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Whatever else may be said about the economics of national security, few would disagree with the proposition that opportunity costs associated with military expenditures are positive for any size expenditure and for any nation. Nor would there be much argument with the proposition that rich nations can more readily afford such expenditures than can poor nations. A military-ladened pauper can "secure" itself into a state of economic bankruptcy.

In the Middle East, the military sectors are the most rapidly expanding, the most technically advanced, and enjoy the highest national priority. It has become hardly an exaggeration to describe their civilian sectors as decreasing residuals. The Arab-Israel war of 1967 and its aftermath continue to be the dominant factor shaping the prospects for economic development in the region. This state of affairs, as Table 1 indicates, is a continuation, albeit it on a more accelerated scale, of the pre-war 1960s pattern of military expenditures.

The percentages in Table 1 would represent an overwhelming display of military activity even were they not associated with countries of especially low per capita income[1] and countries not especially endowed with

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[1]Estimates for 1969 per capita income (US dollars) are for Egypt $189, Syria $224, Iraq $311, and Jordan $314. The Military Balance 1970-71, The Institute for Strategic Studies, London, 1970, pp. 40-45.

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Table 1

Military Expenditures as a Percent of GNP in

Israel, Egypt, Iraq, Jordan and Syria

(1960-1969)

	Israel	Egypt	Iraq	Jordan	Syria
1960	8.6	6.0	8.4	18.1	9.8
1961	8.2	7.0	8.1	14.7	8.8
1962	8.8	7.1	8.0	14.6	8.5
1963	9.5	8.5	9.9	14.9	9.6
1964	10.7	11.0	10.9	13.1	8.1
1965	11.5	12.2	12.2	11.7	8.3
1966	12.2	11.1	10.5	12.2	11.1
1967	13.8	12.7	10.3	12.8	11.9
1968	15.7	12.5	9.8	13.5	15.6
1969	25.1	13.3	10.0	18.0	14.4

Source: 1960-1965, Safran, Nadav, From War to War, Pegasus, New York, 1969, pp. 150, 159, 172,177, and 181; 1966-1969, The Military Balance 1970-1971, The Institute for Strategic Studies, London, 1970, pp. 110-11.

an abundance of natural resources. The 1969 Middle East ratios, for example, exceed those of the US (8.6), the USSR (8.5), France (4.4), and England (5.1)[2]. Middle East military expenditures are particularly striking when measured against those in developing regions. For example, compare Table 1 to the 2.2 percent Latin American average, the 2.4 percent African average, or the 5.0 percent average for all developing nations.[3]

Military expenditures in the Middle East, by any reading of the numbers, are no ordinary expenditures. For the five principals in the Arab-Israel conflict, they represent levels of critical importance.[4]

Admittedly, not all economic problems in the region can be attributed to its military preoccupation. Nor is the Arab-Israel conflict the sole determinant of Middle East military expenditures. Sporadic, but intense inter-Arab wars and near-wars at times have overshadowed the conflict between them and Israel. Moreover, the 25 successful Arab revolutions that have occurred during 1948-1971 and at least 45 others that have been attempted suggest a less than harmonious set of circumstances within the Arab countries.[5] It would be misleading then to picture a

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[2]Ibid., p. 110.

[3]These averages are for 1964-1967. World Military Expenditures 1969, United States Arms Control and Disarmament Agency, Washington, 1969, pp. 12-13.

[4]See, for example, The Economic Impact of the Six Day War, Kanovsky Eliahu, Praeger Publishers, New York 1970, pp. 112-113, 125-136, 332-338 and 427-428.

[5]Herzog, Haim, The Military Situation in the Middle East, Israel Academic Committee on the Middle East, Jerusalem, 1971, p. 19. See also Safran, N., From War to War, Pegasus, New York, 1969, p. 58.

de-escalation of the Arab-Israel conflict as a Middle East political, social, or economic panacea. Nevertheless, whatever its derivation, Middle East military expenditures can be said to have made the traditional economic problems associated with the development of under-development regions a matter of secondary importance.

It seems clear enough that economic performance in the Middle East could have improved during the 1960s if (a) military expenditures were reduced to levels comparable to those in other developing regions, (b) the released resources were allocated to the investment sectors, (c) no absorption problems were encountered, and (d) the differential in labor productivity between the military and civilian sectors were inconsequential. A cursory reading of Table 1 suggests that the magnitude of improvement would be substantial.

An assessment of this improvement, or, stated differently, an assessment of the military burden in the Middle East can be made by employing a simple variant of the Harrod-Domar model of the form[6]

$$Y_t = Y_{t-1}(1 + r_t + \frac{(a_t - n_t)}{k})$$

where Y_t = gross national product in period t,

r_t = rate of growth of GNP at constant prices in period t

a_t = actual military expenditures as a percent of GNP in period t

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[6]The analysis here is not unlike the attempt made by Leontief to assess the effect of a transfer of resource from big-power disarmament to aid to developing nations. See, Leontief, W., "Disarmament, Foreign Aid and Economic Growth" Journal of Peace Research, No. 3-4, 1964, p. 155.

n_t = normalized military expenditures as a percent of GNP in period t,
and k = incremental capital output ratio.

The Military Burden 1960-1969:

The results for 1960-1969 are shown in Tables 2a, 2b, and 2c.

Table 2a presents a set of 1969 GNP estimates based upon alternative values for the military expenditure GNP ratio (n) and for the incremental capital output ratio (k) for the five Middle East countries.

Israel, for example, under conditions of n=2.5, k=3, that is, under conditions approximating those in Latin America and Africa, achieves a 1969 GNP of $5,117 million (column 3, table 2a). This compares with $3,874 million that would accrue with n=a, k=3, that is, with military expenditures corresponding to actual 1960-1969 experience. The 8.9 percent annual rate of growth in the n=a case increases to 12.4 percent under conditions of n=2.5. In other words, a tailoring of Israel military expenditures to 2.5 percent of GNP would have produced a 1960-1969 annual growth differential of 3.5 percent. The total wealth forfeited by Israel in the above comparison is $3,896 million which defines the 1960-1969 military burden (table 2c, column 1). This burden sums the differences in GNP arising from the transfer of $(a_t - 2.5)\ GNP_t$ resources from the military sector to civilian investment for each of the 1960-1969 years.

The military burden diminishes as the alternative values assumed for n approaches n=a. In the case of n=5.0, that is, in circumstances approximating the weighted average for all developing nations, and with k=3, Israel's 1969 GNP is $4,790 million, its annual rate of growth is 11.5 percent and the military burden for 1960-1969 is $2,689 million.

Table 2a

Gross National Product for Israel, Syria, Egypt, Iraq, and Jordan, 1960-1969

(millions of constant 1964 US $ at factor cost)

	1960[a]	1969[b]				
		k=3			k=4	
		n=a	n=2.5	n=5.0	n=2.5	n=5.0
Israel	1795	3874	5117	4790	4779	4571
Egypt	2850	4094	5158	4801	4872	4618
Syria	637	1220	1528	1429	1444	1373
Iraq	1418	2396	2888	2753	2806	2663
Jordan	270	551	752	702	695	661
Totals	6970	12135	15443	14475	14596	13886

Source: (a) Comparative Data Unit, Economics Department, International Bank for Reconstruction and Development (December, 1968; (b) the annual rates of growth for each country (r_t in the above equation) from National Accounts of Less Developed Countries, Organization for Economic Co-operation and Development, Paris, June, 1970

Table 2b

Compound Annual Rate of Growth for Israel, Egypt, Syria, Iraq, and Jordan, 1960-1969

(constant prices)

	k=3			k=4	
	n=a	n=2.5	n=5.0	n=2.5	n=5.0
Israel	8.9	12.4	11.5	11.5	11.0
Egypt	4.1	6.8	6.0	6.1	5.5
Syria	7.5	10.2	9.4	9.5	8.9
Iraq	6.0	8.2	7.7	7.9	7.3
Jordan	8.3	12.1	11.3	11.1	10.5

Table 2c

Estimates of Military Burden for Israel, Egypt, Syria, Iraq, and Jordan, 1960-1969

(millions US $)

	k=3		k=4	
	n=2.5	n=5.0	n=2.5	n=5.0
Israel	3896	2689	2870	2065
Egypt	4140	2882	3053	1935
Syria	1065	684	778	504
Iraq	2066	1455	1702	1098
Jordan	810	648	595	451
			8998	
Total	11977	8358		6053

The burden, as table 2c shows, is also affected by the value of k. With n=2.5 and k=4, Israel's military burden is reduced from $3,896 million to $2,870 million.

Corresponding estimates of military burden are made for Egypt, Iraq, Jordan, and Syria. In the n=2.5, k=3 case of Egypt, for example, the 1960-1969 military burden is $4,140 million representing the heaviest burden of the five countries. The Iraqi burden is $2,066 million, the Syrian $1,065 million and the Jordanian $810 million. The total military burden for the five countries is $11,977 million.

The Military Burden 1970-1980:

Calculations of military burden for 1970-1980 depend upon conjectures of future rates of economic growth and future military expenditure GNP ratios. Military burden estimates offered in table 3 below are based upon the following two assumptions: (1) the rate of growth for each of the 1970-1980 years is the 1960-1969 weighted average,[7] and (2) the 1969 military expenditure GNP ratios apply for each of the 1970-1980 years.[8] The

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[7]While there is no compelling reason to assume that Middle East economic performance in the 1970s will match the performance of the preceding decade, no particular reasons can be advanced to argue a less or a more attractive performance. The Israeli "Projected Development until 1978" assumes a per capita growth of 5.1 percent for 1971-1978 which is precisely the rate for 1960-1969. Kanovsky, op. cit., p. 125.

[8]The selection of the 1969 ratios rather than, say, an average of the 1960-1969 ratios is based upon the observation that most experts on the subject believe the 1969 ratios to be the more representative of things to come. For example, see Mr. Abraham Agmon, Director General of the Israel Finance Ministry commenting in The Jerusalem Post, October 13, 1970, p. 1.

GNP base used in the calculations is 1969 GNP with n=a, k=3.

In the Israel case of n=2.5, k=3, the 1970-1980 military burden is $44,960 million. By contrast, this burden represents a more than eleven fold increase over the 1960-1969 military burden. The dramatic increase is explained by the extraordinary n=25.1 for the entire 1970-1980 period.[9] While the Israel burden was 30 percent of the total regional burden in 1960-1969, it becomes, by 1970-1980, 59 percent of the regional. The military burden in Egypt increases to 350 percent, the Iraqi to 310 percent, the Jordanian to 480 percent and the Syrian to 570 percent of the 1960-1969 burden.

Conclusion

It is clear from the above analysis that the military burden in the Middle East for 1960-1969 and 1970-1980 is both substantial and increasing. The existence of a military burden, of course, is not unique to the Middle East. What is particular, however, is its relative size. A sustained military expenditure GNP ratio at three to four times the level of other developing nations has produced more than a moderate deflection of human and material resources away from still underdeveloped civilian sectors. Although there is perhaps no limit to the number of alternative uses that can be described in a military-civilian trade-off, it may be of some interest to note that were the military burden, measured at n=2.5, k=3,

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[9]The only country with a similar n posture is North Vietnam, e.g., n= 19.7 in 1965, n= 21.1 in 1966, and n= 25.0 in 1967. United States Arms Control and Disarmament Agency, op. cit, p. 18.

Estimates of Military Burden for Israel, Egypt, Syria, Iraq, and Jordan, 1970-1980

(millions US $)

	k=3		k=4	
	n=2.5	n=5.0	n=2.5	n=5.0
Israel	44960	39046	32066	27438
Egypt	14456	10967	10511	8012
Syria	6081	4580	4409	3452
Iraq	6417	4259	4786	3072
Jordan	3937	3156	2815	2342
Total	75851	62008	54587	44316

reassigned in 1969 as a transfer payment to the 1,395,074 Palestinian refugees,[10] the per capita income of the refugees would have increased by $1,238 or over three times the per capita income in Egypt, Iraq, Syria, or Jordan.

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[10]Report of the Commissioner-General of the United Nations Relief and Works Agency for Palestine Refugees in the Near East General Assembly, Official Records: Twenty-fifth Session, Supplement 13 (A/8013) United Nations, New York, 1970, p. 67.