The Impact of Defense Expenditure on Industrial Development in the Arab Gulf

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Since the mid-1970s the Gulf economies have experienced an unprecedented growth in economic output and industrial production. The benefits of rapid increases in oil revenues were also distributed to neighboring countries through financial assistance, expanded trade, and jobs for skilled and unskilled workers.

Concurrent with rapid economic growth was an acceleration in regional military spending. Military purchases were partially financed by oil revenues and by military aid and grants from the major arms suppliers.[1] During this period, military expenditures have averaged around 30 per cent of central government expenditures. This compares with an average of around 20 per cent for most developing countries. Military expenditure per capita averaged around $500, while the average for developing countries as a whole was about $50. While the armed forces per 1,000 people averaged around 15 for the Middle East, developing countries, as a whole, experienced rates of only five per 1,000 people.[2]

Ironically, this increase in military expenditures coincided with rates of rapid growth throughout the Middle East. During the 1973–82 oil boom period the average annual economic growth rate in the Middle East was about 6.0 per cent while military expenditures grew by approximately 13.0 per cent per year. Although military expenditure levels vary across countries, in most of the countries the growth rate of military spending outpaced economic growth and, perhaps, even expenditures for economic development.[3] This indicates a striking pattern in the region toward higher military burdens.[4]

To date most of the analysis concerning Middle Eastern military expenditure has focused on strategic issues and the resulting shifts in regional military balance stemming from the recent explosion in defense expenditures. Most recently, analysts have begun examining the likely composition and extent of military sales to the region following the successful resolution of the Kuwaiti crisis.

Those studies examining the economic effects from defense expenditures have focused largely on the identification of linkages between defense expenditures and overall economic growth. These studies have provided some insight about the shorter term economic costs (and

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occasional benefits) provided by defense expenditures. However, longer term factors such as effects on industrial growth may determine whether the Gulf military buildup has seriously retarded (or possibly aided) the eventual development of viable economies.

Given the increased concern over the consequences of a new military buildup in the region, the analysis below examines the impact, if any, of military expenditures on the industrial development of the Arab Gulf states. Have military expenditures stimulated increased levels of industrial output or, perhaps by diverting resources away from industrial activity, have defense expenditures depressed the expansion of the region's industrial development?

MILITARY EXPENDITURES AND ECONOMIC PERFORMANCE

Historically, most analyses on the economic impacts of defense expenditures in the Gulf region have concentrated on possible growth effects (either positive or negative) stemming from increased defense burdens. While not dealing with the issue of industrialization directly, these studies do provide information concerning the types of impact on manufacturing stemming from increased military burdens.

For example, in the case of Saudi Arabia military expenditures:[5]

1. They have had a net positive impact on the country's overall gross capital formation. That is, after controlling for government expenditures and oil revenues, increases in military expenditures have had a net stimulating effect on investment in the Kingdom. The same also applies to non-oil investment.
2. They do not appear to stimulate either total private-sector expenditures or consumption. Again government investment appears particularly productive in contributing to increased levels of private sector consumption.
3. They do not appear to increase levels of imports nearly as much as do the overall levels of government expenditures or oil revenues.
4. They appear to induce private-sector investment. On the other hand government investment crowded out or preempted resources that might otherwise flow toward this sector.
5. In the net, military expenditures appear to contribute more to overall demand than does government consumption. The stimulating effect of military expenditures on other types of government expenditures reinforced this effect.

In short military expenditures in the Saudi Arabian context appear to have (in addition to their security value) several significant impacts on the

private sector, not all of which are negative. In particular, several of the major areas of private sector activity appear to derive more of a stimulus from defense expenditures than from other forms of government allocations. The same also appears to apply to the overall level of gross capital formation and non-oil investment.

These results suggest that a careful shifting of government allocations from public sector consumption to capital formation (providing that profitable areas for investment have not been exhausted), rather than across-the-board reductions in military expenditures is the most productive policy open to the authorities for contributing to private sector expansion.

The Iranian context presents a completely different case. To what extent did excessive military expenditures in the 1970s contribute to the economic instability preceding the revolution?[6] It appears that the Iranian economy received positive net benefits from defense expenditures in the 1960s. However, this relationship broke down in the 1970s. Instead, military expenditures, perhaps through the bottlenecks they created, had a negative impact on several sectors.

The same was true for investment in certain key areas of the economy. These negative effects were not associated with other types of government expenditures. From this it is safe to conclude that defense expenditures were unique in their marginal negative impact on private sector output after the 1973–74 revenue boom.

Again these findings are consistent with cross section analysis that indicates that resource-constrained countries experience negative impacts from military expenditures. On the other hand those economies not constrained by foreign exchange and domestic savings experience positive impacts from increased allocations to defense.[7]

IMPACT OF GOVERNMENT EXPENDITURES ON INDUSTRIAL DIVERSIFICATION

The above studies provide valuable insights in which military expenditures affect economic performance in the Arab world. They are, however, somewhat silent about how these effects occur. In particular, it is not always apparent whether in these studies the military burden simply acts in some way as the statistical proxy for government expenditures. As noted, the size of the government is likely to have a positive direct effect (Keynesian). A negative indirect effect (crowding out) on private sector activity is also a possibility. Are the net impacts of these effects similar or opposite for defense and non-defense governmental expenditures?

In this regard, defense expenditures may retard industrial development because of their potential to cause:[8]

1. Decreases in private consumption because fewer resources (including foreign exchange) are available to the civilian sector.
2. Decreases in civilian imports, and even balance of payments difficulties due to increased military imports.
3. Increases in inflation due to increased government budget deficits.
4. Distortions in the pricing system because military procurements are not made in open, competitive markets.
5. Shortages of managerial skills and skilled workers in a labor-constrained civilian sector, leading to reduced productivity and growth.
6. A distribution of income for the military and against the civilian sector, and
7. Increases in the political power of the military. In turn, this may result in the preempting of goods from the civilian sector.

Many of these effects combine in the oil exporting countries to produce the so-called 'Dutch Disease effect'[9] – the increased profitability, through exchange rate movements and international inflation,[10] of non-traded activities such as services and construction and, simultaneously, the reduced profitability of traded goods such as agricultural and industrial products.[11]

In the developed countries (in particular Holland) where this phenomenon was first observed, de-industrialization has taken place. In the case of OPEC members, the result has been a fall in domestic production of traded agricultural and industrial goods, and an expansion of construction and services.

The traditional Dutch Disease oriented approach to the analysis of oil booms stresses the factors associated with the appreciation of the real exchange rate, driven by a rise in the relative price of non-traded goods. The relative price shift causes a reallocation of labor towards the non-traded sector, a rise in the output of non-traded goods and a fall in the output of traded goods. Returns to capital in non-traded activities rise, while returns in traded activities fall.

THE RELATIVE IMPACT OF DEFENSE AND GENERAL GOVERNMENT EXPENDITURES

In sum, empirical studies of oil-based government expenditures have been pessimistic. Studies focusing on the impact of defense expenditures stress the retarding effect of these allocations on overall growth. Studies focused on general or total governmental expenditures, especially in oil-rich countries, indicate that the side effects associated with these expenditures often depress industrial investment and development.

Obviously, for policy purposes it is important to determine the manner in which government expenditures in general and defense expenditures in particular influence industrial development:

1. Are these effects largely direct? Is the diversion of labor, capital and foreign exchange from the industrial sector, or are they of the indirect type associated with the Dutch Disease?
2. Are there additional consequences such as accelerated growth stemming from government expenditures strong enough to neutralize or even offset any possible disincentives to industrial investment and expansion associated with public sector expenditures?
3. Are military expenditures more likely than non-military allocations to affect industrial development and diversification?

To examine these issues an analysis[12] was made of the patterns of government expenditures and manufacturing output[13] in a sample of the twenty Arab countries.[14] In estimating the impact of government expenditures on industrial growth and diversification, it is assumed that the sectoral share of manufacturing output at some point in time was a function of: (a) manufacturing output in the base year (1974), (b) the share of government expenditures in economic activity, (c) the appreciation of the real foreign exchange rate, the Dutch Disease effect, and (d) real per-capita economic growth.

The interesting aspect was the finding of little correlation between total government expenditures and those allocated to defense. In addition, and somewhat contrary to popular belief, military expenditures in the Gulf are determined by factors other than overall budgetary considerations or the ability to finance expenditures out of sources such as oil revenues.

Finally, several country patterns stand out:

1. The oil countries, except for the UAE, have relatively high levels of governmental expenditures. Except for Bahrain and Kuwait, the same also applies to military expenditures.
2. Again except for the UAE and Bahrain, the oil countries are at a somewhat lower stage of industrial development and diversification.
3. Finally, there is little association between total government expenditures and defense expenditures in the Arab world. Notable exceptions are Bahrain, Libya, Egypt, Sudan and Morocco.

The next step in the analysis was to test for the relative importance of government expenditures in affecting the pattern of industrial development and diversification. For this purpose estimates were made for three periods: 1985, 1983 and 1977.

Both 1983 and 1977 were selected because they represented the

conditions after the effects of the first (1973–74) and second (1978–79) oil price shocks had worked themselves out. On the other hand, 1985 represents the year before the dramatic 1986 price collapse.

It appears that:

1. Dutch Disease factors were relatively important in the latter periods in affecting the development of the manufacturing factor. In this regard, Dutch Disease effects were slightly more important than real per capita growth in affecting manufacturing by 1985.
2. By 1983, however, real per capita growth had a slightly stronger effect on the region's industrial development.
3. By 1977, however, neither per-capita growth nor the Dutch Disease effects had made much of an impact on the region's industrial development.
4. Higher levels of total government expenditures and governmental non-defense expenditures have been associated with depressed development of the industrial sector.
5. This pattern is not simply a spurious correlation in that it does not reflect that high levels of government expenditure are found in countries with dominant oil sectors. Except for a weak association in 1983, development of the oil sector was not statistically significant in explaining the pattern of relative industrial development in the Gulf.
6. In contrast to total governmental expenditures and those for non-defense activities, military expenditures do not appear to have affected Arab world industrial development over the 1974–85 period. While this term had a negative sign in each of the years examined, it was not statistically significant in any instance.

CONCLUSIONS

While commonsense dictates that shifting public allocations from military toward productive activities would result in a net positive stimulus to industrial development, the results presented above indicate that there is little evidence this is the case in the Arab world. In fact, other types of governmental expenditures in the Gulf states have a relatively strong depressing effect on the region's industrial diversification efforts.

The finding that defense expenditures are rather neutral concerning industrial growth is consistent with other studies using time series analysis for individual countries. Apparently, allocations to defense can have a net negative impact on industrial development, but this is most likely to occur only during periods of particularly rapid acceleration in expenditures.

Perhaps the novel finding of the present study is the negative impact on

industrial development produced by non-defense expenditures. At this point one can only speculate about the source of these problems. Because Dutch Disease and growth effects were controlled for, crowding out (of private investment) effects are the chief mechanism through which government expenditures affect industrial development. It is not at all clear, however, why these should be any greater than a similar pre-emption of sources associated with military expenditures.

Our findings suggest that additional estimates should be made of the impact of other types of government expenditures. This is especially the case of the economic impact of public sector administration and services. It may well turn out that these expenditures have higher opportunity costs than those associated with defense.

NOTES

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8. Lebovic and Ishaq, op. cit., pp.110–11.
9. Robert E. Looney, 'Oil Revenues and viable Development: Impact of the Dutch Disease on Saudi Arabian Diversification Efforts', *American Arab Affairs* (Winter 1988–89), pp.29–35.
10. Mohammad Al-Sabah, 'The Dutch Disease in an Oil Exporting Country: Kuwait', *OPEC Review* (Summer 1988), pp.129–44.
11. Manoucher Parvin and Hashem Dezhbakhsh, 'Trade, Technology Transfer, and Hyper-Dutch Disease in OPEC: Theory and Practice', *International Journal of Middle East Studies* (Nov. 1988), pp.469–77.
12. The theoretical model, data and estimation procedures are given in Robert E. Looney, 'The Impact of Defense Expenditures on Arab Industrial Development', *Working Paper Series*, Department of National Security Affairs, Naval Postgraduate School, Monterey, California (5 April 1991).
13. Economic data were taken from the Arab Monetary Fund, *National Accounts of Arab Countries* (Abu Dhabi, United Arab Emirates, various issues), and *International Financial Statistics* (Washington, DC: The International Monetary Fund, various issues). Military expenditures and total government expenditures were taken from: *World Military Expenditures and Arms Transfers* (Washington, DC: United States Arms Control and Disarmament Agency, various issues). The data and analysis

covered the period 1974 through 1988.

14. The members of the Arab Monetary Fund: Jordan, UAE, Tunisia, Algeria, Saudi Arabia, Sudan, Syria, Somalia, Iraq, Oman, Qatar, Kuwait, Lebanon, Libya, Egypt, Morocco, Mauritania, Yemen Arab Republic and Peoples Democratic Republic of Yemen.