

# An economic interpretation of Dutch military expenditure 1990-2005

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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 The emphasis on defense against the Warsaw Pact was superseded after 9 November 1989 by peace support operations.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
<b>Reductions</b>	255	300	350	380	380
<b>Intensifications</b>	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”.

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

<b>Hungary</b>	-	-	1.8	1.7	1.7	1.5	1.3
<b>Lithuania</b>	-	-	-	-	-	1.5	1.3
<b>Spain</b>	1.6	1.4	1.2	1.4	1.3	1.3	1.2
<b>Canada</b>	1.8	1.3	1.2	1.2	1.2	1.2	1.1
<b>Luxemburg</b>	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.

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

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 K€

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 material 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 material 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 K€*

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.

<b>Growth expectations</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
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.

<b>Year</b>	<b>Expenditure as % of GDP</b>
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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