

## **Economic Development in Iraq: Factors Underlying the Relative Deterioration of Human Capital Formation**

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Since 1980, the Iraqi economy has been adversely affected by three separate factors. The war with Iran and later the Coalition Forces caused catastrophic damage to the country's infrastructure. Investment policy permitted high levels of development expenditure, at least during the early years of the Iranian War, which combined with military expenditures particularly in the latter war years, created a rapid expansion in the country's foreign debt. The international oil glut from 1981 onward seriously reduced revenues [Joffe and McLachlan 1987, 19]. And finally, international sanctions against that country following the invasion of Kuwait have resulted in greatly reduced levels of investment and manpower (foreign worker) shortages.

Clearly, Iraq's ability to reconstruct its economy in the future will depend largely on the country's stock of human capital. Did human capital in Iraq deteriorate during the 1980s and, if so, why and in what sense? Has human capital development suffered at the expense of military expenditures?

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### *Human Resource Development*

Historically, and especially prior to 1970, economic development plans in Iraq were founded on the idea of investing in physical plant and infrastructure and did not give development of human capital a high priority. Labor force needs were not spelled out, nor were they based on any realistic estimates of the skill requirements implicitly required by the planned capital investments. The result was a shortage of skilled workers in certain technical fields and an excess in others [Medhi and Robinson 1983, 32].

The 1971-75 and 1976-80 National Development Plans attempted to overcome these deficiencies. The 1971-75 Plan stressed that "labor force planning must go side by side with economic development planning." Planners began to recognize that no effective manpower and employment planning could be performed independently of overall national planning.

A somewhat different picture emerges, however, from scrutiny of Iraq's actual expenditures on education and health. This situation is especially so (1) upon examination of the country's pattern of defense expenditures and (2) in comparison with Iran and with other Arab countries, particularly during the 1980s:

1. Government expenditures for education on a per capita basis expanded by 17.28 percent between 1974 and 1979, roughly the same rate achieved by Iran. While this figure was quite high, it was still considerably below the rates achieved by other Arab countries during this period.

2. Health expenditures expanded more rapidly than in most developing countries, increasing at 23.63 percent during the late 1970s.

3. However, during the early 1980s, there was a major contraction in educational expenditures, averaging a decline of 5.74 percent per annum on a per capita basis during 1979-84. Comparable figures for Iran showed an increase of 3.69 percent.

4. The share of educational expenditures in gross national product (GNP) in Iraq increased slightly from 3.12 percent in 1974 to 3.19 percent in 1979 and (largely as a result of declining GNP) to 3.40 percent in 1984. Comparable figures for the Arab countries as a whole were 3.86, 5.00, and 5.34 percent, respectively.

5. Iran's performance during this period was even better; its commitment to educational expenditures increased from 3.10 percent in 1974 to 7.51 percent in 1984.

6. As might be expected, a major cause of the decline in educational expenditure during this period was Iraq's massive increase in military expenditures. These expenditures increased by 34.25 percent per annum on a per capita basis during 1979-84, compared with an increase of 14.6 percent by Iran and -0.04 percent for the Arab countries as a whole.

7. Iraq's health expenditure also suffered during the early war years, decreasing at an average annual rate of 6.93 percent per capita. In relation to Iran, Iraq's health expenditures have been considerably below Arab standards, increasing from \$7.28 per capita in 1974 to \$21.69 in 1979 only to decline to \$14.69 in 1984. Comparable figures for the Arab countries as a whole were \$33.57, \$68.58, and \$97.48.

In short, Iraq fell considerably behind neighboring Arab countries in its commitment to human capital formation.

### *Military Expenditures and Budgetary Trade-offs*

It is clear that education and health expenditures have suffered as a result of Iraq's war efforts; however, the extent of the damage is not completely obvious. On the surface, budgetary trade-offs between defense and allocations to education/health would seem to be straightforward—for a given budget, a dollar increase in military expenditure will crowd out an equivalent amount of all other spending, and education and health will be reduced according to their proportion of the total. However, recent research has shown that this view of the budgetary process is overly simplistic and does not correspond to the manner in which governments often prioritize expenditures [Deger 1981].

A related issue of significant relevance for the medium-term prospects of Iraq, particularly in the current era of slack oil revenues, is the manner in which austerity-driven budgetary cuts are allocated. Anecdotal evidence suggests that officials follow ad hoc rules for making large contractions in a short period of time by cutting new, rather than ongoing, projects; trimming new, rather than present, employment; selecting materials and travel expenses, rather than personnel; as well as favoring ministries that are politically powerful or reducing those that expanded most rapidly in the past [Caiden and Wildavsky 1974].

Clearly, simple zero sum models of budgetary shares are not the appropriate measurement of determining the impact that

military expenditures have on human capital development in developing countries. Ultimately, this impact will depend not just on budgetary priorities, but, perhaps more importantly, on the degree of simultaneous expansion in the overall size of the economy and the government budget itself.

Another relevant factor involves the composition of allocations to defense—the mix between military hardware and personnel development. The earliest theorists<sup>1</sup> who studied the role of the armed forces in the development process argued that one of the most important ways in which the military establishment can contribute to economic progress was to relieve the commonly found shortages of technical and administrative manpower.<sup>2</sup> The acquisition of modern weapons was said to bring certain benefits in terms of technology transfer and technical training. The theorists argued that the possession of such weapons made military personnel both more aware of the technological gap between industrialized and developing countries and more likely to act on this awareness than other social groups. The training received by soldiers to enable them to use modern weapons and support equipment was said to provide them with those technical skills that are of particular value for economic development.

It is quite possible in regions such as the Arab world, where educational programs have lagged, that the military also performs a more fundamental task—developing basic skills in literacy. Based on the considerations summarized above, the following section attempts to determine the extent to which military expenditures have affected educational/health expenditures and, ultimately, the development of human capital in Iraq.

### ***Military Expenditures and Human Capital Development***

In order to determine the relative impact of military expenditures on various facets of socioeconomic performance and, in particular, on human capital development in Iraq,<sup>3</sup> we examined the patterns of change in 16 measurements of social and economic development for developing countries as a whole and Arab countries as a subset during 1974-84.

1. In contrast to developing countries as a whole, the Arab world expanded each major area of government expenditure (health, defense, and education) all at a roughly similar rate. Government expenditures were, in fact, the dominant trend in the

Arab country data. Interestingly enough, expansion of the public sector was not closely related to overall growth of the economy (GNP).

2. Despite this assessment, educational expenditures (as a share of the government budget) appear to have a fairly strong negative association (with the share of military expenditures in the government budget). Furthermore, the share of defense expenditures in the government's budget appears to have expanded at the expense of some types of socioeconomic advancement: (a) teachers per capita (but not physicians) and (b) school-age children per teacher.

3. However, no negative trade-offs between military expenditures and the overall change in socioeconomic progress are apparent. In absolute terms, increases in military expenditures were positively correlated with increased: (a) educational expenditures, (b) teachers per capita, and (c) health expenditures.

4. The Arab countries do not appear to have developed their human capital in so consistent a manner as developing countries as a whole. Specifically, these countries do not exhibit a high degree of correlation between variables such as literacy, school attendance, and the number of available teachers. Instead: (a) the percent of the school-age population in school is largely associated with the expansion in public-sector expenditure and (b) teachers per capita with overall growth in government expenditures.

5. As with developing countries as a whole, expanded rates of literacy were not highly associated with increased levels of funding or teacher/student ratios. In contrast to the developing world as a whole, however, improvements in literacy in the Arab world were closely associated with increases in the military participation rate (the level of military personnel per capita).

In terms of their relative performance, it is apparent that development in Iraq during this period was characterized by a rapid expansion of military participation/literacy. At the same time, Iraq had, by Arab-world standards, lower than average increases in government expenditures and overall rates of growth. Iraq's rapid increase in the share of military expenditures in its budget (and corresponding decrease in the share of educational expenditures) also gave that country a relatively high and negative budgetary trade-off with education (while the opposite was true in Iran).

One of the major indicators of human capital formation in developing countries—improvement in literacy—occurred through fairly conventional means in the non-Arab regions of the developing world. For these countries, increased expenditures on education have manifested themselves in more teachers per student and so on, with the ultimate effect of improvements being in the overall rate of literacy. The Arab countries have apparently relied more on instruction within the military service to eradicate illiteracy. A corollary to this fact is that the non-Arab school systems appear to have been relatively more adept at contributing to human capital formation than their counterparts in the Arab world.

### *Conclusions*

The findings presented above dramatically show the drastic decline in human (and related health) development in Iraq during the early (and presumably mid- to late-) 1980s. Iran, in contrast, was able to expand its human capital, despite also committing a large proportion of its resources to the military. In short, Iran has been able to allocate a large proportion of its assets to human capital development while Iraq, even with heavy external borrowing, has suffered a decline in its stock of human assets. Clearly, Iran, with its much lower external debt, is potentially in a much better position for reconstruction.

It is also apparent that although defense expenditures appear to be a relatively inefficient means of increasing literacy, Iraq may have obtained some benefits for future development from its massive military expenditures. The findings presented above indicate that an important aspect of human capital development, improvements in literacy, has proceeded in a somewhat unique manner in Iraq and other Arab countries. For these countries, improvements in literacy have been much more closely associated with the military participation rate than is the case in other parts of the world.

The reason for this pattern is not completely clear. Are the observed improvements in literacy associated with military participation due to some particular success of Arab militaries in training recruits, or do they simply reflect deficiencies in the civilian educational systems? Would comparable allocations to conventional schools have produced better attainment toward national literacy and skill improvement? While the results obtained above

are suggestive, definitive answers to questions of this sort will have to wait until detailed analysis of the region's military and educational budgets can be undertaken.

### *Notes*

1. For example, Morris Janowitz, *The Military in the Political Development of New Nations* (Chicago: Phoenix Books, 1964), p. 75; and Marion J. Levy, Jr., *Modernization and the Structure of Societies: A Setting for International Affairs* (Princeton, N.J.: Princeton University Press, 1966), p. 605.
2. This discussion is based on Nicole Ball, "The Contribution of Military Training to Human Capital Formation in the Third World," paper presented at the Biennial Conference of the Inter-University Seminar on Armed Forces and Society, 18-20 October 1985, Chicago, Illinois, p. 1.
3. The method of analysis used was factor analysis. National income account data is from: Arab Monetary Fund, *National Accounts of Arab Countries, 1974-85* (Abu Dhabi: Arab Monetary Fund, 1987). Social data was from: Ruth Sivard, *World Military and Social Expenditures* (Washington: World Priorities), various issues. The Arab countries included in the sample were: Iraq, Jordan, UAE, Bahrain, Tunisia, Algeria, Saudi Arabia, Sudan, Syria, Somalia, Oman, Qatar, Kuwait, Lebanon, Libya, Egypt, Morocco, Mauritania, Yemen Arab Republic, and PDR Yemen.

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