5.7 Military expenditures and arms transfers

Military expenditures

Armed forces personnel

Arms transfers

	% of	GDP	% of central government expenditure		thousands		% of labor force		1990 \$ Exports		s millions Imports	
	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
Afghanistan		1.5		8.7	400	51	6.3	0.6	••	••	33	37
Albania	1.2	1.8	5.4	••	68	15	5.2	1.0	••	••	3	5
Algeria	3.4	2.9	16.5	15.7	305	334	2.8	2.4		••	428	700
Angola	2.4	3.7	••	••	118	117	1.9	1.6	1	••	157	4
Argentina	1.3	0.7	6.2	••	102	107	0.6	0.6	2	••	224	41
Armenia	3.6	3.0		18.1	42	42	3.1	2.8		••	2	••
Australia	1.9	2.0	7.5	7.8	52	55	0.5	0.5	43	1	366	685
Austria	1.0	1.0	2.5	2.5	41	35	1.0	0.8	21	86	25	335
Azerbaijan	2.3	3.0	13.8		87	82	2.4	1.9		••	3	27
Bangladesh	1.4	1.1	14.9	11.7	137	221	0.2	0.3	••	••	205	17
Belarus	1.3	1.6	5.3	4.7	91	183	1.9	3.8	293	35	41	254
Belgium	1.4	1.1	3.2	2.6	39	39	0.9	0.8	22	10	39	171
Benin	0.6	1.1	4.7	7.6	7	8	0.3	0.2	••	••	6	3
Bolivia	1.7	1.2	6.5	5.7	70	83	2.0	1.9			19	5
Bosnia and Herzegovina	3.6	1.3		3.5	76	9	4.1	0.5	4		25	••
Botswana	3.0	2.6			10	11	1.6	1.6		••	50	••
Brazil	1.6	1.6	7.1		673	721	0.8	0.7	26	24	126	175
Bulgaria	2.5	2.0	7.8	6.3	114	75	3.5	2.2	2	7	7	38
Burkina Faso	1.2	1.4		9.6	11	11	0.2	0.2			••	4
Burundi	6.0	4.8	30.3		46	51	1.4	1.2			1	
Cambodia	2.2	0.9	16.8	12.8	360	191	6.1	2.6				36
Cameroon	1.3	1.4	12.0		22	23	0.4	0.3	••	••	1	0
Canada	1.1	1.3	6.0	7.0	69	64	0.4	0.3	109	343	560	623
Central African Republic	1.0	1.1			5	3	0.3	0.2				9
Chad	1.9	1.0			35	35	1.0	0.8	••	••	15	3
Chile	3.7	3.4	17.7	19.5	117	103	1.9	1.5	1		177	615
China	1.8 ^a	2.0 ^a	19.6 ^a	17.9 ^a	3,910	2,885	0.5	0.4	228	355	1,874	1,424
Hong Kong, China	••	••					••	••	••	••	••	•••
Colombia	3.6	3.1	19.0	12.3	247	411	1.3	1.8			62	38
Congo, Dem. Rep.	1.0	1.7	11.4		93	143	0.5	0.6		••	41	17
Congo, Rep.	1.4	1.1	5.9	5.2	15	12	1.2	0.8	••	••	0	1
Costa Rica	••	••	••	••	15	10	0.9	0.5	••	••	••	••
Côte d'Ivoire		1.5		7.1	15	19	0.2	0.3			32	••
Croatia	3.6	2.0	7.8	5.0	101	21	5.0	1.1	2	••	70	14
Cuba		••			85	76	1.6	1.5	••	••	••	••
Czech Republic	2.0	1.5	6.1	4.5	63	27	1.2	0.5	78	13	16	15
Denmark	1.5	1.3	4.2	3.7	22	30	0.8	1.0	20	5	64	201
Dominican Republic	0.9	0.5		3.5	40	65	1.1	1.5			13	2
Ecuador	1.7	2.8			58	58	1.2	1.0		••	12	45
Egypt, Arab Rep.	3.2	2.5	12.3	8.4	679	866	3.4	3.6	38	••	826	418
El Salvador	0.9	0.6	4.3	3.3	29	33	1.2	1.2		••	16	••
Eritrea	36.4				200	202	14.1	10.4	0		4	271
Estonia	1.4	1.9	4.7	7.0	8	7	1.1	1.0			27	30
Ethiopia	7.6	1.9	18.0		353	138	1.2	0.4			125	
Finland	1.3	1.3	3.7	3.7	35	32	1.4	1.2	9	24	518	110
France	2.5	2.3	5.7	5.3	389	353	1.5	1.3	1,033	2,690	58	63
Gabon	1.8	1.1			7	7	1.3	1.1			••	21
Gambia, The	0.8	0.6			1	1	0.1	0.1				
Georgia	0.6	7.5	5.3	32.7	33	33	1.4	1.4	22		6	4
Germany	1.5	1.3	4.7	4.4	221	244	0.5	0.6	1,622	3,395	135	85
Ghana	1.0	0.7	3.3	2.6	8	14	0.1	0.1			1	13
Greece	4.3	3.5	9.8	8.3	163	161	3.4	3.1		23	651	2,089
Guatemala	0.8	0.5	7.5	3.6	53	35	1.7	0.7			1	_,
Guinea	1.5		11.8		19	19	0.5	0.4			19	
Guinea-Bissau	4.4	 4.0			9	9	1.8	1.4				
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STATES AND MARKETS

Military expenditures

Armed forces personnel

Arms transfers

	% of	GDP	% of central government expenditure		thousands		% of labor force		1990 \$ Exports		millions Imports	
	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
Honduras	0.5	0.6		2.8	14	20	0.6	0.8	••	••	·····	••
Hungary	1.7	1.1	4.1	2.6	58	37	1.4	0.9	••	6	14	192
India	3.1	2.5	19.5	16.5	2,372	2,576	0.6	0.6	16	14	826	1,318
Indonesia	1.0	1.2	5.7	••	492	582	0.5	0.5	16	8	170	475
ran, Islamic Rep.	3.8	3.0	22.5	14.7	753	563	3.6	2.0	0	10	413	297
Iraq					479	362	7.8	5.0				244
reland	0.7	0.5	2.6	1.6	12	10	0.7	0.5			0	13
srael	7.9	8.3	17.6	19.8	181	185	7.3	6.5	316	238	364	891
Italy	2.0	1.8	5.2	4.5	503	436	2.1	1.7	192	562	241	176
Jamaica	0.5	0.7	1.5	1.1	3	3	0.3	0.3	••	••	5	1
Japan	1.0	0.9			249	242	0.4	0.4			431	519
Jordan	6.2	6.9	23.1	19.0	149	111	11.6	6.8	••	13	130	83
Kazakhstan	0.8	1.2	5.7	8.5	99	81	1.3	1.0	16	12	144	21
Kenya	1.3	1.8	7.8	9.3	27	29	0.2	0.2				25
Korea, Dem. Rep.	••	••	••	••	1,244	1,295	11.2	10.4	13	••	19	9
Korea, Rep.	2.5	2.7	14.4	13.3	688	692	3.0	2.8	8	214	1,266	1,807
Kuwait	7.1	4.3	18.9	13.5	20	23	1.8	1.7	99	••	245	117
Kyrgyz Republic	2.9	3.3	18.0	18.1	14	21	0.7	0.9				1
Lao PDR	2.0				129	129	5.4	4.5			7	4
Latvia	0.9	1.8	3.2	6.6	9	17	0.8	1.4			3	51
Lebanon	5.5	5.8	17.7	17.9	77	76	5.8	5.1	45		4	3
Lesotho	3.6	2.5	7.8	5.3	2	2	0.3	0.2			6	1
Liberia		0.8			15	2	1.3	0.1			8	
Libya	3.1	1.1		••	77	76	4.1	3.4	11	9	145	3
Lithuania	1.4	1.2	5.2	3.9	17	24	1.0	1.5	3		5	4
Macedonia, FYR	1.9	2.1		••	24	19	2.8	2.1	0		11	0
Madagascar	1.2	1.1	11.5	10.0	29	22	0.4	0.2				
Malawi	0.7	1.2		••	6	7	0.1	0.1	1	••		
Malaysia	1.6	2.1	10.5		116	134	1.2	1.2	8		40	550
Mali	2.4	2.3	20.7	15.3	15	12	0.6	0.4			7	7
Mauritania	3.5	3.1			21	21	2.0	1.6		••	31	
Mauritius	0.2	0.2	1.0	0.8	2	2	0.3	0.3				4
Mexico	0.5	0.4	3.4	••	208	286	0.5	0.6	••	••	227	11
Moldova	0.4	0.4	1.4	1.3	13	9	0.7	0.6	3	4		••
Mongolia	2.2	1.2		5.0	16	16	1.7	1.4	••	••		
Morocco	2.3	3.2	12.0	11.0	241	246	2.4	2.2	••	••	123	44
Mozambique	1.3	0.9	••	••	6	11	0.1	0.1		••	0	
Myanmar	2.3				429	513	1.7	1.8			3	20
Namibia	2.7	3.4	8.6		9	15	1.5	2.2	••	••	18	72
Nepal	1.0	1.5		12.6	90	131	1.0	1.1			11	5
Netherlands	1.6	1.5	4.0	3.6	57	41	0.7	0.5	259	1,355	142	210
New Zealand	1.2	1.1	3.5	3.2	9	9	0.5	0.4	1	••	45	70
Nicaragua	0.8	0.7	4.7	3.5	16	14	0.9	0.6	••	••	••	
Niger	1.1	1.0		10.6	11	10	0.3	0.2				0
Nigeria	0.8	0.6			107	162	0.3	0.4			42	15
Norway	1.7	1.4	5.3	4.5	27	19	1.1	0.8	3	14	263	483
Oman Dalviatan	10.6	11.3	40.4		48	47	5.4	4.9	 ว	1	120	4
Pakistan	4.0	3.5	23.4	21.7	900	921	2.2	1.6	3	9		••
Panama	1.0	 0 E	4.6	••	12	12	0.9	0.8	••	••	0	••
Papua New Guinea	0.9	0.5	2.9		4	3	0.2	0.1				
Paraguay	1.1	0.8		4.5	35	26	1.4	0.8	•	••	6	1
Peru	1.7	1.1	9.7	6.7	193	198	1.7	1.4	4		24	172
Philippines	1.1	0.8	6.2	4.7	149	147	0.5	0.4		4	9	28
Poland	1.9	2.0	5.7	5.8	239	142	1.4	0.8	43	135	159	985
Portugal	2.0	1.7	5.1	4.2	91	91	1.7	1.6	••	30	2	2
Puerto Rico												

5.7 Military expenditures and arms transfers

Military expenditures

Armed forces personnel

Arms transfers

	% of central government				% of					s millions		
	% of 2000	GDP 2007	exper 2000	nditure 2007	thou 2000	usands 2007	labor 2000	force 2007	E× 2000	ports 2007	اm: 2000	ports 2007
Romania	2.5	1.8	8.9	6.8	283	153	2.4	1.6	3	16	23	70
Russian Federation	3.7	3.6	19.3	15.4	1,427	1,476	2.0	1.9	4,190	4,588		4
Rwanda	3.5	1.7			76	35	2.1	0.8	.,	.,	14	3
Saudi Arabia	10.6	9.3			217	238	3.2	2.7		 36	81	72
Senegal	1.3	1.7	 10.4	••	15	19	0.4	0.4	••			15
Serbia	5.4	2.4		••	136	24		0.8		 5		
Sierra Leone	3.7	1.8	 12.8	••••••	4	11	0.2	0.5	••••••	•••	13	
	4.7	4.3	28.7	 31.5	169	167	8.2	6.8	 10	 3	612	 707
Singapore Slovak Republic	4.7	4.3	••••••	51.5	41	107	0.2 1.6	0.8	92	3 7	2	4
Slovenia	1.1	1.7	 2.9	4.0	41 14	12	1.0	1.2	••••••	•••••	1	
			••••••	•••••••••••••••••••••••••••••••••••••••	••••••		••••••	••••••	••	••	• ••••••••	2
Somalia					50		1.8				1	
South Africa	1.6	1.4	5.6	4.7	72	62	0.5	0.4	18	80	16	855
Spain	1.2	1.2	3.9	4.7	242	222	1.3	1.0	46	529	332	385
Sri Lanka	4.5	2.9	19.7	14.6	204	213	2.6	2.4	••	••	226	1
Sudan	4.7	4.3	53.0	••	120	127	1.2	1.1	••		146	49
Swaziland	1.8	••	••	••	3	••	0.8			••	1	
Sweden	2.0	1.3	5.5		88	18	1.9	0.4	308	413	210	85
Switzerland	1.1	0.8	4.2	4.4	28	23	0.7	0.5	104	211	14	126
Syrian Arab Republic	5.4	3.9	••	••	425	401	8.8	6.3	••	3	439	30
ajikistan	1.2	••	13.4	••	7	17	0.4	0.7			••	13
anzania	1.5	1.0			35	28	0.2	0.1				g
hailand	1.4	1.4	••	7.8	417	420	1.2	1.1			93	9
imor-Leste	••		••	••	••	1		0.2			••	••
ogo	••	1.6		9.8	8	10	0.4	0.4			••	• •
rinidad and Tobago	••				8	4	1.3	0.6			10	•
unisia	1.7	1.4	6.2	4.9	47	48	1.5	1.3	••		11	18
urkey	3.7	2.1		8.6	828	612	3.5	2.5	15	33	1,042	944
urkmenistan	2.9				15	22	0.8	1.0			_,	
Jganda	2.5	1.7	16.0	 12.4	51	47	0.5	0.3			6	5
Jkraine	3.6	2.9	13.5	8.3	420	215	1.8	0.9	280	 109	0	
Jnited Arab Emirates	3.4	1.9	45.7	••••••	66	51	3.5	1.9	200	3	309	1,040
Jnited Kingdom	2.4	2.5	6.7	 6.2	213	160	0.7	0.5	 1,356	1,151	808	1,040 698
Jnited States	3.1	4.2	15.6	19.4	1,455	1,555	1.0	1.0	7,505	7,454	268	587
	*****							••••••			•••••••	••••••••••
Jruguay	1.5	1.3	5.0	4.8	25	26	1.6	1.6	1	••	4	33
Jzbekistan	0.8				79	87	0.8	0.7	73	4	6	
/enezuela, RB	1.2	1.1	5.4	5.2	79	115	0.8	0.9	••	1	89	887
/ietnam	••	••			524	495	1.4	1.1		••	5	1
Nest Bank and Gaza	••	••	••	••	••	56	••	6.8	••	••	••	2
′emen, Rep.	5.0	4.7	23.9	••	136	138	3.4	2.6	••	••	158	57
Zambia	1.8	1.8	10.3	7.6	23	16	0.6	0.4		••	27	3
Zimbabwe	0.0	0.0			62	51	1.2	0.9	3		2	20
World	2.3 w	2.5 w	10.2 w	11.2 w	29,353 s	27,254 s	1.0 w	0.9 w	18,266 s	24,192 s	18,066 s	23,493
.ow income	2.4	1.8			5,806	5,359	1.3	1.0	17	9	724	148
Aiddle income	2.0	2.0	15.3	14.2	17,507	16,185	0.9	0.8	5,135	5,459	8,181	10,718
Lower middle income	2.2	2.1	17.3	15.6	12,481	11,528	0.8	0.7	549	481	5,846	5,396
Upper middle income	1.9	1.9			5,026	4,657	1.4	1.2	4,586	4,978	2,335	5,322
ow & middle income	2.1	2.0	15.3	14.2	23,313	21,544	1.0	0.8	5,152	5,459	8,905	10,866
East Asia & Pacific	1.7	1.8	18.4	16.8	7,794	6,815	0.8	0.6	241	359	2,211	2,532
Europe & Central Asia	3.1	2.7	12.6	11.0	4,220	3,394	2.1	1.6	4,869	4,973	1,397	2,163
Latin America & Carib.	1.4	1.3	6.5		2,084	2,408	0.9	0.9	4	25	966	1,978
Middle East & N. Africa	3.5	3.0	13.1	 13.5	3,379	3,289	4.0	3.1	0	23	2,522	1,824
South Asia	3.1	2.6	19.9	16.9		4,113	0.8	0.7	19	22		1,373
			T3.2	•••••••	4,114		••••••	•••••••	•••••••••••••••••••••••••••••••••••••••		1,257	•••••••••••••••••••••••••••••••••••••••
Sub-Saharan Africa	1.8	1.5			1,724	1,525	0.7	0.5	12 114	80	552	996
ligh income	2.3	2.6	10.0	10.6	6,040	5,710	1.2	1.1	13,114	18,733	9,161	12,627

Note: For some countries data are partial or uncertain or based on rough estimates; see SIPRI (2008).

a. Estimates differ from official statistics of the government of China, which has published the following estimates: military expenditure as 1.2 percent of GDP in 2000 and 1.4 percent in 2006 and 7.6 percent of central government expenditure in 2000 and 7.4 percent in 2006 (see National Bureau of Statistics of China, www.stats.gov.cn).

About the data

Although national defense is an important function of government and security from external threats that contributes to economic development, high levels of military expenditures for defense or civil conflicts burden the economy and may impede growth. Data on military expenditures as a share of gross domestic product (GDP) are a rough indicator of the portion of national resources used for military activities and of the burden on the national economy. As an "input" measure military expenditures are not directly related to the "output" of military activities, capabilities, or security. Comparisons of military spending between countries should take into account the many factors that influence perceptions of vulnerability and risk, including historical and cultural traditions, the length of borders that need defending, the quality of relations with neighbors, and the role of the armed forces in the body politic.

Data on military spending reported by governments are not compiled using standard definitions. They are often incomplete and unreliable. Even in countries where the parliament vigilantly reviews budgets and spending, military expenditures and arms transfers rarely receive close scrutiny or full, public disclosure (see Ball 1984 and Happe and Wakeman-Linn 1994). Therefore, SIPRI has adopted a definition of military expenditure derived from the North Atlantic Treaty Organization (NATO) definition (see Definitions). The data on military expenditures as a share of GDP and as a share of central government expenditure are estimated by the Stockholm International Peace Research Institute (SIPRI). Central government expenditures are from the International Monetary Fund (IMF). Therefore the data in the table may differ from comparable data published by national governments.

SIPRI's primary source of military expenditure data is official data provided by national governments. These data are derived from national budget documents, defense white papers, and other public documents from official government agencies, including governments' responses to questionnaires sent by SIPRI, the United Nations, or the Organization for Security and Co-operation in Europe. Secondary sources include international statistics, such as those of NATO and the IMF's *Government Finance Statistics Yearbook*. Other secondary sources include country reports of the Economist Intelligence Unit, country reports by IMF staff, and specialist journals and newspapers.

In the many cases where SIPRI cannot make independent estimates, it uses the national data provided. Because of the differences in definitions and the difficulty in verifying the accuracy and completeness of data, data on military expenditures are not strictly comparable across countries. More information on SIPRI's military expenditure project can be found at www.sipri.org/contents/milap/.

Data on armed forces refer to military personnel on active duty, including paramilitary forces. Because data exclude personnel not on active duty, they underestimate the share of the labor force working for the defense establishment. Governments rarely report the size of their armed forces, so such data typically come from intelligence sources.

SIPRI's Arms Transfers Project collects data on arms transfers from open sources. Since publicly available information is inadequate for tracking all weapons and other military equipment, SIPRI covers only what it terms *major conventional weapons*. Data cover the supply of weapons through sales, aid, gifts, and manufacturing licenses; therefore the term *arms transfers* rather than *arms trade* is used. SIPRI data also cover weapons supplied to or from rebel forces in an armed conflict as well as arms deliveries for which neither the supplier nor the recipient can be identified with acceptable certainty; these data are available in SIPRI's database.

SIPRI's estimates of arms transfers are designed as a trend-measuring device in which similar weapons have similar values, reflecting both the value and quality of weapons transferred. SIPRI cautions that the estimated values do not reflect financial value (payments for weapons transferred) because reliable data on the value of the transfer are not available, and even when values are known, the transfer usually includes more than the actual conventional weapons, such as spares, support systems, and training, and details of the financial arrangements (such as credit and loan conditions and discounts) are usually not known.

Given these measurement issues, SIPRI's method of estimating the transfer of military resources includes an evaluation of the technical parameters of the weapons. Weapons for which a price is not known are compared with the same weapons for which actual acquisition prices are available (core weapons) or for the closest match. These weapons are assigned a value in an index that reflects their military resource value in relation to the core weap ons. These matches are based on such characteristics as size, performance, and type of electronics, and adjustments are made for secondhand weapons. More information on SIPRI's Arms Transfers Project is available at www.sipri.org/contents/armstrad/.

Definitions

· Military expenditures are SIPRI data derived from the NATO definition, which includes all current and capital expenditures on the armed forces, including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, if judged to be trained and equipped for military operations; and military space activities. Such expenditures include military and civil personnel, including retirement pensions and social services for military personnel; operation and maintenance; procurement; military research and development; and military aid (in the military expenditures of the donor country). Excluded are civil defense and current expenditures for previous military activities, such as for veterans benefits, demobilization. and weapons conversion and destruction. This definition cannot be applied for all countries, however, since that would require more detailed information than is available about military budgets and off-budget military expenditures (for example, whether military budgets cover civil defense, reserves and auxiliary forces, police and paramilitary forces, and military pensions). · Armed forces personnel are active duty military per-

sonnel, including paramilitary forces if the training, organization, equipment, and control suggest they may be used to support or replace regular military forces. Reserve forces, which are not fully staffed or operational in peace time, are not included. The data also exclude civilians in the defense establishment and so are not consistent with the data on military expenditures on personnel. • Arms transfers cover the supply of military weapons through sales, aid, gifts, and manufacturing licenses. Weapons must be transferred voluntarily by the supplier, have a military purpose, and be destined for the armed forces, paramilitary forces, or intelligence agencies of another country. The trends shown in the table are based on actual deliveries only. Data cover major conventional weapons such as aircraft, armored vehicles, artillery, radar systems, missiles, and ships designed for military use. Excluded are transfers of other military equipment such as small arms and light weapons, trucks, small artillery, ammunition, support equipment, technology transfers, and other services.

Data sources

Data on military expenditures are from SIPRI's Yearbook 2008: Armaments, Disarmament, and International Security. Data on armed forces personnel are from the International Institute for Strategic Studies' The Military Balance 2009. Data on arms transfers are from SIPRI's Arms Transfer Project (www.sipri.org/contents/armstrad/).