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# The Estimated Value of Soviet Arms Transfers to the Third World: A New Methodology

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Interagency Intelligence Memorandum

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THE ESTIMATED VALUE OF SOVIET  
ARMS TRANSFERS TO THE THIRD WORLD:  
A NEW METHODOLOGY

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Information available as of 1 July 1987 was used in the preparation of this Memorandum, approved for publication on 1 July 1987 by the Chairman of the National Intelligence Council.

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### SCOPE NOTE

Arms transfers are Moscow's major instrument for advancing its interests in the Third World. As a result, tracking Soviet arms deliveries has been an important intelligence priority since the mid-1950s.

The Intelligence Community has used several measures to assess Moscow's arms transfer program. The Community periodically reviews and updates its methodology as better information provides improved insight into Moscow's program. For example, in the late 1970s, new data led to an increase of 70 to 100 percent in the estimated prices of most major Soviet military equipment. After 1980, incorporation of data on the tonnage of military deliveries again led to sharp rises in the estimated value of arms deliveries to many countries. This Memorandum discusses the latest revisions in the methodology used to estimate the value of Soviet arms transfers and the implications of the new values.

In this Memorandum the Third World includes Communist LDCs—Vietnam, Cambodia, Cuba, Laos, North Korea, and Mongolia.

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### KEY JUDGMENTS

The Intelligence Community is increasing significantly its estimate of the dollar value of Soviet military deliveries to the Third World based on improvements in methodology. The value of Soviet military deliveries is now estimated at over \$75 billion during 1982-86, a *60-percent increase over the value derived under the old methodology and more than twice the \$32 billion in comparable US deliveries during the period.*

The changes in valuation of Soviet arms deliveries arise primarily from an *increase in our estimate of the value per ton* of military support equipment—ammunition, spare parts, radar, and so forth. Support equipment accounts for 80 percent of total shipments by weight and usually cannot be identified on an item-by-item basis. The new methodology estimates the value of a ton of support equipment at \$20,500 (1985) instead of the \$7,000 used since 1980.

The new valuation is based on several factors:

- *An improved estimate of the value per ton* of support equipment

[Redacted]

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- *A broadened definition of what constitutes military tonnage* to include almost all goods delivered to military forces. For example, dual-use items such as transport helicopters and trucks have been treated differently by different parts of the Intelligence Community in the past.

- *More comprehensive coverage of exports*

[Redacted]

[Redacted]

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In addition, values were increased to reflect changes in prices and exchange rates. The valuation method for major military equipment—warships, aircraft, combat vehicles, and so forth—has not changed.

[Redacted]

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The increase in the estimated value of Soviet deliveries is *particularly large for countries fighting wars or insurgencies*—Iraq, Vietnam, Nicaragua, Afghanistan. These nations receive large quantities of

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ammunition and spare parts that were significantly undervalued in the past. The impact of the revised methodology on the total value of Soviet deliveries to other clients varies widely, depending on the types of military equipment supplied. Deliveries to India in 1985 rise by less than a third under the new methodology, for example, because high-priced weapons comprise a higher proportion of Soviet military exports to India. In contrast, the estimated value of deliveries to several minor recipients rise much more sharply because they often receive only support equipment.

The changes in the methodology show that the *cost to Moscow of its arms transfers is larger than previously estimated* because we now estimate that there is a *much larger grant element in the program*. The increase in the estimate of the size of the Soviet program does not change estimates of Moscow's hard currency earnings from arms transfers, however, because estimates of hard currency transactions are made separately, using a methodology based on Soviet trade data. We now believe about 40 percent of Moscow's arms deliveries are made on a grant basis and roughly a tenth on a soft currency basis.

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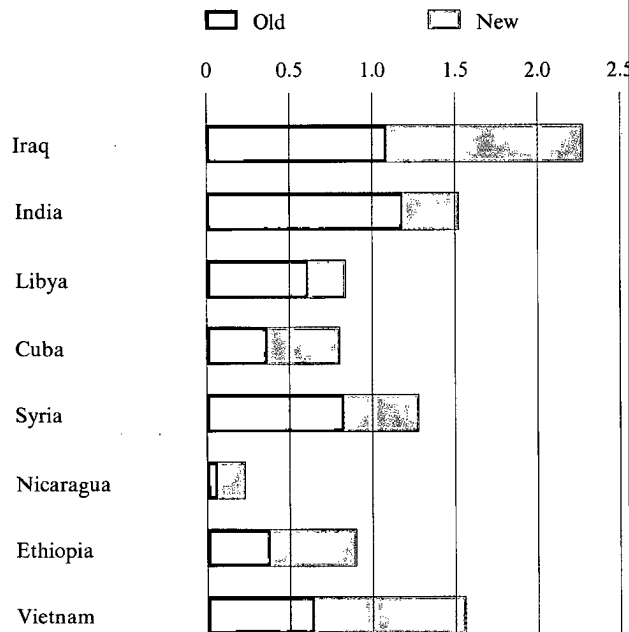
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**Figure 2**  
**New and Old Estimates of 1985 Soviet**  
**Arms Deliveries to Selected Countries**

Billion US \$



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### Impact on the Value Estimates

12. The new residual tonnage value and inclusion of nonlethal military-associated tonnage under the new definition dramatically increase our estimates of the value of Soviet arms deliveries to the Third World—from \$9.1 billion to \$15.5 billion for 1986, and for other years by about two-thirds. For 1982-86, the value of Soviet arms deliveries in current prices is estimated at \$77 billion, over 60 percent greater than the \$47.5 billion using our former methodology. In constant prices, the increase is also over 60 percent. Three-fourths of the increase is because of the new residual tonnage value; the remainder is because of increased tonnage estimates. The impact on each country varies widely because some tonnage has been reassigned and because Moscow's arms clients receive different amounts and types of major military and support equipment. For example, estimates of the value of deliveries to India, which receives relatively less support equipment and more high-priced arms

than most countries, rise by about a third. Iraq, on the other hand, has acquired large quantities of ammunition, trucks, and other expendable items to fight the war with Iran. Estimates of the value of deliveries to Iraq have almost doubled. Estimates of the value of deliveries to several minor recipients also leapt, some by over 300 percent. This reflects the increased estimate of the value of unidentified military tonnage delivered to these countries.

### Implications of the Changes

13. The value of Soviet arms deliveries to the Third World is now believed to be much larger than the value of US arms deliveries. The greater value now given support equipment (residual tonnage) allows a more accurate comparison of Soviet and US arms transfers because US exports include large amounts of the same items that make up Soviet residual tonnage. The higher value for Soviet transfers brings the value of Soviet arms deliveries in line with generally accepted estimates of the quantity of major military arms delivered where the USSR has a large lead over the United States. In 1986, for example, the USSR delivered \$15.5 billion in equipment and materiel to LDCs, and the United States delivered \$5.3 billion.<sup>2</sup>

14. The ability to make accurate comparisons of relative cost remains limited, however, because the prices Moscow charges for military goods do not reflect actual Soviet costs, which, in some instances,

<sup>2</sup> Including construction in US deliveries brings the total to \$5.9 billion in 1986.

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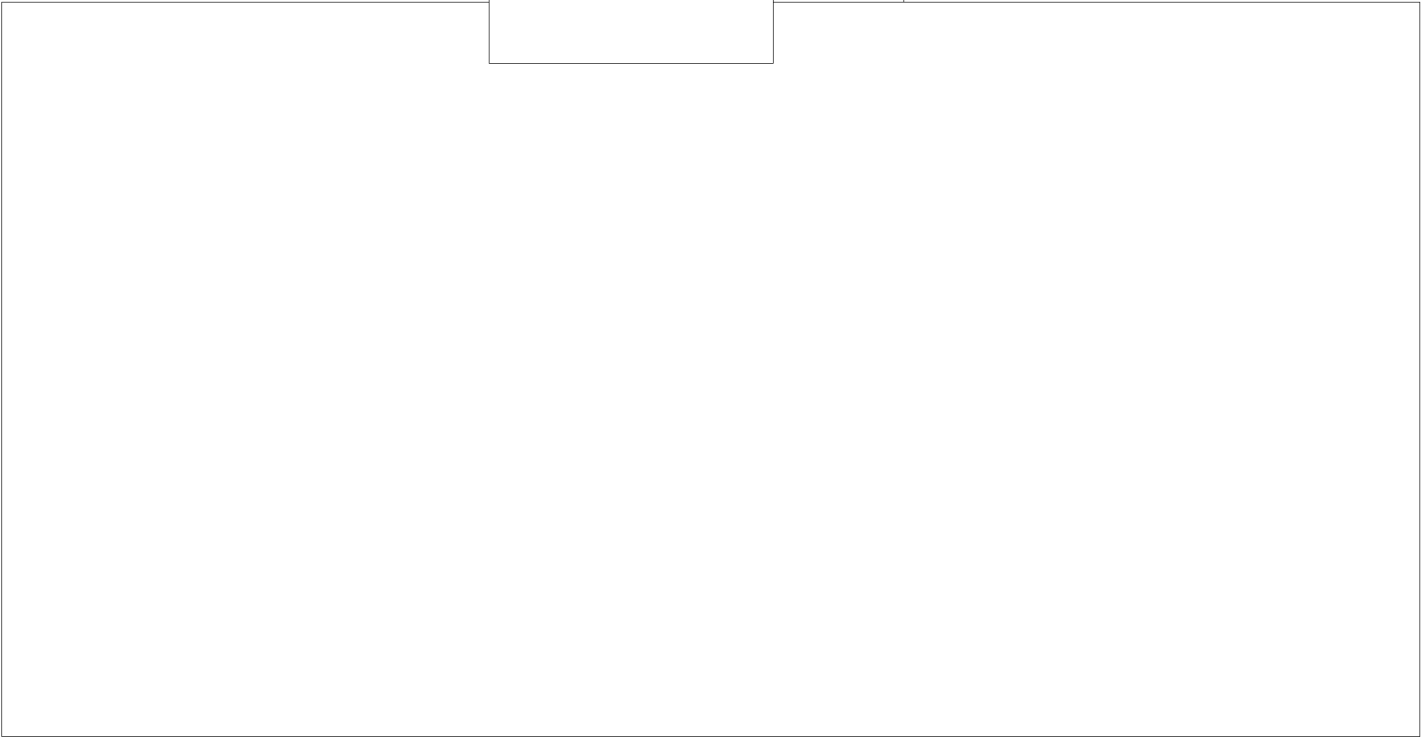
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diverge significantly from prices charged. For example, we estimate the prices Moscow charges for ships are almost twice Moscow's production costs, and the prices Moscow charges for surface-to-air missiles are almost 10 percent less than Moscow's production costs. On balance, however, we believe the Soviet prices used give a good indicator of overall cost. [redacted]

15. The new values indicate that the Soviet arms transfer program is more expensive to Moscow than previously believed because of a much larger grant element, underscoring Moscow's use of arms transfers to gain influence in the Third World. Comparison of the old estimates with estimates of arms sales made using Soviet trade data suggested that grant was almost exclusively confined to Communist LDCs. The old methodology also included half the value of deliveries to Ethiopia and one-third of deliveries to Congo as grant [redacted]. The new estimates support reporting to indicate that grants are more widespread. For example, [redacted] one-third of deliveries to Iraq were on a grant basis. [redacted] indicates Afghanistan and Yemen Arab Republic (North Yemen)

receive large amounts of grant, as do such African recipients as Madagascar and Burundi. In addition, we also now believe that other Marxist-Leninist countries such as People's Democratic Republic of Yemen (South Yemen) and Nicaragua receive terms as favorable as Ethiopia. [redacted]

16. The ranking of Moscow's arms clients by the value of military deliveries also changes. For example, Iraq and Vietnam rise from second and fourth place, respectively, in 1985, to first and second place (table 3). This is consistent with their rank measured by tonnage. [redacted]

17. The increase in the estimate of the size of the Soviet program is in the grant portion. It does not change estimates of Moscow's hard currency earnings from arms transfers, nor does it capture arms sales that become de facto grant aid because of recipients' inability to pay. Hard currency estimates are made separately and use a different methodology [redacted]. About 40 percent of Moscow's total arms deliveries are made on a grant basis, an additional 10 percent, on a soft currency basis. [redacted]

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**Table 3**  
**Principal Recipients of Soviet**  
**Arms, by Value, 1985**

*Million US \$*

Rank	Old Estimate		New Estimate	
	Recipient	Value	Recipient	Value
<b>Total (top 12)</b>		<b>6,605</b>		<b>11,830</b>
1	India	1,180	Iraq	2,275
2	Iraq	1,085	Vietnam	1,560
3	Syria	825	India	1,525
4	Vietnam	640	Syria	1,280
5	Libya	610	Ethiopia	900
6	Afghanistan	395	Libya	840
7	Angola	390	Cuba	805
8	Ethiopia	375	Afghanistan	735
9	Cuba	365	Angola	730
10	North Korea	295	Jordan	400
11	Jordan	230	South Yemen	395
12	South Yemen	215	Algeria	385

Note: CIA estimate used when separate CIA-DIA estimates given in Annex B. DIA has \$1,055 million for Vietnam, \$750 million for Ethiopia, and \$11,175 million total.

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## ANNEX B

Current Value of Soviet Arms Deliveries to the  
Third World, 1982-86

Million US \$

Recipient	1982	1983	1984	1985	1986
<b>Latin America</b>					
Cuba	1,620	1,280	1,360	805	1,460
Grenada	6	NEGL	0	0	0
Guyana	0	0	0	15	0
Nicaragua	130	225	315	230	550
Peru	50	145	2	50	10
<b>Middle East</b>					
Algeria	1,050	495	540	385	560
Egypt	25	60	55	50	6
Iran	145	95	5	NEGL	0
Iraq	3,200	2,465	3,500	2,275	3,970
Jordan	280	120/70	20	400	200
Kuwait	0	45/75	65/110	25	13
Libya	1,120	940	1,165	840	730
Syria	2,430	3,340	1,920	1,280	575
North Yemen	295	470	60	165/195	225
South Yemen	245	785/600	325	395	185
<b>Sub-Saharan Africa</b>					
Angola	655	1,070	1,345	730	1,040
Benin	5	17	3	4	9
Burundi	3	8	10	4	9
Cape Verde	0	2	2	2	3
Congo	0	70	95	30	17
Ethiopia	550	1,000	1,200	900/750	245
Ghana	0	0	16	0	6
Guinea	2	12	50	65	50
Guinea-Bissau	1	8	35	7	20
Madagascar	17	45	10	30	9
Mali	9	5	30	7	9
Mozambique	140	370	335	270	165
Nigeria	6	20	4	75	11
Sao Tome and Principe	0	6	2	0	3
Seychelles	2	17	5	2	25
Tanzania	50	18	35	40	20
Zambia	0	0	0	0	3
Zimbabwe	0	NEGL	0	0	0

Note appears at end of table.

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**Current Value of Soviet Arms Deliveries to the  
Third World, 1982-86***Million US \$*

Recipient	1982	1983	1984	1985	1986
<b>Asia</b>					
Afghanistan	690	510	740	735	1,265
Bangladesh	15	5	NEGL	NEGL	1
Cambodia	60	140	195	335/275	125
India	1,430	980	930	1,525	1,885
Laos	85	140	125	85	55
North Korea	25	55	15	350	420
Vietnam	1,415	1,385	1,490/1,290	1,560/1,055	1,610

Note: Values over \$20 million rounded to the nearest \$5 million; values under \$20 million rounded to the nearest million. When one value is given, CIA and DIA estimates are the same or an average of the two was taken. When two values are given, CIA and DIA estimates varied by over 10 percent for major recipients (over \$100 million) or by over 20 percent for minor recipients. CIA estimates are given first

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## ANNEX C

**Constant Value of Soviet Arms Deliveries  
to the Third World, 1982-86**

Million 1986 US \$

Recipient	1982	1983	1984	1985	1986
<b>Latin America</b>					
Cuba	2,155	1,625	1,770	990	1,460
Grenada	8	NEGL	0	0	0
Guyana	0	0	0	18	0
Nicaragua	175	285	400	285	550
Peru	65	185	3	60	10
<b>Middle East</b>					
Algeria	1,395	630	700	475	560
Egypt	35	75	70	60	6
Iran	195	110	8	NEGL	0
Iraq	4,255	3,130	4,550	2,800	3,970
Jordan	370	150/90	30	490	200
Kuwait	0	55/95	85/145	30	13
Libya	1,490	1,195	1,515	1,035	730
Syria	3,230	4,240	2,495	1,575	575
North Yemen	390	595	75	205/240	225
South Yemen	325	995/760	430	485	185
<b>Sub-Saharan Africa</b>					
Angola	870	1,355	1,750	900	1,040
Benin	7	20	4	5	9
Burundi	4	10	13	5	9
Cape Verde	0	3	3	2	3
Congo	0	90	120	35	17
Ethiopia	730	1,270	1,560	1,105/925	245
Ghana	0	0	20	0	6
Guinea	3	15	65	80	50
Guinea-Bissau	1	10	45	9	20
Madagascar	25	55	13	35	9
Mali	12	6	40	9	9
Mozambique	185	470	435	330	165
Nigeria	8	30	5	95	11
Sao Tome and Principe	0	8	3	0	3
Seychelles	3	20	7	2	25
Tanzania	65	25	45	50	20
Zambia	0	0	0	0	3
Zimbabwe	0	NEGL	0	0	0

Note appears at end of table.

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to the Third World, 1982-86***Million 1986 US \$*

Recipient	1982	1983	1984	1985	1986
<b>Asia</b>					
Afghanistan	920	650	960	770	1,265
Bangladesh	20	6	NEGL	NEGL	1
Cambodia	80	180	255	435/340	125
India	1,900	1,245	1,210	1,875	1,885
Laos	115	180	165	105	55
North Korea	35	70	20	430	420
Vietnam	1,880	1,760	1,935/1,675	2,015/1,300	1,610

Note: Values over \$20 million are rounded to the nearest \$5 million; values under \$20 million are rounded to the nearest million. When one value is given, CIA and DIA estimates are the same or an average of the two is given. When two estimates are given, CIA and DIA estimates varied by over 10 percent for major recipients (over \$100 million) or by over 20 percent for minor recipients. CIA estimates are given first

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