
Trends in European Defense Spending: 2001-2006

By

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[Below is an article developed from the entire April 2008 report which can be viewed at: [http://www.csis.org/component/option,com_csis_pubs/task,view/id,4461/type,1/.](http://www.csis.org/component/option,com_csis_pubs/task,view/id,4461/type,1/)]

Since 2001, Europe finds itself increasingly involved in international military operations. NATO (North Atlantic Treaty Organization) responded to the attacks of 9/11 by invoking, for the first time in its history, Article 5 of the Washington Treaty—the Alliance’s collective defense clause—and European military assets were deployed to the U.S., the Mediterranean Sea, and Afghanistan. Deployable rapid response forces were created by NATO (the NATO Response Force) and by the European Union (the Battle Groups). The EU (European Union) Security Strategy, formulated in 2003, lists combating terrorism, countering the spread of weapons of mass destruction, dealing with failed and failing states, and response to regional emergencies as scenarios that may require military intervention. National governments also increased their commitments to international security and stabilization efforts. They have deployed military forces to operations in the Democratic Republic of Congo, East Timor, Darfur, and Chad as well as contributed troops to the war on terror in the Horn of Africa and U.N. (United Nations) peacekeeping operations worldwide. And at home and abroad, European militaries are stepping up efforts to prepare for and respond to natural disasters and humanitarian crises. From 2001 to 2006, the total number of European troops deployed overseas has gone up from slightly over 65,000 to around 80,000.¹

In light of this upsurge in military preparations and deployments, as well as some of the challenges associated with these deployments, it is important to track trends in European defense spending. Doing so can help answer many critical questions; for example, have defense budgets in Europe grown or declined, and by how much? How have European defense budgets fared given changes in national economies? How much are European governments spending on defense procurement and research and development (R&D)? Ultimately, if government spending is an indicator of the priority given to policy areas, understanding trends in defense spending can shed light on whether Europe is indeed serious about improving its military capabilities.

This report seeks to provide the data and analysis needed to answer these questions. It presents the defense spending trends of all European countries, including the 25 EU Member States as well as Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Macedonia, Moldova, Norway, Serbia and Montenegro, Romania, Switzerland, and Turkey.² The data was gathered from various sources in an attempt to present broad European trends as well as in-depth analyses of specific countries.³

Key Trends

In constant 2006 U.S. dollars, total European spending on defense has increased slightly during the 2001-2006 timeframe. As shown in Figure 1, during this period the original 15 Member States of

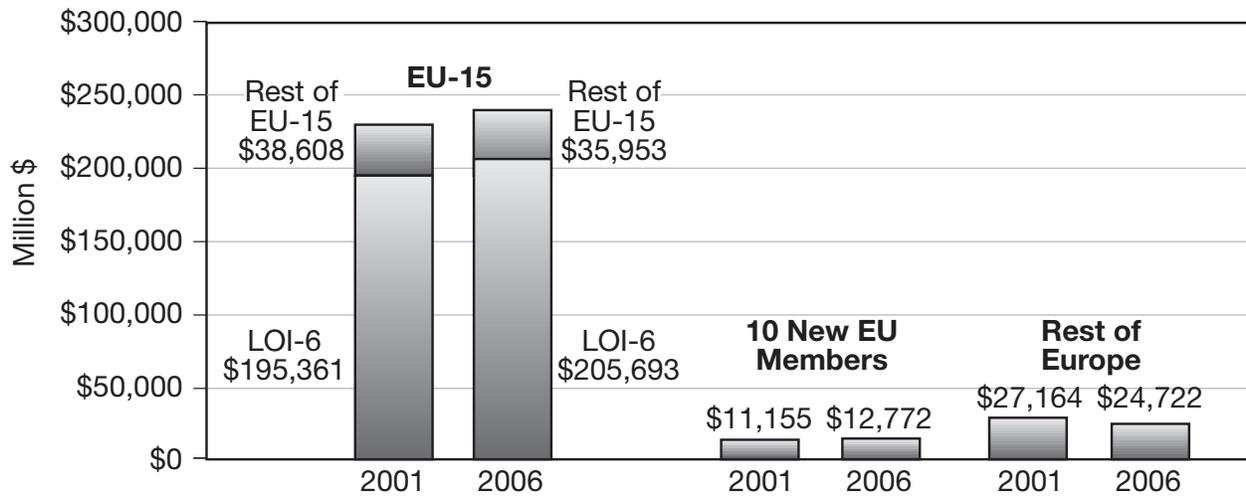
1. These numbers are based on the IISS (International Institute of Informatics and Systemics) Military Balance 2002/2003 and 2007 and do not include the number of troops stationed overseas on a long-term basis.

2. Bulgaria and Romania, though currently EU members, did not join until January 1, 2007.

3. See the Appendix section of this article for detailed information of data sources.

the European Union went from \$234 billion to \$242 billion for a 3 percent growth and 0.65 percent compound annual growth rate (CAGR), of which the six signatories of the Letter of Intent on defense (the LoI-6) accounted for the lion's share. The 10 new Member States went from about \$11 billion to \$13 billion, a 14.5 percent growth and 3 percent CAGR. For non-EU nations, which include NATO members Bulgaria, Norway, Romania, and Turkey, total spending dropped from almost \$27 billion to just under \$25 billion.⁴

Figure 1
European Total Defense Spending in 2001 and 2006
 (by Country Groups, in Constant 2006 U.S. \$)

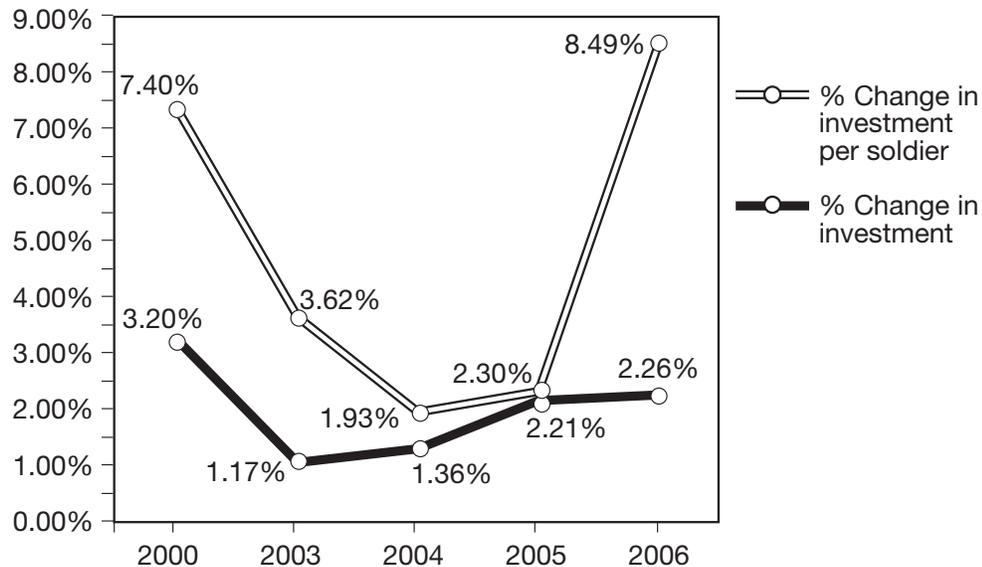


The CAGRs in defense spending for most European nations were negative or slightly positive, see table 4. The only countries to show significant growth were Latvia (22 percent 6-year CAGR), Albania (10 percent), Estonia (9 percent), and Slovenia (8 percent). Of the larger EU countries, Poland, Spain, and the UK stand out with a CAGR of approximately 4 percent. When calculated as a share of GDP (Gross Domestic Product), the picture is even grimmer: only six countries show positive growth rates of defense spending as a share of GDP during the 2001-2006 period (Latvia with 10 percent, Slovenia and Albania with 4 percent each, Finland with 2 percent, the UK with 0.5 percent, and Spain with 0.1 percent), meaning that in most of Europe economic growth has outpaced growth in defense spending (see Table 5).

Though showing sluggish growth in overall defense spending, European spending on defense investments (defense procurement and research and development) might suggest a more positive trend in the way nations allocate their resources. Trends in defense investments have shifted over the six-year period and have been mirrored by trends in defense investment per soldier (see Figure 2). Beginning in 2004-2005, the positive growth in defense investment and in defense investment per soldier, measured in constant 2006 U.S. dollars, may be an indication of European commitment to force transformation. Between 2001 and 2006, total troop levels dropped by 12 percent, while defense investment per soldier rose by 26 percent. If these trends continue, it may mean smaller, better equipped European militaries in the years to come.

4. The two newest additions to NATO in 2008, Albania and Croatia, are also included in the “non-EU Europe” category.

Figure 2
Percentage Change in European Defense Investment
and Investment per Soldier 2001-2006
 (in Constant 2006 U.S. \$)



Detailed Data and Analysis

In order to properly measure trends in Europe’s defense expenditure, it is important to first of all examine national spending levels in local currencies in current year and in constant year values. And in order to compare these countries’ defense spending, it is important to look at their spending in U.S. dollars. Note that the defense expenditures of many countries would be significantly exaggerated due to recent dollar depreciation. Therefore, when analyzing these numbers, a careful comparison of the dollar and local currency values must be undertaken so as to eliminate the effect of a stronger euro or depreciating dollar. Failure to do so would overestimate the percentage of the increase in national spending.

Table 1 and Table 2 show the total defense expenditure in current local currencies and at the current U.S. dollar exchange rate, respectively. Looking at the CAGRs in figures 3 and 4, though they are both in current values, shows that the numbers are significantly higher in dollar terms. This is mainly due to the fact that the dollar has significantly depreciated against the euro during the six years, from 0.90 dollars per euro in 2001 to 1.25 dollars per euro in 2006. In addition to exchange rate fluctuation, inflation rates have also contributed to the difference in CAGR. According to several studies, there is a 10 percent annual rate of increase in the price of military equipment; and that is usually higher than the overall economic inflation.⁵ However, this report considers only the influence of general economic inflation.

5. Yaacov Lifshitz, “The Economics of Producing Defense: Illustrated By The Israeli Case”, Kluwer Academic Publisher, 2003, p.81.

| Table 1 | | | | | | | | |
|---|--------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Total Defense Expenditure and Compound Annual Growth Rate (CAGR) | | | | | | | | |
| in Local Currencies at "Then Year" Current Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| | Units | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Major Arms Producing Countries | | | | | | | | |
| France | Mil Euros | 37,175 | 38,681 | 40,684 | 42,690 | 42,545 | 43,457 | 3.17% |
| Germany | Mil Euros | 30,649 | 31,168 | 31,060 | 30,610 | 30,600 | 30,365 | -0.19% |
| Italy | Mil Euros | 24,760 | 25,887 | 26,795 | 27,476 | 26,959 | 26,631 | 1.47% |
| Spain | Mil Euros | 7,972 | 9,560 | 9,577 | 10,197 | 10,497 | 11,506 | 7.62% |
| Sweden | Mil Kronor | 42,639 | 42,401 | 42,903 | 40,527 | 41,240 | 39,823 | -1.36% |
| UK | Mil Pounds | 24,464 | 25,173 | 26,420 | 26,794 | 30,738 | 32,360 | 5.75% |
| New EU (European Union) Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | Mil Pounds | 142 | 100 | 104 | 107 | 109 | 114 | -4.30% |
| Czech Republic | Mil Koruna | 45,277 | 48,449 | 52,457 | 50,993 | 52,960 | 54,411 | 3.74% |
| Estonia | Mil Koon | 1,640 | 2,028 | 2,376 | 2,581 | 2,576 | 2,950 | 12.46% |
| Hungary | Mil Forints | 272,426 | 279,569 | 314,380 | 310,731 | 318,552 | 296,665 | 1.72% |
| Latvia | Mil Lats | 55 | 91 | 108 | 124 | 155 | 184 | 27.50% |
| Lithuania | Mil Litai | 652 | 715 | 816 | 864 | 852 | 961 | 8.07% |
| Malta | Thou. Liri | 12,205 | 12,371 | 12,874 | 13,948 | 14,121 | 13,930 | 2.68% |
| Poland | Mil Zloty | 14,455 | 14,581 | 15,431 | 16,901 | 17,911 | 19,021 | 5.64% |
| Slovakia | Mil Korunas | 19,051 | 19,947 | 22,965 | 22,944 | 25,550 | 28,245 | 8.19% |
| Slovenia | Mil Tolars | 65,903 | 78,552 | 86,346 | 94,873 | 99,085 | 120,221 | 12.78% |
| Other EU Member States | | | | | | | | |
| Austria | Mil Euros | 1,999 | 1,999 | 2,111 | 2,158 | 2,160 | 2,181 | 1.76% |
| Belgium | Mil Euros | 3,393 | 3,344 | 3,434 | 3,433 | 3,400 | 3,435 | 0.25% |
| Denmark | Mil Krone | 21,017 | 21,269 | 21,075 | 21,441 | 20,800 | 23,173 | 1.97% |

| Table 1 Total Defense Expenditure and Compound Annual Growth Rate (CAGR) in Local Currencies at "Then Year" Current Prices | | | | | | | | |
|--|-----------------|----------------------------|--------|--------|--------|--------|--------|---------|
| | | Total Defense Expenditures | | | | | | CAGR |
| | Units | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Finland | Mil Euros | 1,653 | 1,712 | 2,006 | 2,131 | 2,206 | 2,274 | 6.59% |
| Greece | Mil Euros | 6,568 | 4,845 | 4,264 | 4,800 | 5,249 | 5,829 | -2.36% |
| Ireland | Mil Euros | 835 | 841 | 848 | 850 | 917 | 932 | 2.22% |
| Luxembourg | Mil Euros | 179 | 163 | 176 | 189 | 196 | 203 | 2.53% |
| Netherlands | Mil Euros | 6,929 | 7,149 | 7,404 | 7,552 | 7,693 | 8,145 | 3.29% |
| Portugal | Mil Euros | 2,599 | 2,082 | 2,094 | 2,293 | 2,527 | 2,514 | -0.66% |
| Non-EU Countries | | | | | | | | |
| Albania | Mil Leks | 7,638 | 8,220 | 9,279 | 10,574 | 11,730 | 14,168 | 13.15% |
| Bosnia -Herzegovina | Mil Marka | n/a | 501 | 351 | 316 | 274 | n/a | n/a |
| Bulgaria | Mil Lev | 805 | 859 | 895 | 930 | 1,006 | 1,116 | 6.75% |
| Croatia | Mil Kunas | 4,336 | 4,355 | 4,089 | 3,585 | 3,649 | 4,081 | -1.20% |
| Macedonia | Mil Denar | 15,397 | 6,841 | 6,292 | 6,683 | 6,259 | 6,149 | -16.77% |
| Moldova | Mil Lei | 77 | 95 | 109 | 113 | 127 | 126 | 10.44% |
| Norway | Mil Kroner | 26,669 | 32,461 | 31,985 | 32,945 | 37,471 | 31,805 | 3.59% |
| Romania | Mil New Lei | 2,864 | 3,491 | 4,151 | 4,994 | 5,675 | 6,506 | 17.83% |
| Serbia & Montenegro | Mil Dinars | 33,060 | 43,695 | 42,070 | 43,154 | 41,996 | 45,738 | 6.71% |
| Switzerland | Mil Francs | 4,476 | 4,661 | 4,437 | 4,381 | 4344 | 4,284 | -0.87% |
| Turkey | Mil New Lira | 8,844 | 12,108 | 13,553 | 13,386 | 13,840 | 16,514 | 13.30% |

Figure 3
Compound Annual Growth Rate (CAGR) of European Defense Spending 2001-2006
 (by Nation, in Current Local Currency Unit)

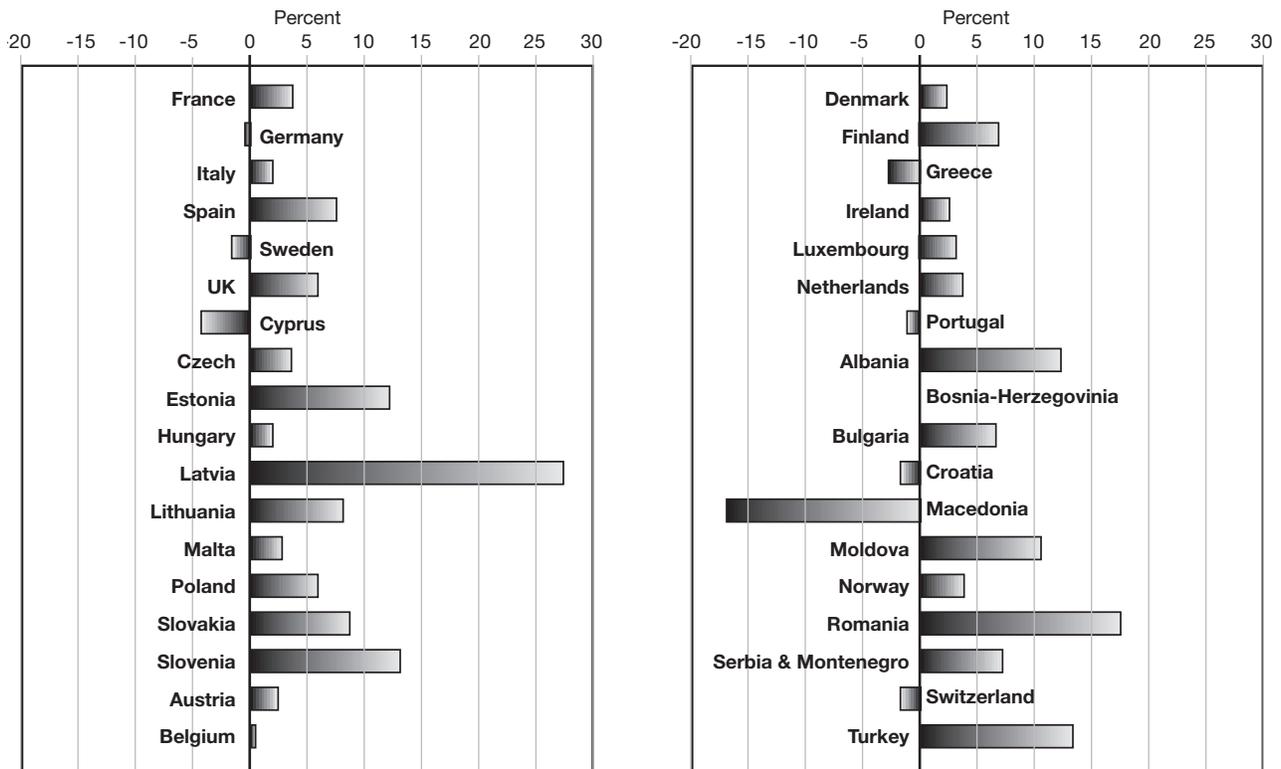


Table 2
Total Defense Expenditure in U.S. Dollars at "Then Year" Current Prices

| | Units | Total Defense Expenditures | | | | | | CAGR |
|---------------------------------------|-------------------|----------------------------|----------------|----------------|----------------|----------------|----------------|---------------|
| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Major Arms Producing Countries | | | | | | | | |
| France | Mil U.S.\$ | 33,330 | 36,588 | 46,058 | 53,100 | 52,985 | 54,592 | 10.37% |
| Germany | Mil U.S.\$ | 27,479 | 29,482 | 35,162 | 38,075 | 38,109 | 38,145 | 6.78% |
| Italy | Mil U.S.\$ | 22,200 | 24,487 | 30,334 | 34,176 | 33,574 | 33,454 | 8.55% |
| Spain | Mil U.S.\$ | 7,147 | 9,043 | 10,842 | 12,684 | 13,073 | 14,454 | 15.13% |
| Sweden | Mil U.S.\$ | 4,136 | 4,379 | 5,326 | 5,527 | 5,539 | 5,410 | 5.52% |
| UK | Mil U.S.\$ | 35,260 | 37,854 | 43,211 | 49,107 | 55,964 | 59,638 | 11.08% |
| Total | Mil U.S.\$ | 129,552 | 141,833 | 170,933 | 192,670 | 199,245 | 205,693 | 9.69% |
| % of EU Total | % | 82.32% | 85.71% | 85.71% | 81.71% | 81.38% | 80.85% | -0.36% |

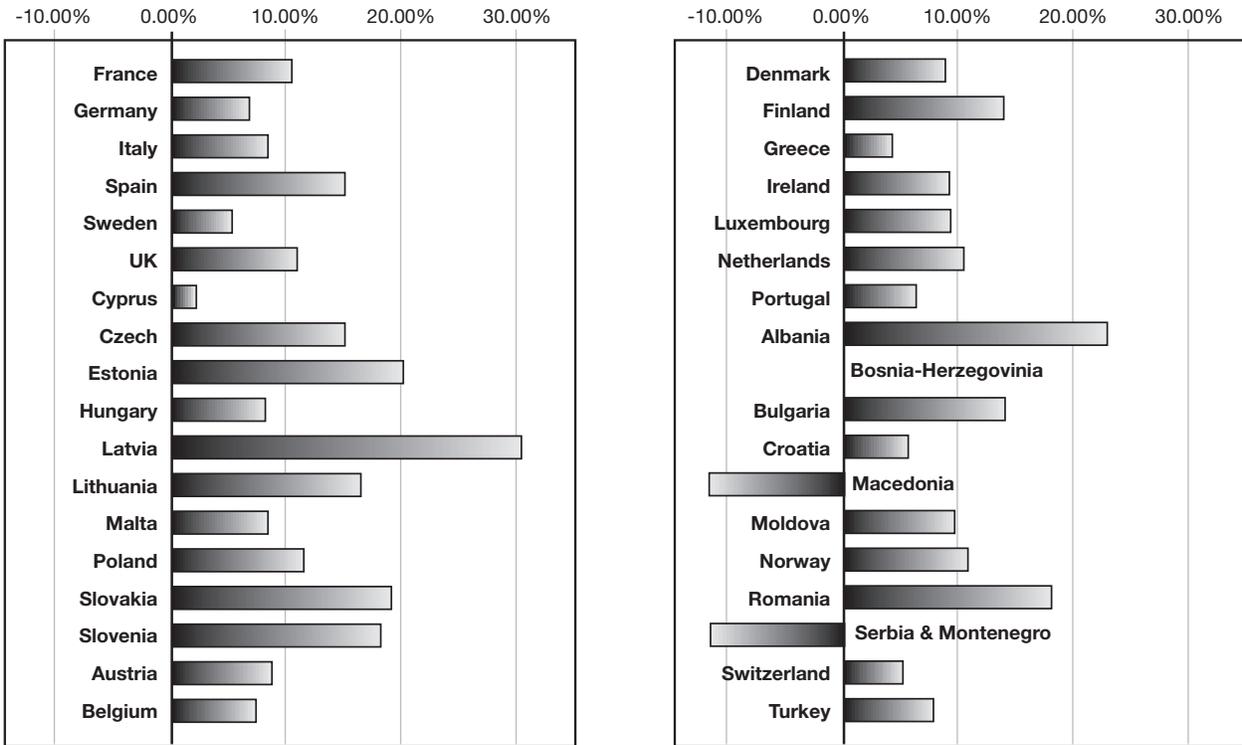
| Table 2 | | | | | | | | |
|--|-------------------|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Total Defense Expenditure in U.S. Dollars at "Then Year" Current Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| Units | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | Mil U.S.\$ | 222 | 166 | 202 | 231 | 236 | 249 | 2.35% |
| Czech | Mil U.S.\$ | 1,189 | 1,493 | 1,865 | 1,992 | 2,217 | 2,416 | 15.23% |
| Estonia | Mil U.S.\$ | 94 | 123 | 172 | 205 | 205 | 237 | 20.29% |
| Hungary | Mil U.S.\$ | 953 | 1,090 | 1,405 | 1,538 | 1,602 | 1,415 | 8.22% |
| Latvia | Mil U.S.\$ | 87 | 148 | 191 | 232 | 278 | 333 | 30.69% |
| Lithuania | Mil U.S.\$ | 163 | 196 | 268 | 311 | 307 | 350 | 16.47% |
| Malta | Mil U.S.\$ | 27 | 29 | 33 | 40 | 41 | 41 | 8.49% |
| Poland | Mil U.S.\$ | 3,534 | 3,580 | 3,977 | 4,659 | 5,551 | 6,144 | 11.70% |
| Slovakia | Mil U.S.\$ | 395 | 442 | 627 | 714 | 826 | 956 | 19.36% |
| Slovenia | Mil U.S.\$ | 273 | 333 | 424 | 501 | 517 | 631 | 18.26% |
| Total | Mil U.S.\$ | 6,937 | 7,600 | 9,164 | 10,423 | 11,780 | 12,772 | 12.98% |
| % of EU Total | % | n/a | n/a | n/a | 4.42% | 4.81% | 5.02% | n/a |
| Other EU Member States | | | | | | | | |
| Austria | Mil U.S.\$ | 1,792 | 1,891 | 2,390 | 2,684 | 2,690 | 2,740 | 8.86% |
| Belgium | Mil U.S.\$ | 3,042 | 3,163 | 3,888 | 4,270 | 4,234 | 4,315 | 7.24% |
| Denmark | Mil U.S.\$ | 2,528 | 2,708 | 3,211 | 3,585 | 3,477 | 3,903 | 9.08% |
| Finland | Mil U.S.\$ | 1,482 | 1,619 | 2,271 | 2,651 | 2,747 | 2,857 | 14.02% |
| Greece | Mil U.S.\$ | 5,888 | 4,583 | 4,827 | 5,971 | 6,537 | 7,323 | 4.46% |
| Ireland | Mil U.S.\$ | 749 | 796 | 960 | 1,057 | 1,142 | 1,171 | 9.36% |
| Luxembourg | Mil U.S.\$ | 161 | 154 | 199 | 235 | 244 | 255 | 9.69% |
| Netherlands | Mil U.S.\$ | 6,212 | 6,762 | 8,382 | 9,394 | 9,581 | 10,232 | 10.49% |
| Portugal | Mil U.S.\$ | 2,330 | 1,969 | 2,371 | 2,852 | 3,147 | 3,158 | 6.27% |
| EU Total | Mil U.S.\$ | 153,736 | 165,478 | 199,432 | 235,792 | 244,824 | 254,419 | 10.60% |

| Table 2 Total Defense Expenditure in U.S. Dollars at "Then Year" Current Prices | | | | | | | | |
|--|------------|----------------------------|-------|-------|-------|--------|--------|---------|
| | | Total Defense Expenditures | | | | | | CAGR |
| | Units | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Non-EU Countries | | | | | | | | |
| Albania | Mil U.S.\$ | 54 | 61 | 79 | 107 | 121 | 152 | 22.91% |
| Bosnia-Herzegovina | Mil U.S.\$ | n/a | 241 | 203 | 201 | 174 | n/a | n/a |
| Bulgaria | Mil U.S.\$ | 370 | 416 | 519 | 592 | 641 | 720 | 14.25% |
| Croatia | Mil U.S.\$ | 524 | 576 | 636 | 619 | 617 | 701 | 5.98% |
| Macedonia | Mil U.S.\$ | 226 | 106 | 116 | 135 | 127 | 126 | -11.05% |
| Moldova | Mil U.S.\$ | 6 | 7 | 8 | 9 | 10 | 10 | 9.99% |
| Norway | Mil U.S.\$ | 2,970 | 4,095 | 4,526 | 4,897 | 5,823 | 4,969 | 10.84% |
| Romania | Mil U.S.\$ | 998 | 1,092 | 1,285 | 1,572 | 1,968 | 2,328 | 18.46% |
| Serbia & Montenegro | Mil U.S.\$ | 1,293 | 689 | 729 | 732 | 630 | 703 | -11.46% |
| Switzerland | Mil U.S.\$ | 2,657 | 3,007 | 3,303 | 3,531 | 3,494 | 3,421 | 5.18% |
| Turkey | Mil U.S.\$ | 7,903 | 8,213 | 9,209 | 9,528 | 10,307 | 11,593 | 7.97% |

To better reflect the reality of fluctuating exchange rates and inflation, Table 3 and Table 4 show countries' total defense expenditure in constant year values. As is evident from Table 4, the six major arms producing countries (the LoI-6) accounted for some 85 percent of total EU defense spending before the EU enlargement of 2004, after which their share dropped to 81 percent.

The 10 new members of the European Union spent between 4.83 percent and 5.02 percent of total EU defense spending, with an almost 3 percent CAGR over the three years since joining the EU. Though these countries have relatively small defense budgets, most have positive growth rates throughout the years. Two of the Baltic States, Latvia and Estonia, as well as Slovenia, have remarkable CAGRs of 22 percent, 8 percent, and 9 percent, respectively. Finland and the Netherlands have enjoyed steady growth each year. Norway has a positive CAGR, but its defense spending decreased by 17 percent from 2005 to 2006. In constant year values, the spending of all the other European countries has declined.

Figure 4
Compound Annual Growth Rate of European Total Defense Spending 2001-2006
 (by Nation, in Current U.S. \$)



| | | Total Defense Expenditures | | | | | | CAGR |
|---------------------------------------|------------|----------------------------|--------|--------|--------|--------|--------|---------|
| | Units | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Major Arms Producing Countries | | | | | | | | |
| France | Mil Euros | 41,125 | 41,993 | 43,216 | 44,328 | 43,353 | 43,457 | 1.11% |
| Germany | Mil Euros | 33,147 | 33,243 | 32,800 | 31,753 | 31,151 | 30,365 | -1.74% |
| Italy | Mil Euros | 27,904 | 28,435 | 28,631 | 28,698 | 27,552 | 26,631 | -0.93% |
| Spain | Mil Euros | 9,404 | 10,886 | 10,577 | 10,923 | 10,875 | 11,506 | 4.12% |
| Sweden | Mil Kronor | 45,931 | 44,823 | 44,334 | 41,464 | 41,859 | 39,823 | -2.81% |
| UK | Mil Pounds | 26,562 | 28,318 | 26,608 | 27,958 | 31,445 | 32,360 | 4.03% |

| Table 3 | | | | | | | | |
|--|--------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Total Defense Expenditure in Local Currencies at Constant 2006 Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| | Units | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | Mil Pounds | 163 | 112 | 112 | 113 | 112 | 114 | -6.96% |
| Czech Republic | Mil Koruna | 49,491 | 52,022 | 56,269 | 53,209 | 54,284 | 54,411 | 1.91% |
| Estonia | Mil Koon | 1,927 | 2,300 | 2,660 | 2,805 | 2,689 | 2,950 | 8.89% |
| Hungary | Mil Forints | 344,949 | 336,176 | 361,411 | 334,472 | 330,976 | 296,665 | -2.97% |
| Latvia | Mil Lats | 69 | 113 | 130 | 141 | 165 | 184 | 21.64% |
| Lithuania | Mil Litai | 698 | 763 | 880 | 921 | 884 | 961 | 6.61% |
| Malta | Thou. Liri | 13,782 | 13,615 | 13,904 | 14,668 | 14,488 | 13,930 | 0.21% |
| Poland | Mil Zloty | 15,847 | 15,687 | 16,470 | 17,428 | 18,090 | 19,021 | 3.72% |
| Slovakia | Mil Korunas | 24,635 | 24,969 | 26,495 | 24,624 | 26,674 | 28,245 | 2.77% |
| Slovenia | Mil Tolars | 81,589 | 90,464 | 94,166 | 99,870 | 101,760 | 120,221 | 8.06% |
| Other EU Member States | | | | | | | | |
| Austria | Mil Euros | 2,181 | 2,145 | 2,236 | 2,241 | 2,197 | 2,181 | 0.00% |
| Belgium | Mil Euros | 3,739 | 3,627 | 3,669 | 3,600 | 3,478 | 3,435 | -1.68% |
| Denmark | Mil Krone | 23,067 | 22,797 | 22,124 | 22,242 | 21,195 | 23,173 | 0.09% |
| Finland | Mil Euros | 1,746 | 1,773 | 2,050 | 2,176 | 2,235 | 2,274 | 5.43% |
| Greece | Mil Euros | 7,770 | 5,517 | 4,696 | 5,132 | 5,422 | 5,829 | -5.59% |
| Ireland | Mil Euros | 976 | 939 | 911 | 892 | 942 | 932 | -0.92% |
| Luxembourg | Mil Euros | 201 | 179 | 189 | 199 | 201 | 203 | 0.23% |
| Netherlands | Mil Euros | 7,694 | 7,648 | 7,750 | 7,796 | 7,824 | 8,145 | 1.15% |
| Portugal | Mil Euros | 3,003 | 2,321 | 2,259 | 2,414 | 2,605 | 2,514 | -3.50% |
| Non-EU Countries | | | | | | | | |
| Albania | Mil Leks | 8,852 | 9,056 | 9,992 | 11,066 | 11,988 | 14,168 | 9.86% |

| Table 3 | | | | | | | | |
|--|--------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Total Defense Expenditure in Local Currencies at Constant 2006 Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| | Units | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Bosnia-Herzegovina | Mil Marka | n/a | 546 | 380 | 341 | 290 | n/a | n/a |
| Bulgaria | Mil Lev | 1,042 | 1,050 | 1,070 | 1,048 | 1,079 | 1,116 | 1.39% |
| Croatia | Mil Kunas | 4,886 | 4,825 | 4,451 | 3,822 | 3,766 | 4,081 | -3.54% |
| Macedonia | Mil Denar | 16,566 | 7,202 | 6,532 | 6,931 | 6,459 | 6,149 | -17.98% |
| Moldova | Mil Lei | 128 | 150 | 155 | 143 | 143 | 126 | -0.31% |
| Norway | Mil Kroner | 28,896 | 34,721 | 33,377 | 34,242 | 38,333 | 31,805 | 1.94% |
| Romania | Mil New Lei | 5,260 | 5,234 | 5,397 | 5,803 | 6,050 | 6,506 | 4.35% |
| Serbia & Montenegro | Mil Dinars | 64,229 | 71,039 | 61,232 | 57,048 | 47,329 | 45,738 | -6.57% |
| Switzerland | Mil Francs | 4,667 | 4,831 | 4,571 | 4,478 | 4,387 | 4,284 | -1.70% |
| Turkey | Mil New Lira | 20,083 | 18,962 | 17,454 | 15,874 | 15,169 | 16,514 | -3.84% |

| Table 4 | | | | | | | | |
|--|-------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Total Defense Expenditure in U.S. Dollars at Constant 2006 Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Major Arms Producing Countries | | | | | | | | |
| France | Mil U.S.\$ | 51,661 | 52,752 | 54,289 | 55,685 | 54,461 | 54,592 | 1.11% |
| Germany | Mil U.S.\$ | 41,640 | 41,761 | 41,204 | 39,889 | 39,132 | 38,145 | -1.74% |
| Italy | Mil U.S.\$ | 35,054 | 35,721 | 35,966 | 36,051 | 34,611 | 33,454 | -0.93% |
| Spain | Mil U.S.\$ | 11,813 | 13,675 | 13,287 | 13,722 | 13,661 | 14,454 | 4.12% |
| Sweden | Mil U.S.\$ | 6,240 | 6,090 | 6,023 | 5,633 | 5,687 | 5,410 | -2.81% |

| Table 4 | | | | | | | | |
|--|------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Total Defense Expenditure in U.S. Dollars at Constant 2006 Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| Unit | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| UK | Mil U.S.\$ | 48,952 | 52,188 | 49,038 | 51,526 | 57,952 | 59,638 | 4.03% |
| Total | Mil U.S.\$ | 195,361 | 202,185 | 199,808 | 202,507 | 205,505 | 205,693 | 1.04% |
| % of EU Total | % | 83.50% | 85.39% | 85.47% | 81.19% | 81.18% | 80.85% | -0.64% |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | Mil U.S.\$ | 358 | 245 | 245 | 246 | 244 | 249 | -6.96% |
| Czech Republic | Mil U.S.\$ | 2,198 | 2,310 | 2,499 | 2,363 | 2,411 | 2,416 | 1.91% |
| Estonia | Mil U.S.\$ | 155 | 185 | 213 | 225 | 216 | 237 | 8.89% |
| Hungary | Mil U.S.\$ | 1,645 | 1,604 | 1,724 | 1,595 | 1,579 | 1,415 | -2.97% |
| Latvia | Mil U.S.\$ | 125 | 205 | 236 | 255 | 299 | 333 | 21.64% |
| Lithuania | Mil U.S.\$ | 254 | 278 | 320 | 335 | 322 | 350 | 6.61% |
| Malta | Mil U.S.\$ | 40 | 40 | 41 | 43 | 43 | 41 | 0.21% |
| Poland | Mil U.S.\$ | 5,119 | 5,067 | 5,320 | 5,629 | 5,843 | 6,144 | 3.72% |
| Slovakia | Mil U.S.\$ | 834 | 845 | 897 | 833 | 903 | 956 | 2.77% |
| Slovenia | Mil U.S.\$ | 428 | 475 | 494 | 524 | 534 | 631 | 8.06% |
| Total | Mil U.S.\$ | 11,156 | 11,254 | 11,989 | 12,048 | 12,394 | 12,772 | 2.74% |
| % of EU Total | % | n/a | n/a | n/a | 4.83% | 4.90% | 5.02% | n/a |
| Other EU Member States | | | | | | | | |
| Austria | Mil U.S.\$ | 2,740 | 2,694 | 2,809 | 2,815 | 2,760 | 2,740 | 0.00% |
| Belgium | Mil U.S.\$ | 4,697 | 4,556 | 4,609 | 4,522 | 4,369 | 4,315 | -1.68% |
| Denmark | Mil U.S.\$ | 4,301 | 4,250 | 4,125 | 4,147 | 3,952 | 3,903 | -1.92% |
| Finland | Mil U.S.\$ | 2,193 | 2,227 | 2,576 | 2,734 | 2,807 | 2,857 | 5.43% |
| Greece | Mil U.S.\$ | 9,761 | 6,930 | 5,899 | 6,447 | 6,811 | 7,323 | -5.59% |
| Ireland | Mil U.S.\$ | 1,226 | 1,180 | 1,144 | 1,121 | 1,183 | 1,171 | -0.92% |
| Luxembourg | Mil U.S.\$ | 252 | 225 | 238 | 250 | 253 | 255 | 0.23% |

| Table 4 | | | | | | | | |
|--|-------------------|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Total Defense Expenditure in U.S. Dollars at Constant 2006 Prices | | | | | | | | |
| | | Total Defense Expenditures | | | | | | CAGR |
| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | '01-'06 |
| Netherlands | Mil U.S.\$ | 9,665 | 9,607 | 9,735 | 9,793 | 9,828 | 10,232 | 1.15% |
| Portugal | Mil U.S.\$ | 3,773 | 2,915 | 2,838 | 3,032 | 3,273 | 3,158 | -3.50% |
| EU Total | Mil U.S.\$ | 233,969 | 236,769 | 233,781 | 249,416 | 253,135 | 254,419 | 1.69% |
| Non-EU Europeans | | | | | | | | |
| Albania | Mil U.S.\$ | 95 | 97 | 107 | 119 | 129 | 152 | 9.86% |
| Bosnia-Herzegovina | Mil U.S.\$ | n/a | 340 | 236 | 212 | 181 | n/a | n/a |
| Bulgaria | Mil U.S.\$ | 672 | 678 | 690 | 676 | 697 | 720 | 1.39% |
| Croatia | Mil U.S.\$ | 839 | 828 | 764 | 656 | 646 | 701 | -3.54% |
| Macedonia | Mil U.S.\$ | 339 | 148 | 134 | 142 | 132 | 126 | -17.98% |
| Moldova | Mil U.S.\$ | 10 | 11 | 12 | 11 | 11 | 10 | -0.31% |
| Norway | Mil U.S.\$ | 4,514 | 5,424 | 5,215 | 5,350 | 5,989 | 4,969 | 1.94% |
| Romania | Mil U.S.\$ | 1,882 | 1,872 | 1,931 | 2,076 | 2,164 | 2,328 | 4.35% |
| Serbia & Montenegro | Mil U.S.\$ | 988 | 1,093 | 942 | 877 | 728 | 703 | -6.57% |
| Switzerland | Mil U.S.\$ | 3,727 | 3,858 | 3,651 | 3,576 | 3,504 | 3,421 | -1.70% |
| Turkey | Mil U.S.\$ | 14,098 | 13,311 | 12,253 | 11,143 | 10,648 | 11,593 | -3.84% |

Though some countries seem to have increased defense expenditures, this might be a result of an overall increase in their Gross Domestic Product. Therefore, we also calculate each country's defense expenditure as a percentage of its GDP to see whether the rate of growth in defense spending has kept pace with economic growth.

Table 5
Defense Expenditures as a Percent of Total GDP in
Local Currencies at Current Prices

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---|-------|-------|-------|-------|-------|-------|---------|
| Major Arms Producing Countries | | | | | | | |
| France | 2.48% | 2.50% | 2.55% | 2.58% | 2.48% | 2.42% | -0.49% |
| Germany | 1.45% | 1.45% | 1.44% | 1.38% | 1.36% | 1.32% | -1.92% |
| Italy | 1.98% | 2.00% | 2.01% | 1.98% | 1.90% | 1.81% | -1.86% |
| Spain | 1.17% | 1.31% | 1.23% | 1.22% | 1.16% | 1.18% | 0.09% |
| Sweden | 1.86% | 1.79% | 1.74% | 1.57% | 1.54% | 1.40% | -5.52% |
| UK | 2.45% | 2.40% | 2.39% | 2.30% | 2.54% | 2.51% | 0.47% |
| New EU Member States (Entered January 1, 2004) | | | | | | | |
| Cyprus | 2.15% | 1.56% | 1.51% | 1.45% | 1.39% | 1.36% | -8.67% |
| Czech Republic | 1.92% | 1.97% | 2.04% | 1.83% | 1.78% | 1.70% | -2.47% |
| Estonia | 1.52% | 1.67% | 1.75% | 1.72% | 1.47% | 1.42% | -1.23% |
| Hungary | 1.78% | 1.63% | 1.66% | 1.50% | 1.43% | 1.23% | -7.10% |
| Latvia | 1.05% | 1.58% | 1.69% | 1.67% | 1.73% | 1.67% | 9.62% |
| Lithuania | 1.34% | 1.38% | 1.44% | 1.38% | 1.20% | 1.17% | -2.67% |
| Malta | 0.70% | 0.67% | 0.68% | 0.73% | 0.69% | 0.64% | -2.00% |
| Poland | 1.86% | 1.80% | 1.83% | 1.83% | 1.83% | 1.81% | -0.49% |
| Slovakia | 1.89% | 1.82% | 1.91% | 1.73% | 1.77% | 1.73% | -1.71% |
| Slovenia | 1.37% | 1.47% | 1.49% | 1.51% | 1.50% | 1.70% | 4.37% |
| Other EU Member States | | | | | | | |
| Austria | 0.93% | 0.91% | 0.93% | 0.91% | 0.88% | 0.85% | -1.68% |
| Belgium | 1.31% | 1.25% | 1.25% | 1.19% | 1.14% | 1.10% | -3.52% |
| Denmark | 1.57% | 1.55% | 1.50% | 1.46% | 1.34% | 1.41% | -2.17% |
| Finland | 1.21% | 1.22% | 1.39% | 1.42% | 1.42% | 1.35% | 2.26% |
| Greece | 4.51% | 3.38% | 2.74% | 2.85% | 2.90% | 2.38% | -11.99% |
| Ireland | 0.71% | 0.65% | 0.61% | 0.57% | 0.57% | 0.53% | -5.66% |

Table 5
Defense Expenditures as a Percent of Total GDP in
Local Currencies at Current Prices

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|-------------------------|-------|-------|-------|-------|-------|-------|---------|
| Luxembourg | 0.79% | 0.68% | 0.69% | 0.70% | 0.67% | 0.61% | -4.98% |
| Netherlands | 1.55% | 1.54% | 1.55% | 1.54% | 1.51% | 1.52% | -0.30% |
| Portugal | 2.01% | 1.54% | 1.52% | 1.60% | 1.71% | 1.62% | -4.23% |
| Non-EU Europeans | | | | | | | |
| Albania | 1.30% | 1.32% | 1.36% | 1.38% | 1.40% | 1.58% | 3.92% |
| Bosnia-Herzegovina | n/a | 3.93% | 2.62% | 2.16% | 1.75% | n/a | n/a |
| Bulgaria | 2.71% | 2.66% | 2.59% | 2.43% | 2.40% | 2.33% | -2.94% |
| Croatia | 2.62% | 2.40% | 2.06% | 1.68% | 1.59% | 1.65% | -8.85% |
| Macedonia | 6.58% | 2.80% | 2.50% | 2.52% | 2.20% | 2.02% | -21.08% |
| Moldova | 0.40% | 0.42% | 0.39% | 0.35% | 0.34% | 0.29% | -6.69% |
| Norway | 1.75% | 2.14% | 2.03% | 1.92% | 1.97% | 1.48% | -3.26% |
| Romania | 2.45% | 2.30% | 2.10% | 2.03% | 1.98% | 1.90% | -4.98% |
| Serbia & Montenegro | 4.28% | 4.38% | 3.54% | 3.04% | 2.41% | 2.16% | -12.76% |
| Switzerland | 1.06% | 1.08% | 1.02% | 0.98% | 0.95% | 0.91% | -3.07% |
| Turkey | 4.96% | 4.36% | 3.77% | 3.11% | 2.84% | 2.93% | -9.96% |

Of the 10 new EU countries, five are new NATO members as well. This has important consequences for their defense budgets. Some have placed interoperability with NATO as a key priority, and most have made clear their intentions of meeting NATO's recommended defense spending levels of 2 percent of GDP.⁶ As is clear from Table 5, though many of these new NATO countries come close to the 2 percent goal, only one, Bulgaria, exceeds it. In fact, Bulgaria's and Romania's defense spending as a percentage of GDP exceeded 2 percent even prior to their joining NATO. However, for both countries, this trend has slightly decreased over time. And although Latvia has not met its goal of spending 2 percent of GDP on defense, its CAGR of defense spending as the percentage of GDP is very high at 9.6 percent.

6. See for example Lithuania's "Guidelines of the Minister of National Defense 2007-2012" regarding defense spending as share of GDP and the ability of the armed forces to contribute to NATO and EU rapid reaction forces. Accordingly, 7.8 percent of the defense budget in 2007 is for international operations. <http://www.kam.lt/index.php/en/34433/> [Accessed March 12, 2008]. Slovenia too has listed in its MoD (Ministry of Defense) goals in 2005 to include "to develop [military] capabilities necessary for the accomplishment of the national defense tasks and NATO and EU integration tasks; To create favorable conditions for the [Slovenian armed forces] to become part of the NATO integrated military structure." http://www.mors.si/fileadmin/mors/pdf/dokumenti/annual_report_2005.pdf

Slovenia is the only other new EU Member State whose percentage of GDP spent on defense has increased significantly.

In addition to looking at total defense expenditure and the spending as a percentage of GDP, investment spending, which includes spending on equipment procurement and research and development, can better reflect how much a government spends on enhancing defense capability (with procurement spending a reflection of short-term capabilities and R&D a reflection of long-term capabilities). Table 6 shows European defense investment (in U.S. dollars) at constant 2006 year values. Among the six major arms producing countries, Spain had a remarkable CAGR of nearly 16 percent. Before the new members entered the EU in 2004, the LoI-6 accounted for between 88 percent and 91 percent of the EU defense investment; while after the EU enlargement their share gradually decreased by about 1 percent each year.⁷ On average, new EU members have taken over approximately 4 percent of major arms producing countries' burden on defense investment.

| Table 6 | | | | | | | | |
|--|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Defense Investment in U.S. Dollars at Constant 2006 Year Prices | | | | | | | | |
| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
| Major Arms Producing Countries | | | | | | | | |
| France | Mil U.S.\$ | 10,022 | 10,076 | 11,129 | 11,638 | 11,600 | 12,665 | 4.8% |
| Germany | Mil U.S.\$ | 5,830 | 5,888 | 5,686 | 5,904 | 5,557 | 5,722 | -0.4% |
| Italy | Mil U.S.\$ | 3,611 | 4,429 | 4,640 | 4,218 | 3,150 | 2,409 | -7.8% |
| Spain | Mil U.S.\$ | 1,500 | 3,186 | 2,950 | 3,129 | 3,019 | 3,137 | 15.9% |
| Sweden | Mil U.S.\$ | 3,107 | 3,071 | 2,707 | 2,406 | 2,391 | 2,356 | -5.4% |
| UK | Mil U.S.\$ | 11,798 | 11,785 | 11,632 | 11,748 | 13,387 | 12,643 | 1.4% |
| Total | Mil U.S.\$ | 35,868 | 38,435 | 38,744 | 39,042 | 39,104 | 38,932 | 1.7% |
| % of EU Total | % | 87.60% | 90.39% | 91.03% | 87.27% | 86.96% | 85.35% | -0.52% |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | Mil U.S.\$ | n/a |
| Czech Republic | Mil U.S.\$ | 446 | 404 | 487 | 364 | 224 | 353 | -4.6% |
| Estonia | Mil U.S.\$ | n/a | n/a | n/a | 25 | 26 | 34 | 16.62% |
| Hungary | Mil U.S.\$ | 173 | 178 | 178 | 190 | 133 | 127 | -5.9% |
| Latvia | Mil U.S.\$ | n/a | n/a | n/a | 14 | 19 | 18 | 13.39% |
| Lithuania | Mil U.S.\$ | n/a | n/a | n/a | 41 | 49 | 60 | 20.97% |

7. EU total defense investment numbers from 2001 to 2003 did not include those member states which entered after 2004. The percentage is calculated based on the investment spending of the original 15 EU members.

Table 6
Defense Investment in U.S. Dollars at Constant 2006 Year Prices

| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|-------------------------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Malta | Mil U.S.\$ | n/a |
| Poland | Mil U.S.\$ | 450 | 562 | 660 | 822 | 853 | 1,118 | 19.9% |
| Slovakia | Mil U.S.\$ | n/a | n/a | n/a | 87 | 134 | 116 | 15.47% |
| Slovenia | Mil U.S.\$ | n/a | n/a | n/a | 97 | 51 | 75 | -12.07% |
| Total | Mil U.S.\$ | 1,069 | 1,144 | 1,325 | 1,640 | 1,489 | 1,901 | 12.20% |
| % of EU Total | % | n/a | n/a | n/a | 3.67% | 3.31% | 4.17% | n/a |
| Other EU Member States | | | | | | | | |
| Austria | Mil U.S.\$ | n/a |
| Belgium | Mil U.S.\$ | 333 | 323 | 244 | 249 | 260 | 255 | -5.3% |
| Denmark | Mil U.S.\$ | 653 | 518 | 600 | 719 | 400 | 601 | -1.6% |
| Finland | Mil U.S.\$ | 760 | 672 | 666 | 733 | 746 | 814 | 1.4% |
| Greece | Mil U.S.\$ | 1,484 | 908 | 631 | 471 | 1,078 | 1,091 | -6.0% |
| Ireland | Mil U.S.\$ | n/a |
| Luxembourg | Mil U.S.\$ | 31 | 15 | 18 | 20 | 29 | 22 | -6.2% |
| Netherlands | Mil U.S.\$ | 1,614 | 1,528 | 1,451 | 1,635 | 1,573 | 1,719 | 1.3% |
| Portugal | Mil U.S.\$ | 200 | 120 | 210 | 230 | 291 | 281 | 7.0% |
| EU Total | Mil U.S.\$ | 40,943 | 42,519 | 42,564 | 44,739 | 44,970 | 45,616 | 2.19% |
| Non-EU Europeans | | | | | | | | |
| Albania | Mil U.S.\$ | n/a |
| Bosnia-Herzegovina | Mil U.S.\$ | n/a |
| Bulgaria | Mil U.S.\$ | n/a | n/a | n/a | 125 | 121 | 113 | -4.92% |
| Croatia | Mil U.S.\$ | n/a | n/a | 6 | 33 | 49 | 53 | n/a |
| Macedonia | Mil U.S.\$ | n/a | n/a | n/a | n/a | 21 | 26 | n/a |
| Moldova | Mil U.S.\$ | n/a |
| Norway | Mil U.S.\$ | 957 | 1,286 | 1,137 | 1,225 | 1,264 | 964 | 0.1% |

| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Romania | Mil U.S.\$ | n/a | n/a | n/a | 531 | 439 | 543 | 1.12% |
| Serbia & Montenegro | Mil U.S.\$ | n/a | n/a | n/a | 107 | 131 | 132 | n/a |
| Switzerland | Mil U.S.\$ | n/a | n/a | n/a | n/a | 1,411 | 1,315 | n/a |
| Turkey | Mil U.S.\$ | 4,652 | 4,193 | 4,693 | 3,666 | 3,173 | 3,988 | -3.0% |

Note: CAGRs for new NATO members which entered after 2004 are from 2004-2006

We next compare the percentage of investment, i.e. of defense procurement and defense R&D, out of nations' total defense expenditures (see Table 7). Spain's defense investment has leapt from 12 percent of its defense budget to 21 percent in the past six years. Germany maintained stable spending on defense investment; while UK, France, Italy, and Sweden gradually reduced the relative shares of their defense investment. Sweden, though it has witnessed a gradual decline, maintains the highest level of investments as a share of defense expenditures among all European countries at around 45 percent. Only nine European countries—France, Finland, Norway, Romania, Spain, Sweden, Switzerland, Turkey, and the UK—spent more than 20 percent of their defense budgets on investments. Some, such as Belgium, Italy, and Portugal, spent less than 10 percent. Among the new EU members, Latvia, Lithuania, and Poland have had significant growth. Most other European countries, including the non-EU countries, have had mild fluctuation; but they have mainly maintained a reasonable amount of spending on investment.

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Major Arms Producing Countries | | | | | | | |
| France | 19.4% | 19.1% | 20.5% | 20.9% | 21.3% | 23.2% | 3.64% |
| Germany | 14.0% | 14.1% | 13.8% | 14.8% | 14.2% | 15.0% | 1.39% |
| Italy | 10.3% | 12.4% | 12.9% | 11.7% | 9.1% | 7.2% | -6.91% |
| Spain | 12.7% | 23.3% | 22.2% | 22.8% | 22.1% | 21.7% | 11.31% |
| Sweden | 49.8% | 50.4% | 44.9% | 42.7% | 42.1% | 43.6% | -2.65% |
| UK | 24.1% | 23.7% | 22.6% | 22.8% | 23.1% | 21.2% | -2.53% |
| New EU Member States (Entered January 1, 2004) | | | | | | | |
| Cyprus | n/a | n/a | n/a | n/a | 25.69% | 3.51% | n/a |

Table 7
Percentage of Defense Investment among Total Expenditure
at Current Local Currency

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|-------------------------------|-------|-------|-------|-------|-------|-------|---------|
| Czech Republic | 20.3% | 17.5% | 19.5% | 15.4% | 9.3% | 14.6% | -6.38% |
| Estonia | n/a | n/a | n/a | 12.6% | 11.9% | 14.5% | 7.28% |
| Hungary | 10.5% | 11.1% | 10.3% | 11.9% | 8.4% | 9.0% | -3.04% |
| Latvia | n/a | n/a | n/a | 7.4% | 8.7% | 12.3% | 28.92% |
| Lithuania | n/a | n/a | n/a | 12.3% | 15.3% | 17.0% | 17.56% |
| Malta | n/a | n/a | n/a | n/a | 0.0% | 0.0% | n/a |
| Poland | 8.8% | 11.1% | 12.4% | 14.6% | 14.6% | 18.2% | 15.64% |
| Slovakia | n/a | n/a | n/a | 10.4% | 14.8% | 12.7% | 10.51% |
| Slovenia | n/a | n/a | n/a | 18.5% | 9.5% | 12.2% | -18.79% |
| Other EU Member States | | | | | | | |
| Austria | n/a |
| Belgium | 7.1% | 7.1% | 5.3% | 5.5% | 6.4% | 5.9% | -3.64% |
| Denmark | 16.8% | 13.5% | 16.1% | 19.2% | 11.2% | 15.4% | -1.73% |
| Finland | 34.7% | 30.2% | 25.9% | 26.8% | 26.6% | 28.5% | -3.86% |
| Greece | 15.2% | 13.1% | 10.7% | 7.3% | 15.3% | 14.9% | -0.40% |
| Ireland | n/a |
| Luxembourg | 12.1% | 6.8% | 7.4% | 8.2% | 11.4% | 8.7% | -6.38% |
| Netherlands | 16.7% | 15.9% | 14.9% | 16.7% | 16.0% | 16.8% | 0.12% |
| Portugal | 5.3% | 4.1% | 7.4% | 7.6% | 8.9% | 8.9% | 10.92% |
| Non-EU Europeans | | | | | | | |
| Albania | n/a |
| Bosnia-Herzegovina | n/a |
| Bulgaria | n/a | n/a | n/a | 17.6% | 16.6% | 15.7% | -5.55% |
| Croatia | n/a | n/a | 0.8% | 5.1% | 7.5% | 7.5% | n/a |
| Macedonia | n/a | n/a | n/a | n/a | 15.9% | 20.5% | n/a |

Table 7
Percentage of Defense Investment among Total Expenditure
at Current Local Currency

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---------------------|-------|-------|-------|-------|-------|-------|--------|
| Moldova | n/a |
| Norway | 21.2% | 23.7% | 21.8% | 22.9% | 21.1% | 19.4% | -1.76% |
| Romania | n/a | n/a | n/a | 25.6% | 20.0% | 24.0% | -3.18% |
| Serbia & Montenegro | n/a | n/a | n/a | 12.2% | 18.0% | 18.8% | 24.34% |
| Switzerland | n/a | n/a | n/a | n/a | 40.3% | 38.4% | n/a |
| Turkey | 33.0% | 31.5% | 38.3% | 32.9% | 29.8% | 34.4% | 0.83% |

Note: CAGRs for new NATO members which entered after 2004 are from 2004-2006

When defense investments are viewed in relation to force size, the 10 new EU countries have remarkable, two-digit CAGRs of defense investment per soldier, with Estonia at 28 percent, Latvia 12 percent, Lithuania 28 percent, Poland 23 percent, and Slovakia at 33 percent growth. This is the result of significant reductions in the number of active military personnel alongside increases in defense investment. Amongst the LoI-6, Spain's significant growth rate of 20 percent is worth noting.

Table 8
Defense Investment per Soldier in Constant 2006 U.S. Dollars

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---|---------|--------|---------|--------|--------|--------|--------|--------|
| Major Arms Producing Countries | | | | | | | | |
| France | U.S. \$ | 38,487 | 38,896 | 42,961 | 45,658 | 45,509 | 49,687 | 5.24% |
| Germany | U.S. \$ | 19,696 | 20,696 | 19,986 | 20,752 | 19,533 | 23,288 | 3.41% |
| Italy | U.S. \$ | 16,656 | 22,145 | 23,918 | 21,983 | 16,479 | 12,603 | -5.42% |
| Spain | U.S. \$ | 8,429 | 21,141 | 19,575 | 21,249 | 20,502 | 21,303 | 20.37% |
| Sweden | U.S. \$ | 91,652 | 111,268 | 98,080 | 87,174 | 86,630 | 85,362 | -1.41% |
| UK | U.S. \$ | 56,061 | 55,417 | 56,023 | 57,060 | 61,723 | 66,183 | 3.38% |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | U.S. \$ | n/a | n/a | n/a | n/a | n/a | n/a | n/a |

Table 8
Defense Investment per Soldier in Constant 2006 U.S. Dollars

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|-------------------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Czech Republic | U.S. \$ | 9,019 | 7,082 | 10,822 | 16,343 | 10,057 | 14,261 | 9.60% |
| Estonia | U.S. \$ | n/a | n/a | n/a | 5,067 | 5,270 | 8,293 | 27.93% |
| Hungary | U.S. \$ | 5,180 | 5,329 | 5,511 | 5,882 | 4,118 | 3,932 | -5.36% |
| Latvia | U.S. \$ | n/a | n/a | n/a | 2,673 | 3,627 | 3,371 | 12.31% |
| Lithuania | U.S. \$ | n/a | n/a | n/a | 3,035 | 3,627 | 4,996 | 28.30% |
| Malta | U.S. \$ | n/a |
| Poland | U.S. \$ | 2,761 | 3,448 | 4,664 | 5,809 | 6,028 | 7,901 | 23.40% |
| Slovakia | U.S. \$ | n/a | n/a | n/a | 4,308 | 6,635 | 7,620 | 33.00% |
| Slovenia | U.S. \$ | n/a | n/a | n/a | 14,809 | 7,786 | 11,450 | -12.07% |
| Other EU Member States | | | | | | | | |
| Austria | U.S. \$ | n/a |
| Belgium | U.S. \$ | 8,482 | 7,917 | 5,980 | 6,748 | 7,037 | 6,425 | -5.40% |
| Denmark | U.S. \$ | 28,767 | 22,640 | 28,329 | 33,947 | 18,886 | 27,798 | -0.68% |
| Finland | U.S. \$ | 23,862 | 24,889 | 24,667 | 25,901 | 26,360 | 27,782 | 3.09% |
| Greece | U.S. \$ | 8,356 | 5,113 | 3,694 | 2,875 | 6,579 | 7,417 | -2.36% |
| Ireland | U.S. \$ | n/a |
| Luxembourg | U.S. \$ | 34,444 | 16,667 | 20,000 | 22,222 | 32,222 | 24,444 | -6.63% |
| Netherlands | U.S. \$ | 32,553 | 28,760 | 27,310 | 30,774 | 29,607 | 32,355 | -0.12% |
| Portugal | U.S. \$ | 4,587 | 2,673 | 4,677 | 5,122 | 6,481 | 6,392 | 6.86% |
| Non-EU Europeans | | | | | | | | |
| Albania | U.S. \$ | n/a |
| Bosnia-Herzegovina | U.S. \$ | n/a |
| Bulgaria | U.S. \$ | n/a | n/a | n/a | 2,451 | 2,373 | 2,216 | -4.92% |
| Croatia | U.S. \$ | n/a | n/a | 288 | 1,587 | 2,356 | 2,548 | n/a |
| Macedonia | U.S. \$ | n/a | n/a | n/a | n/a | 1,928 | 2,388 | n/a |

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Moldova | U.S. \$ | n/a |
| Norway | U.S. \$ | 35,977 | 48,346 | 42,744 | 47,481 | 48,992 | 41,197 | 2.75% |
| Romania | U.S. \$ | n/a | n/a | n/a | 5,463 | 4,516 | 7,802 | 19.50% |
| Serbia & Montenegro | U.S. \$ | n/a | n/a | n/a | 1,639 | 2,006 | 3,326 | n/a |
| Switzerland | U.S. \$ | n/a |
| Turkey | U.S. \$ | 9,036 | 8,144 | 9,115 | 7,121 | 6,163 | 7,746 | -3.03% |

R&D is a smaller part of defense investment spending. Though many countries' data are unavailable, the numbers in Table 9 are sufficient to show a huge gap between the major arms producing countries' defense R&D spending and that of others. Though spending relatively less, Sweden, Belgium, Denmark, and Finland still have relatively high CAGRs while Italy's R&D spending sharply decreased by a CAGR of nearly 20.5 percent. R&D spending per soldier in Table 10 generally reflects a similar trend.

| Unit | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Major Arms Producing Countries | | | | | | | | |
| France | Mil U.S.\$ | 4,704 | 4,861 | 4,670 | 4,467 | 4,342 | 5,006 | 1.25% |
| Germany | Mil U.S.\$ | 1,649 | 1,234 | 1,546 | 1,335 | 1,315 | 1,450 | -2.54% |
| Italy | Mil U.S.\$ | 482 | n/a | n/a | n/a | 425 | 153 | -20.48% |
| Spain | Mil U.S.\$ | 2,496 | 2,044 | 1,925 | 1,727 | 1,665 | 2,074 | -3.64% |
| Sweden | Mil U.S.\$ | 410 | 661 | 646 | 533 | 559 | 550 | 6.08% |
| UK | Mil U.S.\$ | 4,128 | 5,409 | 5,152 | 4,910 | 4,667 | 4,898 | 3.48% |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | Mil U.S.\$ | n/a |
| Czech Republic | Mil U.S.\$ | n/a | 19.08 | 21.30 | 19.18 | 18.37 | 21.82 | n/a |

| Table 9 | | | | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Defense R&D Expenditure in U.S. Dollars at Constant 2006 Year Prices | | | | | | | | |
| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
| Estonia | Mil U.S.\$ | n/a |
| Hungary | Mil U.S.\$ | n/a | n/a | n/a | n/a | 0.39 | n/a | n/a |
| Latvia | Mil U.S.\$ | n/a |
| Lithuania | Mil U.S.\$ | n/a |
| Malta | Mil U.S.\$ | n/a |
| Poland | Mil U.S.\$ | n/a | n/a | n/a | 19.01 | 12.05 | 9.42 | n/a |
| Slovakia | Mil U.S.\$ | n/a | 13.62 | 10.95 | 8.15 | 12.20 | 9.89 | n/a |
| Slovenia | Mil U.S.\$ | n/a | n/a | 0.13 | 6.90 | 5.79 | n/a | n/a |
| Other EU Member States | | | | | | | | |
| Austria | Mil U.S.\$ | 0.23 | 0.03 | 0.00 | 0.59 | 0.03 | n/a | n/a |
| Belgium | Mil U.S.\$ | 4.84 | 6.56 | 6.89 | 9.16 | 6.95 | 7.29 | 8.50% |
| Denmark | Mil U.S.\$ | 9.10 | 9.04 | 21.70 | 23.72 | 13.19 | 13.82 | 8.73% |
| Finland | Mil U.S.\$ | 27.86 | 28.91 | 50.99 | 42.95 | 63.79 | 55.45 | 14.76% |
| Greece | Mil U.S.\$ | 5.13 | 4.08 | 3.81 | 3.72 | 4.14 | 4.49 | -2.64% |
| Ireland | Mil U.S.\$ | 0 | 0 | 0 | 0 | 0 | 0 | n/a |
| Luxembourg | Mil U.S.\$ | n/a | n/a | n/a | n/a | 0 | 0 | n/a |
| Netherlands | Mil U.S.\$ | 87.98 | 82.97 | 88.24 | 61.44 | 101.35 | 103.78 | 3.36% |
| Portugal | Mil U.S.\$ | 23.38 | 23.95 | 21.70 | 9.10 | 9.21 | 7.95 | -19.41% |
| Non-EU Europeans | | | | | | | | |
| Albania | Mil U.S.\$ | n/a |
| Bosnia-Herzegovina | Mil U.S.\$ | n/a |
| Bulgaria | Mil U.S.\$ | n/a | n/a | n/a | n/a | n/a | 5.07 | n/a |
| Croatia | Mil U.S.\$ | n/a | n/a | 0.05 | 2.18 | 3.45 | 3.80 | n/a |
| Macedonia | Mil U.S.\$ | n/a |
| Moldova | Mil U.S.\$ | n/a |

| | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Norway | Mil U.S.\$ | 133.51 | 137.58 | 140.71 | 151.61 | 161.55 | 157.49 | 3.36% |
| Romania | Mil U.S.\$ | n/a |
| Serbia & Montenegro | Mil U.S.\$ | n/a | n/a | n/a | 3.60 | 4.65 | 6.40 | n/a |
| Switzerland | Mil U.S.\$ | n/a | 12.25 | n/a | 11.30 | n/a | 16.10 | n/a |
| Turkey | Mil U.S.\$ | n/a |

Note: Data unavailable for the 10 new EU members as well as for Austria, Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Ireland, Luxembourg Macedonia, Moldova, Romania, Serbia & Montenegro, Switzerland, and Turkey.

Compared to R&D spending per soldier, overall defense investment per soldier has generally increased when the CAGRs of R&D per soldier are positive. However, Sweden, Belgium, Denmark, Greece, and Netherlands have negative CAGRs of investment per soldier as well as positive CAGRs of R&D per soldier, indicating that more resources are committed to R&D despite a decrease in overall investment per soldier.

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Major Arms Producing Countries | | | | | | | | |
| France | U.S. \$ | 18,063 | 18,764 | 18,027 | 17,525 | 17,035 | 19,640 | 1.69% |
| Germany | U.S. \$ | 5,570 | 4,337 | 5,433 | 4,691 | 4,622 | 5,901 | 1.16% |
| Italy | U.S. \$ | 2,221 | n/a | n/a | n/a | 2,225 | 801 | -18.46% |
| Spain | U.S. \$ | 14,026 | 13,565 | 12,773 | 11,726 | 11,305 | 14,082 | 0.08% |
| Sweden | U.S. \$ | 12,088 | 23,951 | 23,413 | 19,307 | 20,266 | 19,944 | 10.53% |
| UK | U.S. \$ | 19,616 | 25,436 | 24,814 | 23,849 | 21,518 | 25,640 | 5.50% |
| New EU Member States (Entered January 1, 2004) | | | | | | | | |
| Cyprus | U.S. \$ | n/a |

Table 10
Defense R&D Spending per Soldier in Constant U.S. Dollars

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|-------------------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Czech Republic | U.S. \$ | n/a | 334 | 473 | 861 | 825 | 882 | n/a |
| Estonia | U.S. \$ | n/a |
| Hungary | U.S. \$ | n/a | n/a | n/a | n/a | 12 | n/a | n/a |
| Latvia | U.S. \$ | n/a |
| Lithuania | U.S. \$ | n/a |
| Malta | U.S. \$ | n/a |
| Poland | U.S. \$ | n/a | n/a | n/a | 134 | 85 | 67 | n/a |
| Slovakia | U.S. \$ | n/a | 619 | 542 | 404 | 604 | 649 | n/a |
| Slovenia | U.S. \$ | n/a | n/a | 20 | 1,054 | 884 | n/a | n/a |
| Other EU Member States | | | | | | | | |
| Austria | U.S. \$ | 7 | 1 | 0 | 15 | 1 | n/a | n/a |
| Belgium | U.S. \$ | 123 | 161 | 169 | 248 | 188 | 184 | 8.26% |
| Denmark | U.S. \$ | 401 | 395 | 1,025 | 1,120 | 623 | 639 | 9.80% |
| Finland | U.S. \$ | 875 | 1,071 | 1,888 | 1,518 | 2,254 | 1,892 | 16.69% |
| Greece | U.S. \$ | 29 | 23 | 22 | 23 | 25 | 30 | 1.10% |
| Ireland | U.S. \$ | 0 | 0 | 0 | 0 | 0 | 0 | n/a |
| Luxembourg | U.S. \$ | n/a | n/a | n/a | n/a | 0 | 0 | n/a |
| Netherlands | U.S. \$ | 1,774 | 1,562 | 1,661 | 1,156 | 1,908 | 1,953 | 1.94% |
| Portugal | U.S. \$ | 536 | 533 | 483 | 203 | 205 | 181 | -19.54% |
| Non-EU Europeans | | | | | | | | |
| Albania | U.S. \$ | n/a |
| Bosnia-Herzegovina | U.S. \$ | n/a |
| Bulgaria | U.S. \$ | n/a | n/a | n/a | n/a | n/a | 100 | n/a |
| Croatia | U.S. \$ | n/a | n/a | 2.41 | 105 | 166 | 183 | n/a |
| Macedonia | U.S. \$ | n/a |

Table 10
Defense R&D Spending per Soldier in Constant U.S. Dollars

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | CAGR |
|---------------------|---------|-------|-------|-------|-------|-------|-------|-------|
| Moldova | U.S. \$ | n/a |
| Norway | U.S. \$ | 5,019 | 5,172 | 5,290 | 5,877 | 6,262 | 6,730 | 6.04% |
| Romania | U.S. \$ | n/a |
| Serbia & Montenegro | U.S. \$ | n/a | n/a | n/a | 55 | 71 | 161 | n/a |
| Switzerland | U.S. \$ | n/a | n/a | n/a | 2,627 | n/a | 3,833 | n/a |
| Turkey | U.S. \$ | n/a |

Appendix—Sources and Methodology

Defense-specific data, including total defense expenditure, defense investment, and defense R&D, were taken from the Stockholm International Peace Research Institute (SIPRI), the European Defense Agency (EDA), NATO, the Organization for Economic Co-operation and Development (OECD), and the websites and white papers of various Ministries of Defense.

Overall country data, such as currency exchange rates, GDP, GDP per capita, inflation indicators, and purchasing power parity conversion factors, came from OANDA.com, the International Monetary Fund's World Economic Outlook database 2007, the World Development Indicators, and the IISS Military Balance.

We attempted to use as few sources as possible, since different agencies might use different methodologies for calculation. We also tried to keep the source of each individual country's data consistent. Due to the fact that we gathered defense investment data from NATO, the total defense expenditure of NATO countries, except for countries that obtained their membership after 2004, was also derived from NATO's database. Those new NATO member countries and other European countries' total defense expenditure data were collected from SIPRI's database. Most countries' defense investment and R&D spending data came from NATO and OECD databases.

Defense investment here included both equipment procurement and R&D spending. NATO countries' investments were derived from NATO's annual report on equipment expenditure, which uses the same definition we do. Croatia, Sweden, and Switzerland published the annual exchange of information on defense planning from which we gathered their expenditure on equipment and R&D. Austria, Cyprus, and Malta's investments in 2005 and 2006 were collected from the European Defense Agency's defense facts report.

Our data attempted to stick to actual spending. However, data collected from ministries of defense are usually budgetary or projected numbers. We collected the data in local currency value and then converted them into U.S. dollars using the annual average exchange rate from OANDA.com. For some countries that switched to the Euro during these six years, we converted their former currencies into euros to keep their values consistent. For certain countries, such as Romania and Turkey, which switched to a new local currency system in 2005, we calculated their spending in new currencies.

Instead of using SIPRI's numbers, we calculated defense expenditure as a percentage of GDP by dividing total defense expenditure with GDP, which data were gathered from World Development Indicators. Also, to present the spending in constant 2006 numbers, we inflated the numbers by using the IMF's (International Monetary Fund) annual average percentage change in consumer prices inflation. To calculate defense R&D spending per soldier, we used the R&D expenditure divided by the number of active military personnel as reported in the annual IISS Military Balance.

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