NATO Military Expenditures Trends 2010-15, with projections for 2016-20: A *Survey* (partly) based on data published by the NATO Headquarters on 22 June 2015

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Sammanfattning

Denna undersökning analyserar militärutgifternas [*military expenditures*, ”ME”] utveckling i 27 NATO-länder (exklusive Island) för perioden 2010-15, baserat på de uppgifter som NATO Högkvarteret publicerade den 22 juni 2015, och gör också prognoser för kommande år fram t o m år 2020.

USA:s militära utgifter utgör omkring 35 procent av de samlade globala militärutgifterna medan andra NATO-länder tillsammans står för omkring 18 procent, vilket innebär att NATO:s militärutgifter utgör mer än hälften av de globala rustningarna (enligt SIPRI data).

Under de senaste fem åren 2010-15 har de flesta NATO-länder, av olika skäl, minskat sina ME och NATO:s samlade ME har därmed minskat. Prognoser görs också för vart och ett av de 27 Natoländerna för den kommande femårsperioden 2016-20, genom att data från nationella policydokument relateras till nämnda NATO data. Under kommande år kommer de flesta NATO-länder inte längre att minska sina ME utan uppvisa stabila eller ökande ME, vilket innebär att den kommande femårsperioden kommer att skilja sig från den gångna perioden.

Nyckelord: NATO, Militära utgifter

Summary

This Survey analyses Military Expenditure [“ME”] developments in 27 NATO countries (excluding Iceland) for the 2010-15 period, based on the data released by the NATO Headquarters on 22 June 2015, and also makes projections for the coming five years up to 2020.

US military spending constitutes about 35 per cent of Global ME while other NATO countries together account for about 18 per cent, meaning that NATO military spending represent more than half of Global ME (according to SIPRI data).

During the last five years 2010-15, most NATO countries have, for various reasons, reduced their ME and Total NATO military spending has consequently declined. Projections are also made for each of the 27 NATO countries for the coming five-year period 2016-20, by relating data from national policy documents to the noted NATO data. During the coming period, most NATO countries will no longer reduce their ME, but have stable or increasing ME, meaning that the coming five year period will look quite different compared to the past period.

Keywords: NATO, Military Expenditures

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1 Executive Summary and Main Observations and Conclusions

Defence declarations and policies materialise in certain, higher or lower, amounts of defence allocations. Data on such allocations are therefore of great interest for understanding and assessing strategic and political developments. Hence, knowledge of how defence and military expenditures develop in the NATO member states is therefore of great interest, perhaps even more so, for a non-member state like Sweden.

The purpose of this *Survey* is twofold. First, to analyse Military Expenditure ["ME"] developments in 27 NATO countries (thus excluding Iceland) for the 2010-15 period, based on the new data released by the NATO Headquarters on 22 June 2015. Secondly, to make as good as possible projections on ME trends for the coming years up to 2020, in order to discuss whether and to what extent the trends which may be deduced for NATO countries for the past 2010-15 period, will also mark the coming five years.

With United States ME equivalent to about ~35 per cent of global ME and the rest of NATO accounting for ~18 per cent, NATO ME constitute more than half of global ME. American ME are consequently about twice the size of all other NATO states added together.

NATO has adopted a guideline, at the Wales Summit in September 2014, stating that member states should allocate 2 per cent of their GDP to defence [the "ME:GDP share"]. Currently, in 2015, only 5 NATO countries – United States; Greece; United Kingdom; Poland; and Estonia – have a ME:GDP share of more than 2 per cent. This *Survey* projects that in 2020, 3 more countries – Latvia; Lithuania; and Romania – will presumably have ME:GDP shares of 2 per cent, meaning that about 7-8 NATO countries, less than a third of NATO's member states, will meet the 2 per cent target.

In order to categorise the different trends in the 27 NATO countries, a matrix has been created, with ME on the y-axis and the ME:GDP share on the x-axis. Both ME and the ME:GDP share can either increase -/- be stable or -/- decrease, meaning that the resulting "3x3" matrix has 9 cells (the first "Cell 1" consisting of countries with both increasing ME and an increasing ME:GDP share, while the last "Cell 9" is made up of countries with both decreasing ME and a decreasing ME:GDP share).

This *Survey* notes – and this is presumably the most important observation and conclusion of this report – that the coming 2015-20 period will be quite

different from the past 2010-15 period. For the 2010-15 period, it should be noted that 17 of NATO's 27 member states show a clear trend of decreasing ME, meaning that their ME are lower in 2015 than in 2010. In many of the countries having reduced their ME, their ME:GDP share has consequently also decreased. In 2 countries, ME have been stable and in 8 NATO countries, ME have increased: in 4 of these countries, the increases in ME have even been larger than their economic growth rate, meaning that their ME:GDP share has risen.

For the 2015-20 period, most NATO countries will, however, no longer show decreasing ME, but increasing or stable ME: about 15 NATO countries are projected to increase their ME, while 7 countries will have stable ME, with only 5 countries having declining ME. These increases of ME will in 7 countries also be higher than their forecasted rate of economic growth, giving these countries a higher ME:GDP share, but as noted above, only 3 more countries will raise their ME to such a degree that they will have a ME:GDP share of 2 per cent. (Notably, all three Baltic states, Estonia, Latvia and Lithuania, will have ME:GDP shares of 2 per cent in the year 2020.)

Similarly, the increases in many of NATO's smaller countries – politically and diplomatically important, statistically perhaps less so – have little impact on total NATO ME. Aggregate NATO ME declined from 2010/11 to 2015, and based on the assumption that the United States will, in real terms, have about the same ME in 2020 as in 2015, aggregate NATO ME will in 2020 be comparable that of 2014, consequently a slightly higher figure than the one for 2015 but still a lower amount than what was spent in 2013.

Insofar that the *Survey* is written from an economic approach, strategic and security policy developments are not discussed but in passing (though the kind of observations made in this study may hopefully be a valuable addition to such studies). Although there are several reasons for this noted change – much of the decline during the past five years can certainly be explained by the need for cutting government expenditures, in order to balance budgets and reduce national debts, and a downscaling of costly international operations – one of the main reasons why so many NATO countries no longer decrease their ME could undoubtedly be related to the war in Ukraine.

2 Introduction

In this chapter, the reasons for and the methodological problems related to writing the present *Survey* are discussed.

2.1 Background

The prime reason for studying the amount of resources a state allocates for defence and security is that such information is of great interest for understanding and assessing strategic and political developments. And needless to say, NATO's importance for international and European security relations can hardly be overstated. Aggregate military spending for the 28 NATO countries constitute more than half of the World's total military spending. At the same time, it must also be remembered that NATO is an intergovernmental organisation and not a monolithic supranational establishment, meaning that the relationship between individual member states and the whole of NATO is what shapes the defence and security policies of NATO at large as well as the member states.

Hence, knowledge of how defence and military expenditures develop in the NATO member states – one could say that such allocations show how defence and security declarations and policies may eventually materialise – is therefore of great interest, perhaps even more so, for a non-member state like Sweden.

For NATO's operational planning, it was necessary – as all countries, and also all NATO's member states, define their defence efforts and defence forces differently – to create a common yardstick making it possible to compare the efforts of the member states, and the common «NATO definition of defence expenditures» was adopted already in 1952. This *Survey* provides, as stated by the title, information on the latest release in June 2015 of such NATO statistics, with outturn data up to 2014 and preliminary outturn figures for 2015, and then use these NATO data as a basis, to which projections, expressed either in absolute numbers or in percentages, for the five years 2016-20 have been added.

Within NATO, the related questions of increasing defence expenditures and having a fair distribution between countries ("burden sharing") have from time to time been subject to much discussion, resulting in a number of non-binding recommendations. During the 1980s, it was argued that member states should increase their ME, in real terms, by at least 3 per cent annually, although few countries did so. The present NATO guidelines – officially adopted at the NATO Summit in Wales on 4-5 September 2014 – state that NATO countries should allocate at least 2 per cent of GDP to defence, although only a handful of

countries do so (these NATO guidelines will be further discussed in Chapter 4.2, page 26). For the next NATO Summit to be held in Warsaw in July 2016, these issues of member states defence allocations will presumably therefore be subject to much political and diplomatic debate, and in this context, this *Survey* will hopefully be a valuable reference document.

2.2 Purpose and Limitations

The purpose of this study is twofold. First, to analyse Military Expenditure ["ME"] developments in 27 NATO countries (thus excluding Iceland) for the 2010-15 period, based on the new data released by the NATO Headquarters on 22 June 2015. Secondly, to make as good as possible projections on ME trends for the coming years up to 2020, in order to discuss whether and to what extent the trends which may be deduced for NATO countries for the past 2010-15 period, will also mark the coming five years.

In addition, this *Survey* also presents some possible methods for how ME studies can be carried out. The approach and calculations made in Chapter 5 have in a sense some similarities with the kind of "technical analysis" which some economists use when discussing and forecasting stock prices, albeit that this *Survey* analyses countries and not companies. As all studies based on statistical data, this *Survey* contains very precise figures, and it should therefore be stressed that it would be a mistake to interpret noted amounts as being as precise as they appear to be. Many figures are far from certain and could naturally be discussed and questioned, and one should therefore look at trends at large rather than at individual numbers. Insofar that the *Survey* is written from an economic approach, strategic and security policy developments are not discussed but in passing (though the kind of observations made in this study may hopefully, as noted, be a valuable addition to such studies). It should also be remembered that the ME data discussed in this *Survey* are what economists call "input data" and must be separated from "output data", in the form of military capabilities like the number of divisions, aircraft, ships etc.

Similarly, all comments made in this *Survey* are those of the Author, and do not represent any official opinion of either FOI or any other part of the Swedish government. For practical reasons, no information published after August 2015 – when the first draft of this *Survey* was written – have been considered. All Internet sources noted in this report were, consequently, accessed in July 2015 (the Author has printouts of all cited sources).

2.3 General Methodological Problems of Studying and Projecting Future Levels of Defence Spending

The first and foremost problem related to the study of ME is that as data on ME are related to the national security of a country, they are also, for a variety of reasons, shrouded with secrecy. A second problem therefore concerns the availability of official information, even when such information is not restricted or classified. Government printed documents have usually a rather limited circulation, and may be quite difficult to obtain, even if Internet publication has here, on one hand, improved matters, as the references in Chapter 5 and the Bibliography might indicate. Needless to say, the use of Internet sources may also, on the other hand, be somewhat problematic as websites are often updated and revised, and information published on a particular site may no longer be available.

A third problem relates to language and definitions. Even when it has been possible to get hold of official documents either in print or in an electronic version, such pieces of information are usually in the domestic language of the country in question (albeit that the availability of machine translators have made this work easier). Similarly, even when language as such does not pose a problem, it may still be difficult to get the exact meaning of a term. Even if say English is an official language in a number of countries, like the United States, the United Kingdom and Australia, it cannot be assumed that an American, an Englishman or an Australian use the same budget terminology in a similar manner in their national documents.

While a Ministry of Defence, and the Ministry of Defence budget, is the basic provider of "defence and military security", the MoD may also be responsible for many other non-military activities – like disaster relief – while some other ministries, besides the MoD, may also be responsible for certain activities related to military defence. Some countries may have para-military units (like border guards, *carabineri* etc.) which may then often belong to a Ministry of the Interior and not the Ministry of Defence, although such units may be transferred to the MoD in case of a crisis or an emergency. In the United States, most nuclear activities – including nuclear weapons – fall under the Department of Energy and not the Department of Defence. Some defence budgets include the full personnel cost, while other such budgets exclude expenditures for pensions. Similarly, even when only one country is considered, it may still happen that the country, for one reason or another, changes its budgetary and accounting principles, making it more difficult to analyse data for longer time periods. It may also sometimes be difficult to know if the amounts are expressed in current or constant prices, and if in constant prices, the kind of deflators which have been used for the calculations (although this for the time being may be a lesser problem, as inflation in many countries is lower than it previously have been).

2.3.1 The NATO Definition on (Military) Defence Expenditures – the basic source for this *Survey*

The noted "NATO definition of defence expenditures" provides data presumably of similar coverage, and amounts calculated with this NATO definition thus differ from national data on defence spending, and sometimes greatly so. The NATO Headquarters – this was anyway the set-up a few years ago – therefore sends out an extensive questionnaire to each member state in the early autumn and then process the received information. NATO data is therefore usually only available for NATO member states, after their membership, though some figures have also previously been published for Russia for the years 1995 and 2000-04 (under the NATO-Russia Council mechanism). A remark has also usually been made that data for France should only be seen as indicative. This questionnaire includes not only data on defence expenditures, but also information on number of units, exercises, equipment, readiness etc.

The way in which the NATO Headquarters process the information is classified, but the resulting amounts are later published in NATO press releases. Until 2007, as a result of this exercise, NATO defined defence expenditures were then regularly published in December each year, when NATO defence ministers also had one of their two yearly meetings (this will be further discussed below).[1]

While the exact content of the NATO definition is classified, it is still known that the definition basically covers military expenditures – that is, "*military* defence expenditures" – excluding civil defence efforts, but including para-military forces and also pensions, even though NATO seems to have dropped the term "military" when NATO presents its statistics.[2] Other differences also

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[1] The NATO press releases are available and now published on the NATO web site at > http://www.nato.int/ under the heading "Defence Expenditures, Information on". For a direct link, see > http://www.nato.int/cps/en/natohq/topics_49198.htm.

Previously, such press releases were published in the official NATO journal *NATO Review* as well as many other defence journals.

When such new NATO information was published, the Author also used to insert those amounts into his database and then circulate a "Research Note", with the data including comments on the latest numbers. The last time such a "Note" was circulated was in April 2012. A CD with all NATO data ever published was once circulated in October 2002, with data going back to 1949. Such studies also included comments on the distribution between the four kinds of cost categories for which NATO publishes data, namely personnel – equipment – infrastructure – other expenditures. For the time being, to work with the all the data inserted through the years, having an older Excel format, is regrettably not feasible without undertaking a major overhaul of this part of the database, which has not been possible for this study.

exists between the national budget definitions and the NATO definition of defence expenditures, though those regarding para-military forces and pensions are presumably the two major differences between national data and NATO data.

When SIPRI collects data, it basically uses the same definition as NATO, but SIPRI uses the more appropriate term "military expenditures" and not "defence expenditures".[3] In this *Survey*, like at SIPRI, the term "Military Expenditures" is therefore used for military allocations based on NATO data and the NATO definition as this kind of data basically refer to military defence and not to defence in general, while the term "Defence Expenditures" refer to other kinds of spending, mostly based on national defence budget data. Figure 2-1 on top of next page illustrates the difference between the "Defence Budget" and "Military Expenditures" (including "military defence expenditures", even when the prefix "military" is not used and the term "defence expenditures" has been employed), as used both by NATO and by SIPRI and also in this study.

Hence, NATO figures are therefore of a particular interest for several reasons – not only because they cover about half of the World's military spending (see next chapter) – but also because they have been collected and also processed to be comparable with each other by an international organisation with some clout. It would of course be of great interest for a defence economist, if this exercise could be extended to include not only the 28 members of NATO but also the many other countries with which NATO cooperates, either as NATO partners, or through the Mediterranean Dialogue, the Istanbul Cooperation Initiative and

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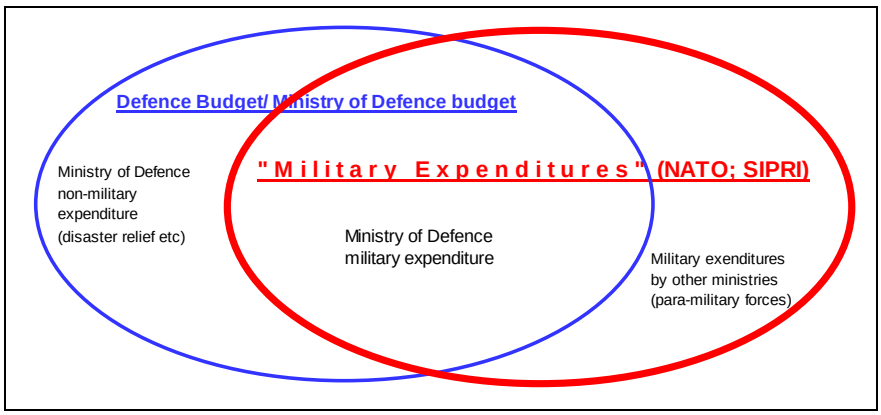
[2] The Danish Ministry of Defence has briefly commented on the difference between its national definition and the NATO definition on its web site. See "Defence expenditure"/ "NATO definition of budget" at > http://www.fmn.dk/eng/allabout/Pages/Defenceexpenditure.aspx.

Needless to say, countries referring to national defence budget data excluding pensions would then look like having smaller ME than if the NATO definition is used. If one assumes that personnel costs take up at least half of the defence budget and pensions may amount to about half of all personnel expenditure, the difference between NATO reported amounts and national defence budget data may in such cases be about a quarter.

[3] See "SIPRI Definition of military expenditure" at the SIPRI web site at > http://www.sipri.org/research/armaments/milex/milex_database/definitions.

SIPRI has also made an amalgamated series of data published by NATO for the years 1949-2014 at their web site; see > http://www.sipri.org/research/armaments/milex/milex_database.

Figure 2-1 The Relationship "Defence Budgets" -/- "Military Expenditures"



the "Partners across the globe" scheme.[4] The European Defence Agency, EDA, also collects ME data from its European member states and publishes those on its web site.[5] In addition, both the United Nations and the Organization for Security and Co-operation in Europe (OSCE) also collect and publish/ disseminate defence spending data, but none of these two organisations have the mandate nor the capacity to process the information received, and therefore only reproduce the replies which countries have submitted.[6]

Both the quantity and quality of NATO data have, unfortunately, apparently deteriorated during the last years (as a quick look at the NATO web site with "Defence Expenditures Information" may reveal, if one clicks at the boxes with the years). As was noted above, NATO data was until 2007 regularly published in December (in 2007, on 20 December), and then with amounts, also including preliminary figures for the current year. Since then, the publishing of press

[4] At the NATO web site at > http://www.nato.int/, the 28 member states are listed under the folder "Member countries" (with nice links to national web sites) at > http://www.nato.int/cps/en/natohq/nato_countries.htm;
other countries with which NATO cooperates are listed under the folder "Partners" at > http://www.nato.int/cps/en/natohq/nato_countries.htm.

[5] See the EDA web site at > http://www.eda.europa.eu/ and the "Info Hub" / "Defence Data" portal at > http://www.eda.europa.eu/info-hub/defence-data-portal.

[6] See Bengt-Göran Bergstrand: "Using Military Expenditure Data as a Confidence and Security Building Measure: The UN and OSCE experience", Conference Paper presented at 17th Annual International Conference on Economics and Security; available at > http://www.sipri.org/research/armaments/milex/ICES2013/papers/archive/bergstrand-using-military-expenditure-data-as-a-csbm.

releases with ME data has been more irregular. Table 2-1 below shows that more than two years passed between the press release of 13 April 2012 and the following press release on 24 April 2014 – and usually the releases have only provided data up to the past year. The issuing of the latest press release, also with preliminary data for 2015, is therefore most welcome and came as a nice surprise to the Author (and an inspiration for writing this *Survey*).

Table 2-1 NATO Press Releases 2007- 2015

PR/ Date of issue	**Years covered**
20 December 2007	1985; 1990; 1995; 2000; 2003- 2007e
19 February 2009	1985; 1990; 1995; 2000; 2004- 2008e
10 June 2010	1985; 1990; 1995; 2000; 2005- 2009
10 March 2011	1990; 1995; 2000; 2005; 2006- 2010e
13 April 2012	1990; 1995; 2000; 2005; 2007- 2011e
24 April 2014	1990; 1995; 2000; 2009- 2013e
22 June 2015	1995; 2000; 2005; 2010- 2015e

From footnotes in the press releases, it may also be deduced that the "NATO definition" has been updated in certain ways, though for some NATO member states, these changes are said to not have been fully implemented, suggesting that the data published by NATO is less coherent than previously. In addition, several series breaks are made in the tables published by NATO, indicating that amounts for later years are not comparable with those for earlier years. The latest 22 June 2015 press release did, however, not include any such series breaks, which may hopefully indicate that the amounts are now both more comparable between countries and consistent over time. This is also one reason why the discussion in this Survey has used "2010" as a starting year, instead of an earlier year.[7]

[7] According to some information, the noted deterioration in both the quantity and quality of data published by NATO may be related to a reorganization of the NATO Headquarters. It would here maybe be of interest to visit the NATO Headquarters and make some interviews regarding these issues, in a possible future study on NATO defence spending. (For this study, the Author has, however, not had any possibilities or means of visiting the NATO Headquarters in Brussels.)

2.3.2 Analysing and Categorising the Defence Efforts of NATO countries 2010-15

For several reasons, this *Survey* presents data primarily in the form of graphs, without providing all the background data and Excel calculations upon which the graphs are based. When working with large sets of data, it may also be easier to discover possible errors when the amounts are shown as graphs rather than as numbers in a table, meaning that graphs also serve as a kind of quality control, as a check that amounts have been correctly inserted and processed. Similarly, it is usually easier to illustrate trends using graphs instead of tables (although background data are naturally available for reference).

As the background calculations have been made in Excel, it is of course easy both to revise, update and play with the numbers, and one could easily replace a figure with a new one, if so desired, and thereby examine what impact such a change would have on the outcome. Declarations and policy decisions affecting ME are of course being made continuously – like so many studies, this *Survey* tries to pinpoint a moving target – and as noted above, no official documentation published after August 2015 has been considered. By transforming general policy statements to Excel calculations and graphs, one will also see what kind of spending a certain statement would entail (and perhaps, implicitly, also how realistic the statement may be…).

When the Chapter 5 graphs were drawn, it also became obvious that some countries showed similar trends, while others showed quite different trends. In order to grasp the various trends that the 27 NATO countries (excluding Iceland) display, a simple "3x3" matrix was created. For the y-axis, a distinction has been made as to whether the trend for Military Expenditures in the period 2010-15 has been (i) increasing; (ii) stable; or (iii) decreasing, while the x-axis makes the distinction as to whether the trend for Military Expenditures, as shares of GDP, has been (i) increasing; (ii) stable; or (iii) decreasing.

Table 2-2 "The 3x3 / 9 Cell Matrix"

	ME:GDP share increases	ME:GDP share is stable	ME:GDP share decreases
ME increases	Cell 1	Cell 2	Cell 3
ME is stable	Cell 4	Cell 5	Cell 6
ME decreases	Cell 7	Cell 8	Cell 9

Hence, the matrix categorises countries based both on how their ME, in absolute terms, and their ME:GDP shares develop. The ME:GDP share can be seen as a measurement both on how big an economic burden the military allocation is to a country at large, and thereby, implicitly, how high a political priority the country gives to defence and security issues, meaning that the ME:GDP trend is a very important indicator not only for assessing 2010-15 trends but also for many of the 2016-20 projections.[8]

Macro-economic data on GDP and economic growth are taken from IMF: *World Economic Outlook* database (April 2015 edition).[9] In NATO press releases, ME:GDP shares are shown with one decimal but in order to fine-tune the data for the Chapter 5 graphs, new ME:GDP shares have been calculated by the Author by relating NATO's ME figures to GDP data from the IMF.

2.3.3 Projecting Military and Defence Expenditures during Coming Years 2015-20

Chapter 5 does not only present outturn data for 2010-15 but also projections for 2015-20 (as far as known, NATO/ the NATO Headquarters has never, at least not in open sources, published any data on forecasted ME). This is also the main reason why the word "partly" has also been used in the title: the *Survey* uses NATO data as the basis for the discussions, but also supplement these data by making various projections for coming years, which – although being based, as far as possible, on various official documents – nonetheless are still the Author's own appraisals, and nothing that should be attributed to NATO.

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[8] Needless to say, the ME:GDP share is an indicator for the relationship between the numerator ME and the denominator GDP, whether the increases in ME have been higher than -/- at par with -/- or lower than the rate of economic growth

The stipulated matrix thus relates two flow variables to each other. An alternative way of creating a matrix of this kind could be to have the same categories of increase – stable - decrease on the y-axis, but distinguish countries on the x-axis with a stock variable like their ME:GDP share in per cent, differentiating between countries having a share >2 per cent - 1-2 per cent - < 1 per cent (as has been done in the graph on page 28). In addition, one could also relate ME not to the GDP of the country but to government finances/ government expenditure, though the Author – while certainly being aware of the importance of government finances, and also consider such data when making more detailed studies of a country – for various reasons usually prefer working with ME:GDP shares than "ME: government expenditure shares".

[9] For the IMF web site for this IMF database, direct link at > http://www.imf.org/external/pubs/ft/weo/2015/01/weodata/index.aspx.

Even though national budget data and NATO data may differ, changes from one year to another may still be, or at least assumed to be, similar. Thus, if a country has a declared policy that it will increase its defence budgets by say "5 per cent" during each of the next five years, estimates for the years 2016-20 are made by simply adding such percentages from policy documents and other sources to the known NATO figures.

This method of calculation can be illustrated with data for Estonia (see page 34), where the first box shows the outturn data for the years 2010-15 and the second box the projections made for the years up to 2020.

Table 2-3 Method for adding projected data for 2016-20 to NATO 2010-15 data

2010	2011	2012	2013	2014	2015
333	**361**	**426**	**434**	**453**	**479**
	8,4%	*18,0%*	*1,9%*	*4,6%*	*5,6%*

2015	2016	2017	2018	2019	2020
479	495	512	529	547	565
	3,4%	*3,4%*	*3,4%*	*3,4%*	*3,4%*

Hence, based on NATO data, ME in constant USD for the first series of data, for the six years 2010- 15, have first been calculated, shown in bold in the first box, from which changes, in per cent, for five years can then be calculated (shown in italics). The second box shows the projected ME and changes for the second series of data, covering the six years 2015-20, that is, how the estimates, regarding either amounts or changes (depending on the information available) have been made for the five years 2016-20. The NATO figure for 2015 is taken as a starting point, in order to still have figures – hopefully – in line with the NATO definition, to which the estimated changes and ME figures have then been anchored (shown with a yellow shading).

In Chapter 5, as many official policy documents as possible are considered, and the chapter has a lot of references to budget documents, financial guidelines, *White Papers*, defence agreements etc.[10] For some countries, when such kinds of policy information are not available, extrapolations or other kinds of estimates of known amounts have been made. In some countries, the policy decision is

[10] Such information may at times be available in English, at times only in the national language of a country. In order to make it easier to use this *Survey* as a reference compendium, the national names of many government ministries – like Ministries of Finance and Ministries of Defence – and other national terms are in many cases also provided, then written in italics and with square brackets.

expressed as having a certain ME:GDP share, like the NATO 2 per cent guideline, and projected ME have then been calculated based on the GDP forecasts made by IMF *World Economic Outlook*; this publication provides forecasts for the coming five years up to 2020, thereby giving a the denominator for a calculation of future ME:GDP shares (see also footnote 24 on page 38).

It will of course also be interesting to compare the comments made in this Chapter 5 with information available in other sources, to stimulate the discussion and enhance the reliability of the Author's comments. Not least would it be interesting to compare the projections made by the Author with the data on future ME circulated within the OSCE – OSCE is the only international organisation circulating estimates on ME for coming years – though for various reasons, no such comparisons have been possible to make.[11] As a "second-best", comparisons have, however, still been made with the findings in commercial defence consultancy reports, when available for free on the internet, like the *BMI Research Reports* and other similar reports.[12]

It goes without saying that the value of a study of the present kind to some degree depends on to what extent the projections made will come true. Hopefully, this *Survey* will also be considered interesting enough to merit some future revisions and updates when new data become available and meaning that the Excel files could then be used again (which naturally take less time than creating such files from scratch). If this *Survey* is taken out of from a bookshelf around 2020, it will naturally be very interesting to see how good the projections may have been in hitting the bull's-eye.

It should, however, also be noted that some projections may be quite interesting even if – and in some cases perhaps more so – they would fail to predict future ME and ME:GDP shares, as an "incorrect" forecast might still be valuable as a comparison and some kind of reference point. If something happens changing the course of history, it may be interesting to have a "counterfactual trend"

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[11] Regarding OSCE data, see Bengt-Göran Bergstrand: "Using Military…",. op. cit., footnote 6, page 8.

[12] *Business Monitor International Research* is a London based consultancy company, working with political risk analysis, with a web site at > http://www.bmiresearch.com/. BMI Reports on defence and security developments have been published for more than 90 countries, including 17 NATO countries. Being a consultancy company, BMI Reports are not available for free but must be purchased, though a summary of the report is published for free on the internet, which may also – though not always – include the BMI forecasts of a country's ME. As this *Survey* is only based on and refers to data in the public domain, no purchases of BMI reports have been made.

based on the presumption that "what had occurred would not have happened" and discuss what path history would then have followed, in order to understand the importance of various events. And as already noted, the projections made in this study are of course based on the information available in the summer 2015. Should therefore an important change come about from the time of writing up to 2020, one may then have a better understanding of the importance of such a "game changer" if a comparison is made between "what might have been" (if the dramatic event had not occurred) with "what actually happened".[13]

2.4 Outline of the *Survey*

To a large extent, this *Survey* has the form of a reference compendium but the *Survey* could be said to have the structure of a seminar presentation or a briefing. Insofar that the present report is a "survey", the focus is on breadth rather than depth, with the 27 NATO countries covered in a similar manner. A reader, having an interest in just one or a few of the countries covered by this *Survey* will have no problems in just considering those parts relevant to his or her interest.

Following this introduction and methodological chapter, the next *Chapter 3 "The Global Distribution of Military Expenditures – NATO military spending in international comparison"* puts NATO defence allocations into an international context (based on SIPRI data). This chapter shows that United States ME is equivalent to about ~35 per cent of global ME, with the rest of NATO accounting for ~18 per cent. Hence, NATO ME constitute more than half of global ME, and American ME is about twice the size of all other NATO states added together.

In *Chapter 4 "NATO Military Expenditures – A General Overview and Trends"*, some aggregate data regarding NATO are presented and the big differences in size between the NATO member states are considered. The

[13] If this *Survey* would have been written a few years ago, many countries would have shown a trend of decreasing ME with no pieces of information suggesting any other kind of development. Following the Russian attack on Ukraine in 2014, many countries have, however, halted the decline and are about to increase their ME. The integral between two trend-lines before and after Ukraine will therefore give an indication of the impact that the conflict in Ukraine has had on ME in those countries.

NATO guideline that NATO member states should allocate 2 per cent of their GDP to defence is also briefly discussed.

The said two chapters, Chapters 3 and Chapter 4, can be said to be of an introductory character to the main chapter of this study. The major and most important part of the present report is the *Chapter 5 "Developments in Individual NATO Countries".* This chapter first analyses the data reported by NATO for 2010-15, then supplement these data with projections for 2016-20 (or as many years as is feasible). The NATO countries are presented according to which matrix cell they are placed in (see the" 9 cell matrix" presented above on page 10, as well as the Table of Contents).

Finally, it should also be noted that although this study is written in English, numbers are denoted in a Swedish/ European/ non-English manner, which has the opposite use of "," and "." to English practise. Thus, "1.234,56" should be understood as "one-thousand-twohundred- and-thirtyfour", with "56" as decimals.

3 The Global Distribution of Military Expenditures – NATO military spending in international comparison

In April 2015, SIPRI presented its latest data on Military Expenditure ["ME"] trends: global military spending for 2014 was then estimated as ~1 776 billion US dollars, an amount equivalent to about ~2,3 per cent of global GDP.[14] It may here therefore be noted that the recommendation by NATO to its member states – that member states should allocate at least 2 per cent of their national income to defence – suggest a share that is slightly lower than the global average.

This SIPRI estimate is based on the SIPRI Military Expenditure database, which includes specific data for some 170 countries, adding up to about ~1 746 billion US dollars.[15]

The two graphs on the opening on the two pages 18-19 illustrate the distribution between both the main countries and various groupings and regions of the world. The column graph on the first of these two pages shows ME in billions of USD, while the pie graph shows on the following pages shows the distribution in per cent. From theses two graphs, the following observations can be made.

- **United States** has by far the highest ME in the World, about ~610 billion USD equivalent to ~35 per cent of World ME. As a result of the War on Terror and the US operations in Afghanistan and in Iraq, US as

[14] When the data was released, SIPRI published the Fact Sheet "Trends in World Military Expenditure, 2014", available at > http://books.sipri.org/files/FS/SIPRIFS1504.pdf.

SIPRI is possibly the most important source for international ME data. The International Institute for Strategic Studies, IISS, publication *The World Military Balance* also include defence spending data. While there is a general concurrence between SIPRI and IISS data, there are also a few important differences. IISS reports a much lower figure for China and also for Russia than SIPRI, thereby having Saudi Arabia as the third biggest defence spender instead of Russia. See "List of countries by military expenditures", *Wikipedia* > https://en.wikipedia.org/wiki/List_of_countries_by_military_expenditures. The US Department of State also publishes the *World Military Expenditures and Arms Transfers*, WMEAT, available at > http://www.state.gov/t/avc/rls/rpt/wmeat/index.htm.

[15] The actual database is available at > http://www.sipri.org/research/armaments/milex/research/armaments/milex/research/armaments/milex/milex_database. This figure of "1 746 billion USD" does not include amounts or estimates for countries for which data are missing or highly unreliable, like some states in the Middle East, and is therefore somewhat lower than the estimated global total of "1 776 billion USD".

well as World ME rose rapidly during the first decade of the new millennium, but have since started to decline.

- **Total NATO** ME is about ~920 billion USD – a figure which naturally also includes major countries like the United Kingdom, France and Germany – constitute more than half, about ~53 per cent, of World ME. Hence, the ME of all 26 NATO countries bar the United States add up to about ~310 billion USD (about ~18 per cent, of World ME), meaning that US military spending is about double that of all other 26 NATO states taken together. In addition, several other major states also have other defence agreements with the United States – like Japan; South Korea; and Oceania/Australia and New Zealand – meaning that US- and US related defence and security relationships are linked to a major share of global ME.[16]

- **China** has the second highest ME, of ~216 billion USD equivalent to ~12 per cent of World ME. It should here, however, be noted that the data presented by SIPRI show amounts in "US dollars", meaning that amounts in the domestic currency have been converted to dollars with market exchange rates. If purchasing power parities had been used instead of such market rates, the amounts as well as the shares, in per cent, for most developing countries – including China, Russia, Saudi Arabia, India and others – would be significantly higher (and lower for industrial industrial/developed countries, like the US and the NATO countries).

- **Russia** and **Saudi Arabia** have ME of a similar magnitude, and are the countries with the third highest ME in the World, about ~80-85 billion USD, equivalent to ~5 per cent of World ME.

- On a fourth level of military spenders, one finds the major European powers/**United Kingdom**, **France** and also **Germany** – as well as **Japan** and **India**, whose ME are at a level around ~45-60 billion USD, all equivalent to ~3 per cent of World ME.

- If one looks at regions, it may not come as a surprise that the **Middle East** is a region of particularly high ME, and the position of Saudi Arabia as the country with the third/fourth highest ME in the World has already been noted. This grouping also excludes, due to lack of data,

[16] See "U.S. Collective Defense Arrangements" at the US Department of State web site at > http://www.state.gov/s/l/treaty/collectivedefense/.

Figure 3-1 Global Military Expenditures 2014, Billions of US Dollars

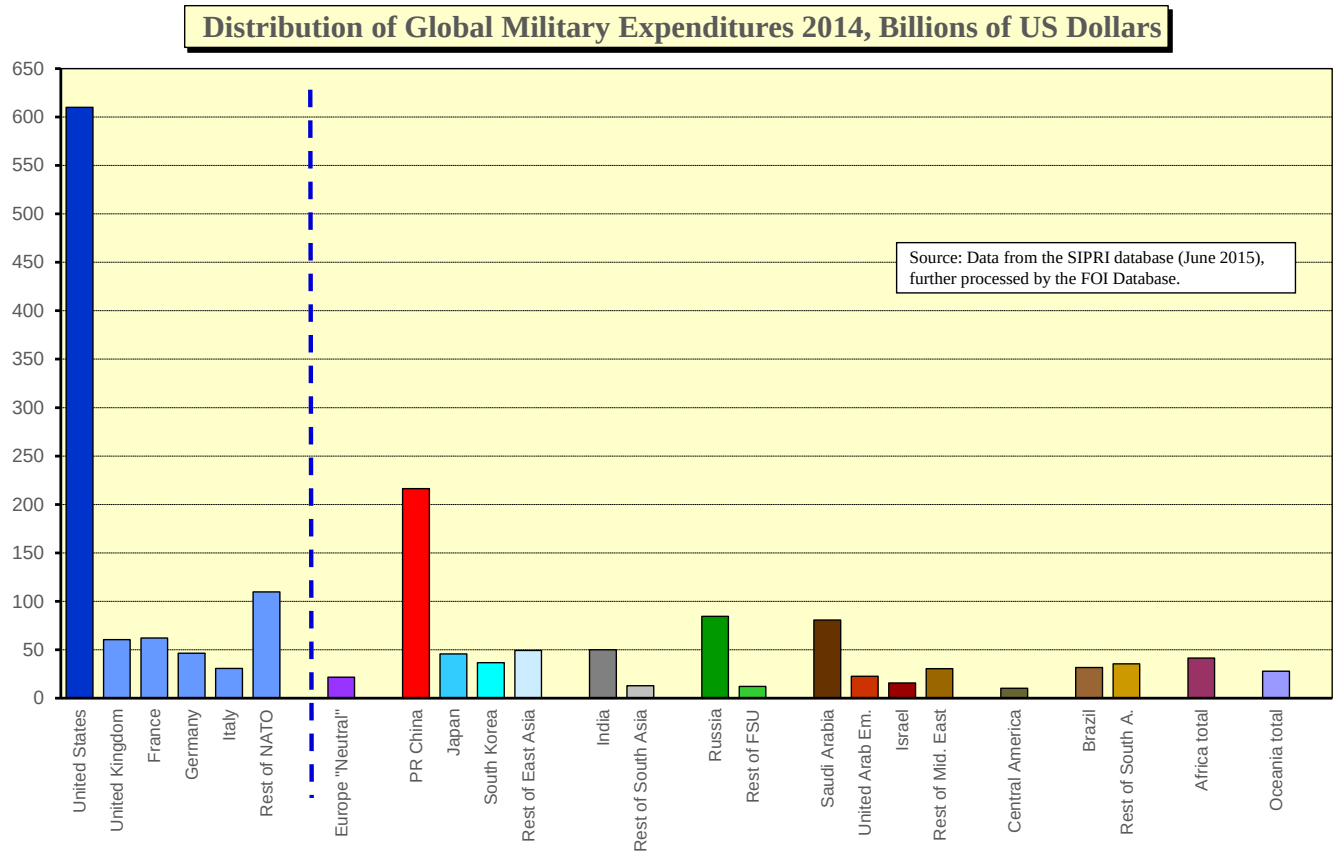
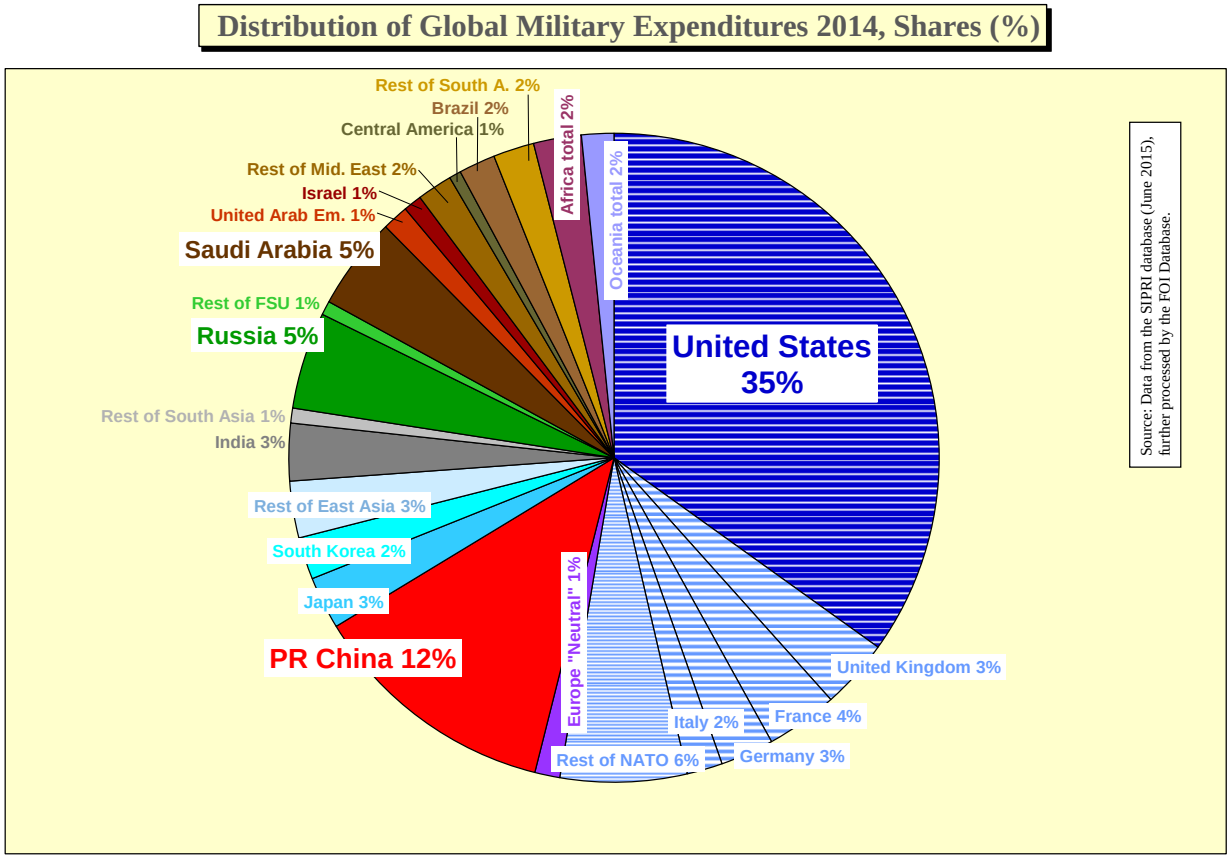


Figure 3-2 Global Military Expenditures 2014, Distribution (%)



several important countries (like Iran, Kuwait, Qatar nor Syria) and the amount noted for “Rest of Middle East” is certainly too low.

- When an international comparison is made, ME in both **Latin America** and in **Africa** appear modest. Both the United Kingdom and France have each ME which are higher – at least when market rates are used for such calculations – than the whole of Africa (including North Africa, bar Egypt).

4 NATO Military Expenditures – A General Overview and Trends

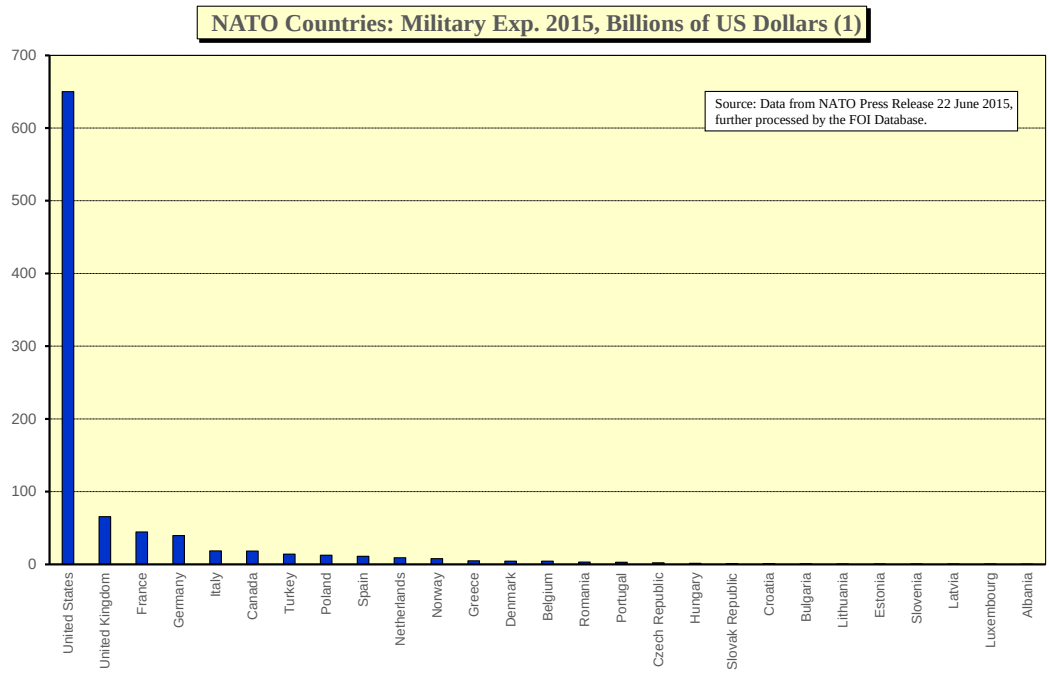
4.1 NATO: An Alliance of 28 Different Countries

The previous chapter with SIPRI data for 2014 showed that US military spending was about twice the size of all other NATO countries taken together. The same relationship is also evident if we look in detail at NATO ME data for 2015, shown on the next two pages. The two column graphs on next page – drawn with different scales, as the ME of smaller countries are barely visible when compared to United States – show the same data, with NATO countries ranked according to their ME measured in absolute terms/in US dollars. (Should Sweden have been a NATO member, Swedish ME – in 2015 amounting to about ~6 billion USD – would have placed Sweden between Norway, ME of ~7,8 billion USD, and Greece, ME of ~4,8 billion USD.)

Within NATO, US military spending constitute more than ~70 per cent of total NATO military spending, then followed by the major European countries, like the United Kingdom and France. The 9 member states, a third of all NATO countries, with the lowest ME have together ME of ~4,5 billion USD, equivalent to ~0,5 per cent of total NATO military spending. Hence, *changes* in ME from one year to another in some of the big countries may be equivalent to *total* ME of some other countries.

The 28 NATO countries differ greatly in size, not only with regard to their ME but also when it comes to GDP, population and GDP per capita. The United States is usually found on top of the list as the biggest country, with small countries like Luxembourg, Iceland and/or Albania at the other end such a listing (albeit that Luxembourg has the highest GDP per capita). The table on page 24 summarises data for the 28 NATO countries – with Sweden added, marked in italics, as a comparison – regarding GDP; GDP per capita; population; military expenditures; military expenditures per capita; and military expenditures as share of GDP. Swedish ME per capita would be rather high compared to most NATO contries – though lower than Norwegian and Danish ME per capita – while the Swedish ME:GDP share of roughly 1 per cent would not be ranked high among NATO countries.

Figure 4-1 NATO Countries Military Expenditures 2015, Billions of US D (different scales)



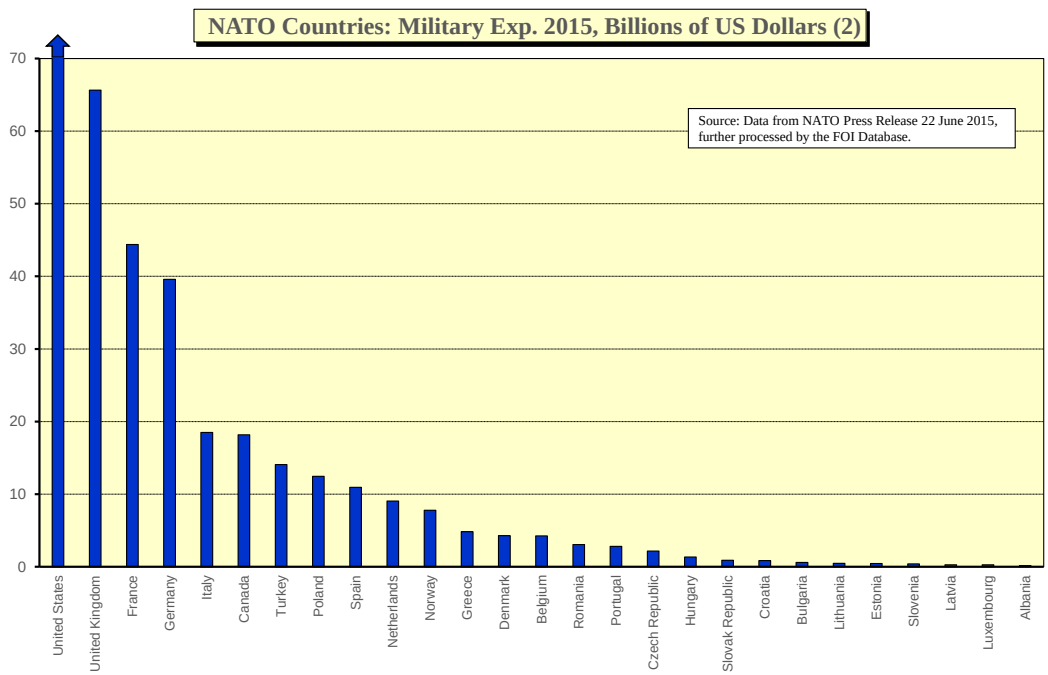


Figure 4-2 NATO Countries Military Expenditures 2015, Distribution (%)

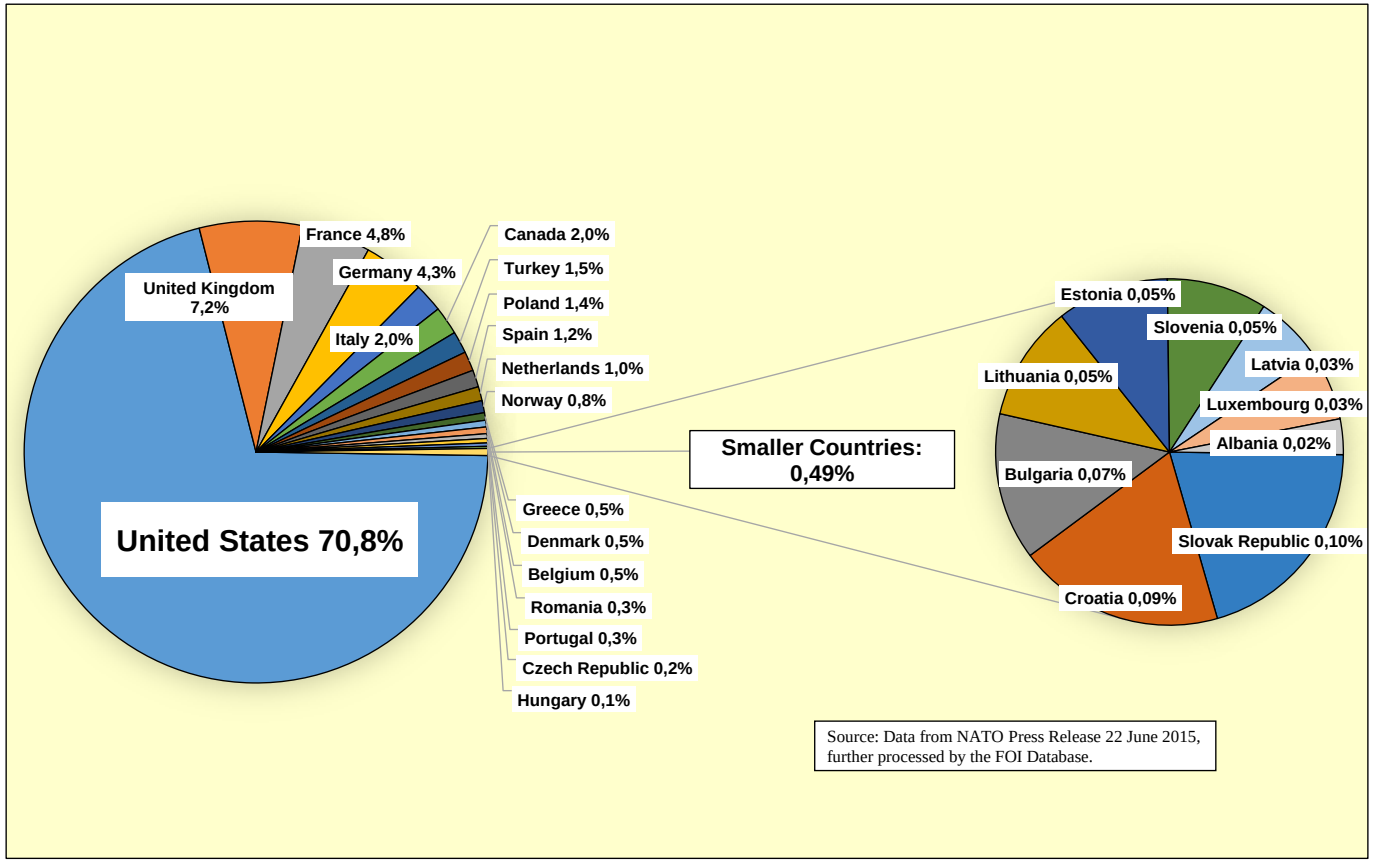


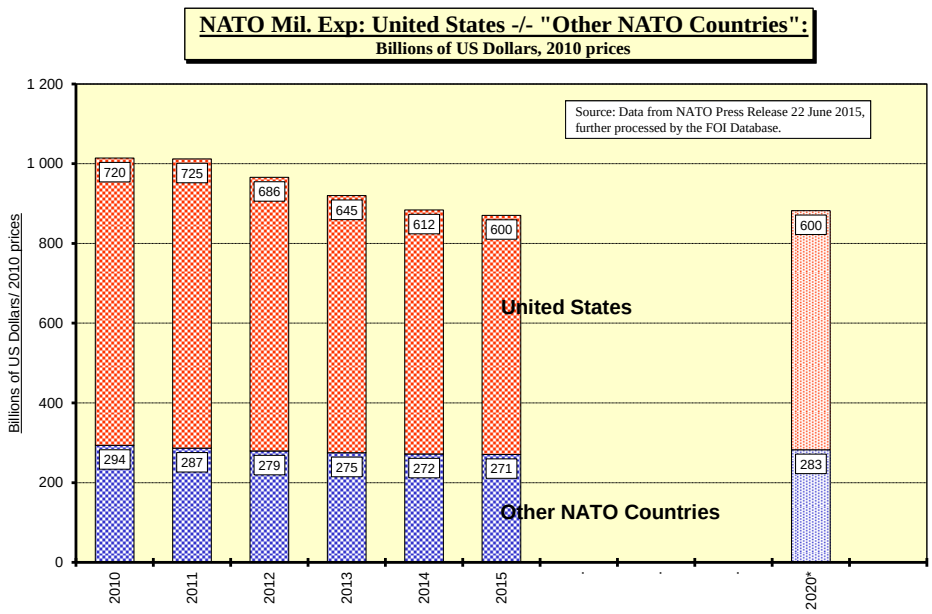
Table 4-1 NATO Countries (plus Sweden), ranked according to size 2015

NATO Countries (plus Sweden), ranked according to size 2015

	GDP, Billions of USD		GDP per caita, USD		Population, Millions		Mil. Exp., Millions of USD		Mil. Exp. per capita, USD		ME:GDP share (%)
United States	18 124,73	Luxembourg	96 269	United States	321,239	United States	649 931	United States	2 023	United States	3,59%
Germany	3 413,48	Norway	80 749	Germany	81,360	United Kingdom	65 642	Norway	1 493	Greece	2,33%
United Kingdom	2 853,36	United States	56 421	Turkey	77,738	France	44 393	United Kingdom	1 011	Poland	2,17%
France	2 469,53	Iceland	54 331	United Kingdom	64,938	Germany	39 575	Denmark	761	United Kingdom	2,11%
Italy	1 842,84	Denmark	52 822	France	64,213	Italy	18 492	France	691	Estonia	2,02%
Canada	1 615,47	*Sweden*	*49 582*	Italy	60,236	Canada	18 172	*Sweden (2014)*	*611*	France	1,80%
Spain	1 230,21	Canada	45 029	Spain	46,393	Turkey	14 081	Netherlands	535	Turkey	1,70%
Turkey	752,51	Netherlands	44 249	Poland	38,019	Poland	12 459	Canada	507	Norway	1,49%
Netherlands	749,37	United Kingdom	43 940	Canada	35,876	Spain	10 947	Luxembourg	498	Romania	1,41%
Poland	491,24	Germany	41 955	Romania	19,826	Netherlands	9 060	Germany	486	Portugal	1,40%
Sweden	*487,40*	Belgium	41 267	Netherlands	16,935	Norway	7 784	Greece	440	Croatia	1,40%
Belgium	463,80	France	38 458	Belgium	11,239	*Sweden (2014)*	*6 004*	Belgium	379	Netherlands	1,21%
Norway	420,96	Italy	30 594	Greece	10,982	Greece	4 830	Estonia	355	Albania	1,19%
Denmark	297,36	Spain	26 517	Czech Republic	10,529	Denmark	4 282	Poland	328	Bulgaria	1,19%
Greece	207,15	Slovenia	20 850	Portugal	10,403	Belgium	4 256	Italy	307	Denmark	1,19%
Portugal	201,04	Portugal	19 324	Hungary	9,857	Romania	3 069	Portugal	271	Germany	1,16%
Romania	189,75	Greece	18 863	*Sweden*	*9,830*	Portugal	2 821	Spain	236	Lithuania	1,13%
Czech Republic	180,79	Estonia	17 562	Bulgaria	7,166	Czech Republic	2 169	Czech Republic	206	Slovak Republic	1,03%
Hungary	126,69	Czech Republic	17 171	Denmark	5,629	Hungary	1 354	Croatia	203	*Sweden (2014)*	*1,03%*
Slovak Republic	87,53	Slovak Republic	16 138	Slovak Republic	5,424	Slovak Republic	906	Slovenia	201	Latvia	1,01%
Luxembourg	54,94	Lithuania	14 560	Norway	5,213	Croatia	859	Turkey	181	Italy	1,00%
Bulgaria	51,55	Latvia	13 996	Croatia	4,236	Bulgaria	613	Slovak Republic	167	Canada	0,99%
Croatia	48,87	Poland	12 921	Lithuania	2,929	Lithuania	481	Lithuania	164	Czech Republic	0,99%
Slovenia	43,02	Hungary	12 853	Albania	2,760	Estonia	467	Romania	155	Slovenia	0,97%
Lithuania	42,64	Croatia	11 538	Slovenia	2,063	Slovenia	416	Latvia	141	Belgium	0,92%
Latvia	28,36	Turkey	9 680	Latvia	2,026	Latvia	287	Hungary	137	Hungary	0,91%
Estonia	23,11	Romania	9 570	Estonia	1,316	Luxembourg	284	Bulgaria	86	Spain	0,89%
Iceland	17,81	Bulgaria	7 194	Luxembourg	0,571	Albania	148	Albania	54	Luxembourg	0,52%
Albania	12,41	Albania	4 495	Iceland	0,328	Iceland	0	Iceland	0	Iceland	0

Total NATO military spending is therefore greatly influenced by US military spending. In short, US military spending increased rapidly during the first decade of the new millenium, following "9/11" and the interventions in Afghanistan and Iraq (see also section on United States on page 108). After peaking around 2010-11, at a level around ~725 billion USD, American ME have decreased by a fifth to ~600 billion USD in 2015. As a consequence, Total NATO military spending has therefore also declined, by ~15 per cent, from ~1 015 billion USD in 2010 to ~870 billion USD in 2015, as illustrated by the graph below.

Figure 4-3 US and NATO Military Expenditures 2010-20, Billions of US Dollars



Hence, while the decreases in US ME had the largest impact on Total NATO ME, the rest of NATO ("Other NATO Countries" in the graph) in most cases – as will discussed in detail in the next chapter – also decreased ME.[17] Should, however, ME in the United States and the three major NATO countries (United Kingdom, France and Germany), together representing ~85 per cent of total

[17] In an article in *Janes*, it was noted with regard to 2012-14 ME data that of the 20 countries in the world having the fastest declining defence budgets, 13 countries were NATO member states. See "Analysis: NATO members comprise 13 of world's 20 fastest declining defence budgets", *IHS Janes 360*, 3 September 2014 at > http://www.janes.com/article/42685/analysis-nato-members-comprise-13-of-world-s-20-fastest-declining-defence-budgets.

NATO ME, start to level off and roughly remain stable at their 2015 levels up to 2020 – as is projected in the next chapter – the big decline in NATO ME will be over. With some of the increases that will possibly be made, ME in "Other NATO Countries" are projected to increase to ~283 billion USD (their 2011/12 level) in 2020. Total NATO ME will therby rise to ~883 billion USD in 2020; a level comparable to total NATO ME in 2014 (although the relationship between US vis-á-vis non-US is a bit different).

4.2 The NATO Guideline of Allocating 2 per cent of GDP to Defence

Within NATO, the related questions of increasing ME and having a fair distribution of ME between countries ("burden sharing") have from time to time been subject to much discussion, resulting in a number of non-binding recommendations. During the 1980s, it was argued that member states should increase their ME, in real terms, by at least 3 per cent annually, although few countries did so.

The present NATO guidelines – officially adopted at the NATO Summit in Wales on 4-5 September 2014 – state that NATO countries should allocate at least 2 per cent of GDP to defence – a ME:GDP share slightly lower than the global average of 2,3 per cent (see page 16), and that 20 per cent of the defence budget should be spent on procurement and Research and Development.[18] In this *Survey*, the later recommendation of spending 20 per cent on procurement, will not be discussed, as this *Survey* focuses on ME and ME:GDP trends and not on different types of ME. The NATO Wales Summit Declaration consequently states in § 14 (markings in **bold** made by the Author):

> 14. We agree to reverse the trend of declining defence budgets, to make the most effective use of our funds and to further a more balanced sharing of costs and responsibilities. Our overall security and defence depend both on how much we spend and how we spend it. Increased investments should be directed towards meeting our capability priorities, and Allies also need to display the political will to provide required capabilities and deploy forces when they are needed. A strong defence industry across the Alliance, including a stronger defence industry in Europe and greater defence industrial cooperation within Europe and across the Atlantic, remains essential for delivering the required capabilities. NATO and EU efforts to strengthen defence capabilities are

[18] See *Wales Summit Declaration*, NATO web site at > http://www.nato.int/cps/en/natohq/official_texts_112964.htm?mode=pressrelease.

complementary. Taking current commitments into account, we are guided by the following considerations:

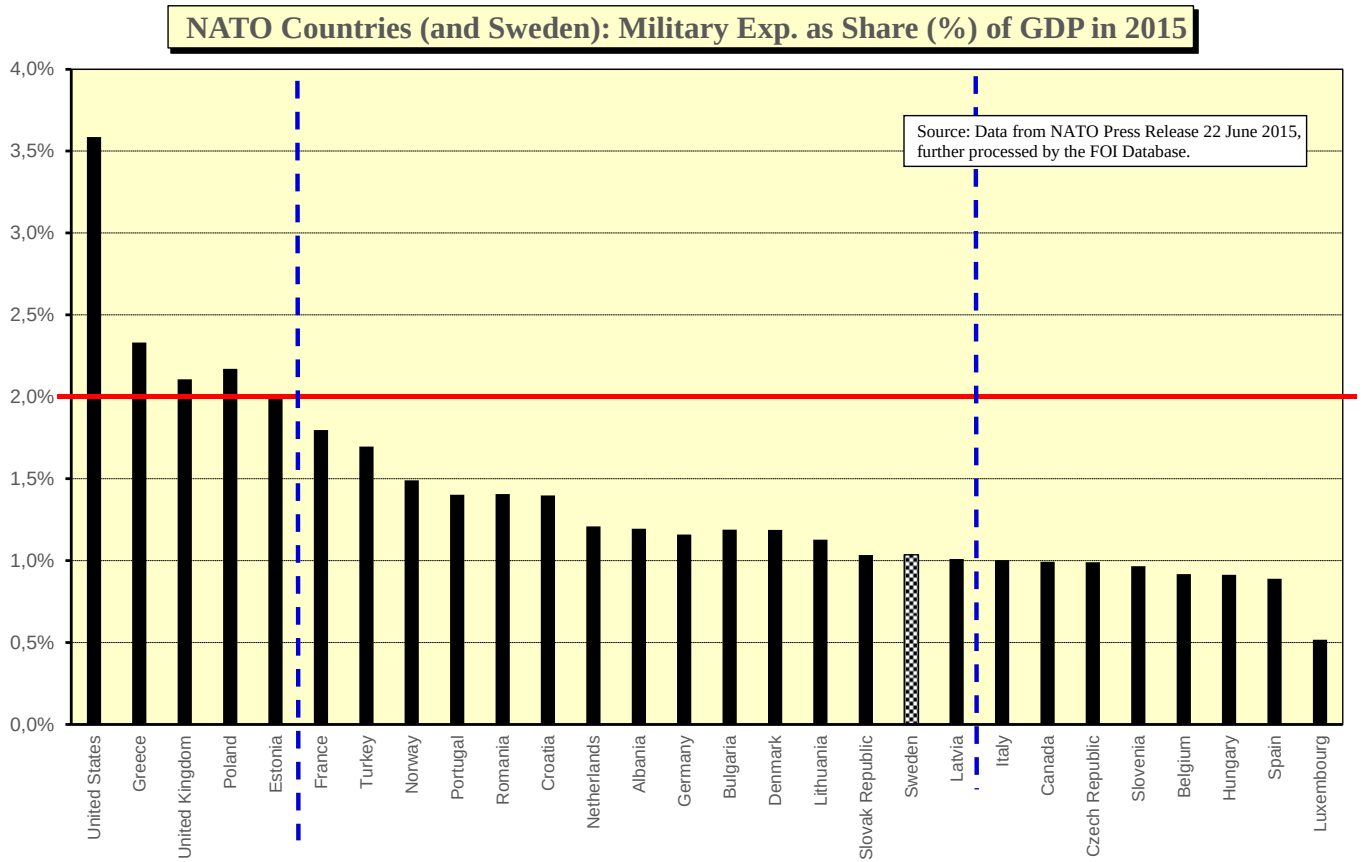
- Allies currently meeting the **NATO guideline to spend a minimum of 2% cent of their Gross Domestic Product (GDP) on defence will aim to continue to do so**. Likewise, Allies spending more than 20% of their defence budgets on major equipment, including related Research & Development, will continue to do so.
- Allies whose current proportion of GDP spent on defence is below this level will:
  - halt any decline in defence expenditure;
  - aim to increase defence expenditure in real terms as GDP grows;
  - **aim to move towards the 2% guideline within a decade** with a view to meeting their NATO Capability Targets and filling NATO's capability shortfalls.
- Allies who currently spend less than 20% of their annual defence spending on major new equipment, including related Research & Development, will aim, within a decade, to increase their annual investments to 20% or more of total defence expenditures.
- All Allies will:
  - ensure that their land, air and maritime forces meet NATO agreed guidelines for deployability and sustainability and other agreed output metrics;
  - ensure that their armed forces can operate together effectively, including through the implementation of agreed NATO standards and doctrines.

The graph on next page shows NATO ME:GDP shares in 2015 (see also the table above on page 24). This graph illustrates that only five countries – United States; Greece; United Kingdom; Poland and Estonia – have currently, in 2015, a ME:GDP share above 2 per cent.

Three countries – Latvia, Lithuania and Romania – have also adopted policies to increase their ME so that they will allocate 2 per cent of their GDP to defence by 2020, and other countries (like Czech Republic; Slovak Republic; and Hungary) have adopted similar policies of raising their ME:GDP shares, albeit to a lesser level than 2 per cent. Hence, in 2020, there may be about, but not more than, 7-8 countries having a ME:GDP share of at least 2 per cent.

With many NATO countries having a ME:GDP share around 1 per cent (as does Sweden), raising ME to a share of 2 per cent would mean that these countries must roughly double their ME. One may here therefore raise the question whether these countries will implement such dramatic increases of

Figure 4-4 NATO Military Expenditures as Share (%) of GDP 2015



their ME – particularly when there is still a need for limiting government expenditures in general, in order to get smaller budget deficits – and perhaps also the corresponding question, assuming that such a large increase is made, whether all the new monies which in such a case must be allocated to defence would be spent wisely.[19]

The issues of ME and ME:GDP shares will presumably therefore continue to be debated as a political and security policy issue both within and between NATO countries during coming years, not least because of the conflict in Ukraine but also with regard to other conflicts. Several studies may also be expected as to whether NATO countries do live up to their pledges and also increase their ME during times when countries still need to cut their government expenditures, in order to balance budgets and reduce their national debts.[20] In this context, it should also be remembered that NATO is an intergovernmental organisation and not a supranational establishment, so the power of NATO to compel its members to implement adopted policies and guidelines should not be exaggerated.

It should also be added that questions about ME are not only discussed within NATO but also within the EU and the European Defence Agency (which is not surprising, as there are 21 countries which are members both of NATO and the EU). The German *Stiftung Wissenschaft und Politik*, SWP have published several studies on EU military spending, in the aftermath of the financial crisis.[21]

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[19] It may here be added that the IMF database (op. cit., footnote 9, page 11) also reports data on government revenue and government expenditure, as well as government debt. A more detailed analysis of ME may therefore also include and consider such government financial data when ME trends are discussed.

[20] See Naftali Bendavid: "NATO Countries Said They'd Boost Military Spending–But Will They Really?", *Wall Street Journal*, Dated 26 February 2015 at > http://blogs.wsj.com/brussels/2015/02/26/nato-countries-said-theyd-boost-military-spending-but-will-they-really/.

See also Denitsa Raynova - Ian Kearns: "The Wales Pledge Revisited: A Preliminary Analysis of 2015 Budget Decisions in NATO Member States", *European Leadership Network Policy-Brief*, February 2015, available at > http://www.europeanleadershipnetwork.org/the-wales-pledge-revisited-a-preliminary-analysis-of-2015-budget-decisions-in-nato-member-states_2471.html.

[21] See *The Impact of the Financial Crisis on European Defence. Part 1*, published by the EU Policy Department DG External Policies 2011, available at > http://www.swp-berlin.org/fileadmin/contents/products/fachpublikationen/Moelling_Brune_EU_Studie_2011_Teil1_ks.pdf; and
The Impact of the Financial Crisis on European Defence. Annex at > http://www.swp-berlin.org/fileadmin/contents/products/fachpublikationen/Moelling_Brune_EU_Studie_2011_Teil2_ks.pdf.

4.3 Comparing "NATO Trends 2010-15" with Projected "NATO trends 2015-20": An overview of national trends

The next Chapter 5 will review trends for each NATO country. As noted in the "Methodology Chapter" above (see page 10), a "9 cell matrix" has been used for categorising the NATO countries, and countries are also presented according to what cell they belong to.

The two matrices on next page summarise, as an introduction to the next chapter, how the NATO countries (written by national acronyms) have been placed in different cells and grouped together during both the 2010-15 and the 2015-20 period.

For the 2010-15 period – years marked both by the global financial crisis, forcing countries to reduce all kinds of government expenditures, and the downscaling of many international operations, particularly in Afghanistan and in Iraq – it may therefore be noted that 17 countries show a clear trend of decreasing ME (illustrated by the third row), meaning that their ME are lower in 2015 than in 2010. In many of the countries having reduced their ME, apart from Portugal and Spain, their ME:GDP share has also decreased. In perhaps 12 of these 17 countries, the decline may, however, be about to level off, suggesting that ME might stabilise at their current/ 2015 level (or even start to increase), and a distinction has therefore been made between the 5 countries showing a "Still decreasing ME" trend and the 12 countries in which "ME have decreased, but may be stabilising".

In 8 NATO countries, ME have increased (the first row), and in 4 countries of these countries, the increases in ME have even been larger than their economic growth rate, meaning that the ME:GDP share has risen ("Cell 1"). A couple of these countries have also, or are just about to have, reached the recommended "2 per cent" level, suggesting that they in future will no longer increase their ME more rapidly than their growth rate, which means that they during coming years will instead increase their ME *at par* with their growth rate, then having a stable ME:GDP share. Some other countries, which during the 2010-15 have increased their ME at a pace equal to or lower than the rate of economic growth, may also accelerate their ME increases during coming years, partly to reach the 2 per cent level, meaning that those countries would then be placed in "Cell 1".

Table 4-2 “The 9 Cell Matrix": Trends for 2010-15

2010-15 Trends	**ME:GDP share increases**	**ME:GDP share is stable**	**ME:GDP share decreases**	
ME increases	EST LTU POL ROU	LVA LUX NOR	TUR	8
ME is stable		HUN	FRA *(SWE)*	2
ME decreases		“ME have decreased, but may be stabilising” PRT ESP	“Still decreasing ME” ALB BEL BGR ITA NLD “ME have decreased, but may be stabilising” HRV CZE DNK DEU GRC SVK SVN GBR CAN USA	17
	4	6	17	

Table 4-3 "The 9 Cell Matrix": Projected trends 2015-20

2015-20 Trends	**ME:GDP share increases**	**ME:GDP share is stable**	**ME:GDP share decreases**	
ME increases	LTU ROU **LVA HUN CZE SVK SVN**	**EST POL** LUX NOR **TUR PRT GRC CAN**	***(SWE?)***	15
ME is stable			FRA **ESP HRV DNK DEU GBR USA**	7
ME decreases			“Still decreasing ME” ALB BEL BGR ITA NLD	5
	7	8	12	

If Sweden – *ceteris paribus* – would have been a member of NATO, Sweden would, based on 2010-15 developments, probably have been placed in "Cell 6", as a country with roughly stable ME and a declining ME:GDP share.[22]

The placing of a country into a particular cell, based on its 2010-15 record, is naturally not fixed but subject to change. In the country presentations in the next chapter, projections on ME trends for the coming years up to 2020 is made for each NATO country. Based on these projections, a new version of the "3x3" matrix has therefore been made as a comparison, shown as Table 4-3 on the lower part of the previous page.

A quick comparison between the Table 4-2 matrix for 2010-15 and the Table 4-3 matrix with projections for 2015-20 shows several differences. This is presumably also the most important observation and conclusion of this report – that the coming 2015-20 period will be quite different from the past 2010-15 period. First, while the Table 4-2 matrix have most countries placed in cells showing decreasing ME ("Cell 8" and "Cell 9": 17 countries) or also decreasing ME:GDP shares ("Cell 3" and "Cell 6": 2 countries), the Table 4-3 matrix is projected to show fewer countries with decreasing ME ("Cell 9": 5 countries). Hence, this change in the gravity of the matrix illustrates that the coming 2015-20 period is projected to look quite different from the passed 2010-15 period. During 2015-20, about 15 NATO countries are projected to increase their ME, while 7 countries will have stable ME, with only 5 countries having declining ME.

If a more detailed comparison is made, we may first see that the 2 countries in "Cell 8" (Spain and Portugal) and the 10 countries in "Cell 9:B / ME have decreased, but may be stabilising" (Croatia, Czech Republic etc.) – having had decreased ME during 2010-15 but presumed to have stable and/or increasing ME during 2015-20 – have been moved upwards. Spain, Croatia, Denmark, Germany, United Kingdom and United States are projected to have roughly stable ME during 2015-20, suggesting that their ME:GDP share will still decrease slightly when their economies grow, meaning that these 6 countries will show a pattern like that of France.

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[22] For some data on Swedish trends, see Bengt-Göran Bergstrand: "Trendbrott för svensk försvarsekonomi" ["*Trend break for Swedish defence economy*"], *FOI Memo* 4939, Dated April 2015, available at the FOI web site at > http://www.foi.se/sv/nyheter/Press--nyheter/Nyheter/2015/Forsvarsekonomi-i-forandring/. This short two-page Memo includes a graph showing ME trends for the 32 years 1988-2020. Swedish ME were roughly stable up to the turn of the millennium, then declined steadily for 10-12 years, after which ME have again remained fairly stable, meaning that no large reductions were made during the 2010-15 period. With roughly stable ME and a growing GDP, the ME:GDP share has therefore declined.

3 Countries – Portugal, Greece and Canada – are projected to have ME increasing at the same pace as their economic growth rate, placing them in "Cell 2", while, as already noted, 4 more countries – Hungary, Czech Republic, Slovak Republic and Slovenia – will increase their ME at a higher pace than their economic growth rate, giving them a place in "Cell 1".

If we again look at the "Cell 1" in the 2015 matrix, we may see that 4 countries – Estonia, Lithuania, Poland and Romania – were placed in this cell, with increasing ME & increasing ME:GDP shares. In the 2020 matrix. Lithuania and Romania will still be in this cell, just having increased their ME to a 2 per cent ME:GDP share in 2020. Estonia and Poland have, however, already reached the "2 per cent level" and will during coming years increase their ME at a pace *at par* with, rather than exceeding, the economic growth rate, and they have accordingly been placed in "Cell 2". Latvia will, however, show the opposite pattern, of previously having raised ME *at par* with economic growth, but will now increase ME at a higher pace.

4 other countries – Hungary, Czech Republic, Slovak Republic and Slovenia – which during 2010-15 had stable or decreasing ME, but who, during the 2015-20 period, will not only increase their ME but also do so at a pace higher than their economic growth rate, and therefore have increasing ME:GDP shares, will be added to "Cell 1" in the presumed 2020 version of the matrix.

In order to make the Table 4-3 matrix a bit more illustrative, country acronyms have also been coloured when they have been moved to a new cell. Thus, when a country is in the same cell during 2015-20 as it was during 2010-15, the country acronym is not coloured (cf. LTU; ROU). When a country is at the same level on the y-axis (if ME have increased, been stable or decreased) but have a changed position on the x-axis, a change in the ME:GDP share trend, the country acronym is coloured blue (like **EST** and **POL**, being moved from "Cell 1" to "Cell 2"). Countries being moved upwards on the y-axis are coloured green (like **HUN**, **CZE**, **SVK** and **SVN**), and countries – though no country shows such a trend – moving downwards on the y-axis would be marked in red.

5 Developments in Individual NATO Countries

This chapter will discuss developments in the individual NATO states, with countries presented in line with "9 cell matrix" (see page 30ff.). For each country, a graph is shown summarising the trends, with official NATO figures for 2010-15 to which the "Projections by the Author" have been added for the years 2016-20 (see Section 2.3.3 on the methodology for these projections). In this graph, the blue columns – related to the left hand axis – show ME in millions/ billions of US dollars, in 2010 prices. The black curve line shows the ME:GDP share in per cent, and is related to the right hand axis. The projected amounts for 2016-20 have also been drawn with a lighter shading, and the inserted pink lines illustrate general trends.

5.1 Countries with Increasing Military Expenditures & An Increasing ME:GDP share/ Cell 1

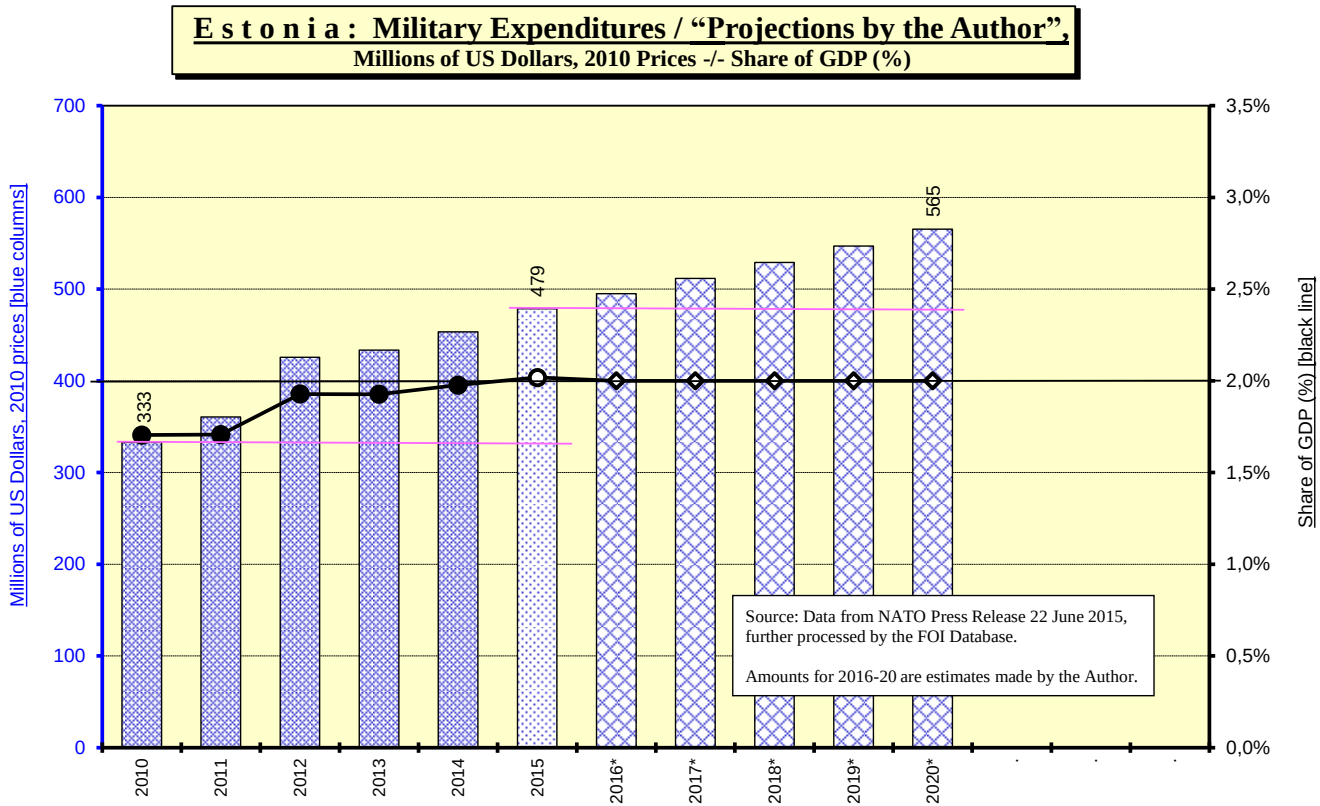
From 2010 to 2015, four countries – Estonia, Lithuania, Poland and Romania – increased their ME and did so at a pace higher than their rate of economic growth, meaning that their ME:GDP shares have also risen. During coming years, from 2015 to 2020, when the ME:GDP share will remain at/ have increased to the desired level of 2 per cent (note that this level is marked with a thicker line), Estonia and Poland may rather increase their ME *at par* with the rate of economic growth than at a rate exceeding the growth rate, placing them in "Cell 2".

Table 4-3 (see page 31) showing 2015-20 trends will presumably also include five new countries in this "Cell 1", as these countries have announced plans/ can be assumed to raise ME at a higher pace than their economic growth rate, and thereby increase their ME:GDP shares.

5.1.1 Estonia [EST]

Estonia has steadily increased its ME by, in real terms, nearly ~45 per cent between 2010 and 2015, from ~333 million USD in 2010 to ~479 million USD in 2015 (NATO reports data up to 2010 in Estonian krooni and in euro from 2011; in the background Excel file, all national amounts have been converted to euro.)

Figure 5-1 Estonia



This rate of ME increase was also higher than the rate of economic growth, meaning that the ME:GDP share rose from ~1,7 per cent in 2010 to about ~2 per cent in 2014-15. Estonia has also adopted a policy of allocating 2 per cent of its GDP to defence – a policy that Estonia is deeply committed to – meaning that future increases during the years 2016-20 of ME will rather be *at par* with than exceeding the rate of economic growth.[23]

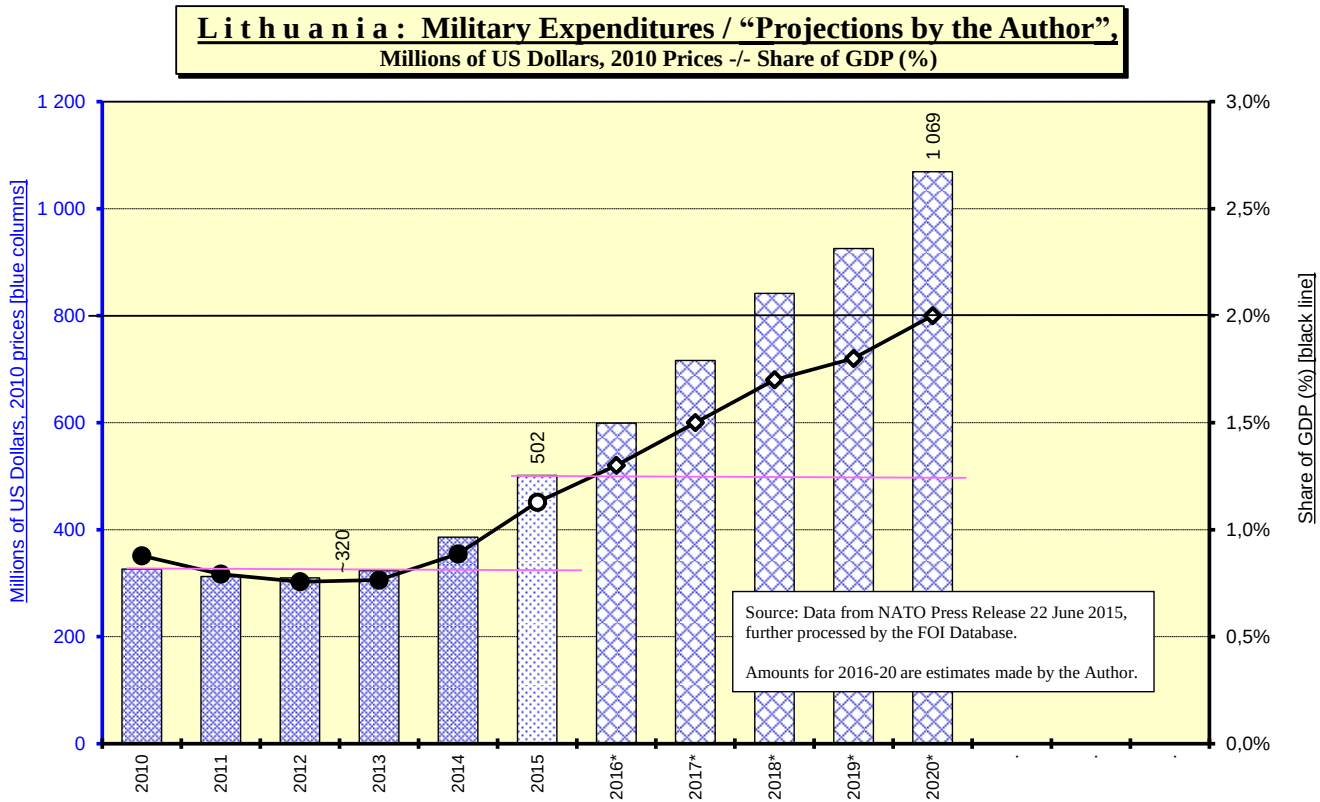
In a possible future study of this kind, Estonia will presumably therefore be placed in "Cell 2", for countries with increasing ME though with a stable ME:GDP share of 2 per cent. For the coming years 2016-20, the IMF *World Economic Outlook* forecasts that Estonian economic growth will average ~3,4 per cent (with the Estonian GDP increasing from ~17,73 billion euro in 2015 to ~20,94 billion euro in 2020). Thus, assuming that Estonian ME will continue to have a 2 per cent ME:GDP share, as has been done in the "Projections by the Author" graph on Estonian ME during coming years, Estonian ME will be nearly a fifth higher in real terms in 2020 than in 2015, increasing from the current/ 2015 level of ~479 million USD to ~565 million USD in 2020. Such an increase, of nearly 20 per cent, would also represent an effort just about half of the increase Estonia made from 2010 to 2015, when ME increased by ~45 per cent (see the pink lines inserted in the graph), indicating that there is no reason to doubt that Estonia will implement this policy. <There is no BMI report on Estonia.>

5.1.2 Lithuania [LTU]

In Lithuania, ME were first stable at ~320 million USD from 2010-13, but then increased rapidly, in real terms, by ~20 per cent in 2014 followed by an increase of ~30 per cent in 2015, meaning that ME amounted to ~500 million USD in 2015. (NATO reports data up to 2014 in Lithuanian litai and in euro from 2015; in the background Excel file, all amounts have been converted to euro.) These increases in Lithuanian ME are a direct response to the Ukrainian conflict – meaning that Lithuanian ME currently, in 2015, are nearly 60 per cent higher than they were just a few years ago.

[23] See the *State Budget Strategy 2015-2018*, Table 3.1 Defence, setting the framework for Estonian government finances, available at Estonian Ministry of Finance ["*Rahandusministeerium*"] web site at > http://www.fin.ee/budgeting and *The Long-Term Defence Plan*, with projected Estonian ME up to 2022, available at Estonian Ministry of Defence ["*Kaitseministeerium*"] web site at > http://www.kaitseministeerium.ee/sites/default/files/elfinder/article_files/national_defence_development_plan.pdf.

Figure 5-2 Lithuania



The Lithuanian ME:GDP share, which even declined slightly during the four years 2010-13, has consequently increased from ~0,8 per cent in 2012-13 to ~1,1 per cent in 2015. Lithuania has also adopted a policy of gradually increasing ME from this current level of ~1,1 per cent to 2 per cent in 2020, which suggest further rapid increases, with more than a doubling of ME in real terms, as has been done in the "Projections by the Author" in the graph on Lithuanian ME during the coming years. Thus, Lithuanian ME will increase from the current/ 2015 level of ~500 million USD to ~1 070 million USD in 2020.[24] Such a doubling of Lithuanian ME would suggest that ME must increase, in real terms, on average by ~16 per cent during each of the coming five years, which is indeed a burdensome effort but still lower than the 2014-15 increases, when ME were raised, as noted above, by ~20 per cent and by ~30 per cent, respectively.

In addition, Lithuania, having abandoned conscription in 2008, has also decided, in order to strengthen its defence capabilities as a result of the Ukrainian conflict, to reintroduce a military service duty early in 2015.[25]
<There is no BMI report on Lithuania.>

5.1.3 Poland [POL]

Poland has had a policy of allocating "1,95 per cent of last year's GDP to defence", meaning that for the current year, Poland usually has had a ME:GDP share just below the 2 per cent level. In September 2014, it was proposed that this "1,95 per cent yardstick" should be increased to 2 per cent.[26] As Poland has

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[24] The policy of allocating 2 per cent of GDP has been stated in several Lithuanian policy documents, like the important *Convergence Programme* 2014, § 15.7, available at Lithuanian Ministry of Finance ["*Finansų ministerija*"] web site at > http://www.finmin.lt/web/finmin/koordinavimas_es/konvergencija.

In order to nearly double the ME:GDP share from 1 to 2 per cent, Lithuania must of course first double the numerator ME. In addition, economic growth – IMF projects that the Lithuanian GDP will grow by nearly a fifth, from ~33,73 billion euro in 2015 to ~40,07 billion euro in 2020 – will also increase the denominator, from which the 2 per cent defence allocation shall be made. In this *Survey*, estimates of future ME will be made for several countries with such a kind of calculation, using a formula like

$$[ME_{year\ x} = ME{:}GDPshare/"2\ \%"\ x\ GDP_{year\ x}].$$

[25] See Nicholas de Larrinaga: "Lithuania to reintroduce conscription", *IHS Janes 360*, Dated 24 February 2015 at > http://www.janes.com/article/49362/lithuania-to-reintroduce-conscription.

been lucky, compared to many other European countries, in not being too hurt by the economic crisis and in experiencing rather high rates of growth, Polish ME have increased by more than 40 per cent, in real terms, from 2010 to 2015, from ~8,5 billion USD in 2010 to ~12 billion USD in 2015. In 2014 and 2015, Polish ME, however, also increased more rapidly than during the previous years, partly in response to the Ukrainian conflict, partly because of an extra temporary supplement in 2015 needed to cover some older remaining expenses related to the ambitious Polish modernisation programme.[27]

As a consequence, the Polish ME:GDP share has temporarily risen to ~2,2 per cent in 2015, but it may be assumed that this share will be returned to a slightly lower "normal" level during coming years. Assuming that Polish ME will increase in accordance with the noted "1,95 / 2 per cent yardstick", estimates for coming have been made on the presumption that ME will amount to "2 per cent of last year's GDP", as has been done in the "Projections by the Author" in the graph on Polish ME during coming years.

In such a case, Polish ME will increase by a fifth up to 2020, from ~10 billion USD in 2014 (which may be a better year of reference, and not affected by the temporary 2015 increase) to ~12,3 billion USD in 2020. Such an increase indicate that the ME:GDP share will decline slightly in 2016, after the temporary increase in 2015, and then remain at a level just below 2 per cent; in short, Polish ME will consequently increase *at par* with the growth rate, though with a one year lag (caused by the difference in GDP between the previous and the current year).

According to a statement by the deputy Defence Minister, ME should, however, be raised from 2016 so that they will amount to 2 per cent of GDP, suggesting

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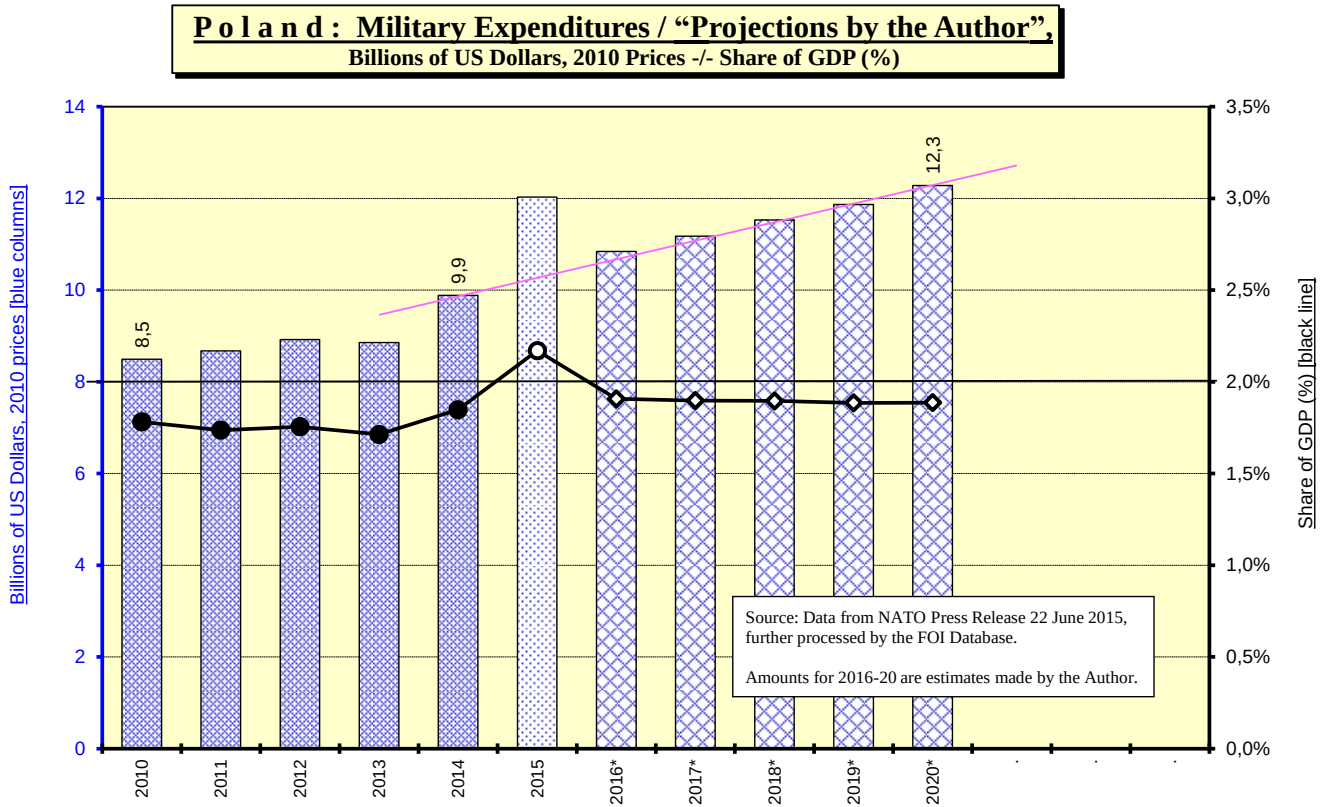
[26] See data on the Polish defence budget (which also includes some non-military expenditures, meaning that Polish defence budgets give slightly higher amounts than NATO) at the Polish Ministry of Defence site at > http://en.mon.gov.pl/z/pliki/dokumenty/rozne/2015/04/budzet_2015_ang.pdf.

See also "Poland to reserve 2 pct of GDP for defense goals", *NewEurope*, Dated 10 September 2014 at > http://www.neurope.eu/article/poland-reserve-2-pct-gdp-defense-goals.

[27] Poland adopted an ambitious modernisation programme for 2013-22 in 2012. See "Technical Modernization of Polish Armed Forces 2013-2022", *DefenceTalk*, Dated 9 January 2013 at > http://www.defencetalk.com/technical-modernization-of-polish-armed-forces-2013-2022-46232/.

Figure 5-3 Poland



that – if this policy is implemented – in the "Projections by the Author" in the graph should be revised slightly upwards.[28]

A similar view is put forward by BMI.[29] BMI describes Polish ME developments in the following way (the Author is, however, not certain if the cited figures refer to amounts in current or in constant prices):

> We expect Poland to spend up to USD 8.1 bn on defence in 2015. This is a good increase on the USD 7.8 bn the country spent on defence in 2014 and reflects a trend we anticipate increasing defence expenditure up to 2019, by which time we expect the defence budget to have reached USD 9.6 bn. Poland's defence expenditure is undoubtedly propelled by concerns regarding Russian strategic ambitions, in particular, the resurgence of Russia and its involvement in the Ukrainian civil war, with the country performing a corresponding modernisation and overhaul of its military.

5.1.4 Romania [ROU]

In Romania, ME were first stable at ~2,1 billion USD from 2010- 2012/13, but then increased more rapidly in 2014 and 2015, meaning that Romanian ME in 2015, at around ~2,7 billion USD, are more than 25 per cent higher, in real terms, than they were just a few years ago.

The Romanian ME:GDP share has therefore increased from ~1,3 per cent in 2010-13 to ~1,4 per cent in 2015. In early 2015, the parties in the Romanian

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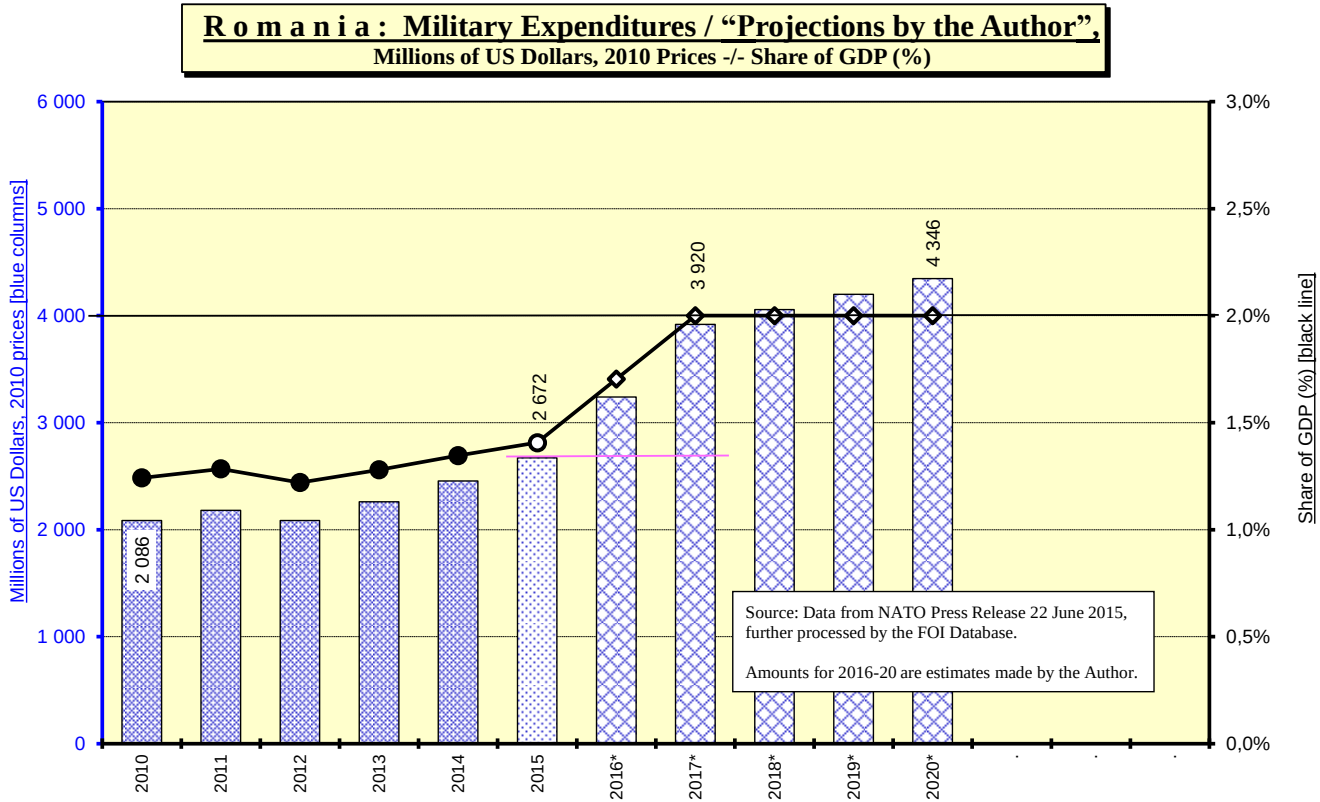
[28] See Remigiusz Wilk: "Poland commits to spending 2% of GDP on defence", *IHS Janes 360*, Dated 19 February 2015 at > http://www.janes.com/article/49156/poland-commits-to-spending-2-of-gdp-on-defence. If such a policy is implemented, Polish ME would amount to ~13 billion USD in 2020. It should here, however, also be noted that Polish data on defence expenditures are slightly higher than the amounts reported by NATO, meaning that Polish defence expenditures may well be equivalent to 2 per cent of GDP if national data are used in the numerator but less than 2 per cent if NATO statistics are used.

See also Zachary Fryer-Biggs: "Poland to spend USD40 billion by 2022 on modernisation", *IHS Janes 360*, Dated 19 May 2015 at > http://www.janes.com/article/51574/poland-to-spend-usd40-billion-by-2022-on-modernisation.

[29] See "Poland Defence & Security Report", *BMI Research*, Dated 6 January 2015 at > http://store.bmiresearch.com/poland-defence-security-report.html. The increase projected by BMI, by a fifth, from ~8,1 billion USD in 2015 to ~9,6 billion USD in 2019, is consequently the same as the one calculated by the Author, although BMI has obviously used a different exchange rate than the Author, as their dollar figures are lower.

Figure 5-4 Romania



Parliament made an agreement of increasing ME, stipulating that Romania should reach the NATO recommended "2 per cent" level already in 2017.[30] To implement such a "2 per cent policy" – indeed an ambitious undertaking, as illustrated by the "Projections by the Author" in the graph on Romanian ME during coming years – Romanian ME must rise, in real terms, by a total of about fifty per cent during the coming two years, from the current/ 2015 level of ~2,7 billion USD to around ~3,9 billion USD in 2017. Presumably, ME will then remain at a 2 per cent level during the following three years 2018-20, meaning that ME will then increase *at par* with economic growth, which suggest that Romanian ME would be around ~4,3 billion USD in 2020. Hence, while Romanian ME have risen by an average rate of ~8,6 per cent during the last three years 2013-15, reaching a ME:GDP share of 2 per cent in 2017 will require and mean that Romanian ME must rise by more than 20 per cent during both 2016 and 2017, or at a pace about two and a half times faster both during 2016 and during 2017.

BMI has published a report on Romania, though the free part of this report mainly discusses Romanian defence industrial capacities and has no data on Romanian ME which are only available in the purchased version of the report.[31] A reference is, however, made to the "2 per cent agreement", and the following comments are made:

> Romania historically has under-spent on its defence requirements. The country has a well-established defence industry, and significantly faces regional security concerns which will encourage future defence spending trends.

and

> The security situation in Ukraine is influencing Romanian defence expenditure trends. In early 2015, the country's government announced that it would be increasing its levels of defence expenditure as a proportion of Gross Domestic Product in the coming years. This is a direct result of the instability caused in Romania's locale as a result of the Ukraine crisis. It remains unclear what procurements this expected increase in defence expenditure will prompt. For example, Romania has a long-standing requirement for a new multirole combat aircraft. An increase in defence expenditure could now enable this procurement to move forward.

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[30] See Radu Tudor: "Romania pledges to spend 2% GDP on defence by 2017", *IHS Janes 360*, Dated 13 January 2015 at > http://www.janes.com/article/47843/romania-pledges-to-spend-2-gdp-on-defence-by-2017.

[31] See "Romania Defence & Security Report", *BMI Research*, Dated 11 May 2015 at > http://store.bmiresearch.com/romania-defence-security-report.html.

5.2 Countries with Increasing Military Expenditures & A Stable ME:GDP share/ Cell 2

From 2010 to 2015, three NATO countries – Latvia, Luxembourg and Norway – increased their ME but did so roughly *at par* with their rate of economic growth, meaning that their ME:GDP share did not change.

Table 4-3 (see page 31) showing 2015-20 trends will presumably also include five new countries in this "Cell 2", as these countries have announced plans/ can be assumed to raise ME but do so *at par* with their economic growth rates, and thereby having a stable ME:GDP share.

5.2.1 Latvia [LVA]

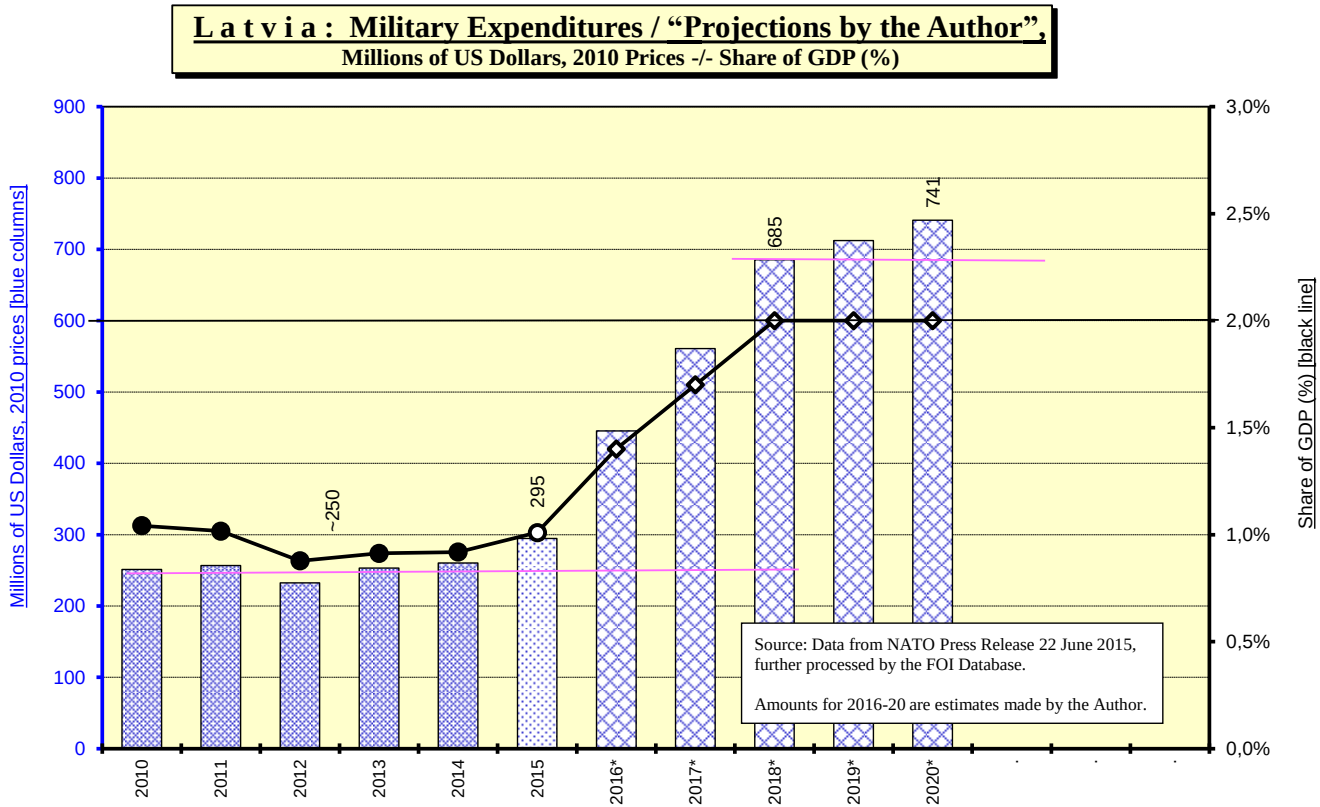
In Latvia, ME were first roughly stable at ~250 million USD from 2010 to 2014 – ME even declined in 2012, but were returned to their previous level in 2013 – but then increased by 13 per cent in 2015 to nearly ~300 million USD. (NATO reports data up to 2013 in Latvian lats and in euro from 2014; in the background Excel file, all amounts have been converted to euro.)

With stable ME up to 2014, the Latvian ME:GDP share even declined slightly, though the increase in 2015 raised the ME:GDP share anew to ~1 per cent. Latvia had earlier decided to raise ME to the "2 per cent" level in 2020, but brought forward, in Spring 2015 and in direct response to the Ukrainian conflict, this policy to 2018, after which the ME:GDP share will remain at 2 per cent.[32] In a possible future study of this kind, Latvia will presumably therefore be placed in "Cell 1", for countries with increasing ME as well as increasing ME:GDP shares.

Raising Latvian ME to the 2 per cent level in 2018 suggest – as illustrated by the "Projections by the Author" in the graph Latvian ME during coming years – that Latvian ME must more than double in real terms during the next three years 2016-18, increasing from the current/ 2015 level of ~300 million USD to ~685 million USD in 2018, and then continue to rise, *at par* with the economic

[32] See the Latvian *Stability Programme*, Dated April 2015, page 5 and 26, available at > http://www.fm.gov.lv/files/fiskalapolitika/2015/SP_15-18_ENG.pdf. On the noted page 26, there is also a telling graph, illustrating the decision to bring forward the year of having a "2 per cent" share from 2020, as earlier planned, to 2018.

Figure 5-5 Latvia



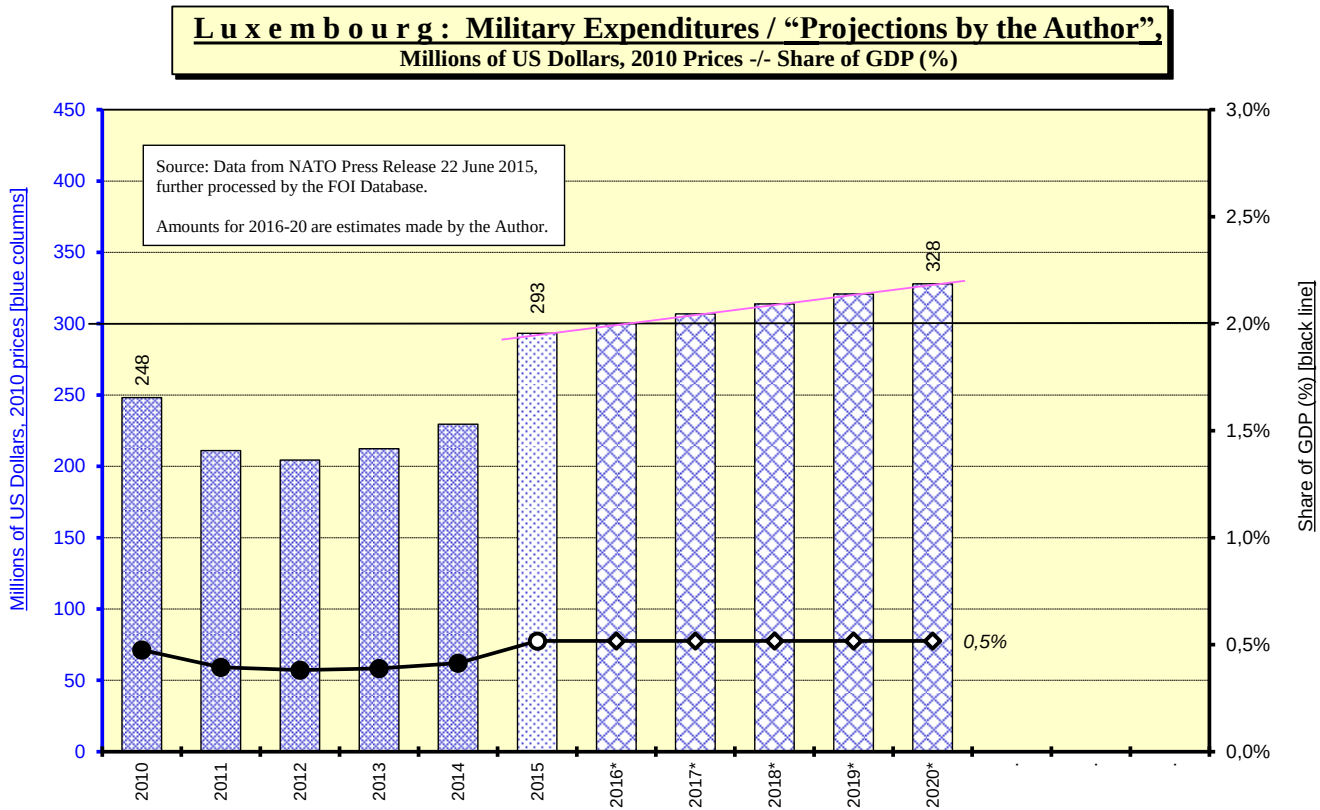
growth rate, to ~740 million USD in 2020. Hence, this very ambitious plan to raise ME to a ME:GDP share of 1,4 per cent in 2016; 1,7 per cent in 2017 and then to 2 per cent in 2018 means that ME must rise by more than 50 per cent in 2016 to 446 million USD, by 25 per cent to 561 million USD in 2017 and by 22 per cent in 2018 to 685 million USD. <There is no BMI report on Latvia.>

5.2.2 Luxembourg [LUX]

Luxembourg is of course a small but also very rich country, having one of the highest levels of GDP per capita in the world and also within NATO. At the same time, Luxembourg has the lowest ME:GDP share, around/ just below ~0,5 per cent, of all NATO countries (as well as the second smallest ME in absolute terms). Luxembourg ME even declined in 2011-12, but have since risen; in 2014, by ~8 per cent and in 2015 by ~28 per cent to ~293 million USD. Consequently, Luxembourg ME in 2015 are, in real terms, more than ~40 per cent higher than in 2012 and nearly ~20 per cent higher than in 2010. (In Luxembourg, having a small defence budget, a decision to for instance procure certain things, although the procurement does not amount to any large sum of money in an absolute sense, may still have a large effect on ME, and at times, ME have varied greatly from one year to another.)

These increases in Luxembourg ME have, however, not affected the Luxembourg ME:GDP share which has roughly remained stable at about ~0,5 per cent, and Luxembourg will presumably continue to have the lowest ME:GDP share among all NATO states. For the coming years 2016-20, the IMF *World Economic Outlook* projects that Luxembourg economic growth will average ~2,3 per cent. As far as known, there are no official plans about future levels of Luxembourg ME in the public domain. Thus, assuming – see the "Projections by the Author" in the graph on Luxembourg ME during coming years – that Luxembourg ME will continue to increase at the same pace as the economic growth rate rather than at the rate of increase experienced in 2014-15, which was temporarily high, Luxembourg ME will be a tenth higher in real terms, increasing from the current/ 2015 level of ~293 million USD to ~328 million USD in 2020. <There is no BMI report on Luxembourg.>

Figure 5-6 Luxembourg



5.2.3 Norway [NOR]

Norway has steadily increased its ME, in real terms, by ~8 per cent between 2010 and 2015, from ~6,5 billion USD in 2010 to ~7 billion USD in 2015. Notably, Norway has the second highest ME per capita (after the United States) within NATO.

In Norway, long-term defence plans are regularly presented, more or less setting the levels of ME usually for the coming four year period and with some guidelines on the subsequent years. The current such "Long-term Defence Plan" was presented in March 2012.[33] Many ME issues are discussed in the Defence Plan, which confirmed Norway's decision to procure 52 F-35 fighter jets; this acquisition will temporary increase in the investment budget of 22-28 billion NOK. As a result of the gradually decreasing expenditure related to operations in Afghanistan, a reallocation was also made to instead fund activity in Norway, specifically for the Army and the Home Guard. It is also noted in this Defence Plan that "*…During the course of this plan, Norway's defence budget…projects a real-term increase of 7 per cent...*". Given the continued modernisation of Norwegian defence, in particular the noted acquisition of new fighter aircraft, Norwegian ME will undoubtedly continue to rise during coming years, and Norway – having strong government finances – is also in an exceptional good situation of being able to raise its ME without too many financial constraints.[34]

The increase of Norwegian ME during the 2010-15 period has been *at par* with economic growth, and the ME:GDP share has therefore remained stable, at a level around ~1,5 per cent. In Spring 2016, Norway will adopt a new "Long-

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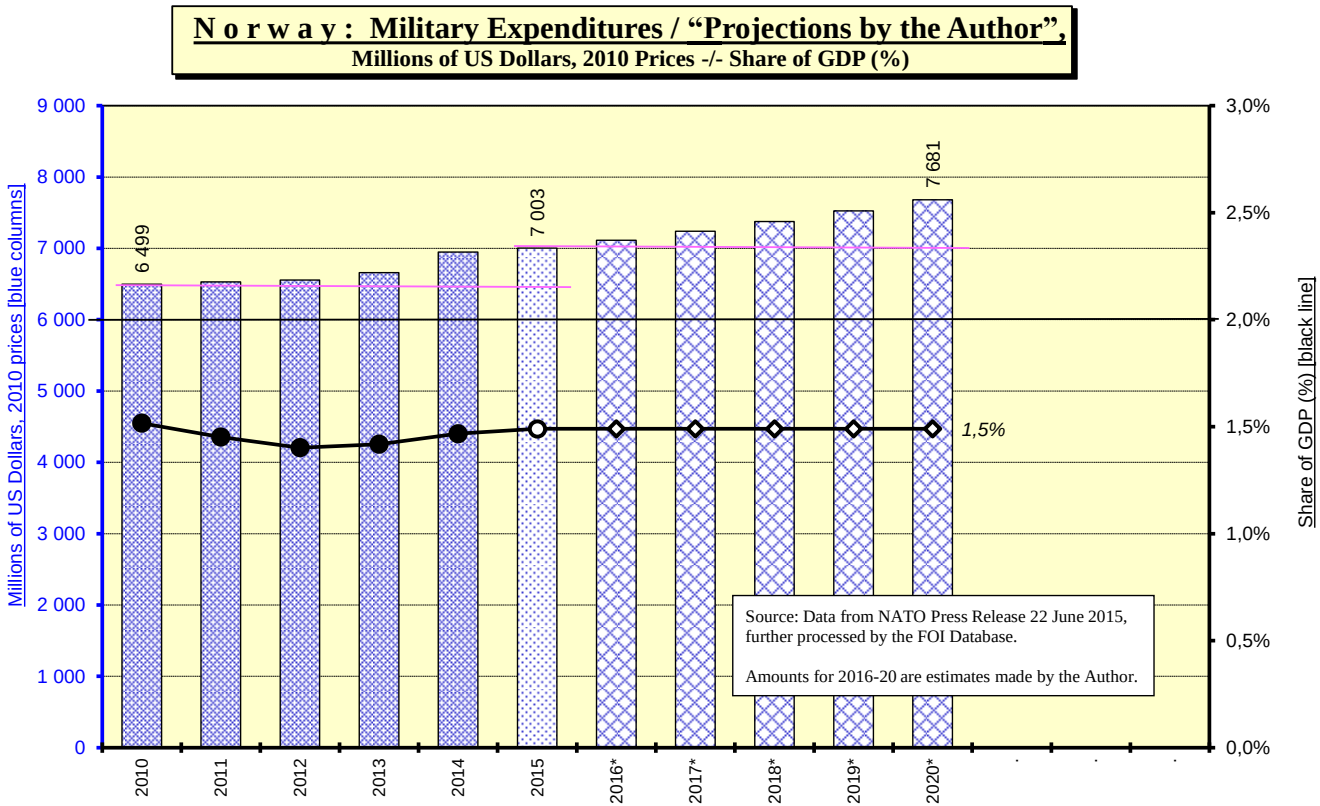
[33] A complete full text version of the 160 page Long-term Defence Plan ["*Langtidsplan for Forsvaret*"] – which also has the subheading *Et forsvar for vår tid* – in Norwegian is available the Norwegian Government/ Ministry of Defence web site at > http://www.regjeringen.no/nb/dep/fd/dok/regpubl/prop/2011-2012/prop-73-s-20112012.html?id=676029.

A summary in English is available at > https://www.regjeringen.no/en/aktuelt/the-new-norwegian-long-term-defence-plan/id678767/.

See also the Norwegian Government/ Ministry of Defence report *Future acquisitions for the Norwegian Armed Forces 2015-2023*, Dated 5 March 2015, available at > https://www.regjeringen.no/en/dokumenter/framtidige-anskaffelser-til-forsvaret-faf-20152023/id2398671/.

[34] See The Expert Commission on Norwegian Security and Defence Policy: *Unified Effort*, Chapter 5 "Financial Outlooks", Dated 28 April 2015, available at > https://www.regjeringen.no/en/dokumenter/et-felles-loft---fra-ekspertgruppen-for-forsvaret-av-norge/id2427726/.

Figure 5-7 Norway



Term Defence Plan", which will then set ME levels for coming years.[35] Until it is known what the new Defence Plan will stipulate, Norway can nonetheless be expected, for several reasons, to increase ME during coming years up to 2020, and it may well be presumed that such increases will at least be *at par* with Norwegian economic growth. For the next years 2016-20, the IMF *World Economic Outlook* projects that Norwegian economic growth will average ~1,7 per cent. Thus, assuming that the Norwegian ME:GDP share will remain at ~1,5 per cent/ that Norwegian ME will increase *at par* with the economic growth rate – see the "Projections by the Author" in the graph on Norwegian ME during coming years – Norwegian ME will be a tenth higher in real terms, increasing from the current/ 2015 level of ~7 billion USD to ~7,7 billion USD, in 2020. Such an assumption suggest that the ME increases Norway will make during 2015-20 will be similar to those increases Norway made 2010-15. <There is no BMI report on Norway.>

[35] See the Norwegian Government/ Ministry of Defence portal on the new plan ["*Ny langtidsplan for forsvarssektoren*"] at > https://www.regjeringen.no/no/tema/forsvar/ltp/ny-langtidsplan-for-forsvarssektoren/id2399782/.

5.3 Countries with Increasing Military Expenditures & A Decreasing ME:GDP share / Cell 3

From 2010 to 2015, one NATO country – Turkey – increased its ME but did so at a pace lower than the rate of economic growth, meaning that the ME:GDP share has declined slightly.

For the coming years from 2015 to 2020, Turkey is assumed to raise ME *at par* with its economic growth rate, meaning that Turkey in Table 4-3 (see page 31) will presumably be placed in "Cell 2" rather than "Cell 3". Presumably, no NATO country will show a pattern of "increasing ME & a decreasing ME:GDP share" (although this may be the kind of pattern Sweden will show during coming years[36]).

5.3.1 Turkey [TUR]

Turkey has increased its ME, in real terms, by ~8 per cent between 2010 and 2015, from ~14,1 billion USD in 2010 to ~15,2 billion USD in 2015. Turkish ME may well continue to increase during coming years, not least in response to various conflicts in the Middle East and given Turkeys ambitious military modernisation programmes, although the present Turkish AKP government has at times also tried to limit such increases as way to restrain the political influence of the Turkish military, not least because the Turkish military have a more secular leaning than the present government.

An analysis of Turkish ME must also consider not only the Ministry of Defence budget (in 2015, about ~29,8 billion Turkish liras, compared to the ~32,7 billion liras NATO reports for Turkey) but also some of the allocations to the Turkish Gendarmerie and the Coast Guard, financed under the Ministry of the Interior budget. In addition, some Turkish procurement and R&D expenditures may be financed by the "Defence Industry Support Fund" which consists of revenues from levies on alcohol, tobacco and gambling, possibly amounting to an annual allocation of about 1 billion USD.[37]

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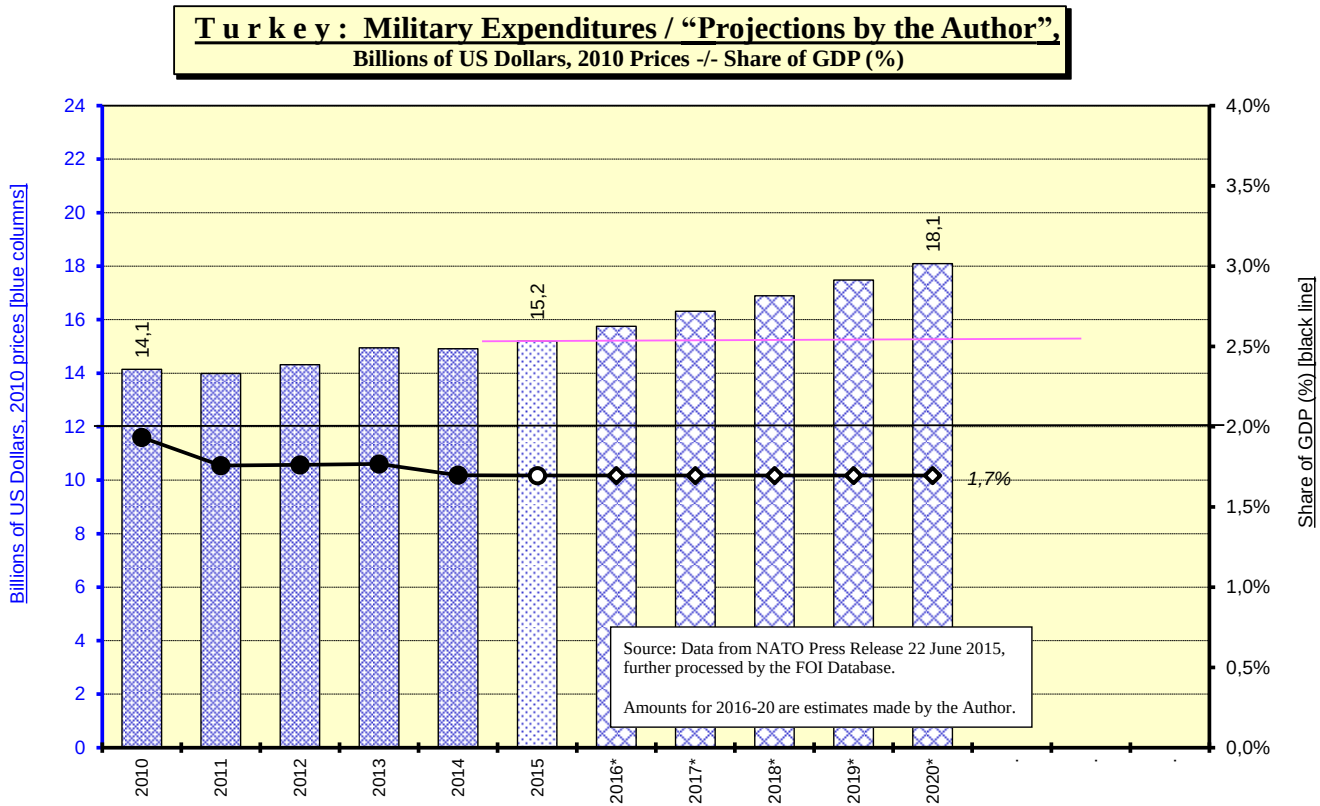
[36] See Bengt-Göran Bergstrand: Trendbrott… (op. cit, footnote 22, page 32) for Swedish data.

[37] See "Turkey Relies on Indirect Funding for New Gear", *Defense News*, Dated 29 November 2014, at > http://archive.defensenews.com/article/20141129/DEFREG/311290020/Turkey-Relies-Indirect-Funding-New-Gear.

Figure 5-8 Turkey



This increase of Turkish ME during the 2010-15 period has, however, been lower than Turkish economic growth, and the ME:GDP share has therefore declined slightly, from ~1,9 per cent in 2010 to ~1,7 per cent in 2015.

As far as known, there are no official plans about future levels of Turkish ME in the public domain. In a possible updated study of this kind, as a consequence of the noted conflicts, Turkish ME may, however, no longer increase at a at a pace lower than the rate of economic growth and Turkey will presumably therefore be placed in "Cell 2", for countries with increasing ME though with a stable ME:GDP share. For the coming years 2016-20, the IMF *World Economic Outlook* projects that Turkish economic growth will average ~3,5 per cent. Thus, assuming – and this may indeed be a rather modest assumption, given the many security challenges which Turkey faces, but this assumption has nonetheless been made in the "Projections by the Author" graph on Turkish ME during coming years – that the Turkish ME:GDP share will remain at ~1,7 per cent (meaning that Turkish ME will increase at the same pace as the economic growth rate), Turkish ME will be a fifth higher in real terms, increasing from the current/ 2015 level of ~15,2 billion USD to ~18,1 billion USD, in 2020. Such an assumption suggest that the ME increases Turkey will make during

2015-20 will be more than twice the size of the increases, at around ~8 per cent, which Turkey made 2010-15.

BMI also believe that Turkish ME will increase during coming years, and possibly more rapidly than the Author, as it is not clear if the amounts reported by BMI refer to current or constant prices.[38] BMI describes Turkish ME developments in the following way:

> We expect that Turkey will spend up to USD 20.6bn on defence in 2014. Up to and including 2019, we expect Turkey to spend an average of USD 28.4bn on defence annually. We anticipate that Turkey will increase its defence spending to USD 23.9bn in 2015, which will then experience a further increase to 2016 to USD 27.3. By 2019, we expect the annual defence budget to have reached USD 32.5bn.

A similar view of further Turkish increases is also presented in another consultancy report, published by Rnrmarketresearch.com in September 2013, where the following comment is made: "…*Turkey, one of Europe's most*

[38] See "Turkey Defence & Security Report", *BMI Research*, Dated 11 November 2014 at > http://store.bmiresearch.com/turkey-defence-security-report.html. The increase projected by BMI from ~23,9 billion USD in 2015 to ~32,5 billion USD in 2019, suggest a rise by ~35 per cent, to be compared with the ~20 per cent rise, in real terms, estimated by the Author.

attractive defense markets, allocated a military budget of US$ 15.3 billion in 2013, which increased at a CAGR of 3.3% during the review period. The country is expected to grow at a CAGR of 6.6% to reach US$ 21.3 billion by 2018.…".[39]

Hence, both these reports suggest increases by more than a third during coming years, though the uncertainty as to whether these forecasts present amounts in current or in constant prices also makes it somewhat difficult to compare the figures with the Author's projection of increases, in real terms, by a fifth. Turkey has at times experienced high rates of inflation, and the IMF *World Economic Outlook* forecast suggest that Turkey will have an annual rate of inflation around ~6 per cent during the next five years 2016-20. Hence, if the figures in the two consultancy reports are in current prices, such increases may well be equivalent to the rise in constant prices/ in real terms by a fifth, projected by the Author.

[39] See "Future of the Turkish Defense Industry - Market Attractiveness, Competitive Landscape and Forecasts to 2018", *Rnrmarketresearch.com*, Dated 5 September 2013, at > http://www.rnrmarketresearch.com/future-of-the-turkish-defense-industry-market-attractiveness-competitive-landscape-and-forecasts-to-2018-market-report.html. The increase projected from ~15,3 billion USD in 2013 to ~21,3 billion USD in 2018, suggest a rise by nearly ~40 per cent.

5.4 Countries with Stable Military Expenditures & An Increasing ME:GDP share/ Cell 4

This cell would be applicable for a country having stable ME and an increasing ME:GDP share, meaning that the denominator GDP would be decreasing. Such a pattern has also been shown by some countries during an economic crisis, when e.g. ME have, at least temporarily, been stable at the same time as GDP has been decreasing. No NATO country, however, shows such a pattern during the 2010-15 period, nor is any NATO country projected to show such during the coming 2015-20 period (see Table 4-2 and 4-3 on page 31.)

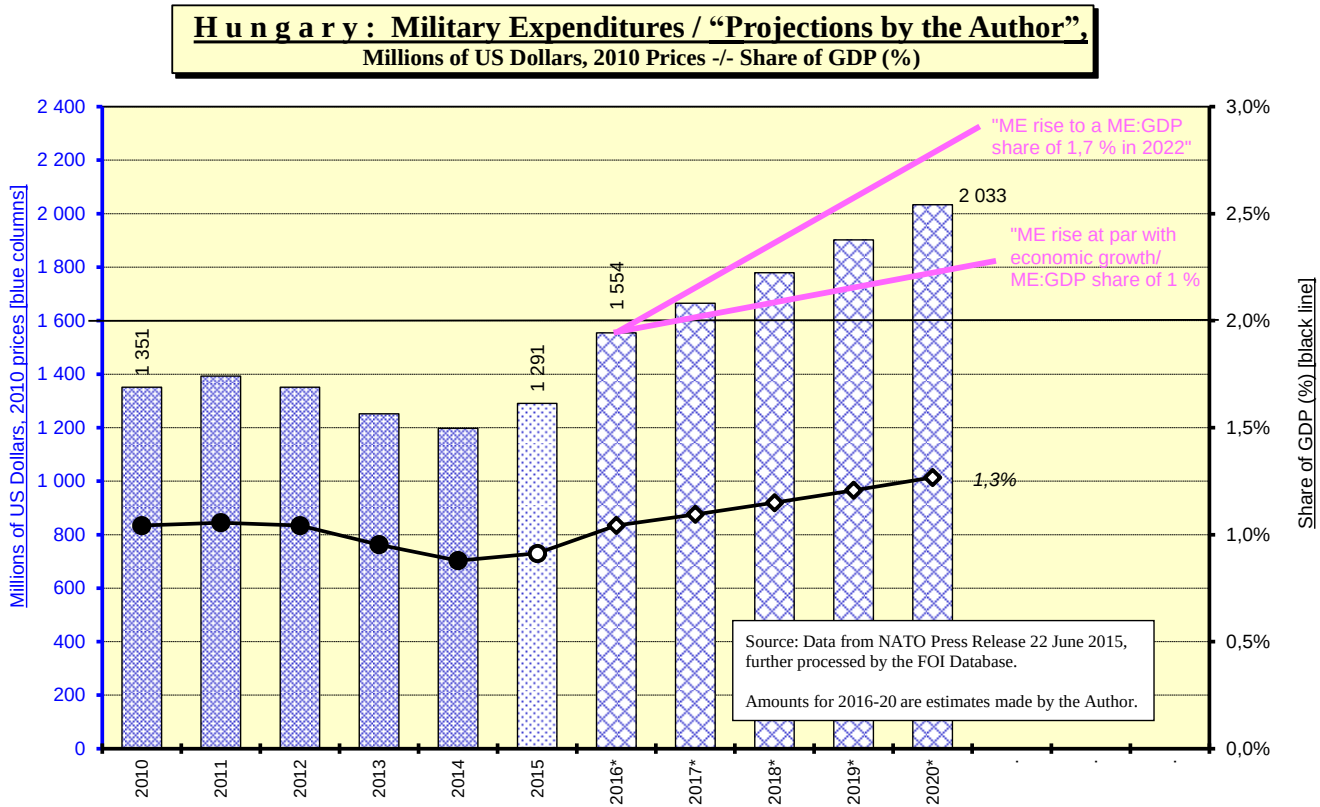
5.5 Countries with Stable Military Expenditures & A Stable ME:GDP share/ Cell 5

One NATO country – Hungary – fits this pattern, of having, at least roughly, both stable ME and a stable ME:GDP share, during the 2010-15 period (having a stable ME and a stable ME:GDP share naturally means that the GDP denominator has also been stable, that the country has neither had any significant economic growth nor suffered any economic decline.) Presumably, no NATO country will show a pattern of this kind during the coming 2015-20 period (see Table 4-3, page 31).

5.5.1 Hungary [HUN]

In Hungary, ME have roughly been stable at a level of ~1,3 billion USD during the 2010-15 period. ME did, however, decline during the three years 2012-14, though this decrease was balanced in 2015, when ME rose. Still, ME in 2015 are slightly lower than in 2010 or in 2011, though Hungary has also announced plans that ME will be increased during coming years, and Hungary has therefore been placed in this "Cell 5" for countries with stable ME. It should here, however, be noted that national Hungarian defence budgets are substantially lower than the ME reported by NATO. Hence, for 2015, the Hungarian defence budget amounted to ~250 billion forint, equivalent to a ME:GDP share of ~0,75 per cent, while NATO reports Hungarian ME as ~307

Figure 5-9 Hungary



billion forint, and a ME:GDP share of ~0,9/ 1 per cent. For 2016, the Hungarian defence budget will rise by 20 per cent to ~300 billion forint and ~1 per cent of GDP; and this would, presumably, also mean that a future NATO figure for 2016 will also rise by about ~20 per cent, to ~360 billion forint and a ME:GDP share of ~1,25 per cent. Hungary has also indicated that its ME:GDP share should be increased to ~1,4 per cent in 2022, a level which may consequently perhaps then be equivalent to ~1,7 per cent of GDP using a NATO definition.[40]

During the 2010-15 period, the Hungarian ME:GDP share has been fairly stable, at a level around ~1 per cent of GDP (Hungarian growth was also modest during this 2010-15 period). Similarly, while it has been mentioned in the discussion that ME should be raised up to 2022, such a policy has not, as far as the Author knows, been laid down in any "hard" policy document like a defence agreement or a *White Paper*.

Nonetheless, an attempt has still been made – see the "Projections by the Author" in the graph on Hungarian ME during coming years – to estimate Hungarian ME for coming years as well as an interval, indicated by the two inserted pink lines, for a low and high projection. For 2016, the noted 20 per cent increase has been included, raising Hungarian ME to ~1,55 billion USD & 1 per cent of GDP, after which further increases of ME will follow. Should ME, *on one hand*, gradually increase after 2016 so that the ME:GDP share would be around ~1,7 per cent in 2022 (using a linear estimate to the the assumed NATO equivalent of a lower nationally defined share of ~1,4 per cent), ME must increase to ~2,325 billion USD, as illustrated by the inserted top pink line in the "Projections by the Author" graph. Should ME, *on the other hand*, remain at a "1 per cent share" after 2016 and up to 2020 and only increase *at par* with economic growth, ME would rise to ~1,7 billion USD in 2020, as illustrated by the lower pink line. Hence, as a compromise between these scenarios, the columns and the curve line in the graph show a trend according to which ME gradually rise to ME:GDP share of ~1,4 per cent in 2022, suggesting that Hungarian ME (using NATO definitions) in 2020 will amount to ~2 billion USD and the ME:GDP share will be ~1,3 per cent.

BMI has published a report on Hungary with a somewhat different, even contrary, view to that of the Author, released before the announcements on ME increases were made, though the free part of this report mainly discusses Hungarian defence industrial problems and has no data on Hungarian ME,

[40] See "Budapest Rebuilds Army with 20% Increase In Defence Spending", *defense-aerospace.com*, Dated 22 June 2015 at > http://www.defense-aerospace.com/articles-view/release/3/164769/hungary-to-raise-defense-spending-by-20-in-2016.html.

which are only available in the purchased version of the report.[41] The BMI report notes the problems Hungary is facing, but seem to suggest that Hungary will manage those problems not by raising ME – as the projections by the Author suggest – but rather by calling on reserves:

> The armed forces suffer from budgetary constraints. Nevertheless, the ministry of defence plans to strengthen and boost the armed forces by means of relying more on reservists. The country sees reservists as a useful fall-back for a cash-striped military and as a useful pool of skills on which to draw.

and

> Hungary's defence expenditure is expected to fall to...[no figure stated in the free version].

[41] See "Hungary Defence & Security Report", *BMI Research*, Dated 26 November 2014 at > http://store.bmiresearch.com/hungary-defence-security-report.html.

5.6 Countries with Stable Military Expenditures & A Decreasing ME:GDP share/ Cell 6

From 2010 to 2015, one NATO country – France (albeit with some reservations) – can be said to show a pattern of this kind, of having roughly stable ME and a declining ME:GDP share. In general, a pattern of this kind has, however, not been too uncommon, meaning that ME are maintained at a stable level and that the ME:GDP share then gradually decreases, as GDP denominator grows (Sweden shows such a pattern for 2010-15[42]).

Table 4-3 (see page 31) showing 2015-20 trends will presumably also include six more countries, which – after having had declining ME 2010-15 – can be assumed to have rather stable ME during coming years, meaning that their ME:GDP shares will decrease slightly, as their GDP denominators will grow. In some of these countries, ME may even grow slightly, though at a slower pace than their economic growth rate, meaning that their ME:GDP share will continue to decrease.

5.6.1 France [FRA]

France has, on one hand, reduced, in real terms, its ME by ~5 per cent between 2010 and 2015, from ~52 billion USD in 2010 to ~49,5 billion USD in 2015.[43] Most of this decrease, on the other hand, took place in 2011, and French ME have been fairly stable since then, which is a first reason why France has been placed in this "Cell 6" and not in "Cell 9", with countries having declining ME.

Secondly, in April 2015, the French President also presented a new revised plan for French ME, with higher ME than had earlier been stated in the until then guiding *White Paper*. This French *White Paper*, published in April 2013, had then stated that "*…France will continue to devote substantial resources to defence*" but that "*defence spending in the next few years will initially be*

[42] See Bengt-Göran Bergstrand: Trendbrott… (op. cit, footnote 22, page 32) for Swedish data.

[43] It may here be added that the French Ministry of Defence publishes a "Statistical Yearbook"/ *Annuaire statistique de la Défense* with defence statistics, available at > http://www.defense.gouv.fr/sga/le-sga-en-action/economie-et-statistiques/annuaire-statistique-de-la-defense.

stabilised in terms of value…", presumably meaning frozen/ stable ME in nominal terms and, consequently, a decrease in real terms.[44]

In a BMI Report, dated 27 November 2014, obviously based on this French *White Paper*, the following comment was therefore made, suggesting that French ME would be at a slightly lower level during coming years: "…*Regarding defence spending we expect France to spend USD 53 bn on defence in 2014. We believe that France will spend an average of USD 51 bn on defence between 2015 and 2019 with the defence budget increasing to USD 52.8 by 2019...*".[45]

Terrorist attacks, and in particular the attack against the Charlie Hebdo magazine in January 2015, have, however, since then also led to certain revisions of French security policy and new plans for raising French ME. Thus in April 2015, it was stated by the French President, as noted above, that for the four years 2016-19 the French defence budget would be increased by a total of "3,8 billion euro" (by 600 million euro in 2016; 700 million euro in 2017;

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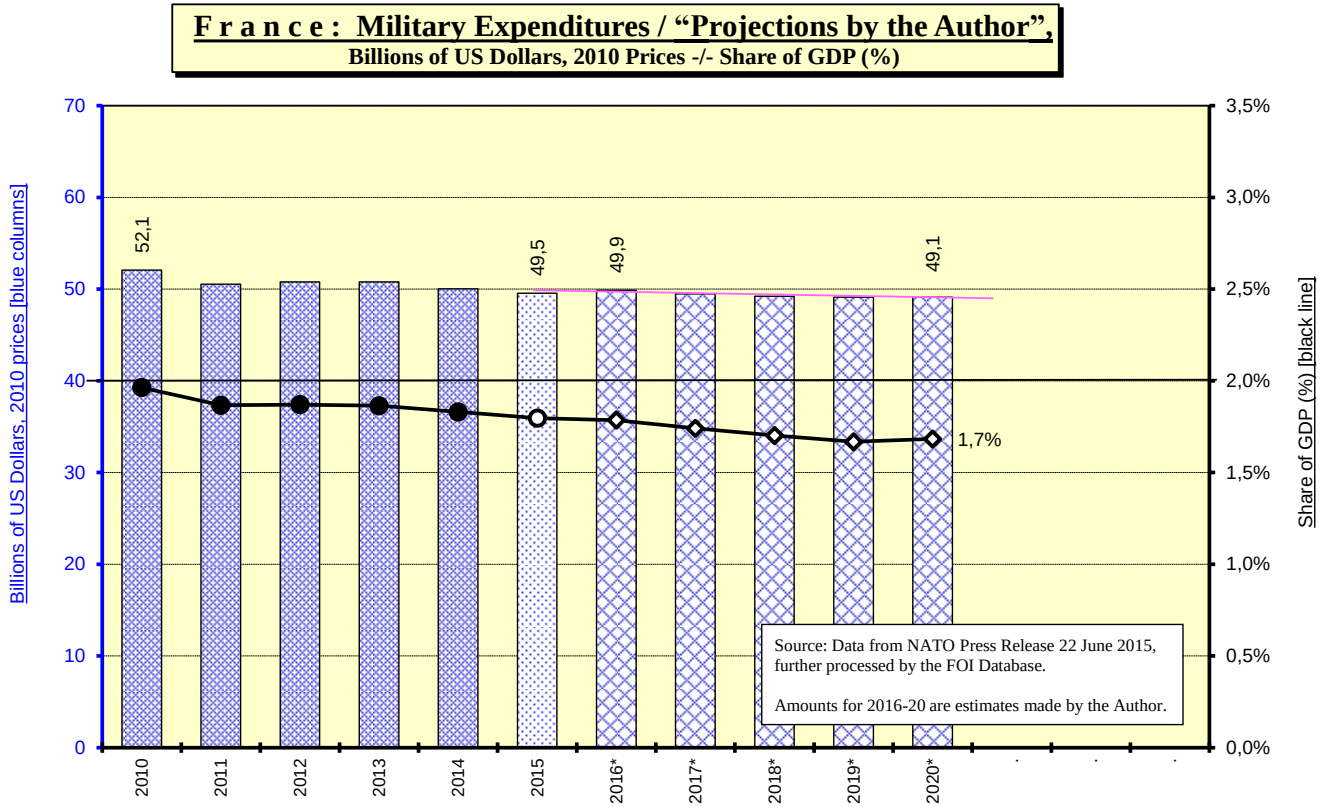
[44] This French *White Paper* is available in an English version as well as a "*12 key points summary version*" at the French Ministry of Defence web site at > http://www.defense.gouv.fr/english/portail-defense.

French defence budget and planning documents are also available at the French part of the French Ministry of Defence web site under the heading "*Budget, Finances de la Défense*" ["Defence budgets and finance"] at > http://www.defense.gouv.fr/sga/le-sga-en-action/budget-finances-de-la-defense. Long-term plans, having the form of laws called "*loi de programmation militaire*, LPM", the current plan covering the six years 2014-19, include more economic and force posture data based on the *White Paper*. Basically, this 2014-19 LPM stipulated (before the revision in April 2015) that French ME should be at a level equivalent to "31,4 billion euro" during the six year. This figure therefore suggests that French ME should be "stable", as stated in the White Paper. The noted "31,4 billion euro" amount excludes expenditures for pensions, which are included in the NATO figures, and is therefore smaller than the amount reported by NATO. See the document *PLF 2015 - 10 points - Budget de la mission défense* and also the portal for LPM at > http://www.defense.gouv.fr/portail-defense/enjeux2/politique-de-defense/la-loi-de-programmation-militaire-lpm-2014-2019/la-loi-de-programmation-militaire-lpm-2014-2019.

This figure is, however, expressed in nominal terms, and would therefore mean, with the Author's calculations based on IMF data, a decline in real terms by ~4,5 per cent for the 2015-19 period. In a *Janes* article, it is even argued that the decrease would be slightly higher, that "…*under static spending plans laid out by the Projet de Loi de Programmation Militaire (LPM) 2014-2019, defence spending in France would have effectively been cut by 7 % in real terms*…". See Fenella McGerty: "French defence budget boost swaps a 7 % cut for a 4 % jump", *IHS Janes 360*, Dated 29 April 2015 at > http://www.janes.com/article/51079/french-defence-budget-boost-swaps-a-7-cut-for-a-4-jump.

[45] See "France Defence & Security Report", *BMI Research*, Dated 27 November 2014 at > http://store.bmiresearch.com/france-defence-security-report.html.

Figure 5-10 France



1 billion euro in 2018; and 1,5 billion euro in 2019), apparently in current value.[46]

With this new add-on – see the "Projections by the Author" in the graph on French ME during coming years – French ME will be basically be stable, in real terms, instead of declining, at a level equivalent just below ~50 billion USD during the coming years 2016-19. In 2016, ME will rise slightly but then decrease during 2017-19, suggesting that ME in 2019 will be ~1 per cent lower than in 2015 (for 2020, it has just been assumed that ME, in real terms, will be the same as in 2019).[47] Using IMF deflators, the April 2015 add-on just suggest that French ME instead of decreasing, in real terms, by ~4,5 per cent would just decrease by ~1 per cent/ that is, basically be stable.

With "roughly stable" ME, the French ME:GDP share has decreased from ~2 per cent in 2010 to ~1,8 per cent in 2015 (and thus dropping below the 2 per cent level recommended by NATO). The French ME:GDP share will continue to decline slightly during coming years, to ~1,7 per cent in 2019/20 (as the numerator will decline slightly/ be stable, and economic growth increase the GDP denominator).

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[46] See "Intervention du président de la République à la suite du Conseil de Défense", *French President web site*, Dated 29 April 2015, at > http://www.elysee.fr/declarations/article/intervention-du-president-de-la-republique-a-la-suite-du-conseil-de-defense/.

See also "UPDATE 1-France lifts defence budget to tackle multiple threats", *Reuters*, Dated 29 April 2015 at > http://www.reuters.com/article/2015/04/29/france-defence-idUSL5N0XQ2IL20150429.

[47] In the article "French defence budget boost swaps a 7 % cut for a 4 % jump" (op. cit., at the end of footnote 44, page 60), it is reported that the add-on is in current prices, but when deflated to constant prices, would mean an increase in real terms by 4 per cent: "…*The April announcement reverses this trend and the defence budget will now reach EUR 32.7 billion by 2019, a 4 % increase in real terms over the 2015 budget*…" (amounts excluding expenditure for pensions). This increase of ~4 per cent is consequently therefore differs from the decline by ~1 per cent calculated by the Author, and is presumably the result of *Janes* using different estimates for future inflation than the IMF deflators used by the Author. It should also be noted that even with the higher increase calculated by *Janes*, giving a slightly higher ME:GDP share than the ~1,7 per cent estimated by the Author, the French ME:GDP share will also according to Janes be close to but still be below 2 per cent: "…*With pensions, spending will come to 1.8 % of GDP, within striking distance of the NATO mandate that members should spend 2 % of GDP on defence*…".

5.7 Countries with Decreasing Military Expenditures & An Increasing ME:GDP share / Cell 7

This cell would be applicable for a country having decreasing ME and yet an increasing ME:GDP share, meaning that the denominator GDP would be falling more rapidly than ME are decreasing. Such a pattern has also been shown by some countries during an economic crisis, for instance by some East European countries in the early 1990s. No NATO country, however, shows such a pattern during the 2010-15 period, nor is any NATO country projected to show such during the coming 2015-20 period (see Table 4-2 and 4-3 on page 31.)

5.8 Countries with Decreasing Military Expenditures & A Stable ME:GDP share/ Cell 8

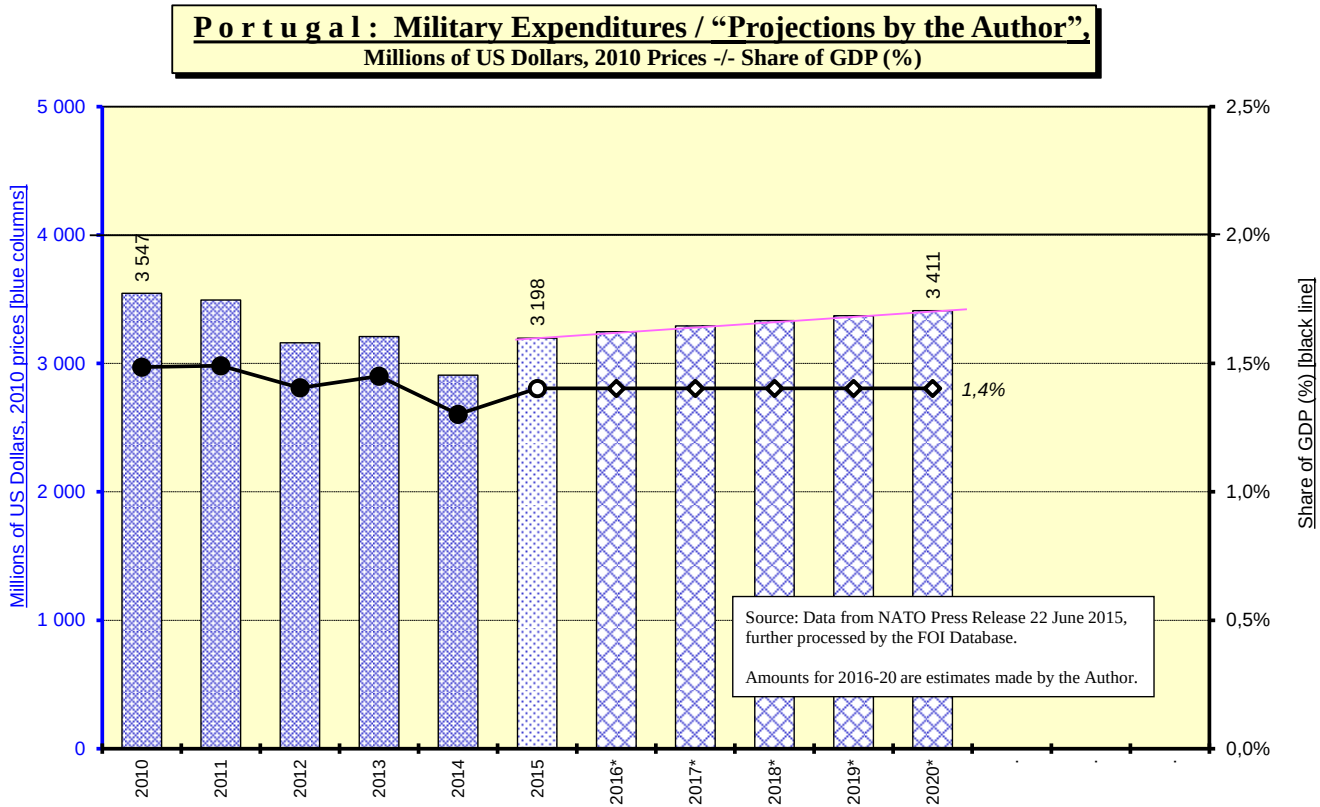
From 2010 to 2015, two NATO countries – Portugal and Spain – decreased their ME while their ME:GDP share remained stable, meaning that the ME decreases were largely *at par* with their decreases in GDP. In both these countries, ME have, however, also been fairly stable during the last years, indicating that ME may presumably be stable/ even increase slightly when GDP will also starts to rise. Presumably, no NATO country – see Table 4-3 (page 31) will show a pattern of this kind during the coming 2015-20 period.

Methodologically, it may be noted that for 2015-20, two "inverted" assumptions are made for Portugal and Spain. For Portugal, it is assumed that the ME:GDP share will be stable, meaning that Portuguese ME will increase *at par* with economic growth (placing Portugal in "Cell 2"); for Spain, it is instead assumed that ME will be stable, meaning that the Spanish ME:GDP share will then decline slightly as national income grows (placing Spain in "Cell 6").

5.8.1 Portugal [PRT]

Portugal reduced its ME, in real terms; by ~18 per cent between 2010 and 2014, from ~3,5 billion USD in 2010 to ~2,9 billion USD in 2014. In 2015, Portuguese ME were, however, increased by ~10 per cent to ~3,2 billion USD,

Figure 5-11 Portugal



meaning that ME in 2015 were only ~10 per cent lower than in 2010. In 2013, the Portuguese government adopted the "*Defesa 2020*" ("Defence 2020") plan, which stipulates that Portuguese ME should amount to/ not exceed "1,1 per cent of GDP (+/- 0,1 per cent)".[48] Obviously, this national Portuguese definition of defence result in a lower ME:GDP share than the "1,4 per cent" reported by NATO, indicating that the Portuguese national defence budget does not include some kinds of spending included in the NATO definition. Nonetheless, this Plan presumably also suggest that Portuguese ME during coming years will increase *at par* with the rate of economic growth. For the next years 2016-20, the IMF *World Economic Outlook* projects that Portuguese economic growth, after several years with negative and low growth, will average ~1,35 per cent. Thus, assuming that Portuguese ME will increase at the same pace as the economic growth rate – as has been done in the "Projections by the Author" graph on Portuguese ME during coming years – Portuguese ME, which decreased 2010-15, will instead rise from 2015 to 2020 by ~6 per cent, increasing from the current/ 2015 level of ~3,2 billion USD to ~3,4 billion USD in 2020. <There is no BMI report on Portugal.>

During the noted years of decreasing ME, Portugal also, as noted, went through a period of economic decline with negative rates of growth, meaning that the Portuguese ME:GDP share has also been roughly stable at a level around ~1,4-1,5 per cent of GDP. For the coming years 2016-20, it is presumed that the ME:GDP share will remain stable, at the noted ~1,4 per cent level.

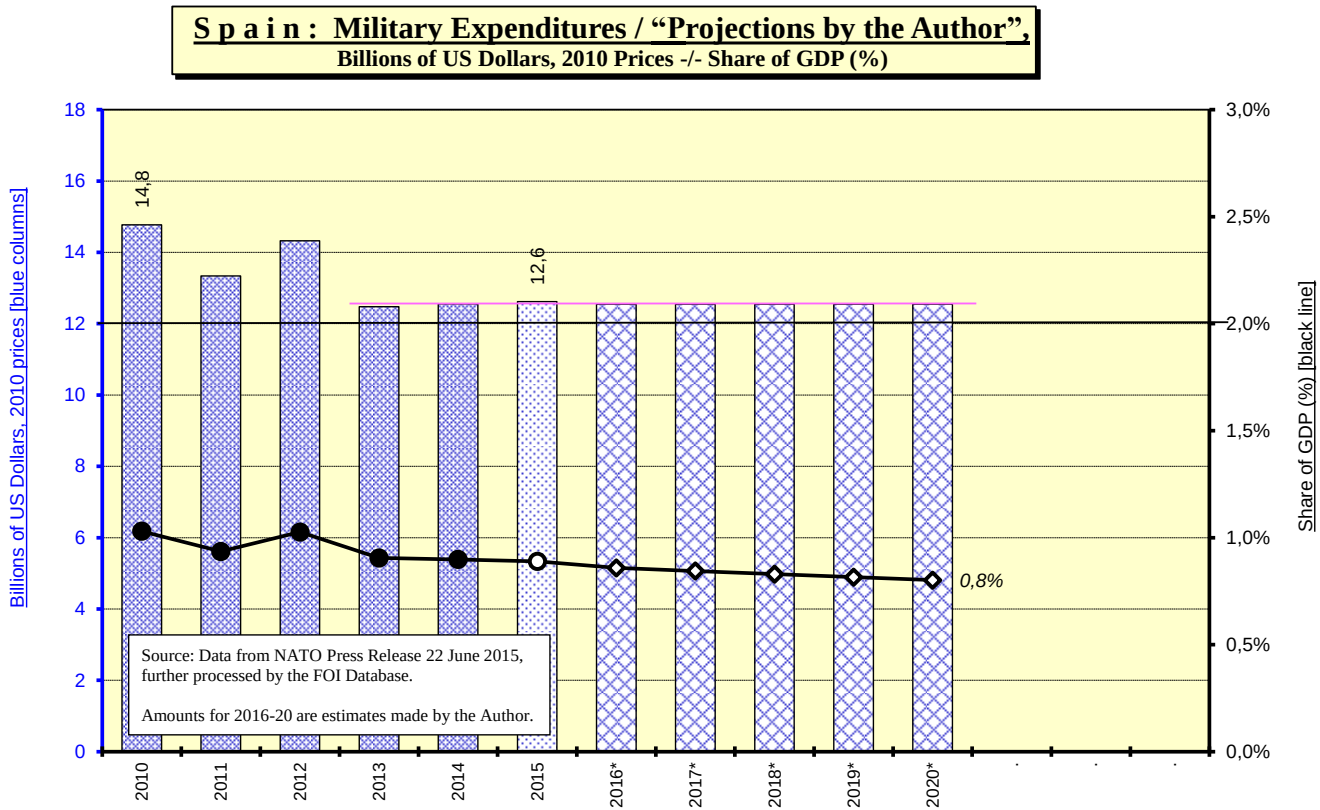
5.8.2 Spain [ESP]

In Spain, ME decreased, in real terms, by ~15 per cent from 2010 to 2013-15 – ME have been quite stable during the last three years – that is, from ~14,8 billion USD in 2010 to a level around ~12,5 billion USD during the three years 2013-15. In May 2015, it was, however, announced that the defence budget was to be increased by 857 million euro, though there is a large difference between the Spanish national defence budget and the amounts reported by NATO, with

[48] See "Defesa 2020", *Publico*, Dated 16 April 2013 at > http://www.publico.pt/portugal/jornal/defesa-2020-26387879.

See also "Resolução do Conselho de Ministros n.º 26/2013 - IV – Fatores de planeamento e orientações", *Diário da República*, 1.ª série — N.º 77 — 19 April 2013", available at > https://dre.pt/application/dir/pdf1sdip/2013/04/07700/0228502289.pdf.

Figure 5-12 Spain



NATO reporting ME figures about two thirds higher than those noted in the Spanish defence budget.[49] Hence, it seems anyway like the days of ME decreases are over in Spain, and statistically, in particular as ME have been stable during the last three years 2013-15, it may well be presumed – as has been done in the "Projections by the Author" graph on Spanish ME during coming years – that Spanish ME will remain stable, in real terms, at this noted 2013-15 level, around ~12,5 billion USD, also during coming years (or maybe even rise slightly?).

A somewhat similar view, noting roughly similar ME amounts for 2014 and for 2018/19, is put forward by BMI.[50] This BMI Report describes Spanish ME developments in the following way (the Author is, however, not certain if the cited figures refers to amounts in current or in constant prices):

> We expect Spain to spend USD 14.9 bn on defence in 2014. On average, the country has spent USD 12.9 bn annually on defence between 2011 and 2013. The level of defence spending has fluctuated during this period as a direct result of Spain's ongoing recession. For the remainder of the forecast period up to 2019, we expect Spain to spend USD 14.3 bn on defence annually, with the spending levels reaching USD 14.7 bn in the 2018/19 timeframe.

During the noted years of decreasing ME, Spain also went through a period of decline with negative rates of growth, meaning that the ME:GDP share has also been stable at a level around/just below ~1 per cent of GDP. With stable ME and a recovering economy, the ME:GDP share will basically be stable/ decrease slightly during coming years, from ~0,9 per cent in 2015 to ~0,8 per cent in 2020 (as the numerator will be stable, and with economic growth increasing the GDP denominator).

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[49] See David Ing: "Spain adds EUR 856.6 million to defence budget", *IHS Janes 360*, Dated 17 May 2015 at > http://www.janes.com/article/51512/spain-adds-eur856-6-million-to-defence-budget.

There is a significant difference between NATO reported ME and the Spanish defence budgets. Spanish defence budgets 2006-15 are available at the Spanish Ministry of Defence ["*Ministerio de Defensa*"] web site at > http://www.defensa.gob.es/ under the heading "*Presupuestos*" [Budgets]. The Spanish defence budget is a 600 page document, and if one look at the latest 2015 budget (available at > http://www.defensa.gob.es/Galerias/presupuestos/presupuesto-defensa-2015.pdf), there is a summary table on page 9 showing defence budgets for the years 2004-15. Thus, the Spanish defence budget for 2015 was "5,765 billion euro", equivalent to ~0,53 per cent of GDP, while NATO reports Spanish ME as "9,666 billion euro", equivalent to a ME:GDP share of ~0,9 per cent.

[50] See "Spain Defence & Security Report", *BMI Research*, Dated 27 November 2014 at > http://store.bmiresearch.com/spain-defence-security-report.html.

5.9 Countries with Decreasing Military Expenditures & A Decreasing ME:GDP share/ Cell 9

More than half – 15 out of 27 (excluding Iceland) – of NATO's member states show trends of declining ME as well as declining ME:GDP shares for the years 2010-15 (see Table 4-2, page 31). For many countries, this decrease is related to their financial problems, following the outbreak of the global economic crisis in 2008-09 and their policies of reducing government expenditure and have lower budget deficits, at times also related to their downscaling and withdrawal from operations in Afghanistan and/or in Iraq.

Arguably, this large group could, at least statistically, in turn also be divided into two – or even three – sub-groups, for countries which show a trend of:

a) continued ME decreases, that suggest that these countries will continue to reduce their ME also during 2016-20, much as they decreased their ME 2010-15 (and continue to show a "Cell 9" pattern);

b) gradually lower rates of ME decreases that suggest that ME may be about to be stabilised at their present/ 2015 level during coming years.

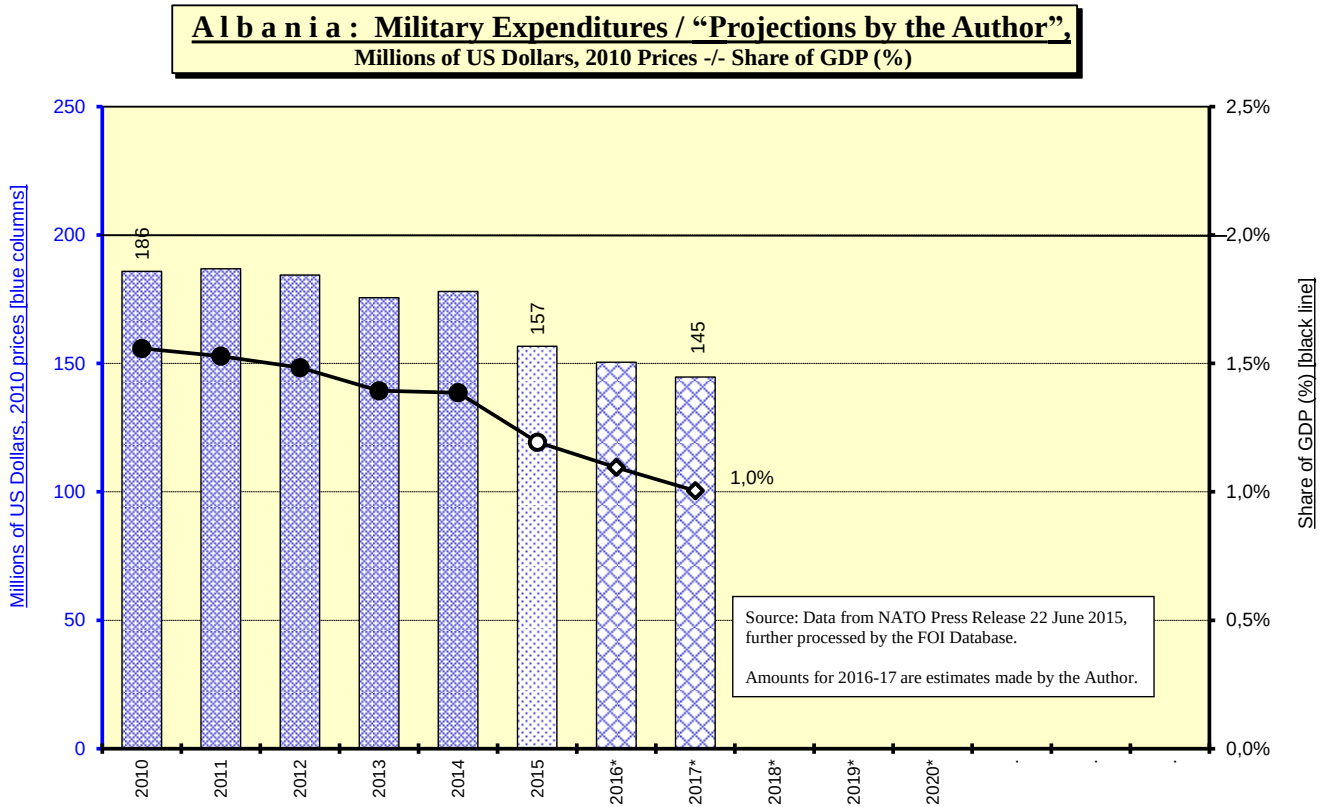
c) In theory, one could of course also have a third group of countries which would then appear to not only have stabilised but reversed the decline in their ME, if their ME – though lower than in 2010 – would have been increased significantly during the last year(s), thereby suggesting that ME may also be increasing during coming years, and that ME will at least be returned to and perhaps even surpass their 2010 levels. With the possible exception of the Czech Republic and the Slovak Republic, no NATO country, however, seems to show such a pattern.

"Group 9:a" – Five countries which show a trend of continued ME decrease

5.9.1 Albania [ALB]

Albania is a small and also poor country, having the lowest GDP per capita and also the smallest ME in absolute terms among NATO member states. Albania also reduced its ME, in real terms, by ~15 per cent between 2010 and 2015, from ~186 million USD in 2010 to ~157 million USD in 2015. While Albanian

Figure 5-13 Albania



ME were roughly stable 2010-12, they have decreased since 2013. A particularly large reduction of Albanian ME was made in 2015, thereby strengthening the impression that the current trend of decreasing ME will also prevail during coming years. Albanian budget documents show that the allocations for the Ministry of Defence– although significantly lower than the amounts reported by NATO, which reports Albanian ME in 2015 as 17,321 billion leks – will decline from 12,671 billion leks in 2015 to 12,467 billion leks in 2016 and 12,341 billion leks in 2017.[51] The amounts illustrated by "Projections by the Author" graph for 2016-17 have therefore been calculated based on these decreases, though the Author has abstained from making any estimates for the following years 2018-20. Thus, the trend of declining Albanian ME, which has marked 2010-15, will also mark the next coming years, with ME decreasing from ~157 million USD in 2015 by ~8 per cent to ~145 million USD in 2017. Eventually, the decline will presumably stabilise, possibly then also be reversed and increased, though there are, at least statistically, no signs that the decline is yet about to level off, neither at the current/ 2015 nor the projected 2017 level. <There is no BMI report on Albania.>

The Albanian ME:GDP share has decreased from ~1,6 per cent in 2010 to ~1,2 per cent in 2015. With decreasing ME, the ME:GDP share will also continue to decline to ~1 per cent in 2017.

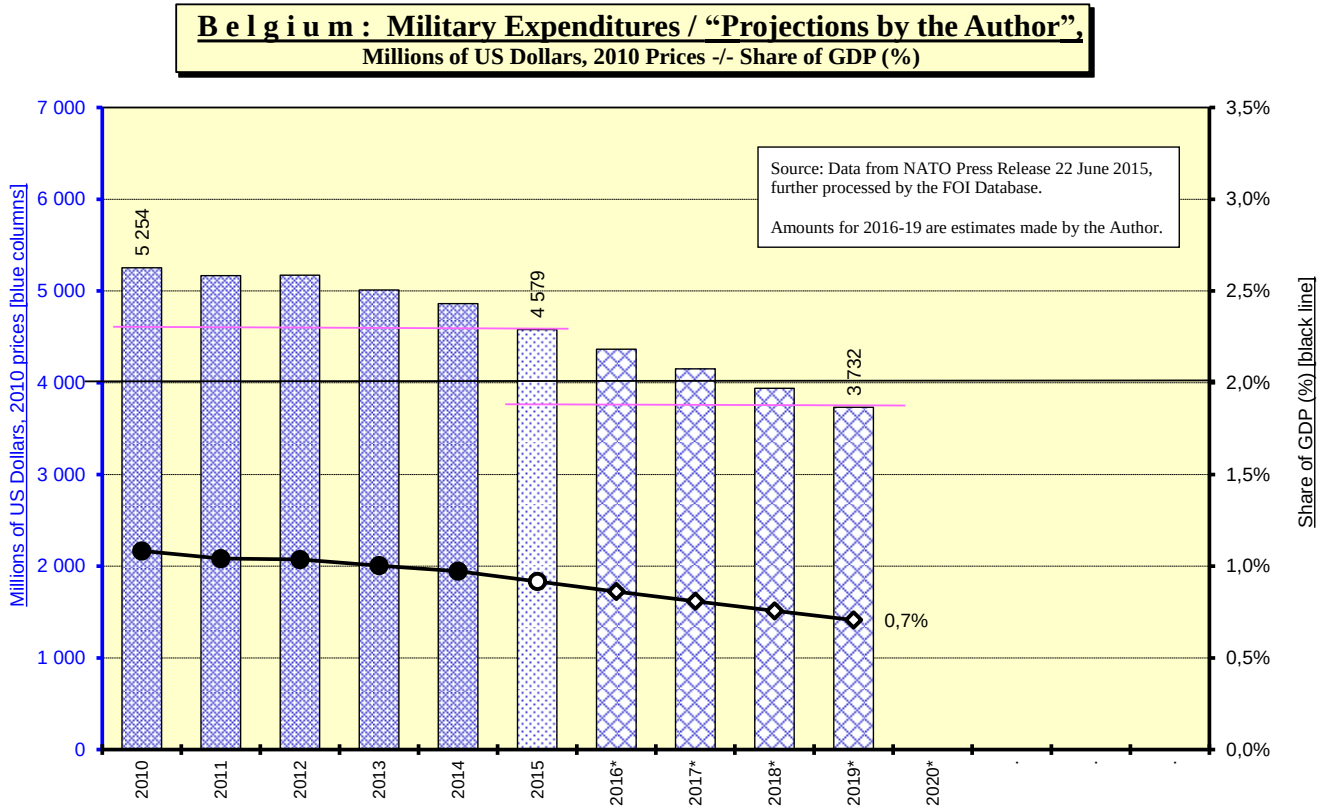
5.9.2 Belgium [BEL]

Belgium reduced its ME, in real terms, by ~13 per cent between 2010 and 2015, from ~5,3 billion USD in 2010 to ~4,6 billion USD in 2015.[52] A particularly large reduction of Belgian ME was made in 2015, thereby strengthening the impression that the current trend of decreasing ME will also prevail during

[51] See the Albanian Ministry of Finance ["*Ministria e Financave*"] .web site "Buxheti 2015" [*Budget 2015*], which shows data for the Ministry of Defence ["*Ministria e Mbrojtjes*"] at > http://www.financa.gov.al/al/legjislacioni/buxheti-thesari-borxhi/buxheti/buxheti-ne-vite/buxheti-2015 (Google translated from Albanian).

[52] Some defence statistics is provided in the official publication "The Value of Belgian Defence", Dated January 2014 (and published partly in commemoration of the outbreak of the First World War), available at > http://www.mil.be/sites/mil.be/files/files_library/waarde_belgische_defensie_-_uk.pdf. In this publication, it is noted that "…*by the fact that Defence budgets have been consistently reduced in Belgium*..." (Page 3).

Figure 5-14 Belgium



coming years. According to some Belgian government plans, the defence budget shall also be reduced from ~2,45 billion euro in 2015 to ~2,1 billion euro in 2019, reductions which the Belgian Minister of Defence, however, has protested against.[53] Thus, at least statistically, it may well be assumed that the trend of declining Belgian ME which has marked 2010-15 will continue to mark also coming years. In the "Projections by the Author" graph on Belgian ME during coming years, the said decline "from ~2,45 to ~2,1 billion euro in 2019" – presumably in current prices – has been used for making an estimate in accordance with the NATO definition and in constant prices, suggesting that Belgian ME will in such a case continue to decline and decrease by a fifth, from ~4,6 billion USD in 2015 to ~3,7 billion USD in 2019. Such a decline by about ~20 per cent from 2015 to 2019 would consequently be larger than the noted ~13 per cent by which Belgian ME were reduced by during 2010-15.

There is no BMI report on Belgium, though in another consultancy report, a large decline of Belgian ME during coming years, by ~14 per cent, is forecasted.[54]

The Belgian ME:GDP share has decreased from ~1,1 per cent in 2010 to ~0,9 per cent in 2015. With decreasing ME, the ME:GDP share will presumably also continue to decline during coming years, possibly to ~0,7 per cent if the Belgian defence budgets are decreased to ~2,1 billion euro in 2019.

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[53] See "Belgium Defence Minister want to triple defence budget by 2030", *Army Recognition*, Dated 11 June 2015 at > http://worlddefencenews.blogspot.se/2015/06/belgium-defence-minister-want-to-triple.html. In this article, it is said that "…*In 2015, Belgian Defence Minister should receive a budget of €2.45 billion and this budget should decline to €2.1 billion by 2019 if proposed cuts to reduce budget deficit are voted*..." The figure noted as the Belgian defence budget of "2,45 billion euro" for 2015 is, however, significantly smaller than the NATO reported amount of 3,8 billion euro.

The Belgian defence minister has proposed that Belgian ME should be increased, to a level around 6,3 billion euro in 2030, partly to make it possible to modernize the Belgian Air Force. See "La Belgique pourrait tripler ses dépenses militaires d'ici… 2030", *zonemilitaire opex 360.com*, 16 June 2015 at > http://www.opex360.com/2015/06/16/la-belgique-pourrait-tripler-ses-depenses-militaires-dici-2030/.

[54] In the report *Future of the Belgian Defense Industry - Market Attractiveness, Competitive Landscape and Forecasts to 2018* published by Rnrmarketresearch.com, Dated 16 July 2013, available at > http://www.rnrmarketresearch.com/future-of-the-belgian-defense-industry-market-attractiveness-competitive-landscape-and-forecasts-to-2018-market-report.html, a similar view of further Belgian defence reductions is made. In this report, it is noted that: "…*The Belgian defense budget, valued at US$ 3.6 billion in 2013, is estimated to register a CAGR of -2.82% to reach US$ 3.1 billion by 2018. This decrease in spending is expected to be primarily due to the country's public debt, which will force Belgium to cut its defense budget over the forecast period*…". The noted decline from ~3,6 to ~3,1 billion USD in 2018, suggest a decrease – possibly in current prices – by ~14 per cent, is then comparable to the decrease by a fifth, in real terms, projected by the Author.

5.9.3 Bulgaria [BGR]

Bulgaria reduced its ME, in real terms, by more than ~25 per cent between 2010 and 2015, from ~834 million USD in 2010 to ~610 million USD in 2015. A particularly large reduction of Bulgarian ME was made first in 2011 but also in 2014 and 2015, thereby strengthening, at least statistically, on one hand, the impression that the current trend of decreasing ME will also prevail during coming years.

On the other hand, the security environment close to Bulgaria has deteriorated during the last years, and the Defence Minister has presented a plan for modernisation, which would make it necessary to raise ME. The Bulgarian Parliament has, however, declared that it will reject new ME increases, and not implement any policy raising the ME:GDP share to 2 per cent, despite the pledges of the Bulgarian President to do so.[55] Given this political background, providing a projection on future Bulgarian ME is therefore not an easy task but also related to the internal political situation in Bulgaria.

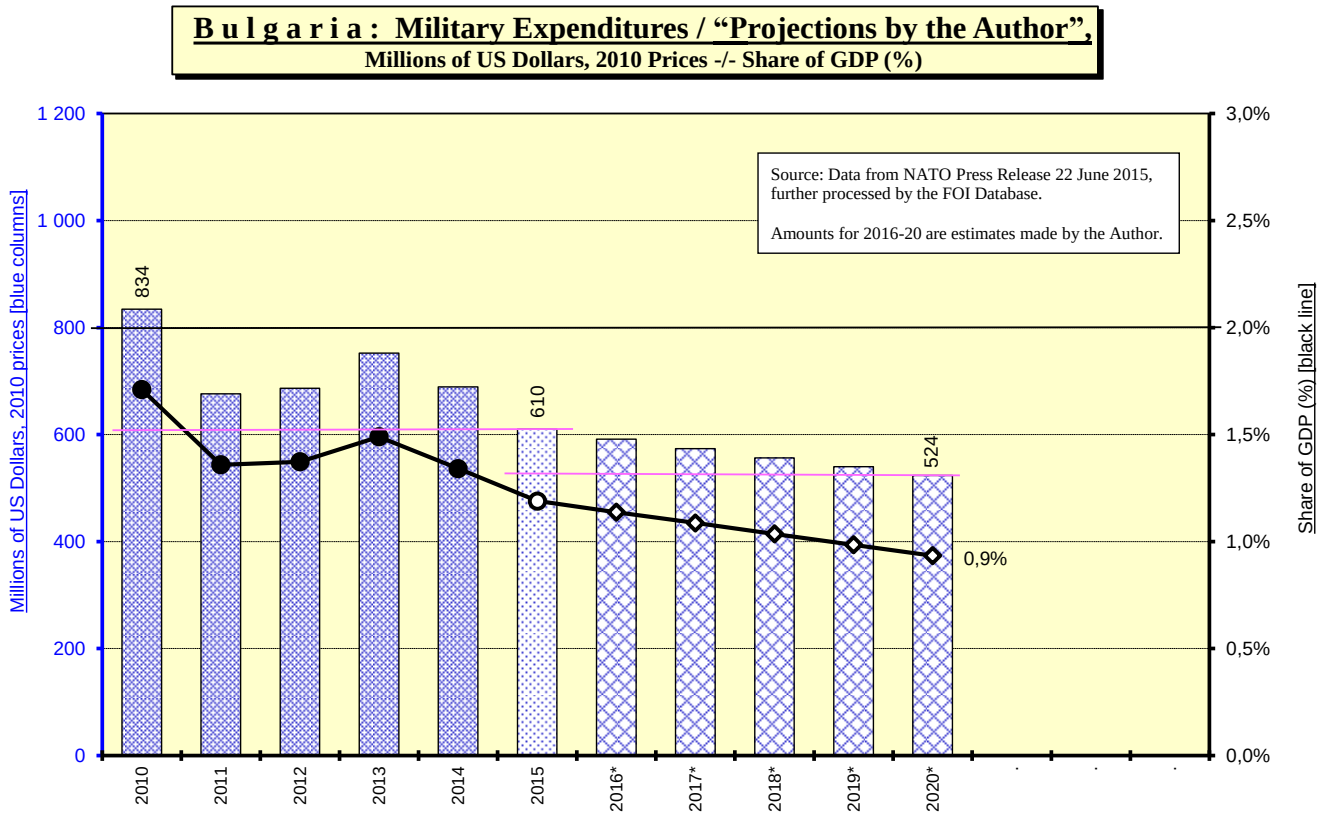
In the "Projections by the Author" graph on Bulgarian ME during coming years, a decrease for 2015-20 about half the size of the decrease made 2010-15 has therefore simply been assumed, presuming that ME will, on average, decrease at a rate of ~3 per cent annually, as a compromise between stable ME and the annual rate of ~6 per cent by which Bulgarian ME decreased 2010-15. Hence, based on such an assumption of a ~3 per cent annual decrease 2015-20, Bulgarian ME will decrease by ~13 per cent between 2015 and 2020, from ~610 million USD in 2015 to ~524 million USD in 2020.

BMI also notes in a report, that a programme of modernisation was put forward in August 2014, but also concludes that the programme is not too concrete and that it by no means is certain that the programme will be implemented.[56] The free version of the BMI report does not include any ME figures, but give the

[55] See Zachary Fryer-Biggs: "Bulgarian parliament pushing back on defence hikes", *IHS Janes 360*, Dated 22 March 2015 at > http://www.janes.com/article/50127/bulgarian-parliament-pushing-back-on-defence-hikes.

[56] See "Bulgaria Defence & Security Report", *BMI Research*, Dated 31 October 2014 at > http://store.bmiresearch.com/bulgaria-defence-security-report.html.

Figure 5-15 Bulgaria



following appraisal of Bulgarian defence economics:

> On 18th August 2014, Bulgarian defence minister Yelizar Shalamanov announced a USD 680mn programme to modernise the equipment used by the country's armed forces. Shalamanov reiterated his commitment to procuring a new Multi-Role Combat Aircraft (MRCA) for the Bulgarian Air Force. In addition, the minister stated that a new conventional hunter-killer (SSK) submarine will be procured for the navy along with several new surface vessels for the force. No details were given by Shalamanov regarding how many MRCA will be procured, which aircraft will be procured, the likely budget for the acquisition… Similar information was not forthcoming regarding the navy's SSK requirement or the new surface vessels that it intends to procure. Until such details are articulated, such potential purchases can be regarded only as an armed forces 'wish list' rather than a concrete plan for a modernisation.

The Bulgarian ME:GDP share has decreased from ~1,7 per cent in 2010 to ~1,2 per cent in 2015. With decreasing ME, the ME:GDP share will presumably also continue to decline during coming years, possibly to ~0,9 per cent, if Bulgarian ME will decrease to the assumed level of ~524 million USD in 2020.

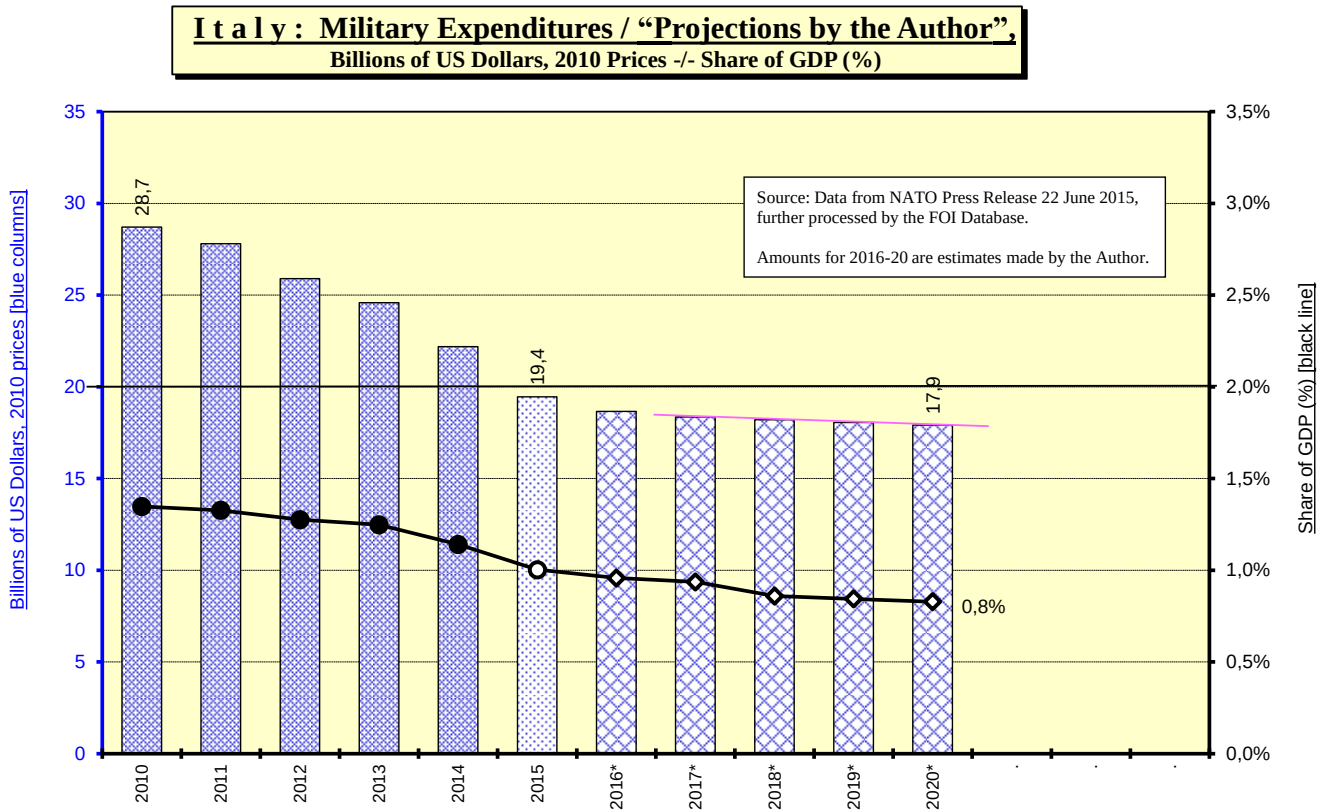
5.9.4 Italy [ITA]

Italy reduced its ME, in real terms, by a third between 2010 and 2015, from ~28,7 billion USD in 2010 to ~19,5 billion USD in 2015.[57] A particularly large reduction of Italian ME was made in 2015, thereby strengthening the impression that the current trend of decreasing ME will also prevail during coming years.[58] The Guidelines for Italian ME for coming years – a document called the "Multiyear Programme Document"/ "*Documento Programmatico*

[57] See Giovanni Martinelli: "Bilancio della difesa 2015: I (drammatici) conti definitivi", *i Documenti di Analisi Difesa*, No 161, Dated March 2015 at > http://www.analisidifesa.it/2015/03/bilancio-della-difesa-2015-i-drammatici-conti-definitivi/ (Google translated from Italian). The full PDF version of this article contains some comprehensive tables and graphs on Italian ME developments for the ten years 2006-15.

[58] See "New Ships, Vehicles for Italy Amid Cuts", *Defense News*, Dated 13 January 2015 at > http://www.defensenews.com/story/defense/policy-budget/budget/2015/01/13/italy-budget-freccia-satellite-cosmo-skymed/21460287/.

Figure 5-16 Italy



Pluriennale", (DPP), – was presented in May 2015, providing the following data on Italian defence budgets (in millions of euro):[59]

Table 5-1 Italian Defence Budgets 2010-17

	2010	2011	2012	2013	2014	2015	2016	2017
Budget: Current Prices	20 364	20 557	19 962	20 702	20 312	19 371	18 861	18 847
Budget: 2010 Prices	20 364	20 016	18 871	19 282	18 881	17 899	17 170	16 887
Change (%)		*-1,7%*	*-5,7%*	*2,2%*	*-2,1%*	*-5,2%*	*-4,1%*	*-1,6%*

The noted amounts for Italian defence budgets are somewhat larger than the amounts reported by NATO, but have still been used for the estimates made in the "Projections by the Author" graph on Italian ME during coming years. Hence, according to the official DPP, Italian ME will decrease, in real terms, by ~4,1 per cent in 2016 and by ~1,7 per cent in 2017, and applying those decreases to the 2015 NATO figure indicate that Italian ME will decrease from ~19,5 billion USD in 2015 to ~18,4 billion USD in 2017. The trend, given the particularly large reduction of Italian ME which was made in 2015, thereby strengthens the impression that the current trend of decreasing ME continues, albeit at a lower rate, perhaps to make it possible to carry out a modernisation programme, also involving the acquisition of new fighter aircraft, during the next years. The estimates made in the "Projections by the Author" graph are based on the assumption that Italian ME will continue to decrease also during 2018-20, in real terms by a presumed rate of ~0,8 per cent per year (half the rate of decrease in 2016-17, as a compromise between stable ME and the higher rate of decrease to be experienced 2016-17), from the noted figure of ~18,4 billion USD in 2017 to ~17,9 billion USD in 2020.

[59] The DPP is available at "Budget portal" ["*Bilancio preventive*"] of the Italian Ministry of Defence ["*Ministero della Difesa*"] at > http://www.difesa.it/Amministrazionetrasparente/bilandife/Pagine/Bilanciopreventivoeconsuntivo.aspx (short cut > http://www.difesa.it/Approfondimenti/Bilancino2010/Documents/DPP%202015-2017.pdf). The cited amounts are shown in the graph "Evoluzione degli stanziamenti previsionali per la Difesa Anni 2010-2017" ["*Evolution of Defence Budgets/Appropriations for the years 2010-2017*"] in the "Appendice 1/5", III:3.

See also Giovanni Martinelli: "Il Documento Programmatico Pluriennale per la Difesa 2015-2017", *Analisi Difesa*, Dated 24 May 2015 at > http://www.analisidifesa.it/2015/05/il-documento-programmatico-pluriennale-per-la-difesa-2015-2017/.

BMI suggests, however, that we may possibly see an end to the decline and even a reverse to an increase.[60] The BMI Report describes Italian ME developments in the following way, though without providing any ME figures in the free version of the report:

> Although Italy is home to a large defence sector and is a major exporter of defence equipment, the country has in recent years suffered a downturn in defence spending. Italy has experienced a year-on-year reduction in defence expenditure since the start of the decade. This has occurred against the wider backdrop of the economic slowdown which Italy has faced. Defence expenditure has therefore been cut in line with the Italian government's overriding policy of trying to reduce government spending. That said, there is cautious optimism that defence spending will increase in Italy in the coming years.

The Italian ME:GDP share has decreased from ~1,4 per cent in 2010 to ~1 per cent in 2015. With decreasing – or even stable – ME, the Italian ME:GDP share will presumably also continue to decline during coming years. The estimates made in the "Projections by the Author" graph suggest that the ME:GDP share will decline to ~0,9 per cent in 2017 and to ~0,8 per cent in 2020.

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[60] See "Italy Defence & Security Report", *BMI Research*, Dated 13 May 2015 at > http://store.bmiresearch.com/italy-defence-security-report.html.

Some surprising data on Italian ME are presented in another consultancy report, *Future of the Italian Defense Industry - Market Attractiveness, Competitive Landscape and Forecasts to 2019* published by Rnrmarketresearch.com, Dated 18 February 2014, and available at > http://www.rnrmarketresearch.com/future-of-the-italian-defense-industry-market-attractiveness-competitive-landscape-and-forecasts-to-2019-market-report.html. In this report, the following comment is made:

> In 2014, the Italian government allocated US$ 27.67 billion for the total defense budget which recorded a CAGR of 5.18 % during 2010 to 2014. Defense expenditure is inclusive of the expenditure on the defense function, homeland security, and other expenses. Italian defense expenditure is primarily driven by increasing terrorist threats, participation in peacekeeping initiatives, replacing the ageing military equipment, and the modernization of defense forces with advanced technology equipment. The defense function stood at US$ 19.13 billion in 2014 and is expected to increase at a CAGR of 3.09% during the forecast period, to reach US$ 22.32 billion in 2019. Capital expenditure will also see a marginal increase which is anticipated to grow at 5.16% due to the country's heavy procurement pattern during the forecast period. The Italian defense industry is expected to focus on modernization of the armed forces by implementing various procurement programs that include F-35 Joint Strike Fighter project. Typhoon multirole combat aircraft, FREMM frigates, NH 90 helicopters, and Medium Extended Air Defense System (MEADS) program.

Hence, this report suggest – and contrary to both official Italian statistics and the NATO reported data – that Italian ME increased 2010-14, and that Italian ME are projected to rise also during coming years, up to 2019!

5.9.5 Netherlands [NLD]

Netherlands reduced its ME, in real terms, by ~10 per cent between 2010 and 2015, from ~11,2 billion USD in 2010 to ~10 billion USD in 2015. Notably, most of this decrease took place during the first part of the 2010-15 period, from 2010 to 2013 and since the 2013 low of ~9,8 billion USD, Dutch ME have even been increased slightly. Such a pattern suggests, at least statistically, that Dutch ME may possibly, on one hand, be about to stabilise at a level ~10 billion USD during coming years.[61]

The Defence budget draft, on the other hand, presented in September 2014, included a table (amounts in millions of euro, current prices) with the amounts shown in the first row in the table below. Hence, according to this defence budget table, the increases in 2014-15 are somewhat temporary and ME will decrease slightly, in nominal terms, from ~8 billion euro to ~7,9 billion euro in 2019.[62]

Table 5-2 Dutch Defence Budgets 2013-19

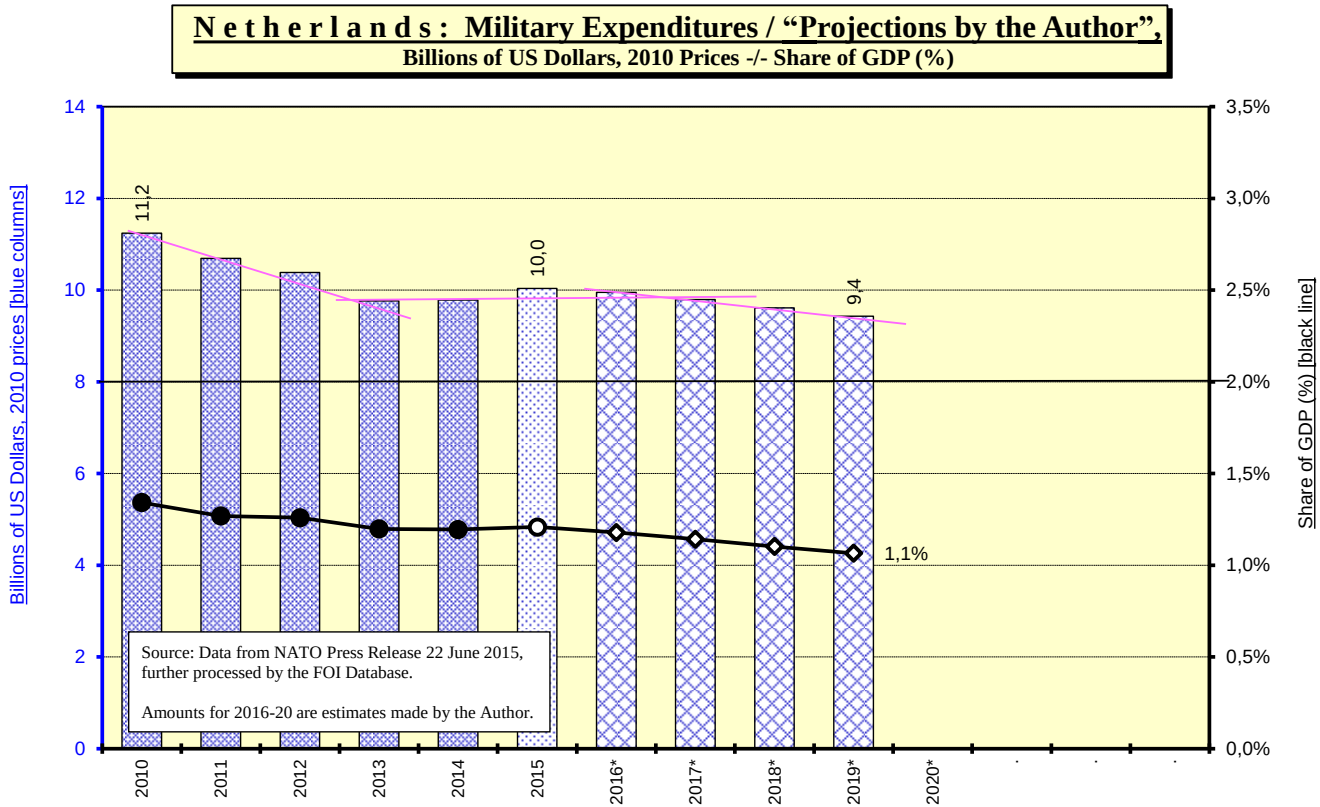
	2013	2014	2015	2016	2017	2018	2019
Current prices	7 702,1	7 887,1	8 000,4	7 996,8	7 961,5	7 921,6	7 891,5
2010 prices	7 127	7 275	7 390	7 325	7 212	7 076	6 945
Change (%)		*2,1%*	*1,6%*	*-0,9%*	*-1,5%*	*-1,9%*	*-1,8%*

Notably, the amounts presented in this "2015 defence budget" are the same amounts as have been reported by NATO, and the budget figures have therefore been used when the "Projections by the Author" graph has been drawn on Dutch ME during coming years. Converting the Dutch budget figures to

[61] See Menno Steketee: "Dutch to increase defence spending", *IHS Jane's 360*, Dated 19 September 2014 at > http://www.janes.com/article/43371/dutch-to-increase-defence-spending. In this article, it is noted that the Dutch Defence Minister Jeanine Hennis-Plasschaert said on 16 September 2014, that 24 years of defence decline was to be reversed, and it was stated that "*…defence spending is set to rise by EUR50 million (USD65 million) in 2015 to EUR7.3 billion, with further rises of EUR150 million in 2016 and EUR100 million in the following years*…".

[62] In Netherlands, budgets are presented to the Parliament in mid-September on the so called "Prinsjesdag", and budgets are then also published on the Dutch Government/ Ministry of Finance web site, at > http://www.rijksoverheid.nl/onderwerpen/prinsjesdag/miljoenennota-rijksbegroting-en-troonrede/prinsjesdagstukken. The Defence budget is found at the link "X Defensie Rijksbegroting 2015". A table (page 18) in this document, gives the amounts for Dutch defence budgets which are here reproduced in Table 5-2.

Figure 5-17 Netherlands



constant prices therefore indicates that Dutch ME will decrease by ~6 per cent from 2015 to 2019, from ~10 billion USD in 2015 to ~9,4 billion USD in 2019. <There is no BMI report on Netherlands.>

The Dutch ME:GDP share has decreased from ~1,3 per cent in 2010 to ~1,2 per cent in 2015, and will continue to decrease slightly to ~1,1 per cent in 2019.

"Group 9:b" – Ten NATO countries which show a trend of gradually lower rates of ME decrease, indicating that ME may possibly be stabilising (or even being reversed to increased ME)

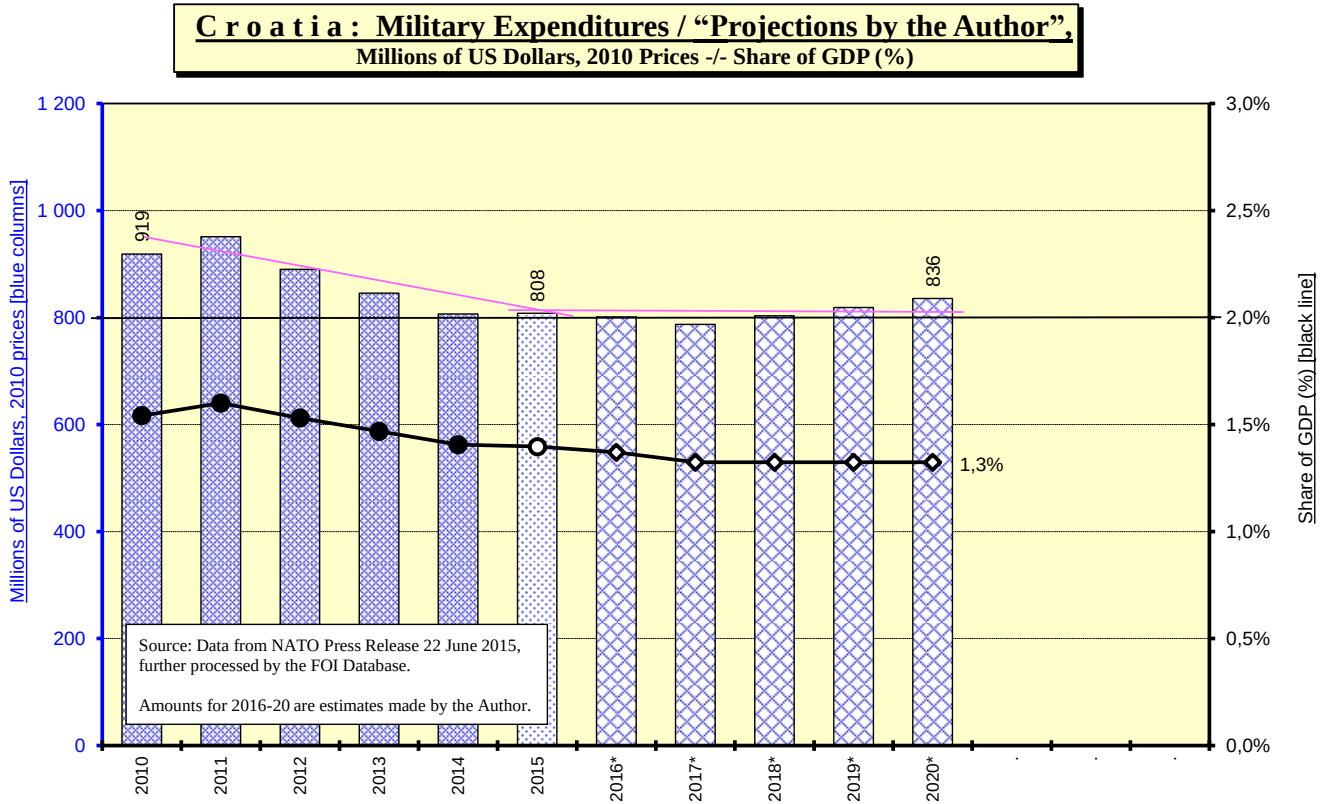
5.9.6 Croatia [HRV]

Croatia reduced its ME, in real terms, by ~12 per cent between 2010 and 2014/15, from ~919 million USD in 2010 to ~808 million USD in 2014/15. Hence, while Croatian ME, on one hand, are lower than they were five years ago, the pace at which ME were reduced has, on the other hand, gradually declined, and in 2015, Croatian ME even increased slightly, albeit by only ~1 million USD (~0,2 per cent).

According to the 2015 Croatian budget, ME will, however, not be stable during the next two years but decrease by ~0,9 per cent in 2016 and by ~1,7 per cent in 2017.[63] At a visit by the NATO Secretary-General to Croatia in July 2015, Croatia, however, declared that "…*The Republic of Croatia has decided to halt the defence budget decline, and the decision is now being implemented; our*

[63] Croatian budget documents are available at the Croatian Ministry of Finance ["*Ministarstvo financija*"] web site at > http://www.mfin.hr/hr/drzavni-proracun-2015-godina. By clicking the Excel document called "Posebni dio Državnog proračuna Republike Hrvatske za 2015. godinu i projekcije za 2016. i 2017. Godinu" ["A special part of the State budget of the Republic of Croatia for the year 2015 and projections for year 2016 and 2017"], one may discover that expenditure for "*Ministarstvo Obrane*" ["Ministry of Defence", data shown at Excel row 2409] will amount to 4 273; 4 274 and 4 262 million kunas during 2015-17, respectively (Google translated from Croatian.). While these amounts are lower than those reported by NATO, they have still been used for estimating NATO equivalent figures for 2016-17.

Figure 5-18 Croatia



intention is to ensure the defence budget follows the growth of the GDP…".[64] For the three years 2018-20, Croatian ME have therefore been assumed to increase *at par* with the rate of economic growth. According to the estimates made illustrated by the "Projections by the Author" graph and also illustrated by the inserted pink trend lines, Croatian ME will continue to decrease slightly during the two next years 2016-17 but then increase slightly from 2018, giving an overall trend for the next five years 2016-20 of roughly stable ME, at a level ~810 million USD. In short, after the decline Croatian ME experienced from 2010/11 to 2014 (in one sense up to 2017), Croatian ME are now in the process of being stabilised.

BMI has published a report on Croatia though the free part of this report mainly discusses Croatian defence industrial capacities and has no data on Croatian ME, which are only available in the purchased version of the report.[65]

The Croatian ME:GDP share has decreased from ~1,6 per cent in 2010/11 to ~1,4 per cent in 2015, and will presumably continue to decrease slightly to ~1,3 per cent in 2017, after which the ME:GDP share will then be stable as ME will be increased *at par* with the economic growth rate.

5.9.7 Czech Republic [CZE]

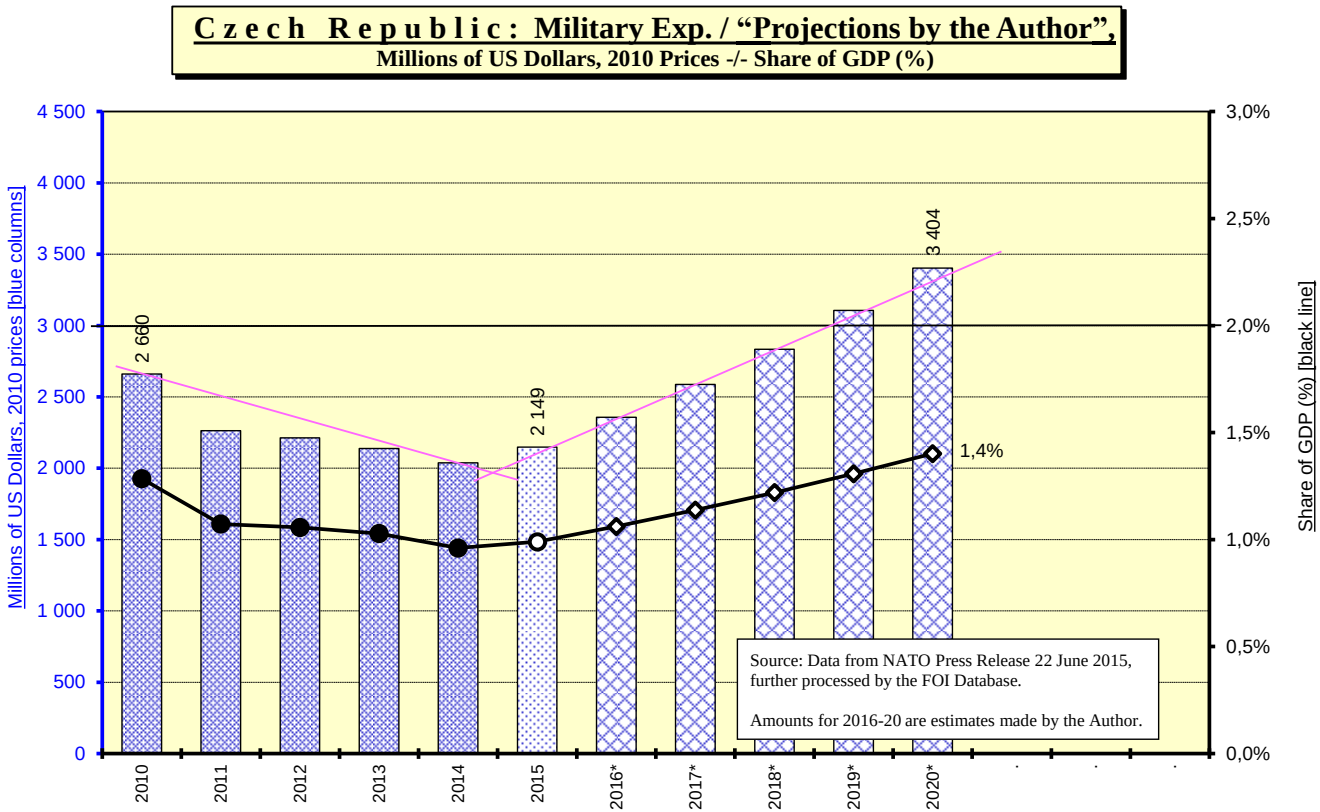
The Czech Republic reduced its ME, in real terms, by a quarter between 2010 and 2014, from ~2,7 billion USD in 2010 to ~2 billion USD in 2014; a particularly large reduction was made in 2011, after which the decreases were slower.

In 2015, Czech ME were, however raised. This was in line with a change in Czech security policy. On 2 September 2014, the Czech political parties reached an agreement – as a result of the conflict in Ukraine – to raise ME. This agreement stipulated that "…*In 2015, the defence budget will meet the increase*

[64] See "NATO Secretary General visits Croatia", *Croatian Ministry of Defence Press Release*, Dated 10 July 2015 at > http://www.morh.hr/en/news/press-releases/11635-nato-secretary-general-visits-croatia.html.

[65] See "Croatia Defence & Security Report", *BMI Research*, Dated 11 May 2015 at > http://store.bmiresearch.com/croatia-defence-security-report.html.

Figure 5-19 Czech Republic



in accordance with the authorised 2015-19 Defence Development Plan, i.e.CZK 43.5 billion. The Czech defence budget will continue to increase progressively till 2020, when it will reach 1.4 % GDP…" and "…"*The defence budget will not drop under 1.4% GDP till 2024...*".[66] Notably, there is not any big difference between national Czech budgets and amounts reported by NATO.[67] For the next years 2015-20, the IMF *World Economic Outlook* projects that Czech economic growth will average ~2,4 per cent (with the Czech GDP increasing from ~4 265 billion koruny in 2015 to ~4 665 billion koruny in 2020). In the "Projections by the Author" graph on Czech ME during coming years, it has therefore been assumed that the Czech ME:GDP share will gradually rise from its current/ 2015 level of 1 per cent to 1,4 per cent in 2020.

The Agreement says that the increase should be made "progressively", but the Author is not certain if this suggests a gradual linear rise, by ~0,07 per cent each year, or a rise following an exponential pattern, with smaller increases during the very next years and larger increases at the end of the period. The calculations made in the "Projections by the Author" graph have, for simplicity, therefore been drawn based on the assumption of linear increases. Hence, with an increase of the ME:GDP share to "1,4 per cent", Czech ME will be nearly ~60 per cent higher in real terms, increasing from the current/ 2015 level of ~2,1 billion USD to ~3,4 million USD in 2020. It may here also be noted that the Slovak Republic (see the section on the Slovak Republic on page 95) has made similar pledges of raising its ME to a higher ME:GDP share. Thus, if the announced increases are implemented in full, as illustrated by the inserted pink lines in the graph, the Czech Republic and the Slovak Republic will be the (only) two NATO countries which during coming years will clearly reverse their earlier policy of decreasing ME, having marked the 2010-15 period, to a new policy of rising ME, whereby their ME in 2020 will also be significantly higher than they were in 2010.

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[66] See "IV. Budget implications of the Czech Republic's defence requirements", *Agreement of the coalition parties on ensuring defence of the Czech Republic*, Dated 2 September 2014, available at > http://www.army.cz/en/ministry-of-defence/newsroom/news/czech-governmental-coalition-sign-agreement-on-the-progressive-increase-of-the-defence-budget-101455/. (In addition, it is also worth noting that this Agreement also explicitly discusses transparency issues, and stress that the development of Czech security must be implemented with an open attitude.)

See also Jiri Kominek: "Czech Republic plans defence spending rise", *IHS Janes 360*, Dated 3 September 2014 at > http://www.janes.com/article/42734/czech-republic-plans-defence-spending-rise.

[67] The Czech Ministry of Defence has a commendable defence budget portal (in English), with defence budget data since 1993, at > http://www.army.cz/scripts/detail.php?id=5760.

BMI also believes that Czech ME will increase during coming years, but much less so than the Author, even though the BMI report was issued after that the September 2014 Agreement was reached.[68] BMI describes Czech ME developments in the following way (albeit that the Author is not certain if the cited figures refers to amounts in current or in constant prices, and the reported increase from ~2,1 billion USD in 2015 to ~2,6 billion USD in 2018 suggest a rise by ~24 per cent):

> The Czech Republic is expected to spend up to USD 2.1bn on defence in 2015, according to BMI's forecasting. The past four years has seen a reduction in defence spending as the country has grappled with wider government spending and economic challenges. We do not expect defence spending in the Czech Republic to increase significantly over the remainder of the forecast period, up to and including 2018, by which time we expect annual defence spending to have reached USD 2.6bn.

The Czech ME:GDP share has decreased from ~1,3 per cent in 2010 to ~1 per cent in 2015, and will – in line with the previously discussed Agreement – gradually increase to "1,4 per cent" in 2020.

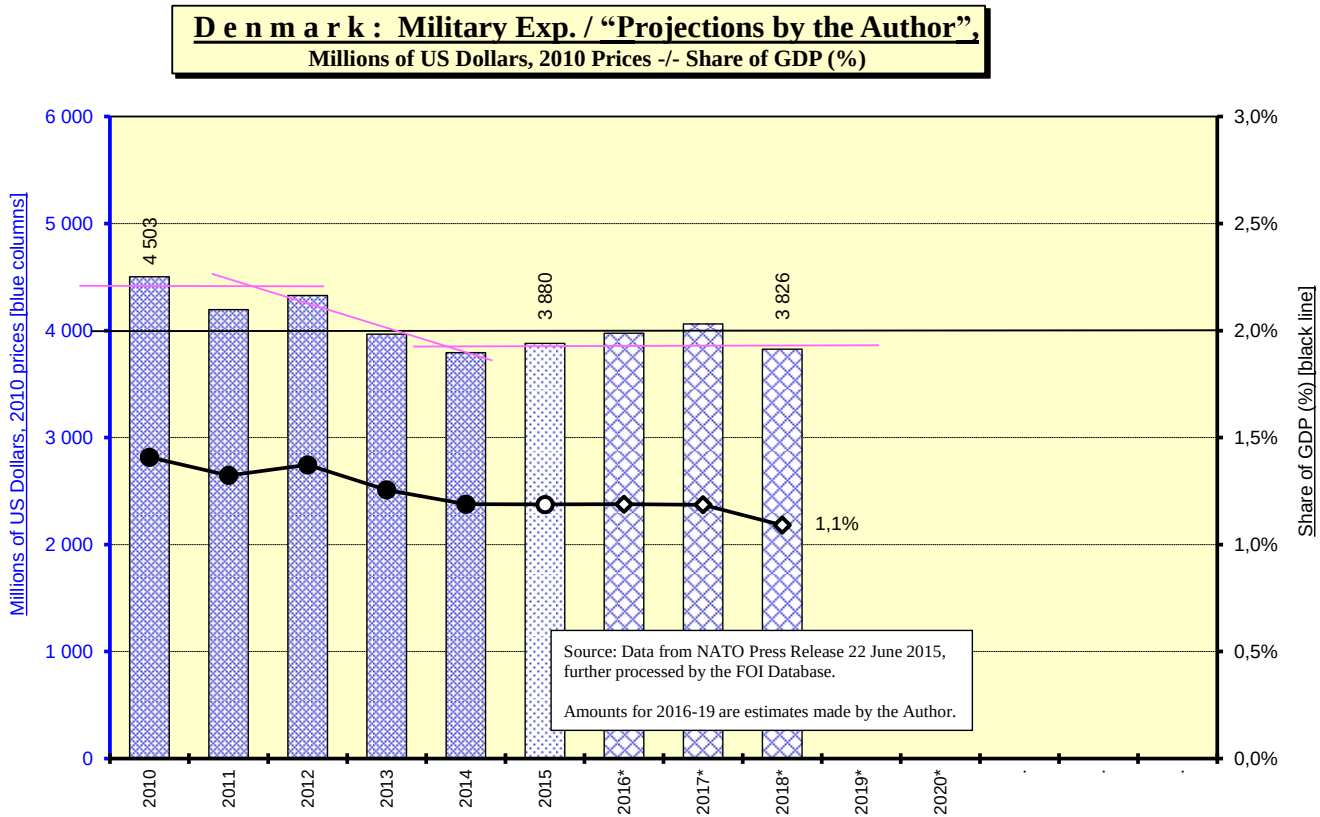
5.9.8 Denmark [DNK]

Denmark reduced its ME, in real terms, by ~15 per cent between 2010 and 2014/15, from ~4,5 billion USD in 2010 to ~3,8 billion USD in 2014/15. It may here be added that from the early 1970s up to around 2010/12, Danish ME lay at a stable level, around ~4,4 billion USD, with very small variations from one year to another (indicated by the first pink line in the "Projections by the Author" graph, which has been drawn so that it crosses the y-axis).

In Denmark, issues relating to defence and ME are decided by five-year *Defence Agreements*, adopted by parliamentary majority. The current Defence

[68] See "Czech Republic Defence & Security Report", *BMI Research*, Dated 21 November 2014 at > http://store.bmiresearch.com/czech-republic-defence-security-report.html.

Figure 5-20 Denmark



Agreement, covering the years 2013-17, was adopted in November 2012.[69] This Agreement stated that Danish ME were to be reduced during the period 2013-17:

> The agreement establishes that as of 2017, the defence must save 2.7 billion DKK annually in order to contribute to the coherence of the public finances, with the purpose of correcting Denmark's course. The agreement implicates that the annual defence expenditure will be reduced by 2.5 billion DKK in 2015, 2.6 billion in 2016, and 2.7 billion as of 2017.

Data on Danish ME, based on this Defence Agreement, are also shown on the Danish Ministry of Defence web site. According to this web site, Danish ME (in 2015 prices) will rise from 20,893 billion DKK in 2015 to 21,404 billion DKK in 2016, but then decrease to 21,187 billion DKK in 2017 and to 20,603 billion DKK in 2018. These Danish amounts are consequently a tenth lower than the amounts reported by NATO, an issue also discussed on the Danish MoD web site.[70]

In the "Projections by the Author" graph on Danish ME during coming years, these changes have still been used for estimating Danish NATO amounts, suggesting that Danish ME in 2018 – after a slight increase in 2016-17, and then decline in 2018 – will be roughly the same as in 2015, about ~3,8 billion USD. While it is too early to know what kind of ME a future Defence Agreement, presumably to be adopted in 2017, covering the years 2018-21 may result in, it may still look like Danish ME would be about to stabilise at say this level of ~3,8 billion USD (note the third inserted pink line in the "Projections by the Author" graph). Denmark is facing new security challenges in the Arctic (Greenland) and the Danish stock of fighter aircraft needs to be modernised, suggesting that ME may in any case not be decreased as they were in the early 2010s. A thorough study of the Danish defence organisation is also currently underway. <There is no BMI report on Denmark.>

The Danish ME:GDP share has decreased from ~1,4 per cent in 2010 to ~1,2 per cent in 2015, and will continue to decrease slightly during coming years, to

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[69] For the full 44 page version of this Agreement (in Danish), see "*Aftale paa forsvarsomraadet 2013-2017*" at the Danish Ministry of Defence ["*Forsvarsministeriet*"] web site at > http://www.fmn.dk/videnom/Documents/Aftale_paa_forsvarsomraadet_2013-2017a.pdf.
A version in English of this Defence Agreement is available at > http://www.fmn.dk/eng/allabout/Documents/TheDanishDefenceAgrement2013-2017english-version.pdf.

[70] See "Defence expenditure" at the Danish Ministry of Defence web site at > http://www.fmn.dk/eng/allabout/Pages/Defenceexpenditure.aspx.

~ 1,1 per cent in 2018 (as the numerator will be stable, and economic growth increase the GDP denominator).

5.9.9 Germany [DEU]

Germany reduced its ME, in real terms, by ~8 per cent between 2010 and 2015, from ~46,3 billion USD in 2010 to ~42,7 billion USD in 2015. A particularly large reduction of German ME was made in 2013, but even if decreases in 2014-15 were lower, there were, when the budget for 2015 was presented, no statistical signs that the prevailing trend of decreasing ME would be reversed.[71] The current *Finanzbericht 2015*, which (until a new *Finanzbericht 2016* is presented in the autumn 2016) lays down the financial framework for future government expenditures, the amount allocated to defence also suggested a decline in real terms.[72]

There have, however, also been several proposals on increased ME since March 2015. In an article in *Janes*, it was reported that the German Cabinet had decided to increase the German defence budget to the amounts, in billions of euro, shown in the first row in the table below; these values have then been deflated to 2010 prices by the Author (based on IMF data).

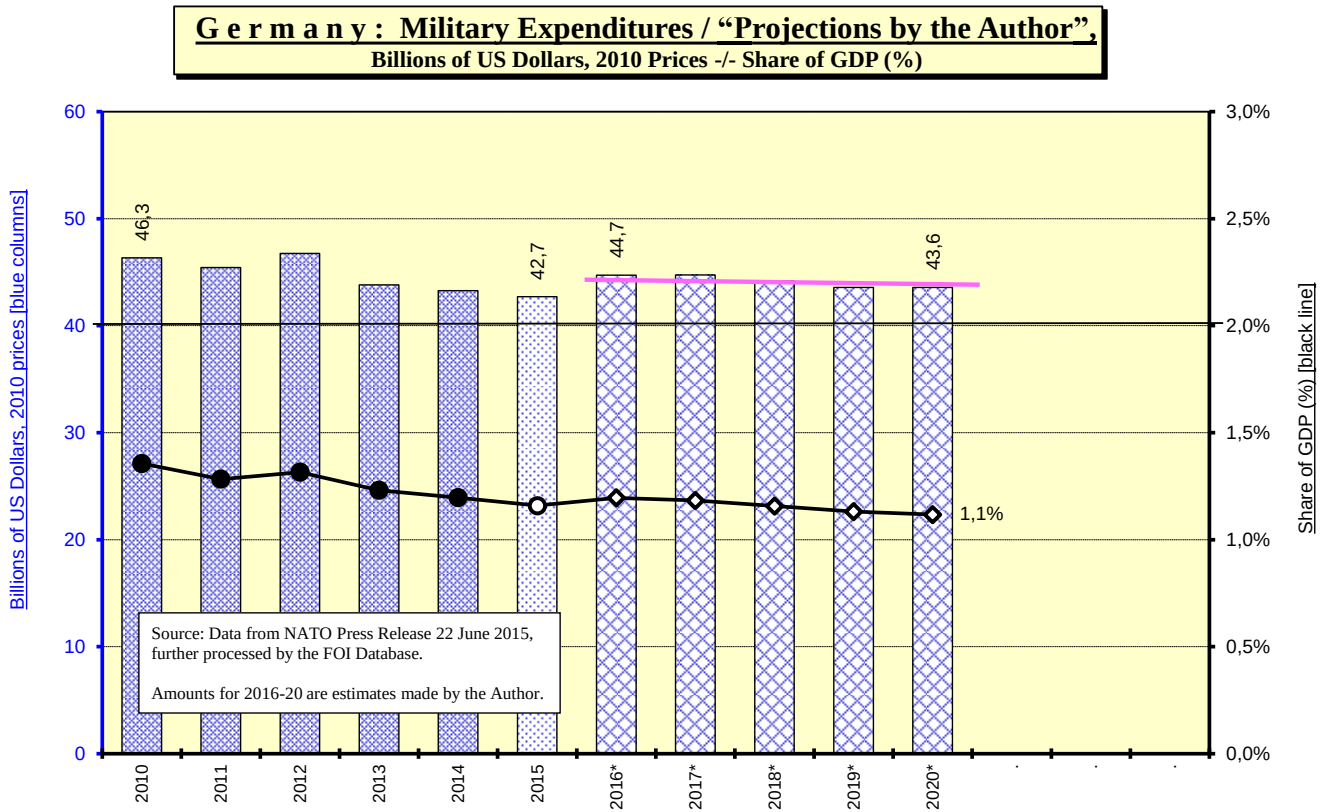
Table 5-3 German Defence Budgets 2015-19

	2015	2016	2017	2018	2019
Current prices	32,260	34,209	34,755	34,879	35,009
2010 prices	30,034	31,433	31,463	31,065	30,636
Change (%)		*4,7%*	*0,1%*	*-1,3%*	*-1,4%*

[71] See Nicholas de Larrinaga - Fenella McGerty: "Germany's defence budget to drop further in 2015", *IHS Janes 360*, Dated 11 September 2014 at > http://www.janes.com/article/43034/germany-s-defence-budget-to-drop-further-in-2015.

[72] See amounts for 2015-18 for "*Verteidigung*" in Table 2, page 210 in *Finanzbericht 2015*, at > http://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Oeffentliche_Finanzen/Wirtschafts_und_Finanzdaten/Finanzbericht-2015-anl.pdf?__blob=publicationFile&v=2. The increase by ~2,9 per cent, from "31 798 million euro" in 2015 to "32 729 million euro" in 2018, will not suffice to cover for inflation during these years, by IMF *World Economic Outlook* forecasted as ~4,5 per cent between 2015-18, and ME will therefore decline, in real terms, by ~1,5 per cent between 2015-18.

Figure 5-21 Germany



As far as the Author understands these numbers announced by the German Cabinet, they consequently suggest an increase to a higher level of ME in 2016-17, from which ME will then be reduced in 2018-19.[73] This impression is also supported by information in another article in *Janes*, roughly reporting the same numbers as were discussed in March 2015.[74] The German Minister of Defence Ursula von der Leyen has also announced that the German government "will increase the defence budget", though without giving any amounts or indicating if the amounts announced in March 2015 were still valid.[75]

The estimates made in the "Projections by the Author" graph on German ME during coming years has therefore been based on the noted March 2015-amounts, and suggest that German ME be increased to a higher level in 2016, with ME rising from ~42,7 billion USD in 2015 to 44,7 billion USD in 2015-16, after which ME will decline to ~43,6 billion USD in 2020 (for 2020, it has just been assumed, for simplicity, that ME, in real terms, will be the same as in 2019). In 2019, German ME will consequently be ~2 per cent higher than in 2015 but ~2,5 per cent lower than in 2016 (as illustrated by the inserted pink line).

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[73] See Sebastian Schulte: "German defence budget bolstered by EUR8 billion over four years", *IHS Janes 360*, Dated 19 March 2015 at > http://www.janes.com/article/50094/german-defence-budget-bolstered-by-eur8-billion-over-four-years. In this article, it is reported that "…*The new budget outlook is now EUR 34.209 billion for 2016, EUR 34.755 billion for 2017, EUR 34.879 billion for 2018 and EUR 35.009 billion for 2019, meaning a gain of about EUR2 billion for each year*…". The amount for 2015 in the table has, however, been taken from the article "Germany's defence budget to drop further in 2015", op. cit., footnote 71, page 89.

See also "Germany to boost mid-term defense spending", *Reuters*, Dated 17 March 2015 at > http://www.reuters.com/article/2015/03/17/us-germany-defence-budget-idUSKBN0MD1T420150317. In this article, it was said that

> …After balancing its budget for the first time in almost half a century, the German government has more leeway to raise spending. The cabinet is due to debate the framework for its mid-term budget on Wednesday. The defense budget will rise by 1.2 billion euros in 2016 to 34.2 billion and increase to some 35 billion by 2019, allowing the defense ministry to push ahead with plans to modernize the army, the sources said…

For the Author, calling an increase by 6 per cent – from 33 billion euro in 2015 to 35 billion euro in 2019 – a "boost" may, however, be somewhat farfetched.

[74] See Sebastian Schulte: "Germany to increase defence spending", *IHS Janes 360*, Dated 5 July 2015 at > http://www.janes.com/article/52745/germany-to-increase-defence-spending.

[75] See "Rede der Verteidigungsministerin anlässlich des 60. Jahrestages des NATO-Beitritts" at the German Ministry of Defence web site, Dated 30 June 2015, at > http://www.bmvg.de/portal/a/bmvg/!ut/p/c4/NYuxCoNAEET_aPcOksJ0OWxCIEUaNU04vUUWvD3ZrKbJx0cLZ-DB8Bh84VaJK4_RuEicsMVu4Ev_hT6vI2QW_hgpLxkS6fvYoJRIsNnviWAoQrbTSIw3jhqtKMxFbdrNoroZ4ISd83Vw3h3xv6rtwuN-qs71LTxxzvn6B4iYBgE!/.

A similar view is also presented by BMI.[76] This BMI Report which describes German ME developments in the following way (possibly based on the March 2015 data, as the BMI Report was published in May 2015), though without providing any ME figures in the free version of the report:

> However, following several years of defence expenditure reductions, Germany will begin increasing its defence spending in 2015, and is expected to sustain defence spending increases up to the end of the decade. This is prompted by two trends; the first of which is the need to overhaul and modernise equipment currently in service with the German armed forces to ensure that it is fit for purpose. The second factor prompting Germany's increase in defence spending is the country's growing participation in out-of-area operations in support of multilateral military operations.

In the Summer 2016, Germany will also adopt a new *White Paper* on defence – the previous *White Papers* were presented in 1994 and 2006 – which presumably will give a clear policy on future German ME developments.[77]

The German ME:GDP share has decreased from ~1,4 per cent in 2010 to ~1,2 per cent in 2015. With somewhat increased/ roughly stable ME, the ME:GDP share will presumably also continue to decline during coming years. The estimates illustrated by the "Projections by the Author" graph suggest that the ME:GDP share will decline to ~1,1 per cent in 2020, meaning that Germany will continue to have a significantly lower ME:GDP share than either the United Kingdom or France (and be much lower than the NATO guideline of a ME:GDP share of 2 per cent…).

5.9.10 Greece [GRC]

Greece has experienced a financial and economic crisis since 2008. It may here be remembered that Greece has also the highest ME:GDP share among

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[76] See "Germany Defence & Security Report", *BMI Research*, Dated 11 May 2015 at > http://store.bmiresearch.com/germany-defence-security-report.html.

[77] See the German Ministry of Defence portal on the new White Paper, heading "Weissbuch 2016" at > http://www.bmvg.de/portal/a/bmvg/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP3I5EyrpHK9pNyydL3y1Mzi4qTS5Az9gmxHRQBg2ftX/.

See also "Germany kick-starts work on a new White Paper", *Deutsche Welle*, Dated 18 February 2015 at > http://www.dw.com/en/germany-kick-starts-work-on-a-new-white-paper/a-18264702.

European countries, within NATO second only to the United States. Greek ME also rose steadily up to 2009, when ME peaked at close to ~10 billion USD, so even the noted amount for 2010 of ~7,9 billion USD represented already a large cut by ~20 per cent (the first pink trend line in the "Projections by the Author" graph on Greek ME has therefore been drawn accordingly, crossing the y-axis).[78] Since then, ME were reduced to ~5,5 billion USD in 2014, though in 2015, ME actually rose to ~6 billion USD. Current/ 2015 Greek ME are consequently about ~25 per cent lower than in 2010 and ~40 per cent lower than in 2009.

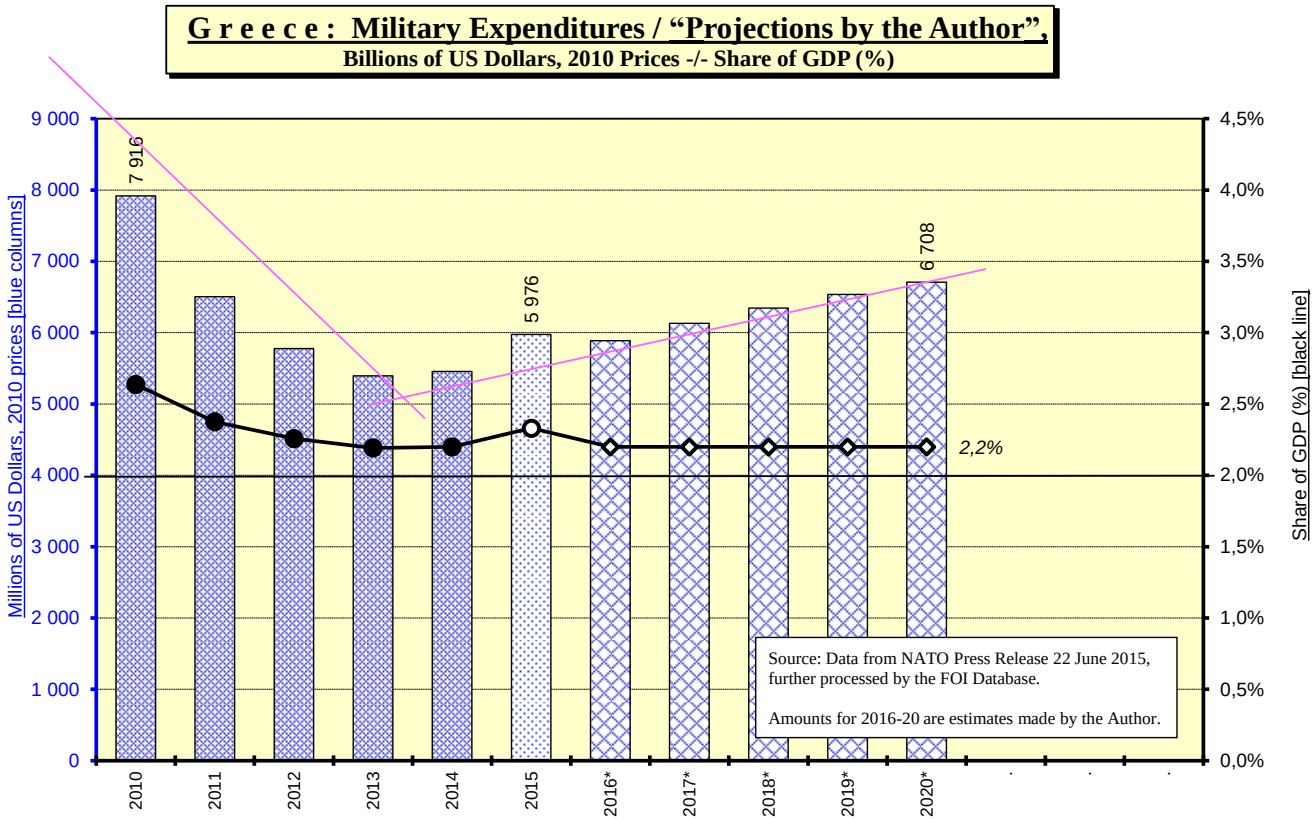
During these years 2010-15, the Greek national income has also declined, by ~15 per cent since 2010 (by ~20 per cent since 2008, with the outbreak of the crisis), and this decrease in the GDP denominator has also meant that the ME:GDP share has been smaller, with the ME:GDP share only decreasing from ~2,6 per cent in 2010 to ~2,2 per cent in 2014, and actually rising to ~2,3 per cent in 2015.

Greek ME developments have been influenced both by real and by perceived security threats – from Turkey (although Greece and Turkey are NATO allies) and from the FYR of Macedonia and Balkan and Middle East problems, with flows of migrants posing new challenges – and by strong pressure from the EU and financial organisations to reduce government spending and balance the budget, in order to reduce the Greek debt. Greek ME have, however, apparently not been reduced as much as other Greek government outlays, and in the negotiations between Greece and the EU and other organisations, questions of reducing ME have not been raised too often. Greece has also, while being criticized by the EU and the IMF for its budget deficits and large debt, at the same time received praise from NATO for being one of the few countries actually having a ME:GDP share above 2 per cent.

An attempt to estimate, or rather speculate, about Greek ME during coming years have still been made in the "Projections by the Author" graph. For the next years 2016-20, the IMF *World Economic Outlook* projects that Greek economic growth will average ~3,15 per cent (with the Greek GDP increasing from ~191 billion euro in 2015 to ~223 billion euro in 2020, meaning that GDP will then have returned to its 2010 level). Thus, assuming that Greece will allocate "2,2 per cent" of its GDP to defence, the ME:GDP share for 2014 – meaning that Greece will let its defence have its proportional slice of the

[78] The previous NATO 24 February 2013 press release, reported Greek ME for 2009 as "6 449 million euro" and for 2010 as "5 204 million euro" (2005 prices), equivalent to a decrease of ~19,3 per cent; see > http://www.nato.int/cps/en/natohq/news_107359.htm.

Figure 5-22 Greece



recovery which IMF predicts will mark the coming years – Greek ME will be at least a tenth higher in real terms, increasing from the current/ 2015 level of ~6 billion USD to ~6,7 billion USD, in 2020. At such a level, Greek ME would be about at large as in 2011, but still significantly lower than in 2010 (or in the peak-year 2009).

BMI also believes that Greece will have a stable ME:GDP share during coming years, even at a slightly higher level than the Author.[79] The BMI Report, however, still forecasts Greek ME to decline, implicitly assuming – unlike the IMF and thereby the Author, who base his estimates on IMF figures – that the Greek GDP will continue to decrease (albeit that the Author is not certain if the cited figures refers to amounts in current or in constant prices):

> BMI expects Greece to spend USD 6 bn on defence in 2014. On average, between 2011 and 2013, Greece spent USD 6.2 bn annually on defence. Spending has progressively declined as the Greek economy has contracted and the government has sought to bring public spending under control. We expect Greece to spend less on defence between 2015 and 2019, spending an average of USD 5.5bn. By 2019 we expect Greece to be spending USD 5.6 bn on defence. Consistently, Greece spent around 2.5 % of its GDP annually on defence between 2011 and 2013. We expect this to be the case in 2014 and for the remainder of the forecast period up to and including 2019.

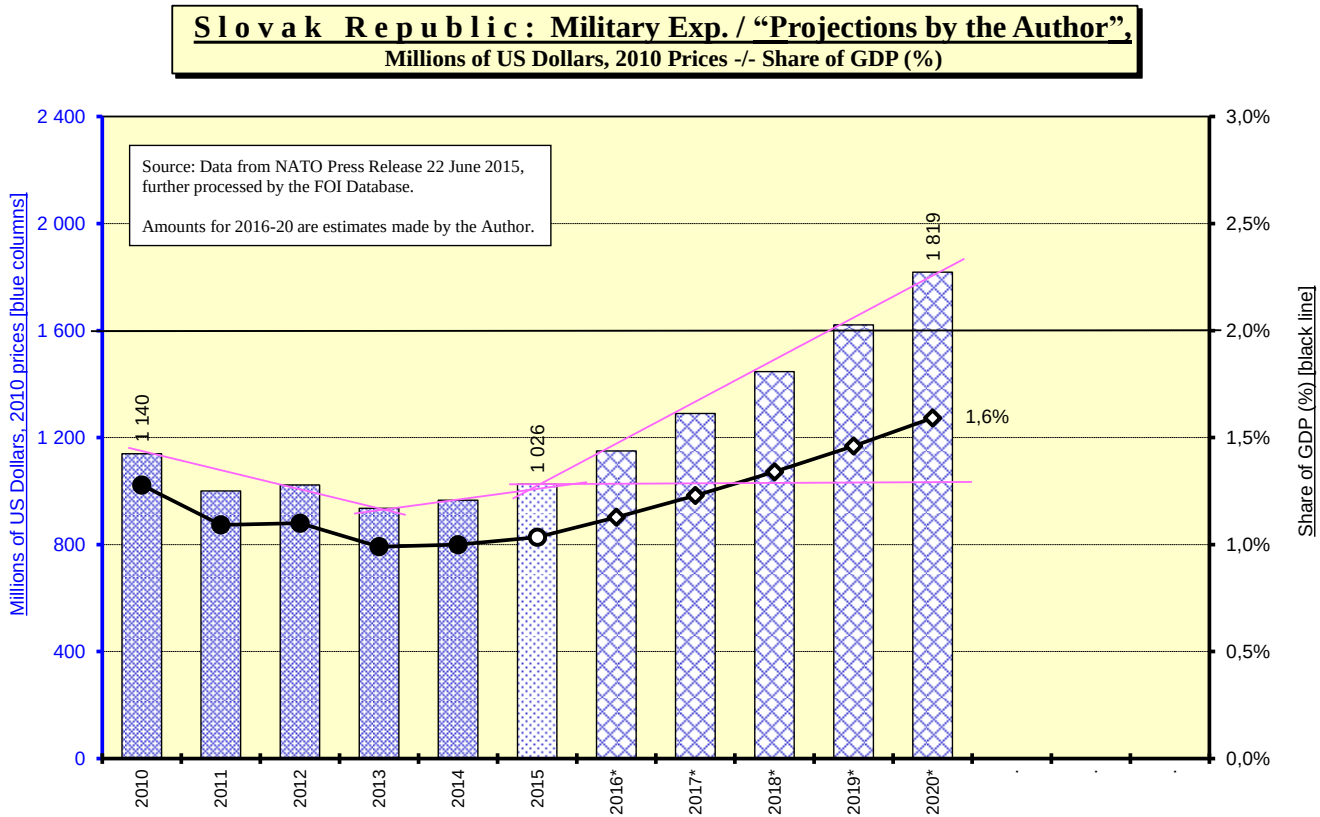
5.9.11 Slovak Republic [SVK]

The Slovak Republic reduced its ME, in real terms, by ~10 per cent between 2010 and 2015, from ~1,1 billion USD in 2010 to ~1 billion USD in 2015. Most of this decrease took place in 2011 and in 2013, when Slovak ME decreased to a low of ~935 million USD, which meant that Slovak ME in 2013 were ~18 per cent lower than they had been in 2010. Slovak ME then increased in 2014 and 2015, to the said amount of ~1 billion USD in 2015.

In June 2013, the Slovak Republic also adopted a *White Paper* on defence which included a rather candid analysis of the many problems facing its

[79] See "Greece Defence & Security Report", *BMI Research*, Dated 4 December 2014 at > http://store.bmiresearch.com/greece-defence-security-report.html.

Figure 5-23 Slovak Republic



defence, and particularly the lack of resources.[80] The Slovak budget proposal presented in August 2014 indicated that Slovak ME, after the increases made in 2014 and 2015, would be allocated the same nominal amount during coming years as in 2015 (suggesting a slight decline in real terms).[81]

For the NATO Summit in Wales in September 2014, the Slovak President Andrej Kiska, however, nonetheless pledged to increase Slovak ME, in 2015 constituting about 1 per cent of GDP, to a ME:GDP share of 1,6 per cent in 2020.[82] For the next years 2016-20, the IMF *World Economic Outlook* projects that Slovak economic growth will average ~3,1 per cent (with the Slovak GDP increasing from ~75 billion euro in 2015 to ~87 billion euro in 2020). To some extent, this statement by the Slovak President resembles the pledge made by political parties in the Czech Republic, which at the same time decided to increase the Czech ME:GDP share from ~1 per cent to "1,4 per cent" of GDP in 2020 (see the section on the Czech Republic above on page 83).

Hence, with an increase of the ME:GDP share to "1,6 per cent" – also a more ambitious increase than the Czech undertaking – Slovak ME will be nearly ~80 per cent higher in real terms, increasing from the current/ 2015 level of ~1 billion USD to ~1,8 billion USD, in 2020, as illustrated by the "Projections by the Author" graph on Slovak ME during coming years, which has been drawn on the assumption that the ME:GDP share will indeed increase, in a linear way, to "1,6 per cent in 2020". Thus, if the announced increases are implemented in full, as illustrated by the inserted pink lines in the graph, the Slovak Republic and the Czech Republic will be the (only) two NATO countries which during coming years will clearly reverse their earlier policy of decreasing ME, having marked the 2010-15 period, to a new policy of rising ME, whereby their ME in 2020 will also be significantly higher than they were in 2010.

A similar view is also presented by BMI.[83] The BMI Report describes Slovak ME developments in the following way, also noting the "1,6 per cent

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[80] See *White Paper on Defence of the Slovak Republic*, available at the Slovak Ministry of Defence ["*Ministerstvo obrany*"] web site at > http://www.mod.gov.sk/white-paper-on-defence-of-the-slovak-republic/.

[81] Slovak budget documents are available (in Slovak language) at the Slovak Ministry of Finance ["*Ministerstvo financií*"] web site at > http://www.finance.gov.sk/Default.aspx?CatID=9521.

[82] See "Kiska: Slovakia to state clear stances at NATO summit", *The Slovak Spectator*, Dated 4 September 2014 at > http://spectator.sme.sk/c/20051891/kiska-slovakia-to-state-clear-stances-at-nato-summit.html. In this article, it is stated that "…*Slovakia will pledge to increase its defence budget to 1.6 percent of GDP by 2020 at the Newport NATO summit (September 4-5), President Andrej Kiska told journalists before leaving for the summit on September 3*…".

statement" though without providing any exact ME figures in the free version of the report:

> Mixed messages were received from the Slovak Ministry of Defence during 2014 regarding the country's defence budget for this year. Initially, the government stated it would not be increasing its defence budget over the coming years. However, in September 2014, the government then pledged to increase its defence spending to 1.6 % of gross domestic product by 2020.Following many years of underinvestment, the Slovakian armed forces look set to benefit from a raft of new procurements, which have been announced by the government in 2014. The country has expressed an interest in leasing new multirole combat aircraft, with the possible acquisition of up to 12 aircraft from 2017. Additional planned purchases include new medium-lift utility helicopters in the same timeframe, with the delivery of two new turboprop freighters in 2017, while the country's land forces are to obtain new armoured vehicles.

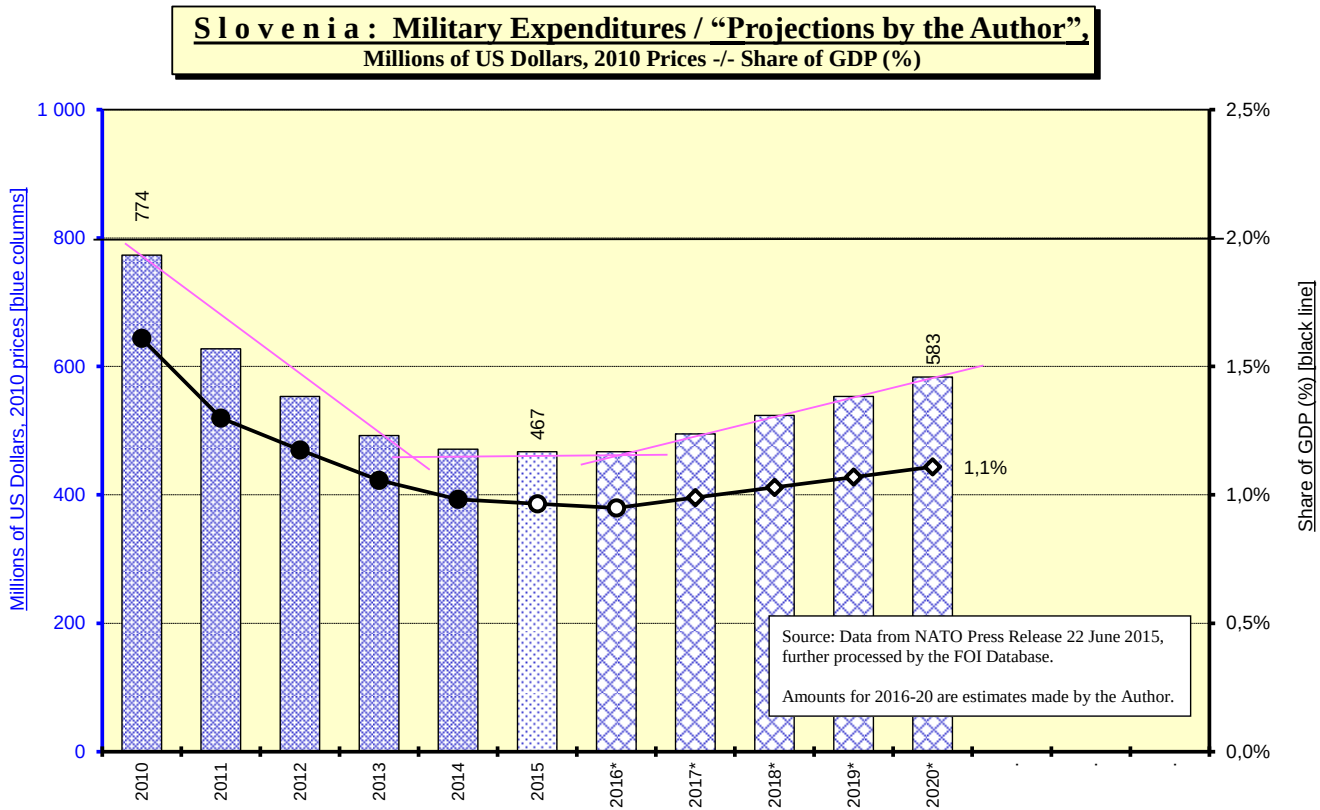
5.9.12 Slovenia [SVN]

Slovenia reduced its ME, in real terms, by ~40 per cent between 2010 and 2015, from ~774 million USD in 2010 to ~467 million USD in 2015. Hence, while Slovenian ME, on one hand, are indeed lower than they were five years ago and continue to decrease, the pace at which ME were reduced has, on the other hand, gradually declined (from ~19 per cent in 2011 to ~0,8 per cent in 2015). Such a "logarithmic" pattern would suggest, at least statistically (if a simple extrapolation is made), that ME may possibly be about to stabilise at a level around ~400-450 million USD during coming years.

With the decline in ME, the Slovenian ME:GDP share has also decreased, from ~1,6 per cent in 2010 to ~1 per cent in 2015. Slovenia has, however – like other NATO countries – pledged to allocate 2 per cent of its GDP to defence, and this issue was also raised when the NATO Secretary-General visited Slovenia in July 2015. The Slovenian Prime Minister Miro Cerar then "…*stressed at a press conference that Slovenia's defence spending would not decrease in 2015.*

[83] See "Slovakia Defence & Security Report", *BMI Research*, Dated 7 January 2015 at > http://store.bmiresearch.com/slovakia-defence-security-report.html.

Figure 5-24 Slovenia



Starting in 2017, defence spending is expected to gradually increase by 0.04 percent of gross domestic product per year…".[84]

Whether this pledge will be implemented or not may of course be subject to discussion, but the "Projections by the Author" graph on Slovenian ME during coming years has been drawn on the two assumptions that Slovenian ME will first be stable in 2016, and then start to increase from 2017, at the noted pace of "0,04 per cent of GDP" which will then raise the ME:GDP share from ~0,95 per cent in 2016 to ~1,11 per cent four years later in 2020 (meaning that the ME:GDP share will be the same in 2020 as it was in 2012/13, and that ME, in absolute terms, will be returned to the same amount as in 2011/12); the inserted pink trend lines also illustrate how ME developments may change in Slovenia. Such a policy of "plus 0,04 per cent of GDP annually" would increase Slovenian ME, in real terms, by a quarter, from ~467 million USD in 2015 to ~583 million USD in 2020.

A similar view of increasing Slovenian ME is put forward by BMI.[85] The BMI Report describes Slovenian ME developments in the following way (albeit that the Author is not certain if the cited figures refers to amounts in current or in constant prices):

> Borut Pahor, Slovenia's president, insisted in October 2014 that the country would make no further cuts to military expenditure in the coming years. The government has made pledges to this end to stabilise defence spending levels. Slovenia needs to address both defence spending levels and military modernisation. We expect Slovenia to spend around USD 576 mn on defence in 2015, a fall from our estimate of USD 589 mn in 2014. By 2019 we expect the Slovenian defence budget to be worth USD 672 mn.

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[84] See "Cerar promises to bump up Slovenia's defence budget - Defence spending to annually increase by 0.04 percent of GDP as of 2017", *RTV Slovenia – News in English*, Dated 13 July 2015 at > http://www.rtvslo.si/news-in-english/cerar-promises-to-bump-up-slovenia-s-defence-budget/369635.

[85] See "Slovenia Defence & Security Report", *BMI Research*, Dated 15 January 2015 at > http://store.bmiresearch.com/slovenia-defence-security-report.html. The noted increase in this BMI Report from ~576 million USD in 2015 to ~672 million USD in 2019 suggests a rise by ~17 per cent, a somewhat lower rise than the ~25 per cent increase projected by the Author based on the "plus 0,04 per cent of GDP" policy.

5.9.13 United Kingdom [GBR]

The United Kingdom has the second highest ME in absolute terms among NATO member states (after the United States). The United Kingdom reduced its ME, in real terms, by ~7,5 per cent between 2010 and 2015, from ~60,4 billion USD in 2010 to ~55,9 billion USD in 2015. A particularly large reduction of British ME was made in 2012 which was then balanced by an increase in 2013; but even if ME were higher in 2013-15 than this 2012 low, they are still lower than in 2010. Much of this decrease is, however, related to the downscaling of British operations in Afghanistan and in Iraq.

A new defence review is also to be completed later this year/ 2015, which will presumably determine British strategic priorities during coming years. On one hand, the United Kingdom is about to procure some costly equipment during coming years, on the other hand there is also a general need to reduce all kinds of government expenditure, and the UK may perhaps be reluctant to engage in any new grand-scale international operations like ones in Afghanistan and Iraq, suggesting that British ME may not increase or return to the levels they had about five years ago.

In the British Summer budget, announced on 8 July 2015, it was, however, stated that "Protecting defence spending" was a key priority: "…*The Ministry of Defence's budget will rise by 0.5% (above inflation) each year to 2020-21. Up to an additional £1.5 billion a year will also be available by 2020-21 to fund increased spending on the military and intelligence agencies. The government will meet the NATO pledge to spend 2 % of national income on defence every year of this decade*...".[86] The estimates made in the "Projections by the Author" graph on British ME during coming years are therefore based on the assumption that ME will rise, in real terms, by "0,5 per cent" annually from 2016 up to 2020.

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[86] See the "Topic Summer Budget 2015" portal at the UK Government web site at > https://www.gov.uk/government/topical-events/budget-july-2015. The citation is taken from the *Summer Budget 2015: key announcements* summary; at this portal, the Summer budget is also available in full (at > https://www.gov.uk/government/publications/summer-budget-2015).

An excellent analysis of this Summer budget is made by Malcolm Chalmers: "Osborne's Summer Surprise for Defence - Guaranteed Real-Terms Spending Increases", *RUSI Briefing Paper* July 2015, at > https://www.rusi.org/downloads/assets/DefenceSpendingJuly2015.pdf. An article based on this paper is also available at > https://www.rusi.org/news/ref:N55B55F23B4A45/#.VcjMLbAw9aT.

See also Fenella McGerty: "UK commits to 2% target through to 2019-20", *IHS Janes 360*, Dated 7 July 2015 at > http://www.janes.com/article/52853/uk-commits-to-2-target-through-to-2019-20.

Applying this "0,5 per cent" increase to the NATO-figure ~55,9 billion USD for 2015 suggest that British ME will therefore increase, in real terms, by ~2,5 per cent to ~57,3 billion USD in 2020 (roughly 5 years x 0,5 per cent increase) and that the trend of declining British ME will be broken, as indicated by the inserted pink trend lines. In real terms, British ME will in 2020, however, only be equivalent to what the United Kingdom spent on defence in 2014, so in the Author's view, it would arguably be more relevant to talk of stable rather than increasing British ME.

Just after that this Summer budget had been released, BMI published a report on British ME.[87] This BMI Report suggested a higher rate of increase:

> BMI expects the UK to spend up to USD 75.3 bn in 2015, up slightly from the estimated USD 73.9 bn expenditure of 2014. On average, between 2011 and 2014, the UK spent USD 66.9 bn annually on defence. For the duration of the forecast period, up to and including 2019, we expect the UK to spend an average of USD 83.7 bn on defence annually, with the budget increasing to USD 92.1 bn in 2019.Our anticipated UK defence spending trends are significant as they show that the UK defence sector is once again growing after a period of contraction, in line with government initiatives to curb public spending.

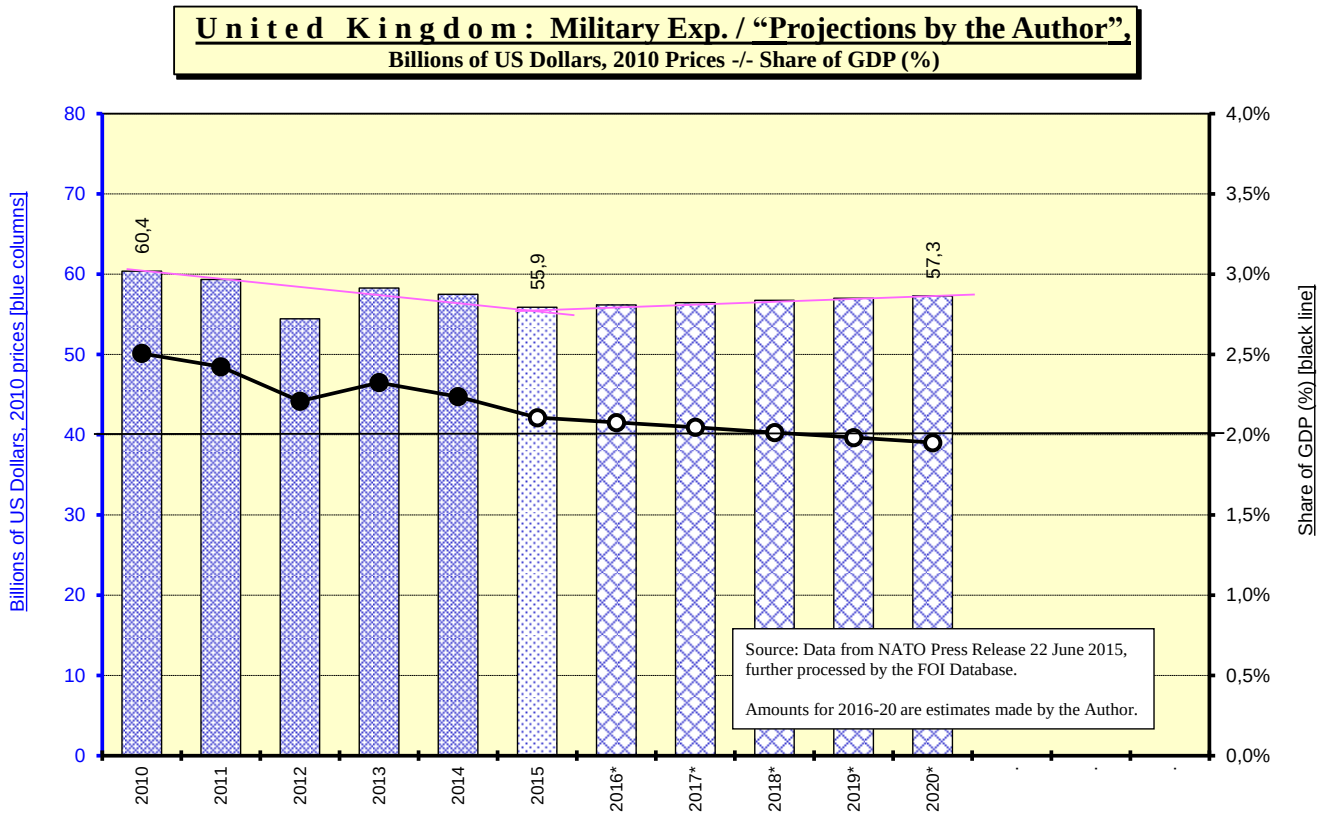
Hence, in order to maintain ME at a 2 per cent level, ME must either be further increased or defined differently, to include other kinds of spending…

The ME:GDP share has decreased from ~2,5 per cent in 2010 to ~2,1 per cent in 2015. For the United Kingdom, a loyal NATO member, a ME:GDP share below the NATO recommended level of 2 per cent, would consequently be somewhat politically embarrassing. In the noted Summer budget, it was also stressed and pledged that the ME:GDP share would be at least 2 per cent.

The "Projections by the Author" graph, however, suggest that the share would, *ceteris paribus*, nonetheless drop below the 2 per cent line by the end of the decade, even with the increases announced in the Summer budget. For the next five years 2016-20, the IMF *World Economic Outlook* projects that British economic growth will average ~2,2 per cent (with the British GDP increasing from ~1 708 billion GBP in 2015 to ~1 903 billion GBP in 2020). Pure mathematics therefore indicates that with a ME:GDP share of 2,2 per cent, an increase of the ME numerator by 0,5

[87] See "United Kingdom Defence & Security Report", *BMI Research*, Dated 10 July 2015 at > http://store.bmiresearch.com/united-kingdom-defence-security-report.html. The noted increase in this BMI Report from ~75,3 billion USD in 2015 to ~92,1 billion USD in 2019 suggests a rise by ~22 per cent, a much higher rise than the roughly stable level of ME projected by the Author based on the Summer budget.

Figure 5-25 United Kingdom



per cent and a growth rate increasing the GDP denominator more rapidly than the said 0,5 per cent, the ME:GDP share will gradually decline, and fall below 2 per cent.[88]

5.9.14 Canada [CAN]

In Canada, ME have fluctuated during the period of study insofar that ME first increased, in real terms, from ~18,7 billion USD in 2010 to ~20,5 billion USD in 2011, but then decreased ME to ~18,5 billion USD in 2012, after which ME were further reduced to ~17,1 billion USD in 2013. In 2014-15, Canadian ME have, however, been increased to ~18 billion USD. Hence, Canadian ME in 2014-15 are about ~12 per cent lower than in the peak-year 2011, but only ~4 per cent lower than in 2010, suggesting that Canadian ME have been used as "budget regulators".[89]

Canada also needs to make some general decisions on its force posture, not least regarding new fighter aircrafts. To analyse Canadian budgets, however, is somewhat challenging, as such documents mostly concentrate on the changes that will be made, but provide less data on total amounts. In the budget proposal presented in April 2015, it was announced that ME would rise significantly, but only during the decade 2017-26.[90]

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[88] A similar comment is also made on this issue by Malcolm Chalmers in his *RUSI Briefing Paper* (op.cit, note 86, page 101):

> While the MoD budget is set to grow by 0.5 per cent per annum over the next five years, national income (GDP) is projected to grow by an average of 2.4 per cent per annum over the same period.12 If these assumptions are correct, UK NATO-countable spending would fall from 2.08 per cent of GDP in 2015/16 to 1.85 per cent of GDP in 2020/21, assuming the recently introduced counting methods are still used.

[89] See "Canada's defence spending - Darkness falls again?", *The Economist*, Dated 19 March 2014 at > http://www.economist.com/blogs/americasview/2014/03/canadas-defence-spending, in which the following comments are made about Canadian ME developments:

> Defence spending rose to a recent peak of just over C$20 billion ($17.9 billion) in 2011-12 from C$14.7 billion in 2005-06, the last year the Liberals were in power…. But after the global financial crisis and a recession in Canada, plans changed. Instead of following the promised steady trajectory upward, defence spending is now on a downward trend and is projected to be C$17.6 billion in 2016-17…. Spending figures suggest the government intends to talk a lot but spend less on the military in the coming years.

An interesting table showing Canadian defence budget data (in billions of CAD) is therefore shown below, with data in the first row taken from an official Canadian report on defence priorities; these amounts have then been deflated to FY 2010 prices by the Author, indicating that Canadian ME will decrease by ~5 per cent in real terms during the coming two years/ up to FY 2017-18.[91]

Table 5-4 Canadian Defence Budgets 2015-16 - 2017-18

	2015-16	2016-17	2017-18
Current prices	18,942	19,229	18,716
FY 2010 prices	17,391	17,304	16,482
Change (%)		*-0,5%*	*-4,8%*

An interesting analysis of Canadian ME trends – also accounting for the additional allocations to be made 2017-26, when Canadian ME are supposed to be greatly increased – has been made by David Perry, summarised in the graph on top of next page, showing general Canadian defence budget developments in billions of CAD, 2007 prices, and indicating that Canadian ME in 2019/20 will be comparable to Canadian ME in 2010/11.[92]

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[90] See the Canadian Government budget portal at > http://www.budget.gc.ca/2015/home-accueil-eng.html. Data on Defence is found in section "4.3 Defending Canada", which also includes a graph on the additional allocations 184 Defence will receive from FY 2017-18 up to FY 2026-27, gradually growing from 184 million CAD to 2,3 billion CAD.

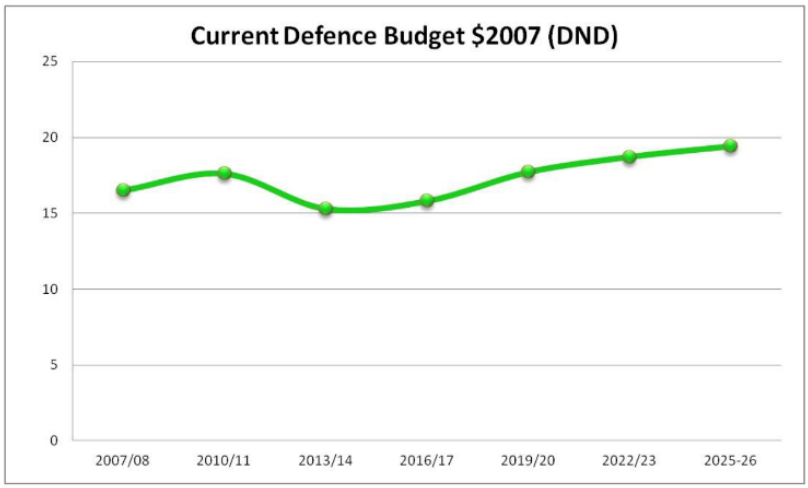
See also "Jason Kenney says $12B military budget boost a 'huge improvement' - Federal budget promises to restore military spending after years of lapsed spending, cuts", *cbcnews – politics*, Dated 22 April 2015 at > http://www.cbc.ca/news/politics/jason-kenney-says-12b-military-budget-boost-a-huge-improvement-1.3044771.

Andrew MacDonald: "Canadian defence budget gets USD9.7 billion boost", *IHS Janes 360*, Dated 26 April 2015 at > http://www.janes.com/article/50960/canadian-defence-budget-gets-usd9-7-billion-boost.

[91] See Canadian Department of National Defence: *2015-16 Report on Plans and Priorities*, page 19, at > http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/dnd-rpp-2015-16_eng.pdf. The Canadian Fiscal Year runs from 1 April- 31 March.

[92] See David Perry: "Defence Budget 2015: A Long-Term Funding Increase…Maybe", *Canadian Defence & Foreign Affairs Institute*, Dated May 2015 at > http://www.cgai.ca/defence_budget_2015.

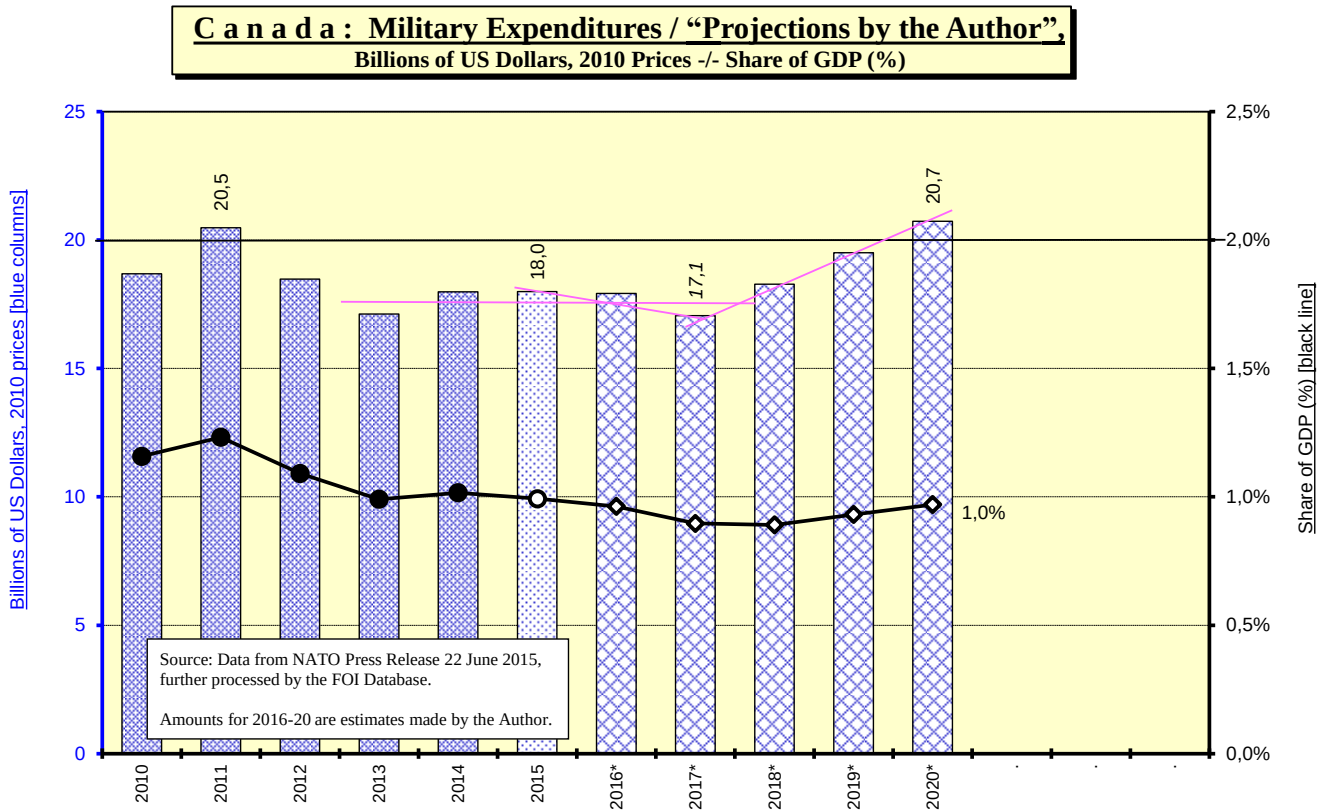
Figure 5-26 Canadian Defence Budget Projections



In the "Projections by the Author" on Canadian ME during coming years, an attempt has been made to recalculate these Canadian pieces of data to NATO amounts, with the Canadian defence budget being about 1 billion CAD lower than the amounts reported by NATO. For 2016-17, the decline noted in the DND report has therefore been considered, while ME for 2018-20 have been increased in line with the comments made by David Perry. There is, however, also a slight difference between these two sources, as the curve line shown by Perry – which is rather general – appear to suggest an increase from 2015, while DND data shows a decline. The increase, from a lower amount, is therefore somewhat steeper in the Author's graph than in the Perry graph above (and the figure "17,1" is therefore written in italics) Thus, Canadian ME are projected to decline from ~18 billion USD in 2015 to a low of ~17,1 billion USD in 2017, and then from 2017 and onwards, increase to ~20,7 billion USD in 2020. Arguably, one could perhaps also say that Canadian ME are roughly stable, at a level around ~17,6 billion USD, during the five years 2013-17 (as indicated by the pink line).

BMI has published a report on Canada, though the free part of this report mainly discusses Canadian procurement projects, and has no data on ME which are only available in the purchased version of the report. It is, however, argued

Figure 5-27 Canada



that "...*Canadian defence spending has been steadily increasing*…", which in the Author's view may be a slight overstatement.[93]

The Canadian ME:GDP share has decreased from ~1,2 per cent in 2010 to ~1 per cent in 2014/15, and will continue to decrease to ~0,9 per cent in 2017-18, but then – as a result of the post-2017 increases of ME – return to a level around ~1 per cent around 2020.

5.9.15 United States [USA]

The United States has by far the biggest ME as well as the highest ME:GDP share among all NATO member states. For this reason, the discussion on possible developments in the United States has been given a bit more space than other countries in this study. With the Afghanistan and Iraq conflicts, US ME rose rapidly during the first decade of the new millennium, peaking in 2010-11. Since then, ME have fallen, in real terms, by ~17 per cent between 2010/11 and 2015, from ~720 billion USD in 2010/11 to ~600 billion USD in 2015.

For the United States, there are lots of data on ME developments, and the problem – in contrast to most other countries – is not a lack but rather an oversupply of information, making it somewhat difficult to see the "forest for all the trees". There are also several definitions of ME – just the defence budget, meaning Department of Defense spending – and a wider concept, called "National Defense", though even this latter definition give somewhat lower amounts than those reported by NATO. With the American system of government based on "checks and balances" between the Congress and the executive President, the US budget process is likewise rather complicated, and starts with the President sending his budget proposal to the Congress in late January/early February; the US fiscal year then begins on 1 October and runs to 30 September the following year.[94] This budget proposal also includes data for

[93] See "Canada Defence & Security Report", *BMI Research*, Dated 3 June 2015 at > http://store.bmiresearch.com/canada-defence-security-report.html.

[94] US budget documents are available at the "Office of Management and Budget" part of the White House web site at > https://www.whitehouse.gov/omb/budget. By clicking the icon "Budget" x "Historical Tables", one gets to a kind of Appendix with statistical tables, with data for all kinds of government spending, including forecasts for coming years at > https://www.whitehouse.gov/omb/budget/Historicals.

the coming five years, and it may happen that a particular kind of spending is moved from one year to another, either being brought forward or postponed.

Possibly the best official data on US defence budgets and ME is published by Department of Defense Comptroller. The upper part of the table shown below, used for drawing the "Projections by the Author" graph on next page on American ME during coming years, is based on data from the so called "Green Book FY 16".[95]

Table 5-5 US Defence Budget Forecasts

Table 1-2: NATIONAL DEFENSE BUDGET - LONG RANGE FORECAST

(Dollars in Billions)

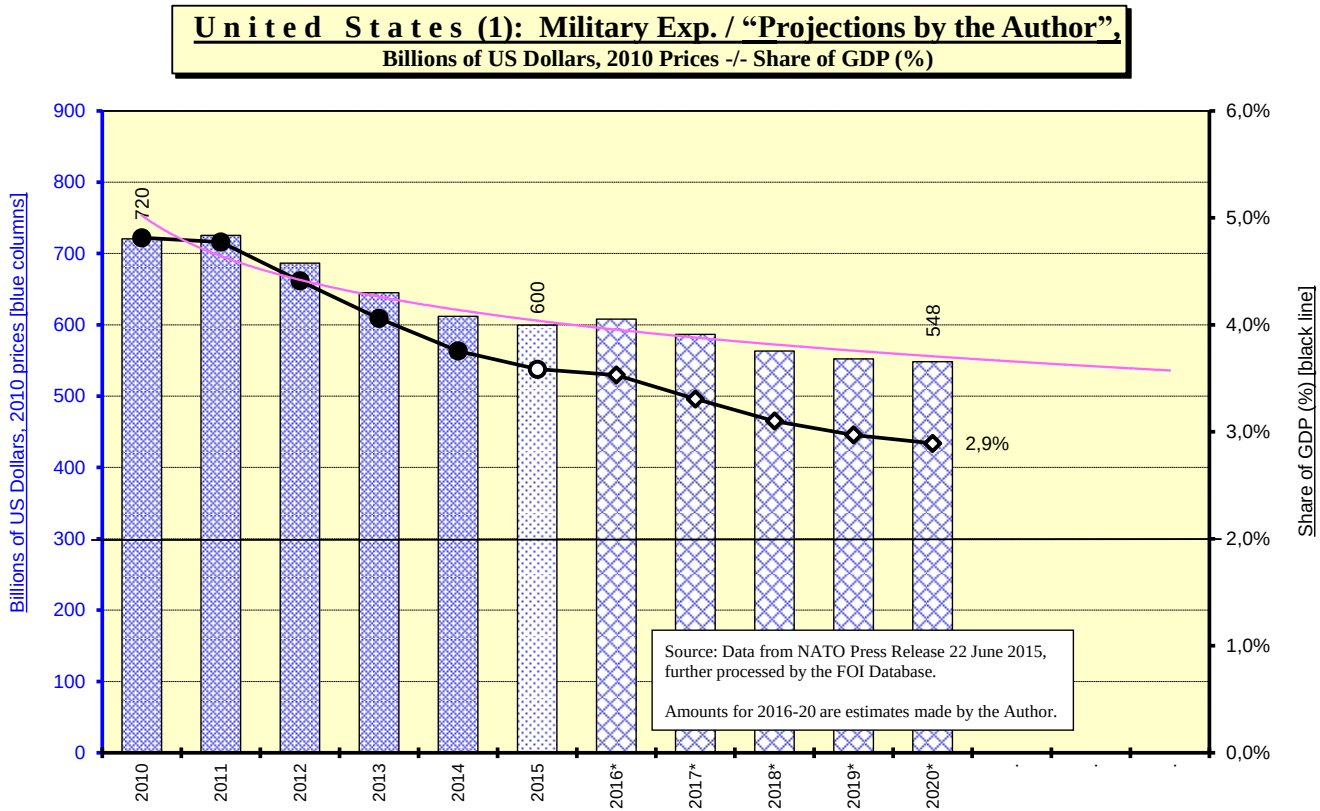
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Current Dollars							
Outlays							
051 - Total Department of Defense	577,9	567,7	586,5	575,1	563,2	561,1	568,3
053 / 054 - Energy and Defense-Related	25,6	29,8	29,0	28,8	28,8	29,3	29,7
050 - Total National Defense	603,5	597,5	615,5	603,9	592,0	590,4	598,0
FY 2016 Constant Dollars							
Outlays							
051 - Total Department of Defense	594,0	575,8	586,5	565,5	542,6	531,2	527,5
053 / 054 - Energy and Defense-Related	26,3	30,3	29,0	28,3	27,8	27,8	27,5
050 - Total National Defense	621,4	607,0	615,5	593,8	570,4	559,0	555,0
"NATO Current"	654,3	649,9	669,5	656,9	643,9	642,2	650,5
GDP, Billion US dollars/ Current p. [IMF]	17 418,9	18 124,7	18 959,2	19 864,6	20 769,4	21 615,4	22 488,6
"ME:GDP share"	3,76%	3,59%	3,53%	3,31%	3,10%	2,97%	2,89%
"NATO 2010 prices"	611,7	599,6	607,9	586,5	563,4	552,1	548,2
Change (%)		*-2,0%*	*1,4%*	*-3,5%*	*-3,9%*	*-2,0%*	*-0,7%*

As has been done for many countries in this study, estimates for future ME have been made by applying the changes deduced from such national policy

[95] See the Comptroller web site at > http://comptroller.defense.gov/budgetmaterials.aspx. At this site, detailed statistical documents are provided for personnel, procurement etc., and the "Green Book" is something of a summary of all US defence spending. The table which is here partly reproduced, has been extracted from a table in the "Green Book", page 7.

Many other studies of US defence spending are also regularly made by other US government bodies as well as many think-tanks, like the Center of Strategic and Budgetary Assessments, CSBA (see > http://csbaonline.org/) and the Center for Strategic and International Studies, CSIS, which analyses the security implications of US defence spending and priorities (see > http://csis.org/ and studies like *Defense Budget Analysis* at > http://csis.org/program/defense-budget-analysis).

Figure 5-28 United States/ “First projection”



and budget documents to the available NATO amounts, in the lower part of the table, thereby – hopefully – getting at least a rough projection of future ME, in accordance with the NATO definition.

Such a projection suggest that US ME will continue to decline, in real terms , during coming years, and decrease by nearly ~9 per cent, from ~600 billion USD in 2015 to ~548 billion USD in 2020. Notably, however, the rate of decline is gradually decreasing, and in the "Projections by the Author" graph the inserted pink trend line shows a logarithmic pattern, suggesting a levelling off and that ME may be about to stabilise within a few years, possibly at a level at around ~530 billion USD. Hence, from a statistical approach and based on US policy data, ME will decline from ~600 billion USD in 2015 to ~550 billion USD in 2020, before stabilising in the early 2020s at around ~530 billion USD. The US ME:GDP share will decrease from ~3,6 per cent in 2015 to ~2,9 per cent in 2020.

It is, however, not hard to imagine that many things may happen which would change this "standard" projection, particularly for a global power like the United States. The United States face many security challenges, in the Middle East, vis-à-vis Russia and also in East Asia, with the rise of China and the problematic situation in Korea. Similarly, much of the rise in ME during the first decade of this millennium after "9/11"and related to the operations in Afghanistan and Iraq was used as "operations and maintenance" expenditure in the ongoing campaigns and not for investment in new capabilities, in the form of research and procurement. Hence, although the United States have spent heavily on defence since the turn of the millennium, there are still gaps in the US modernisation programmes, indicating *that the decline suggested by the graph on the previous page may not come about*. It is here quite telling that it looks like ME will increase slightly in 2016, and that the assumed decline during coming years will start only in 2017, because even if the US budget is a document covering several years, it is also a rolling budget, with hard numbers only for the very next year with years thereafter having more of an indicative nature, subject to much political discussion.

So it is quite conceivable that the assumed levelling off will not take place only after 2020, at a level of ~530 billion, but that this levelling off will start to take place already in 2016 – that the year 2016 will be a trend break year – at say the current level of ~600 billion USD. Such an ***alternative*** estimate is illustrated by the graph "Projection by the Author/ 600 bn", which may possibly give a better estimate of coming years than the first "standard projection", shown on page 113.

Hence, in the "standard" alternative discussed above, US ME – see the row "NATO current" in the inserted table on page 110 – are roughly stable in current prices, which would mean a decline, in real terms, to ~550 billion USD (2010 prices) and that the ME:GDP shares decreases from ~3,6 per cent in 2015 to ~2,9 per cent in 2020. ***If ME, however, would remain at a level of ~600 billion USD in real terms*** (in constant 2010 prices) – like the projection in the "600 bn" graph on next page illustrates – based on the assumption that ME will be stable, in real terms, not only in 2016 but up to 2020, ME in current prices must increase to ~712 billion USD in current prices (to cover inflation), which also means that ME:GDP share will only decline to ~3,2 per cent in 2020.

BMI has published a report on the United States, though the free part of this report has no data on ME which are only available in the purchased version of the report.[96] The BMI report indicates, however, that ME will not decrease – and is presumably therefore closer to the "600 bn alternative" than the first "standard" projection" – at least not as much as previously planned:

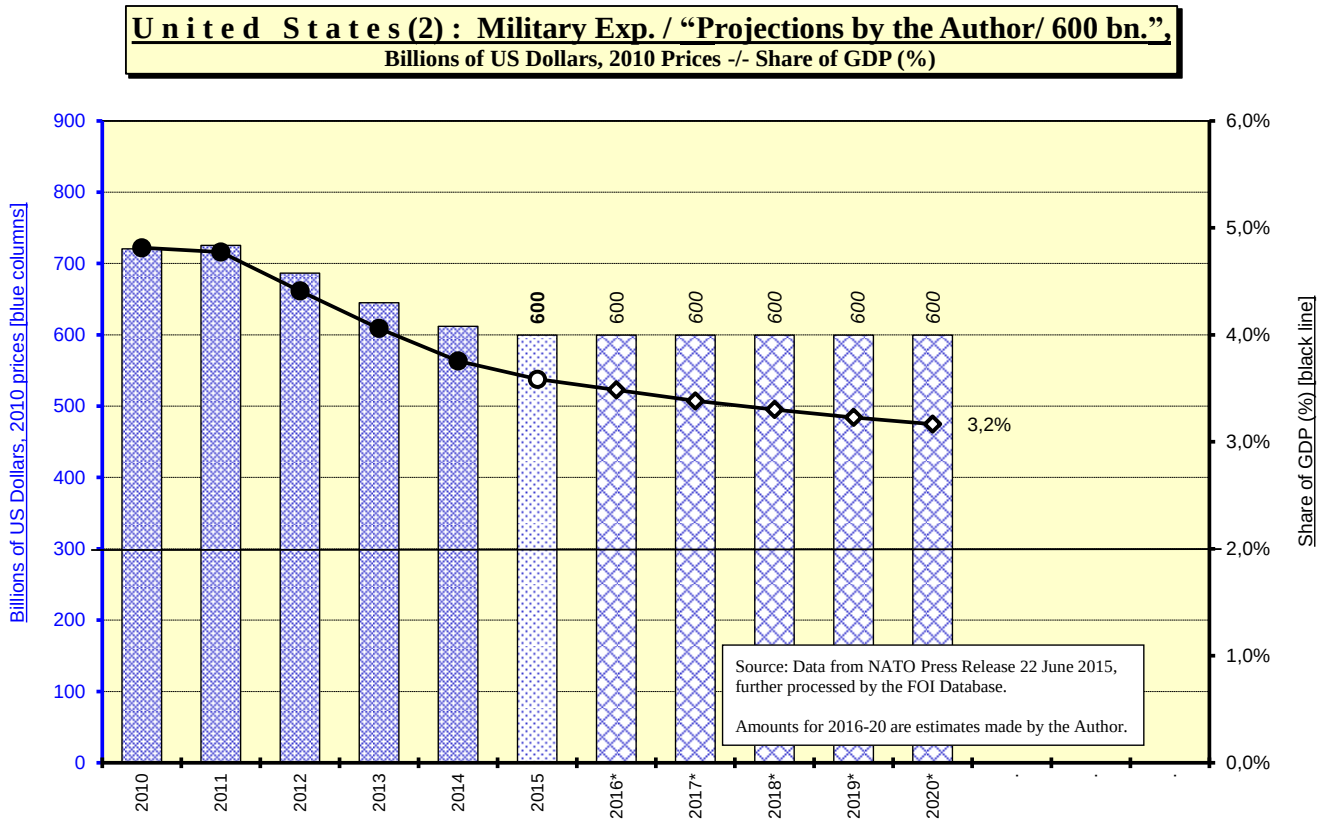
> BMI/We believe that the United States defence budget will be re-orientated to take account of the threat from the Islamic State of Iraq and Syria (ISIS). This will in our view stimulate procurement plans as the country can now focus on obtaining arms and technologies that might have previously been decided against due to austerity. The main focus of these procurements being the development of the F-35 Lightning II Joint Strike Fighter program, which has been hit by another delay.

and

> Although initially expected that US Congress would contract the defence budget in their time of austerity, the recent incidents with ISIS and the humanitarian work with the Ebola virus (along with the persistent problems in the Ukraine and Afghanistan) has meant that this is most likely to be revised. As previously mentioned the request of USD 601bn for the defence budget in the fiscal year 2015 is the best indicator as this signals a growth that will continue over the forecasted period as it is expected to increase to our forecasted target.

[96] See "United States Defence & Security Report", *BMI Research*, Dated 14 November 2014 at > http://store.bmiresearch.com/united-states-defence-security-report.html.

Figure 5-29 United States/ "600 billion USD Projection"



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