, the technicalities of which will not be discussed here.

In the description of the audit system it was already indicated that the highest auditing authority is formed by the Court of Audit. Its tasks are laid down in the Government Accounts Act and they encompass an investigation into the extent to which the financial and material management of the departments meets the standards of regularity, order and accountability (Article 82 Government Accounts Act 2001). The Court of Audit is a High Council of State: its tasks, authority and legal position are provided by law. Article 82 provides the Court of Audit with the basis for the importance of the annual publication of the so-called regularity audits, in which it gives its assessment of the financial and material management of the departments. This assessment is presented every 3rd Wednesday in May ("Accounting Day") to the Parliament.

Possible judgments

Before going into the actual qualifications given by the internal auditing section, the departmental accountancy service and Court of Audit with regard to the financial control, first the possible qualifications will be discussed, here.

There is no established nomenclature for the qualifications that can be given by the internal audit section. In general, what is right or wrong is put in clear language. Often containing recommendations for mending deficiencies, they are written from a positive but critical attitude. The departmental accountancy service issues an auditing statement, a written document containing the result of the accountability check. The following qualifications are possible:

- a statement of *approval*;
- a statement with *limitations*; or
- a statement of *disapproval*.

The qualification depends on the number of deficiencies found. How it is drawn up is not a matter for discussion, here. Incidentally, since 2003 these statements have not been issued per individual Defense unit, but for the Defense organization as a whole. The Court of Audit, too, uses three qualifications, which are also based on the extent of the deficiencies. They are as follows:

- *no or minor shortcomings*: no deficiencies that exceed the Court's tolerable threshold;
- *shortcomings*: there are deficiencies that exceed the tolerable threshold; and, finally,
- *serious shortcomings*: there are deficiencies that disrupt the financial management, or lead to considerable risks with regard to the regularity of payments.

If in the judgment of the Court of Audit there are *serious shortcomings* for longer periods of time, without any prospect for improvement, it can decide to set up an objection audit to determine the nature and cause of the shortcomings and measures for improvement. Such an audit is an enormous burden for all parties concerned, not least for the party "on the receiving end". It will often experience this as "being in receivership". Depending on the findings of this audit the Court can decide "to lodge an objection".

Set up, existence and effect

In the following, the concepts of “set up”, “existence”, and “effect” will be elaborated upon. In the assessment of measure for improvement, for instance, it is determined whether the administrative organization and internal control guarantee their effectiveness. To this end a specific procedure will be set up in the form of documentation so that an identified risk can be covered (on paper). Next, it will be established whether a measure does indeed exist, for instance, by means of procedure checks and in situ observations. Finally, the effect must be established (i.e., is the measure implemented as intended?). Measures for improvement of the financial management follow this tripartite division. Incidentally, a considerable period of time may elapse between the set up of a measure and its effect in practice, so often the measures can prove their value only in the next budget year. This means that the warnings by the audit institutions are often persistent and keep on coming back for a long time. In practice, initiatives for dealing with deficiencies that were found even early in the year will hardly have any influence on the audit results of that same year. Because of this the whole process of set up, existence and effect often proves a tortuous one.

Actual qualifications

Let us now consider the qualifications that the Court of Audit has given since 1993 of the financial control of the Defense organization, particularly the KMAR.

The qualification of the financial account of 1993 for the Ministry of Defense was “mainly positive”.⁵ It was noted that the departmental accountancy service issued a statement of approval with the financial account of 1993, while, furthermore, the audit of this service formed sufficient basis for the Court of Audit’s own assessment. Some bottlenecks identified earlier in the internal audit, incidentally, had not been solved in 1993. The KMAR was not mentioned; the financial control was still carried out by the RNLA at the time. The assessment for 1994 was similar to that of the year before, including the remarks about the departmental accountancy service.⁶ The internal management had improved, and, once again, the KMAR was not mentioned. For 1995 the judgment was “mainly positive” again and the bottlenecks with regard to the internal control had dissolved.⁷ The 1995 departmental accountancy service’s audit provided an adequate basis for the assessment, and nothing was said about the KMAR that year. 1996 brought the same story, although in the Court of Audit’s view the ongoing decentralization of the financial function and the reorganizations had led to a deterioration of the financial management.⁸ This was especially so for the Royal Netherlands Air Force. On the basis of promises made by the Minister of Defense, the Court of Audit refrained from issuing a harsher judgment. It did make a number of critical remarks, though, with regard to the extra activities the departmental accountancy service had

undertaken in order to help those defense units that were struggling with hiatuses in their internal auditing. For 1997, too, a further deterioration was found by the Court of Audit.⁹ In spite of the statement of approval of the departmental accountancy service, mention was made of “serious shortcomings” in the financial management of a number of defense units. Again, the Minister managed to prevent an “objection survey” (in one of the defense units) by making far-reaching promises, which, incidentally, did not concern the KMAR. In fact, the Court of Audit expressed its appreciation for “the implementation of the recommendations with regard to the expenditure for security at Schiphol Airport”. The Audit Office’s commentary for 1998 became more grim, in that it emphatically demanded attention for the shortcomings that had been identified in that year.¹⁰ The situation could give occasion to the Audit Office to lodge an objection if it proved impossible to make these shortcomings disappear at short notice. It was also noted by the Court of Audit that the implementation of the plans for improvement for the RNLAf and the KMAR did not go according to plan. As for the latter, the Minister promised to make proposals that would lead to the establishment of a control institute for the administrative organization. In spite of the serious shortcomings in the financial management as a whole, it was not decided to conduct an objection audit.

2000: Annus Horribilis

At the beginning of 2000 things came to a head for the Defense organization. In the meantime Defense-wide top priorities had been established, next to Service-specific top priorities. As for the KMAR they encompassed topics such as the monitoring of financial management, know-how and capacities of financial-economic functionaries and prior financial checks. For the Defense organization as a whole there were such topics as training, filling of financial functions and the concentration of financial control tasks. Within the Defense organization these matters were on the agenda at the highest levels, such as the Political Consultation. It was here that the Minister himself showed he was serious about the improvement of the financial management. Commanders who had been made responsible for taking measures for improvement of the financial management, had to update their plans twice a year and to report about them to their concern controller by means of the half-yearly report of the departmental accountancy service.

The first annual plan appeared in May 2000. It contained 31 top priorities that had been worked out and incorporated in the *Year Plan Top Priorities Financial Management 2000*. This plan was to be monitored closely and, furthermore, the political leadership wished to receive concrete information about and insight into the actual problems and actions taken to resolve them.

The importance of a timely introduction of measures for improvement was obvious. Of course the budget year 1999 had been closed, so the measures taken would only have an effect for (part of) the year 2000. If they were not implemented in time there would, once more, be no orderly and accountable financial management (both in the view of the departmental accountancy service and the Court of Audit).

In its 1999 Regularity Audit (RVF), which appeared in May 2000, the Court of Audit wrote,¹¹

‘Most problems in the financial management manifested themselves in the RNLAf and KMAR. The RNLAf set up a plan for improvement last year, and it is clear by now that apart from failing to meet the time line in all cases, the Air Force leadership, from its responsibility, has not really been involved in the progress of the implementation of the plan for improvement.’

And, furthermore,

‘The Court of Audit is of the opinion that the leadership is to be blamed for the modest progress in the process for improvement and the extent of the existing shortcomings in the financial management of the RNLAf.’

At the same time the conclusion for the KMAR was the following,

‘The Court of Audit sees a clear difference with the KMAR, where a financial plan for improvement has been set up, which is monitored by the top. As KMAR has chosen to set up an entirely new organization, which is now being implemented, and the first results of which are now becoming visible, the Court of Audit is of the opinion that for this policy area there an objection audit should not be carried out.’

Clearly, the RNLAf had reached the limit, as is shown by the following,

‘As for the RNLAf, on the contrary, the Court of Audit reported to the Minister that it intended to conduct out an objection audit on account of the existing serious shortcomings.’

This time the Minister’s comment on the preliminary findings of the regularity audit could not prevent the Court of Audit’s decision to start an objection audit in the RNLAf. Although the Audit Office was looking forward to an adjusted plan for improvement “with anxiety”, it has confidence in a controlled process of improvement.

The decision led to a considerable increase in involvement of the Court of Audit in the financial-economic management of the RNLAf. Thus, realization and quality of the measures for improvement were to be monitored extremely closely, amongst others, by visiting Air Force units. Apart from that, there was a monthly discussion of the progress in the presence of all parties involved. Any discrepancies between planning and realization of the measures to be taken had to be substantiated with valid reasons. The RNLAf was confident of a happy end. The commander gave the highest priority to the project and promised that he would monitor it personally.

Although the Audit Office did not decide to carry out an objection audit at the KMAR, this did not mean that there was complete satisfaction with regard to the realized improvements. Elsewhere in the 1999 regularity audit it became clear that it was of the opinion that, 'the RNLA, the KMAR ... have made little or insufficient progress.' It was indicated that both Services had problems with regard to the quality of the financial management, which caused frequent "serious shortcomings" resulting in a disorderly financial management. The most important observations of the Court of Audit for the KMAR referred to description of the financial-economic processes, the financial-economic training, the process management and the expertise and filling of the decentralized financial groups. In view of the various processes of change that were going on in the KMAR, the Court of Audit pleaded for an integrated control.

In the light of these observations the Defense organization realized that the KMAR had only just escaped an objection audit. In the meeting of the Political Consultation of mid-June 2000 the Director-General of Finance and Control once more pointed at 'the real danger of an objection audit for the KMAR'. In the same meeting it was also laid down that, 'the Minister, too, emphasizes that everything possible must be done to prevent that'.

In the autumn of 2000 it was decided to hold a series of three meetings with representatives of Defense and the Court of Audit directed at an open exchange of information and ideas on the quality of the financial (and materiel) management. The implementation of the plans for improvement was meant to be at the center of attention. The commanders of the Services were explicitly invited to attend, but some were far from enthusiastic. Their position in the meetings differed a lot. Where one was prepared to "bite the dust", another implied that a commander should steer clear of matters of financial management. Integral responsibility, which after all had been a cherished principle of the old management, was all but absent with some at such a moment.

By the end of 2000 the Minister informed the Court of Audit about the actual state of affairs with regard to the top priorities.¹² As for the KMAR he stated that 'some intended effects of the measures for improvement would be reached later than planned'. This was also the case for the RNLA and RNLA. The set up and existence clearly showed progress, but the effect of a number of measures could only be ascertained in the course of 2001.

As the personnel capacity within the KMAR Staff was insufficient for a timely implementation of all the points for improvement, external capacity was brought in. It was aimed, in particular, at the creation of larger decentralized financial-economic clusters. Several years after decentralizing the financial management function to lower echelons in the organization, it had become clear that some clusters were too limited in size to function adequately. Not only aspects such as separation of the payment and verification

functions were discussed, but also the absolute size of the financial groups that was often too limited to contribute to an effective management. Needless to say, these two aspects are closely linked.

In the meantime, the leadership of the KMAR was well aware of the importance the central official and political levels of the Defense organization attributed to improving the financial management. Apart from the contribution a good financial management would make to improvement of its own management, there was also of course the ambition to keep the Court of Audit out. Across the board there was the feeling that “not a penny” had been spent fraudulently, the latter term meaning “improperly” rather than “illegitimately” in the sense of the Government Accounts Act. Nevertheless, the KMAR’s efforts were directed at attaining, at the shortest possible notice, a situation of “orderly and auditable financial control”. There were worries about the “report obligation” imposed by the central organization, which was a time-consuming affair in itself, and which resulted in time, now being used up by giving feedback, that otherwise could have been employed productively. Especially in units where there were personnel shortages, the emphasis should lie on making use of the available time as productively as possible. However, the central organization proved to be unresponsive to these arguments. The result was that where the financial capacity came under pressure, external personnel (temporary or otherwise) had to be employed in order to be able to keep up a constant stream of information about the progress made.

After the turn of the millennium the hectic year 2000 came to an end. It had become the year of the truth. The RNLAf had been subjected to an objection audit, but the KMAR had managed to keep its powder dry, for the time being. Nevertheless, there was the feeling that the Service had been completely cornered by the Minister, supported by the concern controller and the Court of Audit.

A new chance

In the spring of 2001 the departmental accountancy service reported its findings of the financial account for the year 2000 to the political leadership of the Defense organization.¹³ In spite of the fact that there were still some reservations about the quality of the financial management as a whole, a statement of approval was issued. It was an expression of the conviction that the overall Defense financial management met the minimum requirements of orderliness and accountability. The report mentioned the realization of many measures for improvement and their probable effect in 2001. Once again the status of the financial control of the RNLAf and KMAR was singled out.

Where the tide seemed to have turned for the RNLAf, the financial management

within the KMAR remained a source of anxiety. By pointing at the fact that fulfilling the financial tasks had been the RNLA's responsibility for a long time, the accountancy service gave the KMAR some heart. Nevertheless, the KMAR had been financially independent for five years by that time. Further observations of the service related to a delay in the progress of the plans for improvement, regular disruptions of the phase cycle in the budgetary accounts (a disruption of the logical cycle of reservation-commitment-payment), the indifferent quality of filing and, finally, the delay in administrative processing. A number of these observations could be traced back to the filling of functions in the financial-economic field, which remained a matter of concern. Sometimes there were doubts within the KMAR whether the right number of RNLA functions had been "passed on" to carry out tasks independently. However, there was no substance at that time to justify a discussion on the topic.

The report also gave occasion to accentuate certain themes for the Defense organization as a whole, such as a monitoring system that could contribute towards guaranteeing the reliability of the feedback with regard to the points for improvement. In general, too, there remained some reservations about personnel possessing the required expertise, which resulted in the inadequate application of a number of financial methods and procedures.

The reaction of the Court of Audit on the accountancy service report was not a long time coming. On 24 April 2001 it held a briefing for the commanders and controllers of the Services. One by one the Services (if applicable) were given a grilling. The judgment of the Court on the financial management of the KMAR came down to one word: "disorderly". The same verdict was passed on the RNLA. Nevertheless, the Court also saw some positive developments. Thus, there was a positive reaction to the outcome of the survey into the possibilities for clustering of decentralized financial groups, creating more viable units, which would result in a greater continuity. There were also negative comments on the delays with regard to the implementation of the top priorities. Moreover, there was substantial number of basic shortcomings, for instance, in the administration of commitments, verification, the administration of receivables and filing. The Court of Audit advised the Services to cooperate more and to make use of best practices. It also noted the improvement of "set up", and that is why in the current year the focus should be on "effect". On this occasion the judgment of the Court was not a formal one just yet, but there was a general feeling that it would not be long in coming.

In anticipation of the 2000 regularity report to the political leadership, the internal auditor proposed adopting the procedure the RNLA used for the objections audit for the entire organization.¹⁴ This came down to a monthly meeting of the responsible functionaries within the KMAR, the internal controller and possibly also the representatives of the departmental accountancy service and the Court of Audit, to discuss the plan

for improvement. In that idea the KMAR Commander was to lead “(visibly involved) the actions for improvement”. It was expected that the decision to set up an objection audit would depend on the extent to which the Defense organization managed to convince the Court that the findings were taken seriously and that appropriate action was taken.

In April 2001 the Court published the *Draft Report to the Financial Audit 2000*.¹⁵ The contents broadly followed the expectations of the Services. For the RNLAf and the KMAR the conclusion was that the financial management was “disorderly, but auditable”. Although the Court observed that the KMAR had made a considerable effort, it nevertheless concluded that the financial management process had not really improved. The filling of financial groups, know-how and expertise of the personnel, and the description of the financial-economic processes were top priorities which, in the view of the Court, had been slow in being implemented.

On 23 April the concern auditor turned the knife in the KMAR Commander’s wounds.¹⁶ He was told that the Court made the start of an objection audit dependent on the reaction of the Minister to the findings on the financial management of the KMAR. It was made clear that it would require efforts on the part of the KMAR itself, in particular, to prevent such an audit. There was mincing of words about the involvement of the KMAR commander himself, of which, clearly, the concern auditor had not always been convinced in the past! At the same time he informed the commander that, within the context of his monitoring function, he would monitor the KMAR’s progress more closely. The fact that in future seven copies of the updated plans for improvement had to be submitted to the concern auditor, may serve as an illustration that he was serious about it. It looked as if now positions were taken up in preparation for an objection audit by the Court of Audit. In his reaction the Commander proposed several modifications in the report.¹⁷ He also pointed out that some top priorities had been realized after the Court had given its judgment. He held the opinion that merely the text of the draft report did not warrant an objection audit and he expected that a concerted effort could prevent it. He was right. A completely new top priorities action plan was written, though, featuring the hiring of an external project manager, on the emphatic request of the concern auditor. Apart from being responsible for the operationally essential consultations between the responsible executives, he also had to ensure the timely production of the monthly progress reports. Sure enough, a discussion developed with the concern auditor about who was to direct the project manager. In a formal sense the concern auditor prevailed: he would direct the project manager and the Commander would discuss the progress of the plans for improvement “in the margin” of the weekly meeting of the KMAR council with the functionaries most directly involved. And so it happened that in the summer of 2001 a senior employee of a renowned consultancy firm made his entry in the KMAR. On top of that the Commander decided to add a number of extra functions to his own

audit unit on the basis of a workload survey, a move clearly intended to support the improvement project.

In view of the above, it is not surprising that in May 2001 the Court of Audit decided not to start an objection audit within the KMAR.¹⁸ The Minister's promises had created enough confidence and shown that intentions were sincere. Of course, as for contents, the assessment had not changed (the shortcomings have been discussed elsewhere and will not be gone into here). With regard to the 2000 account, finally, the Minister of Finance's reaction is relevant, here. From his coordinating responsibility for the financial management and Government financial accounting, he states in the General Part of the 2000 regularity audit,

'The Minister is of the opinion, though, that the Court of Audit, in maintaining the formulation of "serious shortcomings" in the Ministries of Defense and Justice, has taken too little account of the efforts made in these areas. With regard to the three new serious shortcomings in the KMAR (Defense), the Legal Organization (Justice), and ...the Minister remarks that in all ... areas actions for improvement have been started or announced'.

This seemed support from an unexpected side. Given the actions of the Defense organization as a follow up to the regularity audit, the impression remains that the Minister of Finance's judgment has been given too little weight.

Task Force Financial and Material Management

In spite of the reasonable turn things took in the 2000 *Regularity Audit Report* for the Defense organization, and more in particular for the KMAR, the concern accountant let it be known to the Service accountants several days after the publication of the report that the "external credit" had been used up and that on the emphatic request of the Minister a task force was to be established to ensure the orderliness of the financial (and material) management. Commanders were emphatically asked to take a place on the task force. An "exhaustive overview of measures for improvement" needed to be drawn up, the result of which was to lead to a positive attitude of the Court of Audit at the moment the 2001 Regularity Audit (in early 2002) was going to be held. Subsequently, the overview was to be tested by the criteria used by the Audit Office itself. Finally, the concern accountant ordered the Services to set up a crash team and to initiate the necessary actions.

In the meantime KMAR had begun to realize that the actions taken in the audit organization found their origin in other parts of the organization. The most eye-catching of these were the personnel and materiel departments. It was here that financial initiations took place that eventually found their way to the commitments and payment

administration as it was used by the accountancy organization. The quality, therefore, of work carried out elsewhere to a high extent determined the quality as it was eventually found in the financial books. Although that quality left room for improvement, the accountant could only exert limited influence over it. As an illustration may serve the fact that at that moment the KMAR controller de facto did not hold the position of independence that was customary within the other Services. In fact, the financial-economic function was positioned in such a way that, according to the organization chart, he was accountable to one of the central staff directors, although he himself was guided by the concern accountant through the so-called mandate regulation. This situation has ceased to exist and the controller is directly accountable to the Commander (Royal Netherlands Marechaussee Commander).

The task force's objective remained the solution of the "serious shortcomings" in the eyes of the Court of Audit. The main effort was to ensure that the effects, too, clearly showed that the measures taken actually led to the intended improvements. Once again, it proved to take a considerable period of time for the findings of the Court of Audit to be analyzed in such a way that the measures to be taken would still have sufficient effect on the quality of the administration of the running year. It was also clear that a set of criteria, well-tuned between the departmental audit service and the Court of Audit, was of the utmost importance. In his reaction to the 2000 draft report the Minister had already indicated that he thought that the Court of Audit used different criteria for the financial and materiel management than the departmental audit service. That is why the Court of Audit was asked to specify what must be done in order to prevent any "serious shortcomings" by the end of 2001.

The Court of Audit pointed out that its judgment is based on the quality of the processes covering an entire year.¹⁹ This implied that in order to come to a positive judgment for all "serious shortcomings", those shortcomings should be absent for a considerable part of the year (2001). More concrete, this meant that the points for improvement should have been realized by the end of October (2001) in order to have the "serious shortcomings" verdict off the table by the end of the year. That was quite plain language! At the same time the Defense organization knew what had to be done in the remaining few months. For the KMAR the following shortcomings had to be worked away:

- the personnel filling (in quality as well as quantity) of the financial-economic functions had to be structurally up to the mark;
- the way in which the internal reports were drawn up had to be surrounded with sufficient guarantees, to generate reliable and up-to-date management information;
- commitments had to be timely booked, while, on the other hand the phase cycle should not be disrupted;
- the verification function should be adequately filled.

There were, however, still other important shortcomings that had contributed to the predicate “serious”, but if these were the only ones left, the Court of Audit stated, there would be not “serious shortcomings” any more at the end of the year, which would take away the risk of an objection audit.

In spite of great efforts of many, it was extremely difficult to realize improvements. The management was often completely occupied with operational matters that were vying for the highest priority. The arrival of a project manager meant shared responsibility, at least, that is how it was felt. Again much time was spent on the report cycle for the concern accountant and the Minister. By the end of 2001 the idea of best practices acquired a more specific dimension on the authority of the concern accountant: “aid teams” were set up, consisting of employees from other Services, to reinforce the personnel filling of the KMAR. Practically all Services provided capacity for a fixed (often) short period to reach a number of deadlines before the end of the year, an action which made a somewhat peculiar impression on the permanent KMAR personnel. The year 2001 came to an end and the question remained whether the departmental accountancy service and the Court of Audit were going to report any improvement. As expected, the October deadline, set by the Court of Audit, had not been met, which made it impossible just yet to answer the question whether there would be any “serious shortcomings”.

The final year

In March 2002 the report of the departmental accountancy service stated that the financial control lacked order and accountability at the end of 2001.²⁰ It was noted, though, that there had been intense efforts towards improvement in the latter half of the year. Nevertheless, it was impossible to prevent the issue of an audit statement with limitations (regarding the financial account). It was also pointed out that the establishment and direction of the control organization needed to keep up with the organizational growth of the KMAR, from a qualitative as well as quantitative respect. The comments of the accountancy service did not really come as a surprise for the KMAR.

Then something unexpected happened, which would have an impact on the perception of the financial management within the Defense organization. On 16 April 2002 the Cabinet (Kok II) resigned, the immediate cause being the report of the Netherlands War Documentation Institute on the fall of Srebrenica. The fear of unpleasant measures as a result of a disorderly financial or materiel management dissipated, although, of course, the wheels of government kept grinding on, as a correct financial and materiel management was essential.

In June 2002 the Court of Audit published its Regularity Audit Report 2001.²¹ The

judgment was in line with the departmental accountancy service's view that the set up of the financial control in 2001 had improved, but that there was still a lack of order and accountability. In particular the commitments, claims and advance control was mentioned. The Court of Audit indicated it had considered to carry out an objection audit because a number of aspects seemed to be acquiring a structural character. For the RNLAf, where a further investigation was held, it was established that there were no "serious shortcomings" anymore.

The reaction of the (resigned) Minister was such that this year, too, the Court of Audit decided not to carry out an objection audit within the KMAR. Amongst other things, he promised follow-up actions on measures already taken in the organization of the path towards improvement. He explicitly mentioned the appointment of a new staff director, suggesting this would solve the problems. Other personnel consequences were not incorporated as such in the Regularity Report 2001. Furthermore, it appeared that the Minister expected that by September 2002 at the latest the intended improvements would be completely effective. Finally, the Court of Audit indicated it would monitor the improvement process closely, while also paying attention to the manner in which the central organization of the Ministry supervised.

The external support in the guise of a project leader, the personnel expansion in the audit unit, as well as the use of aid teams (in any case for 2001) did not have a decisive impact on the findings of the audit. Nevertheless, many actions had been set up by the autumn of 2001 in accordance with the timeline discussed above. In the run up to the audit results for 2001 a somewhat grim atmosphere, manifesting itself at the highest levels of the organization, made itself felt. The great importance that the Minister himself attached to an orderly financial and materiel management was already mentioned above, and more than once the commanders whose management was not up to the mark yet were confronted with this. It was not a surprise that this confrontation went on "in the line", whereby the commanders tried to "outdo" the Minister in taking measures. Although the KMAR's financial management was still below standard in the judgment of the accountancy service and the Court of Audit, it must not be forgotten that KMAR expenditure amounted to about 5% of the total Defense budget. So it is logical that, in view of the tolerable thresholds used by the auditing institutions, the budget may be overrun relatively quickly. From this it follows that (with a view to an audit statement) judging the annual account for the Defense organization as a whole, would benefit the smaller Defense units. Any possible overruns of the tolerable threshold in the smaller units would only have a limited effect on the entire organization and not hinder a general statement of approval. Although this was certainly not the reason for beginning to issue an audit statement for the Defense organization as a whole, it would certainly contribute to down-toning any lesser accountancy achievements of the smaller units.

Of course, also after the change of political leadership in July 2002, the further improvement of the financial management was taken up seriously. By now the actions seemed to have effect. In the spring of 2003 the departmental accountancy service stated that the continuation of the path towards improvement had led to an orderly financial and materiel management by the end of 2002.²² Even the Court of Audit was convinced that by the end of 2002 the KMAR had a minimum level of orderly financial management and that, as a consequence, the (serious) shortcomings had been solved.²³ It was of the opinion, though, that there should be a smaller dependence on ad hoc measures and that, therefore, the improvements needed to be safeguarded well in the organization.

This article mainly covers the years up to and including 2002. In retrospect, the years 2000, 2001 and 2002 saw the most important developments from the perspective of financial management. They were also the years in which the political and official interest for this aspect of management was the greatest and they also show the importance that is attached to the judgment of the Court of Audit. It is a judgment whose importance is also clearly felt on the political level.

Conclusion and discussion

This article has, hopefully, made clear how the subject of financial management was in the center of attention around the turn of the century. For the KMAR this attention came at the wrong moment. While the implementation of large-scale changes was still in progress, it was held accountable for the order and accountability of its financial management. Since 1996 the KMAR had constantly been subject to major changes. First, there was the take-over of the financial function from the RNLA. Simultaneously, the interdepartmental policy survey took place, followed by the KMAR 2000 Policy Management project. On top of that, an adequate safeguarding of all projects required a culture change, while the “shop was open during repairs”. Within the KMAR people could not understand why the organization was only judged on the aspect of financial management, without as much as looking at the execution of the operational tasks. Still, for a long time within the KMAR the idea held sway that financial management is an exclusive task for the financial manager and not for the general management. This idea seems to have become obsolete now. In this sense the NPM concept has been implemented within the KMAR now.

The most important conclusion is that improving financial management is a very difficult process. However, if every link in the chain does what is expected of it, nothing can go wrong. Due to the absence of an administrative organization within the KMAR

during an important part of the period of investigation, there was often no clarity, in particular within the personnel and materiel departments. The existence of well-described procedures is of course a necessary but not sufficient precondition; they also need to be followed and the necessary efforts must be made to safeguard them.

The support of the management was of course essential, not only in words but also in deeds, for a subject that, of its nature, does not get much attention from the leadership. This is where we have to pay for the distinction between policy and control, where the latter, as a derivative of the former, takes up a somewhat lesser position. For too long there has been a certain distance in the expectation that the verifiers and other financial specialists would do their job. By neglecting the efforts the entire staff needed to make, the focus was on the last link in the chain. In doing so, people failed to make the functionaries involved look across their own borders. In this context, the controller was often seen as being on a par with other departmental heads, rather than the functionary who, mandated by the concern accountant, held certain responsibilities and authorities. The structure of the KMAR staff, therefore, was not conducive to giving a good substance to these responsibilities and authorities. Outward transparency, towards the Defense organization as well as towards other departments, was limited because of that. Although a member of the management team, the controller was positioned incorrectly in the organization. This did not enhance his “clout” within the staff. By establishing a separate Control Directorate within the staff this has been righted.

Furthermore, there were many concurrent projects within the KMAR, all vying for the attention of the leadership, certainly in relation to the size of its staff. Besides, external interest in the KMAR was growing. All this caused attention to become fragmented. Besides, the many changes facing the KMAR required a cultural change, mainly prompted by the findings of the departmental policy survey. This change took time, and it had not fully reached its completion by the end of the period of investigation.

For the concern accountant it was vital to prevent the Defense units from being subjected to an objection audit by the Court of Audit, which often led to a tough stance towards those units. It seems that this approach worked with the Court of Audit. Within the Defense units, however, this was not always understood. Although the KMAR never was the best pupil in the class, the approach in the end proved successful in preventing an objection audit. That good financial management forms the basis of good management, something that was from time to time forgotten by the KMAR staff, is not a topic of discussion here.

One aspect that has not been elaborated upon within the context of this article concerns the fraternal relations between the KMAR and the controlling institutions on the one hand, and within the KMAR itself, on the other. They often came under great pressure in this period and this may be felt even today and for some time to come.

In the meantime the KMAR structure has changed and it has created more room for an (independent) financial-economic policy and management. Besides, as indicated above, this function has been integrated, as it befits a mature organization. All in all, the entire awareness process and cultural change has taken about ten years, although it is uncertain whether the cultural change has already been completely absorbed by the organization.

For a long time the KMAR felt that nearly all tasks within the organization could be fulfilled by investigative officials. Although the financial function had been carried out since time immemorial by a civilian official, the other top functions had been fulfilled by investigative officials for many years. This was mainly caused by the fact that the RNLA had executed the policy aspect for a long time. Only after the appointing of the KMAR as an independent Service in 1998 by the Minister of Defense, did the awareness take hold that the KMAR had to do more on its own account. But also the other Services began to realize that the KMAR would have to be considered as an independent entity. It is not surprising that many outside the KMAR felt this principle certainly applied in a financial respect. Incidentally, the completion of the departmental policy survey coincided more or less with the appointment of the KMAR as an independent Service. The fact that the KMAR had already been appointed as an independent unit in 1992, following the Defense General Organizational Decision, had been missed by many. As was said, the effect of this decision was a long time coming.

The KMAR keeps on changing. At this moment it is involved in the *KMAR 2010 project*. The Court of Audit has not lost its interest in the financial management within the Defense organization. Given the judgments of the last two years, with statements of “disorderly” financial control, the organization will have to remain alert in order to prevent an objection audit. It seems, though, that the subject has been freed from its emotional dimension somewhat, and the discussion about aspects directed at improvement can now be held in a businesslike manner. Of course, what plays a role in this is that from the Defense perspective an objection audit must be prevented. This will, however, be the stick the Court of Audit can always wield.

Not all aspects could be elaborated upon in this contribution. The role of the central organization, at least the central staff, could serve as a future subject for research, in particular during the years 1999/2002.

Notes

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About the interviewees

