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**THE ECONOMY OF SAUDI ARABIA:
TROUBLED PRESENT, GRIM FUTURE**

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PREFACE

Because of its vast oil reserves, strategic geography, and pro-Western orientation, the security of Saudi Arabia has been an important U.S. interest for decades. Less attention, however, has been paid to Saudi internal stability than to its external defense. With a huge income from oil sales, one aspect of U.S.-Saudi relations long taken for granted was the economic health of the kingdom. For decades, the conventional wisdom surrounding Saudi Arabia was that its financial wealth provided a great bulwark against instability.

In this Policy Paper, Eliyahu Kanovsky takes a different view. Examining Saudi economic policy and performance over three decades, he paints a grim picture of the kingdom's financial health, with even darker clouds hovering over its economic future. Professor Kanovsky traces Saudi Arabia's ride on an economic roller coaster through price shocks, oil glut, recession, and war. He concludes that excessive spending policies, encouraged in part by forecasts of steadily rising prices, depleted the kingdom's cash reserves while the Saudi government failed in efforts to diversify its one crop (i.e., oil) economy.

In his study, Professor Kanovsky explains that the decision to maintain huge subsidies to preserve social stability in times of recession makes continued deficits even more likely in the coming years. Combined with his prediction about the continued soft market for oil, Professor Kanovsky sends a sobering message about the economic viability of one of America's key regional allies. His assessment has important ramifications for U.S. policy.

Michael Stein
President

Barbi Weinberg
Chairman

EXECUTIVE SUMMARY

The kingdom of Saudi Arabia faces a grim economic future. Contrary to predictions in the late 1970s and early 1980s of rising prices for Middle Eastern oil, world oil demand and prices have followed a downward trend since 1981-82, resulting in a reduction in Saudi oil revenues. Since 1983 Saudi Arabia has stopped accumulating financial surpluses, forcing it to draw down its financial reserves and, since 1987, to resort to large-scale borrowing.

These erroneous predictions also misread how oil-exporting countries react to vast increases of oil income. The assumption was that they would not increase spending as rapidly as they earned income and would thus accumulate huge financial surpluses. However, like other countries in a similar position, Saudi spending did keep pace with revenue, and when the revenue slowed to a trickle, Saudi Arabia decided it could not decrease spending commensurately.

The dramatic leap in Saudi oil export revenues in the 1960s was soon surpassed by government spending, causing budget deficits by the late 1960s. Increasing Saudi oil revenues in the early 1970s quickly paid off the debt and led the government to step up spending in the development plan of 1975-80. By 1977, however, a glut in the oil market forced down prices and reduced revenues. The resulting budget deficit led Saudi leaders to draw on accumulated financial reserves.

The oil shock of 1979-80 once again boosted Saudi revenues. Although another glut emerged by 1980, the Iran-Iraq War halted the downward pressure on prices and raised revenues in 1980-82. As they did after the first shock, Saudi leaders planned additional expenditures in the development plan of 1980-85. By 1983, however, an unexpected drop in revenues wiped out the fiscal surplus from

the previous years. Outside of minor attempts to cut spending on foreign aid, and despite a downtrend in revenues, the Saudis continued to increase expenditures, particularly off-budget military outlays.

By 1985, the drastic fall in production levels and oil prices greatly reduced revenues and the government decided to increase its volume of sales. The result for 1986 was a worsening of the oil glut, a decrease in prices, and a level of Saudi oil export revenues that were far below earlier estimates.

Since fiscal year 1983, Saudi Arabia has suffered from budget deficits and deficits in current accounts in the balance of payments. These deficits were first covered by drawing on foreign assets, and after 1987 by government-issued bonds. Attempts to diversify the economy, create agricultural self-sufficiency, and reduce the number of foreign workers in the Saudi labor force were largely unsuccessful, with the cost of the efforts themselves only draining the economy further. By the end of the 1980s, Saudi Arabia was more dependent on oil revenues than before. The Gulf War aggravated the long-term deficits that have resulted from a continuing policy of government expenditures in excess of oil export revenues. This is due to the huge military cost of the war, exacerbated by the decision to actually increase domestic subsidies in times of crisis.

In the future, deficits are likely to continue to grow, barring any serious effort by Riyadh to curtail major aspects of government spending. While raising revenue through taxes and cutting back sharply on subsidies would offer hope for economic rehabilitation, there is no evidence that Saudi leaders are willing to risk the domestic unrest such a policy might produce. Instead they appear to be relying on the unlikely event that the oil market makes a miraculous recovery.

World-wide efforts to improve energy efficiency and replace oil with other sources of energy, as well as efforts by a wide range of non-OPEC countries to produce oil, will depress demand and prices. Iraq's eventual return to the oil market and the probable increase in production from the former Soviet Union are additional factors that are likely to contribute to this trend. While the Saudi government is likely to expand productive capacity and increase oil exports in an attempt to significantly raise revenues, the chances of revitalizing the economy solely through reliance on oil exports without any fundamental change in economic policy are slim.

I INTRODUCTION

Every year since 1983, Saudi Arabia has incurred large budget and balance of payments (current account) deficits. As a consequence, it has exhausted the bulk of its once-huge financial reserves, and since 1987 has been borrowing heavily, at first internally and more recently externally, in order to cover the deficits. The reasons for this drastic reversal in Saudi Arabia's fortunes and its economic and political implications are the subject of this study.

In 1977, the U.S. Central Intelligence Agency (CIA) published a very pessimistic study which—because of its source and dire predictions—received wide publicity. According to that study, oil prices were forecast to rise sharply, with a concomitant increase in dependence on OPEC and especially Saudi oil:

Between 1979 and 1985, increasing world demand and stagnating oil production in the major consuming countries will result in increased reliance on OPEC oil. By 1985 we estimate that demand for OPEC oil will rise [from 31 million barrels per day (mbd) in 1976] to 47 to 51 mbd. Even if all other OPEC states produce at capacity, Saudi Arabia will be required to produce 19 to 23 mbd if demand is to be met. This is well above present Saudi capacity of 10 to 11 mbd and projected 1985 capacity of at most 18 mbd . . . prices will rise sharply no matter what Saudi Arabia does. Although our forecast . . . *broadly resembles other official and private forecasts*, we are more pessimistic about the implications. . . . Although Saudi Arabia has the reserve potential to meet increased world demand between now and 1985, we doubt the Saudis will be able or willing to do so . . . the rates of [Saudi] production needed to satisfy

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[projected world oil demand] would generate . . . enormous [Saudi financial] surpluses.¹

If the CIA and almost all other official and private forecasts were pessimistic during the years following the first oil shock of 1973-74, their predictions were almost apocalyptic following the second oil shock of 1979-80, which was triggered by the 1979 Islamic revolution in Iran. A CIA forecast published in August 1979 asserted that "supply disruptions caused by developments in Iran have advanced the timing of [the oil] price increases" projected in the 1977 study. In other words, the authors of the CIA study suggested that the sharp price hikes engendered by the second oil shock would have taken place eventually, even if there had been no Iranian revolution, but that they might have been gradual. The study went on to report that "the Saudis have long made it clear that they regard oil production much in excess of what is required to cover current needs to be a concession to the Western countries, the U.S. [United States] in particular." Western countries, and especially the United States, were expected to adopt a strong or stronger pro-Arab stance in the Arab-Israeli conflict as a *quid pro quo* for Saudi willingness to pump more oil than it presumably required to satisfy its revenue needs. The report quotes Saudi officials who expressed doubts regarding the wisdom of accumulating "massive financial assets," instead suggesting that Saudi Arabia should reduce its production.²

Following the second oil shock of 1979-80 the forecasts made by almost all oil "experts" in and out of government were extremely pessimistic. In retrospect, it is clear that they overrated the power of OPEC and especially its leading member—Saudi Arabia. A 1981 U.S. Congressional Budget Office (CBO) study projected that at the prevailing prices there could be an oil shortage of 4.5 mbd in 1985, rising to 10.5 mbd by 1990. This implied that prices would rise in real terms (corrected for inflation) by an average of 5-6 percent annually until 1990. The study concluded that the OPEC countries, and especially Saudi Arabia, would continue to accumulate large financial surpluses and that "as their surpluses grow, producing

¹ Central Intelligence Agency (CIA), *The International Energy Situation: Outlook to 1985* (Washington, D.C.: Government Printing Office, 1977), emphasis added.

² CIA, *The World Market in the Years Ahead* (Washington, D.C.: Government Printing Office, 1979).

nations will keep them down by keeping their oil in the ground.”¹ Oil in the ground, it was argued, was more valuable than if it were pumped and sold at the prices of the early 1980s. This was based on the forecast that oil prices would continue to rise in real terms. Indeed, a 1981 World Bank study projected real price increases of 3 percent per annum until the end of the century.²

Based on the testimony of a host of expert witnesses, a U.S. Senate committee reached the following conclusion in December 1980:

Even if all present plans to reduce oil consumption, increase indigenous [oil] production, and accelerate the use of alternative fuels succeed, the industrialized countries will remain heavily dependent on imported oil from unreliable or insecure sources [i.e., the Middle East] for the rest of this century, or well into the next, [leading] to higher prices, and greater political and military concessions in return [for the willingness to sell more] oil. . . . Several producing countries [i.e., Saudi Arabia and other small-population major Arab oil exporters] are earning far more in revenue than they are able to spend. . . . Dependence on Persian Gulf oil means that at least for the next ten to fifteen years, the industrialized countries can expect to live in a world of steady increases in [real] oil prices, lower economic growth, inflation and stagnant or sluggish [economic] growth.³

The Senate committee report was written when oil prices were over \$30 per barrel. Pessimism was pervasive and almost unanimous, and had a powerful impact on U.S. policy, political as well as economic. At the same time, these reports had a powerful impact on the budgetary profligacy of Saudi Arabia and other oil exporters, which accounts in large measure for Saudi financial problems since 1983.

To say that the “conventional” or “consensus” forecasts were way off the mark is an understatement. They were akin to forecasting economic prosperity and instead experiencing a severe depression, or forecasting price stability and then experiencing hyperinflation.

¹ *U.S. Oil Supply and Demand: Projections to 1990* (Washington, D.C.: Americans for Energy Independence, 1981), pp. 21-25.

² World Bank, *Global Energy Prospects* (Washington, D.C.: World Bank, 1981), p. 15.

³ U.S. Senate Committee on Energy and Natural Resources, *The Geopolitics of Oil* (Washington, D.C.: Government Printing Office, 1980).

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If the projections of the CBO had been realized, oil prices in 1990 would have been about \$95 a barrel. Instead, prices in 1990 averaged \$22 a barrel (\$5 higher than in 1989) due mainly to the Iraqi invasion of Kuwait in August of that year. If the relatively conservative World Bank projections had been realized, prices would have been over \$90 a barrel in 1993; in fact, at the end of 1993 prices were about \$16 per barrel. Instead of rising as predicted, oil prices have fallen sharply from an average of \$33 a barrel in 1981-82 to \$18 per barrel in 1991-92 in nominal (i.e., not corrected for inflation) dollars. In real terms the decline has been far steeper.¹ Of course, there have been price fluctuations due to weather conditions, wars, revolutions, accidents, etc., but the overall trend in oil prices is unmistakably downward. Measured in real dollars, oil prices in 1992-93 returned to the average price in 1973-74. Since oil prices are denominated in dollars, for countries like Japan and Germany whose currencies have risen strongly against the dollar, current real prices are actually much *lower* than they were two decades ago.

What is particularly noteworthy is that the overall decrease in oil prices since 1981-82 prevailed despite exogenous factors that put upward pressure on prices. These included the Iran-Iraq War of 1980-88, which sharply reduced oil production and exports in both countries; the Iraqi invasion of Kuwait in August 1990; the subsequent war to expel Iraqi forces in January-February 1991; the maintenance of UN sanctions on Iraq ever since; and a steep decline in production in the former Soviet Union from a peak of 12.6 mbd in 1987-88 to 9.1 mbd in 1992.² These external events have enabled Saudi Arabia and other OPEC and non-OPEC states to expand their production and exports.

The 1977 CIA study—as well as others—had projected that demand for OPEC oil would rise from 31 mbd in 1976 to 47-51 mbd in 1985; instead, demand fell sharply. OPEC production dropped precipitously to 17 mbd in 1985. The CIA study projected that demand for Saudi oil in 1985 would rise from 8.8 mbd to 19-23 mbd in 1976. In reality Saudi output rose only to about 10 mbd in 1979-81 as a result of the 1979 Iranian revolution and the Iran-Iraq War, which began in September 1980 and sharply reduced output from those two countries. In 1985 Saudi output fell dramatically to its 1970 level of 3.7 mbd. Saudi Arabia was forced to abandon its role as OPEC's "swing" producer (balancing world supply and demand)

¹ See Appendix IV.

² See Appendix I.

and instead cut prices sharply in order to expand its markets. Like other OPEC countries, it ignored OPEC decisions on prices. As a result of its new policy, Saudi output rose to about 5 mbd in 1986-89. The Iraqi invasion of Kuwait in 1990 and the UN embargo on Iraqi exports, combined with the sharp drop in former Soviet production, enabled the Saudis to expand output further to 8.9 mbd in 1992. Other OPEC and non-OPEC producers enjoyed a more modest rise in output from the lows of the mid-1980s.

Conventional wisdom in the 1970s and early 1980s had projected huge and growing OPEC financial surpluses, with the Saudis enjoying the lion's share. In reality, much lower prices combined with a much lower volume of exports sharply reduced Saudi oil export revenues from a peak of \$111 billion in 1981 to an annual average of \$22 billion in the latter half of the 1980s. In 1990-92, Saudi oil export revenues averaged \$43 billion per annum thanks to the Gulf War of 1990-91, the ongoing embargo on Iraqi oil, and the continued decline in former Soviet oil production.¹ Nonetheless, the budget and balance of payments deficits that had afflicted Saudi Arabia every year since 1983 persisted.

One of the bugaboos prevalent until the mid-1980s was that world oil reserves were being exhausted and that dependence on the huge reserves of the Middle East would increase. In reality, world oil reserves have risen sharply from 600 billion barrels in 1970 to 1 trillion barrels in 1992. One of the very few unconventional oil analysts, Professor Peter Odell of Holland, noted: "It is ironic that conventional wisdom through the 1970s and well into the 1980s was fearful for the future of oil on the grounds of the near exhaustion of reserves." In fact, world reserves are currently at their highest level ever. In 1970 experts calculated that the world's supply of oil would last for thirty years; however, discoveries of new oil fields and extraction technology increased that figure to 43 years in 1992.²

The major sources of error in the conventional forecasts were underestimating the effects of the oil shocks on supply and demand, and neglecting the impact of international developments on the oil policies of Saudi Arabia and other major oil-exporters. The conventional forecasts simply assumed that Saudi Arabia and

¹ See Appendix IV.

² Peter Odell, "Prospects for Non-Opec Oil Supply," *Energy Policy*, October 1992, pp. 931-41; see also British Petroleum Company, *BP Statistical Review of World Energy*, June 1993, p. 2. Unless otherwise stated, energy statistics in this study are from the above-mentioned annual publication.

other small-population countries could not increase their spending as rapidly as they were earning oil income, and would therefore accumulate huge financial surpluses. There were innumerable studies on the presumed problem of "recycling OPEC financial surpluses." But from the point of view of oil markets, it meant that Saudi Arabia alone (or along with a few other wealthier members of OPEC) could always eliminate an oil glut by reducing output. This would give the OPEC cartel unusual power.

This analysis failed to take into account economic developments within Saudi Arabia. In a number of previous studies this author has concluded that Saudi behavior is broadly similar to that of most governments which, like individuals, tend to increase spending as revenues rise, especially if they believe that the increased incomes are long-term. The problem arises when revenues (or individual incomes) decline. Individuals tend to resist as long as possible a decline in their living standards by using up accumulated savings and then resort to borrowing to maintain the level to which they have grown accustomed. Governments that have increased spending build up powerful interest groups that expect and demand a continuation of government handouts.

II SAUDI ECONOMIC POLICIES AND THE TWIN OIL SHOCKS

Between 1960 and 1970 Saudi oil revenues quadrupled, measured in current dollars. Even when corrected for inflation, they had more than tripled. This was due mainly to higher output, augmented by an improvement in the profit-sharing agreement with the Arabian American Oil Company (ARAMCO), a consortium of four American oil companies that had a concession on almost all Saudi oil production. But despite the massive rise in government revenues, Saudi Arabia was still suffering from deficits toward the end of the 1960s, both in its budget and in the current account of the balance of payments (exports of goods and services, minus imports of goods, services, and transfers). In short, government spending (and imports) had initially lagged behind rising revenue but soon caught up with and then surpassed it.

A study of the Saudi economy in the 1960s by Donald Wells was prescient:

The experience of Saudi Arabia during the 1960s suggests that both the desire and the capability for increasing expenditures rapidly were present. Whenever revenues increased, rises in expenditures followed quickly, almost automatically . . . [T]he gap between revenues and expenditures closed whenever the Saudis had had time to adjust to the new levels of income.¹

This pattern was repeated in the 1970s despite the fact that the oil shock of 1973-74 produced revenues many times greater than oil exporters had ever experienced.

¹ D.A. Wells, *Saudi Arabian Development Strategy* (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1976), pp. 23-24.

How did the Saudis deal with the deficits of the late 1960s? In fiscal year (FY) 1970, they finally succeeded in restraining the growth in public expenditures, but did not reduce spending. The solution to their economic woes came from exogenous developments in the world oil market, not a more rational spending policy at home. Prices, which had been quite stable in nominal dollars in the 1950s and 1960s, rose strongly in the early 1970s, even before the Arab-Israeli war of October 1973. The average annual rate of growth in world oil consumption since the 1950s had been 7-8 percent, implying a virtual doubling every ten years. Saudi Arabia's good fortune was that in the early 1970s a number of unrelated developments took place. Possibly of greatest importance was the fact that U.S. oil production peaked in 1970, followed by years of decline until Alaskan oil began to flow in 1977. Oil production in Venezuela, which had been a major supplier to the United States, also peaked in 1970. The 1969 revolution in Libya resulted in production cutbacks in 1970. Kuwait also reduced output in the early 1970s, and Iraq's nationalization of foreign oil companies in 1972 reduced its output for a while.

Saudi Arabia took full advantage of these new opportunities and virtually doubled its oil production and exports between 1970 and 1973. Since both the volume of exports and prices were rising, Saudi oil revenues rose sharply from \$1.1 billion in FY1969 to \$3.4 billion in FY1972, creating large surpluses. As a result, public spending, which had been restrained in FY1970, increased sharply in the following two years.¹ The deficits of the late 1960s were soon forgotten.

THE FIRST OIL SHOCK, 1973-74

Shortly after the outbreak of the October 1973 War, Saudi Arabia and other Arab oil exporters declared an embargo on oil shipments to the United States and other countries deemed friendly to Israel, and announced a sharp cutback in total oil output in order to pressure Washington and others to adopt a pro-Arab policy in the

¹ See Saudi Arabian Monetary Agency, *Annual Reports*, for the budgetary figures; see International Monetary Fund (IMF), *International Financial Statistics*, various issues, for the balance of payments data. Before 1987, budgetary figures were expressed in terms of fiscal years based on the Muslim calendar. Since 1987 they correspond with the common (Roman) calendar. The balance of payments figures correspond with the common calendar.

ongoing conflict. This did not, however, put a severe dent in the actual oil production of OPEC members. Iran and other non-Arab members of OPEC did not join the embargo; on the contrary, they increased their production. And whereas Saudi Arabia's output in the last quarter of 1973 was 10 percent lower than during the first nine months of the year, it was significantly higher than the last quarter of 1972. Indeed, the statistics for Saudi oil production in 1973 show an average output of 7.7 mbd, as compared with 6.1 mbd in 1972, an annual increase that had no parallel in earlier years. For most Arab oil producers, and for oil producers as a whole, 1973 output exceeded 1972 output despite the embargo, and this was certainly true of non-Arab members of OPEC. In short, actual Arab production cutbacks in the last quarter of 1973 were far less than had been anticipated by the oil buyers. Saudi output actually rose in the first quarter of 1974, despite the fact that the Arab oil embargo was not rescinded until March of that year.

World oil consumption rose 8.1 percent in 1973, but world oil production rose even more rapidly—by 9.3 percent. Why then were there sharp price increases? The answer lies in the *anticipation* of future shortages, which led to massive speculation, stockpiling, and a sharp rise in spot prices. OPEC price hikes followed, with Saudi light oil almost doubling in price in October 1973 to over \$5 a barrel and more than doubling again in January 1974 to about \$11 a barrel. The latter price hike took place about two months after the cessation of hostilities.¹

The rising volume of Saudi exports combined with massive price increases raised oil revenues to unprecedented dimensions. Government oil revenues in FY1974 were \$26.8 billion, almost eight times FY1972 receipts.² Flush with funds, the authorities raised public expenditures, but they could not be increased that rapidly, creating a massive budgetary surplus in FY1974 of \$18.5 billion, compared with \$1.3 billion just two years earlier. The trend was similar in the balance of payments, with the current account surplus reaching \$23.0 billion in 1974 as compared with \$2.1 billion in 1972.³

Saudi leaders responded to such huge revenues by commissioning foreign consultants to formulate a development plan for 1975-80 that was far more ambitious than its predecessor.

1 Saudi Arabian Monetary Agency, *Annual Report 1395/1975*, p. 21.

2 See Appendix IV.

3 See Appendix III.

energy per unit of heating and air conditioning, less energy per unit of factory production). At the same time, higher oil prices induced a shift away from oil in favor of other sources of energy—mainly coal, natural gas, hydroelectric and nuclear power. In the 1950s and 1960s, total energy demand had been rising at about the same rate as economic growth; following the oil shock, energy demand rose much less than the rate of economic growth. In the 1950s and 1960s, oil was displacing other sources of energy, especially coal; following the 1973-74 shock, the reverse began to occur, as oil was being displaced by other sources of energy. The net effect of all these changes was that world oil demand rose by less than 2 percent per annum between 1973 and 1978, as compared with over 7 percent per annum in earlier years. On the supply side, the oil shock was followed by a major world-wide expansion of drilling and development. After 1976, non-OPEC supplies began to rise strongly in Alaska, Mexico, the North Sea, the Soviet Union, and among many smaller producers.

The Saudis were wholly unprepared for the oil glut that began to emerge in 1977. The “experts” had told them that world dependence on Saudi reserves would continue to grow and that real oil prices would continue to rise. In accordance with the 1977 CIA report, U.S. officials had urged the Saudis to expand production capacity from 10 mbd to 16 or 18 mbd in order to satisfy projected world demand in the mid-1980s.

As the oil glut gathered force in 1977 and early 1978, price discounting became more and more prevalent. As the leading exporter, Saudi Arabia was constrained in its actions. While others might increase or at least sustain sales by discounting, Saudi Arabia recognized that any price reduction on its part would soon be matched by its rivals, and it would fail to gain a greater share of the market. This is precisely what happened. OPEC members Iran, Algeria, Libya, and Kuwait led the way in “cheating” on their allotted quotas while Saudi production fell drastically (17 percent); outside OPEC, overall production rose more than 6 percent.¹ In short, non-OPEC oil was beginning to displace OPEC oil, and within OPEC, others were capturing part of the Saudi market. In FY1977 Saudi government oil revenues were \$32.7 billion, down from \$34.3 billion the previous year, while expenditures maintained their upward climb from \$30.2 billion in FY1976 to \$39.3 billion in FY1977 and a budget deficit emerged. In the following year the

¹ *The Middle East*, August 1978, pp. 73-74.

deficit was much larger.¹ The deficits were covered by drawing on financial reserves accumulated in earlier years.

The Saudi authorities were concerned both by the new developments in oil markets and by their budget and balance of payments deficits, but they did little to reduce expenditures or sanction the "cheaters" within OPEC. But as in the late 1960s, the Saudis were extricated from their predicament by exogenous forces, this time the wholly unforeseen revolution in Iran.

THE SECOND OIL SHOCK, 1979-80

Under the Shah, Iran had been the world's second-largest oil exporter in the 1970s. During the first nine months of 1978, Iran exported about 5 mbd, as compared with Saudi exports of 7.5 mbd. Revolutionary forces curtailed oil output during the latter months of 1978 and in December of that year oil exports ceased altogether. The almost abrupt cessation of Iranian exports gave rise to fears of shortages, and speculators had a field day. The Khomeini forces took over the reins of government in February 1979, and Iranian exports resumed the following month, but at far lower levels than in earlier years.

Following the resumption of oil exports by the Iranian revolutionary regime in the spring of 1979, Iranian output declined steadily. By the summer of 1980 (i.e., before the Iraqi attack) Iran's production had fallen to 1.4 mbd, leaving very little for export. This sharp drop in Iran's output was largely due to internal instability, the exodus or execution of Iranian specialists, and the departure of foreign technical personnel. By then, oil buyers were uncertain regarding the stability of the new regime and its ability to sustain even the lower level of production and exports. Moreover, there were widespread fears at the time that the Islamic revolution in Iran would engulf neighboring countries, including Saudi Arabia, dealing an even more powerful blow to Middle East oil exports. Fears regarding Saudi stability were heightened by the abortive takeover of the grand mosque in Mecca by Islamic extremists in November 1979. The following month, the Soviet Union invaded Afghanistan, and it was widely believed that the Soviets would advance into the oil-rich countries of the Persian Gulf. All of these events gave rise to an unprecedented speculative binge and oil prices continued to rise.

¹ See Appendix II.

In many respects, events in 1979 were a repetition of 1973 but on a much larger scale. World oil consumption rose by 1.5 percent that year, but despite the far lower level of Iranian output, world oil production rose by 4.3 percent. The gap is a measure of stockpiling. Oil prices skyrocketed from \$11-\$12 a barrel in 1978 to \$24-\$30 by mid-1980. OPEC raised its official prices periodically, following increases in the "spot" (free) market, but in reality, oil sellers other than Saudi Arabia were charging even higher prices by attaching so-called "premiums" or surcharges to the prices declared by OPEC. By the summer of 1980 a glut began to emerge (i.e., spot prices were lower than official OPEC prices). A number of OPEC states began to eliminate the premiums and surcharges as a means of reducing prices.

The downward pressure on oil prices was temporarily arrested by the Iran-Iraq war, which began in September 1980. Shortly after hostilities began, Iran successfully blocked Iraqi oil exports through the Gulf, which had been Baghdad's main outlet. Iraq's oil sales declined sharply from 3.2 mbd before the war to a mere 0.6 mbd in 1981. Iranian production had fallen to such a low level in the aftermath of the revolution that the Iran-Iraq War itself had little immediate effect. However, the sharp drop in Iraqi exports did have a significant impact on oil markets.

Despite the war, oil prices again began to soften in the spring of 1981. As long as others were imposing premiums and surcharges, Saudi oil had a price advantage and was able to maintain a high level of sales while others suffered a sharp decline. Toward the end of 1981 OPEC decided to unify prices and raise them from \$32 to \$34 per barrel. But Saudi Arabia and other OPEC members had seriously misread the market signals. They continued to adhere to the views of the conventional oil forecasters, who asserted that the downturn in demand for oil was temporary, resulting from a recession in the industrialized countries and the utilization of stockpiles accumulated in previous years. What they failed to see at the time was that there were basic structural changes affecting demand—e.g., continued improvement in energy efficiency and a drive to substitute other sources of energy for oil. This drive was accelerated toward the end of the 1970s by the gradual elimination of oil price controls in the United States, and their complete abolition soon after Ronald Reagan became president in January 1981. Since the United States alone consumed one-fourth of the world's oil, its policies had (and continue to have) a powerful impact on world oil demand. At the same time, non-OPEC supplies continued to rise,

and demand for OPEC oil felt the pincers of softening world oil demand and a rise in non-OPEC supply.

The OPEC decision toward the end of 1981 to raise prices accelerated the downtrend in demand for OPEC oil. Specifically, Saudi Arabia's decision to support a uniform price had a particularly adverse effect on demand for its oil. Thus, Saudi production in 1979-81 remained at about 10 mbd, while OPEC production—excluding Saudi Arabia—declined sharply from 21.7 mbd in 1979 to 13.2 mbd in 1981, and remained at the same level in 1982. Because its prices were lower (until the latter months of 1981), Saudi output remained at about 10 mbd in 1979-81, and then fell precipitously to 6.9 mbd in 1982 when the Saudi price advantage was eliminated. Subsequently, Saudi production continued to fall dramatically to 3.7 mbd in 1985, a level not seen since 1970.¹

¹ See Appendix XIII.

III WISHFUL THINKING: SAUDI DEVELOPMENT PLANNING AND FISCAL REALITY, 1980-85

The 1980-85 Development Plan was announced in the spring of 1980, at a time when both the volume of Saudi exports and the price of oil were rising rapidly and when conventional forecasts expected a continuation of both trends. Inside Saudi Arabia, the deficits of the late 1970s were soon forgotten in the wave of new oil revenues and the soothing assurances of forecasters that the kingdom would begin to accumulate huge financial surpluses.

Based on these predictions, Saudi Oil Minister Sheik Ahmed Zaki Yamani stated in 1979 that he expected demand for OPEC oil to rise from 31 mbd (including Saudi output of 10 mbd) to 35 mbd in 1985 and 42 mbd in 1990, with Saudi output rising first to 15 mbd and then to 20 mbd, respectively. Moreover, in a 1979 article in the *Journal of Energy and Development*, he added a special note of caution:

Existing world oil and gas reserves will be depleted at an alarming rate . . . and the [oil] crisis [of the late 1980s] will be of such magnitude as to make the current situation [the second oil shock] appear like a mere passing event of trivial importance. . . . [The West needs to make] intensified efforts [toward] the development of all forms of energy, eliminate inefficiencies in energy consumption and conserve [oil].¹

Undoubtedly, this was advice he would later regret, as within a few years Saudi Arabia was struggling to increase sales. The predictions of the near exhaustion of oil reserves also made at that time by some major oil companies were equally baseless.

¹ A.Z. Yamani, "Energy Outlook: The Year 2000," *Journal of Energy and Development*, Autumn 1979.

The preamble to the development plan for 1980-85 reflects the supreme confidence of the Saudis in the early 1980s: "The Kingdom is now one of the world's foremost financial powers, in addition to its role as the major oil exporter of the free world."¹

The new plan called for total public spending of \$390 billion, as compared with planned spending of \$142 billion and actual outlays of \$187 billion in the previous five years. A year later, in the spring of 1981, the deputy minister of planning stated that actual spending in 1980-85 would probably be about 15 percent higher (\$450 billion, averaging around \$90 billion per annum).² The magnitude of planned spending can be gauged from the fact that maximum government revenues before the second oil shock were \$38.5 billion in FY1976, while spending plans in the first half of the 1980s were to average \$90 billion annually.

But just as foreign experts erred in ridiculing and discounting Saudi spending plans in the 1970s, so too did they repeat the same error following the announcement of the even more ambitious development plan for 1980-85. In December 1980, the U.S. Senate Committee on Energy and Natural Resources concluded on the basis of "expert" testimony that "now the [oil] producers are cutting back on many of their economic development plans and import requirements."³ In other words, they projected that although the oil revenue of Saudi Arabia and others would grow massively, their expenditures would fall, and their financial surpluses would therefore be huge. Their predictions were made months *after* the Saudis announced their most ambitious development plan and other oil-exporting countries had already begun boosting their spending.

The broad goals of the new plan were similar to those of the previous plan, with an even greater emphasis on the diversification of the economy by developing large-scale industry and modern agriculture. Investment in infrastructure, health, education, and social services was to be accelerated and the armed forces were scheduled to receive even larger allocations. The main constraint

¹ Saudi Arabian Ministry of Planning, *Third Development Plan, 1400-1405/1980-1985*, p. 14.

² *Middle East Economic Digest (MEED)*, April 24, 1981, p. 42.

³ U.S. Senate Committee on Energy and Natural Resources, *The Geopolitics of Oil* (Washington, D.C.: Government Printing Office, 1980), p. 13.

foreseen by the planners was manpower. During the 1970s there was a large influx of foreign labor on all levels—professional, technical, skilled, and unskilled—that was creating social and religious problems in the kingdom. The development plans called for massive investments in education on all levels in order to minimize and eventually replace many or most of the foreigners. However, in the short run, the much larger scale of spending planned for 1980-85 implied an even greater influx of foreigners.

FROM BOOM TO BUST

The oil shock of 1979-80 raised Saudi government oil revenues to over \$96 billion in both FY1980 and FY1981. This was triple the oil receipts of FY1977. During this period of euphoria in the early 1980s, the budget deficits of the late 1970s were viewed as aberrations. Government spending rose rapidly from \$39 billion in FY1977 to \$71 billion in FY1980—the first year of the 1980-85 development plan—and \$84 billion in the following year. Initially the increase in public expenditures lagged behind the much higher level of oil revenues, and huge budgetary surpluses emerged—\$34 billion in FY1980 and \$25 billion the following year. This was a repetition, on a much larger scale, of developments that followed the oil shock of 1973-74.¹

Since the government receives and spends the bulk of the national income, the balance of payments is very strongly effected by fiscal developments. The deficit of over \$2 billion in the balance on current account in 1978 was soon overwhelmed by unprecedented surpluses of \$42 billion in 1980 and \$40 billion in 1981. Imports of goods and services rose rapidly from \$42 billion in 1978 to \$84 billion in 1981, but in the short run they lagged far behind the massive increase in oil export revenues, which had risen from \$37 billion in 1978 to \$111 billion in 1981. As a consequence, central bank foreign assets rose sharply from \$60 billion in 1978 to \$145 billion in mid-1982.² From there on it was downhill.

The extremely sharp drop in government oil revenues from over \$96 billion in FY1981 to \$54 billion the following year was wholly unexpected. This is evident from the very wide gap between the finance ministry's forecast of revenues and actual receipts in FY1982. The government took some measures to reduce

¹ See Appendix II.

² See Appendix III.

expenditures, but these were far from sufficient. The fiscal surplus was virtually wiped out in FY1982, and since FY1983 there have been budget deficits every year.¹ The trends were similar in the balance of payments. Saudi oil production fell precipitously from 10 mbd in 1979-81 to 7 mbd in 1982 and the trend continued until 1985, when production averaged a mere 3.7 mbd.² At the same time, oil prices were falling from \$33 per barrel in FY1981 to \$27 per barrel in 1985.³ The decline in both the volume of exports and prices reduced oil export revenues in 1985 to less than one-quarter of their 1980 and 1981 levels. The decline in government spending reduced imports but did not keep pace with the precipitous drop in oil export revenues, and there has been a deficit in the current account in the balance of payments every year since 1983. Until the late 1980s, deficits were covered by drawing down the foreign assets accumulated in the boom years.

AN INITIAL RESPONSE

Saudi public expenditures encompass the following categories: the projects budget, which focuses largely on the construction of infrastructure—schools, hospitals, roads, ports, airports, water, electricity, etc.; foreign aid; military outlays; and various current civilian expenditures including salaries, subsidies, educational and health services (which are provided free to all Saudis), various social services, operations and maintenance of the infrastructure, and others.

When revenues began to decline sharply after 1981, Saudi authorities began to implement cutbacks mainly in the large projects budget, where the major contractors and almost all the workers were foreign, in the expectation that these cutbacks would have little effect on Saudi nationals. In fact, they did have indirect recessionary effects that resulted in many bankruptcies of local contractors and other Saudi businessmen, as well as declines in the prices of real estate and rentals (because of legal restrictions only Saudis may own real estate). As a result, some local banks were stuck with worthless promissory notes. The projects budget was cut back strongly from a peak of \$43 billion in FY1981 (including operations and maintenance) to \$30 billion in FY1984 and \$13 billion in 1989. Proportionately, foreign aid (at least the part that appears in the

1 See Appendix II.

2 See Appendix I.

3 See Appendix IV.

budget) was cut back drastically from an annual level of over \$7 billion in the early 1980s to \$3 billion in the mid-1980s and less than \$2 billion in the late 1980s.¹ Much of Saudi foreign aid is "off-budget," including aid to Iraq during the war with Iran in the 1980s, some other military-related aid to other Arab countries, and at least part of Saudi arms imports.²

A disinclination to spend within its means is clear in Saudi Arabia's policy toward military outlays and subsidies. Saudi military expenditures rose rapidly in the 1970s to an annual level of \$9 billion before the 1979-80 oil shock. Subsequently, military spending doubled to an annual level of \$19 billion in the first half of the 1980s. But the persistent deficits since 1983 persuaded the authorities to implement some cutbacks. According to the announced budget, annual outlays were pared to \$13-14 billion in the second half of the 1980s. The general rule was that military spending rose precipitously after each of the oil shocks but was powerfully resistant to strong cutbacks when oil revenues plummeted. This was also true of a very wide range of direct and indirect subsidies and other expenditures. Evidently, the Saudi authorities were (and appear to remain) wary of the internal discontent that could result from cutting producer subsidies and aggravating the problems of the business community, or cutting outlays on wages and salaries in the burgeoning public sector and causing depressed wages or even unemployment. Cutting consumer subsidies would lower living standards and add to popular disaffection.

¹ See Appendix II.

² *Gulf States Newsletter*, April 19, 1993, pp. 11-12.

IV LESSON UNLEARNED: SAUDI DEVELOPMENT PLANNING AND FISCAL REALITY, 1985-90

In the spring of 1985, the Saudi government announced its fourth five-year development plan. The timing was inauspicious. The 1970-75 plan was announced when demand for Saudi oil was rising rapidly. The 1975-80 plan was announced in the aftermath of the 1973-74 oil shock, a massive increase in oil revenues, and publication of numerous projections forecasting continued expansion of demand for Saudi oil and ever-higher (real) oil prices. The 1980-85 plan was announced in the midst of the oil shock of 1979-80, a further massive increase in oil revenues, and another flood of forecasts predicting an expanding stream of oil revenues at least until the end of the century. But the 1985-90 plan had a more difficult birth: it was formulated in the midst of a severe economic contraction resulting from sharply lower demand for Saudi oil coupled with declining prices.

Saudi Arabia's gross domestic product (GDP) had declined from a peak of \$156 billion in 1980 (and about the same in 1981) to \$87 billion in 1985—a calamitous 45 percent drop.¹ Saudi oil export revenues had plummeted from a peak of \$111 billion in 1981 to \$25 billion in 1985.² Few countries, if any, have experienced such a meteoric rise and fall in national income in so short a time span. This was mainly due to the changes in world oil markets: the continued improvement in energy efficiency, the displacement of oil by other sources of energy, and the steady growth in non-OPEC supplies. But the Saudi situation was severely aggravated by its role as the swing producer in OPEC, attempting to balance overall supply and demand for OPEC oil by reducing its own output. Other members of OPEC were discounting on a large scale in order to

¹ See Appendix V.

² See Appendix XI.

maximize sales. The result was that OPEC output (excluding Saudi Arabia) had declined 37 percent from 21.7 mbd in 1979 to 13.6 mbd in 1980; Saudi output had dropped 62 percent from 9.8 to 3.7 mbd.¹

What is particularly noteworthy is that despite the sharp fall in revenues, the new development plan called for average annual public expenditures of \$55 billion in 1985-90. In FY1984, the base year of the new plan, government oil revenues were less than \$34 billion, including transfers of profits to the treasury from the two state-owned oil companies.² The planners projected that demand for Saudi oil would rise by over 30 percent in the latter half of the 1980s and that prices would stabilize at their 1984 level of about \$28 a barrel. In other words, the planners contemplated few additional spending cutbacks. They believed that the large deficits that had prevailed in 1983 and 1984 would be erased by higher oil revenues.

The 1985-90 plan emphasized even more strongly the crucial importance of economic diversification, focusing on development of industry and, to a lesser extent, agriculture. The planners stated:

Owing to its potential ability to be both a saver and producer of foreign exchange [i.e., the production of import substitutes as well as exports] manufacturing must take central place in the economic diversification [sought] in the Fourth Plan [1985-90] and beyond.³

The plan envisioned a very high annual growth rate in manufacturing (including oil refining) of 15.5 percent. The completion of a number of petrochemical projects and new oil refineries, mainly for export, as well as other manufacturing units during the latter half of the 1980s was expected to give a strong boost to the industrial sector. Modern agriculture was expected to expand rapidly with an eye toward import substitution. The current account deficit in 1984, the base year of the plan, was unusually large—\$18.4 billion. The expansion of exports (oil and non-oil) and reduction of imports through import substitution was expected to steadily reduce the deficit so that by FY1989, a surplus would again emerge. Presumably the export surplus would rise in the 1990s.

Saudi planners stressed the paramount importance of private sector investment, especially in industry. Traditionally, the private

¹ See Appendix I.

² See Appendix II.

³ Saudi Arabian Ministry of Planning, *Summary of the Fourth Development Plan 1985-1990*, p. 9.

sector had sought quick profits mainly in commerce and real estate. Much of the wealth of the private sector was held abroad. The new awareness of the planners that public funds (i.e., oil revenues) were limited made it all the more important that the private sector make long-term investments in industry. The projects budget was expected to be smaller than in the peak years of the early 1980s but still substantial, and would focus on electric power, water supplies, the construction of industrial estates in various parts of the country, and the continued expansion of health, education, and other social services. The military budget (including an unspecified amount for foreign aid) would average \$22 billion per annum in 1985-90. In FY1984, the base year of the plan, military outlays were \$19 billion and foreign aid \$3 billion.¹ In other words, the planners projected a continuation of the high level of military spending that had prevailed in the first half of the 1980s.

The planners gave high priority to reducing the foreign labor force from 2.7 million in FY1984 (60 percent of total employment) to 2.1 million (49 percent of total employment) in FY1989. Total employment would drop by 226,000 but the employment of Saudi nationals would rise from 1.8 to 2.2 million by displacing foreign workers. To achieve planned growth in GDP (both in the oil and non-oil sectors) while cutting overall employment, Saudi planners envisioned a strong rise in labor productivity (output per employed person) averaging 4 percent per annum. The bulk of the decline in employment would be in the unskilled categories, reflecting the projected decline in construction where the workers were almost all foreign. Total employment in the public sector would be unchanged, with Saudis steadily displacing foreigners.

Despite the ambitious efforts envisioned in the development plan to diversify the Saudi economy, the second half of the 1980s underscored the reality that Saudi Arabia remained overwhelmingly dependent on oil. The regime espoused development of private enterprise, but the engine of economic growth was government spending, based largely on oil revenues. Because of this single-source dependence, the bottoming out of the oil market in this period was a crushing blow not only to the development plan but to the Saudi economy in general.

¹ See Appendix II.

NO MORE SWING PRODUCERS

The year 1985 was a turning point. Oil sales and revenues plummeted as prices softened. Budget and balance of payments deficits rose and financial reserves rapidly shrank. Other OPEC members had started to offer discounts below officially-declared cartel prices in order to bolster sales, and at the same time non-OPEC supplies were continuing to grow. In response, the Saudis began to trim prices in some barter deals and sell refined oil products at market prices. But most Saudi crude oil was still being offered at official OPEC prices, which were higher than those charged by its rivals. By the summer of 1985, Saudi production had fallen to a disastrous 2-2.5 mbd, a level not seen for twenty years. At the OPEC meeting in July 1985, the Saudi oil minister declared that his country would no longer accept the role of swing producer.¹ This was an effort to relieve the special burden on Saudi Arabia that had seen its drop in output far exceed the overall drop in OPEC output. In July 1985, the Saudis threatened to boost output to 4.3 mbd (about 2 mbd above its then-current levels) and cautioned its OPEC colleagues that unless others curbed their output, prices might drop drastically from the official price of \$28 to \$18-19 per barrel. However, none heeded the warning. The Nigerian oil minister stated flatly in mid-1985 that “[t]here is not a single OPEC country that is not violating the rules” by exceeding production quotas and discounting prices.²

This deteriorating situation prompted the Saudis to effectively abandon all price constraints in the fall of 1985 in the hope that the increase in the volume of sales would more than compensate for lower prices and oil export revenues would increase.³ But the Saudis miscalculated. Other oil exporters did not reduce their output to make room for Saudi oil. Instead, those with spare capacity raised production in the hope that a larger volume of exports would compensate for declining prices. This only generated a greater glut of oil that began to assume flood dimensions. Prices fell precipitously in 1986, reaching lows of \$8-10 a barrel during the summer months, as compared to an average \$27 in 1985. The Saudi oil minister had projected that prices would fall to \$18-19 a barrel;

¹ Economist Intelligence Unit (EIU), *Quarterly Economic Review—Saudi Arabia*, no. 3, 1985, pp. 12-13; see also *Middle East Economic Survey (MEES)*, August 12, 1985, p. 1.

² *New York Times (NYT)*, July 5, 1985, pp. D1, D5.

³ *Economist*, October 12, 1985, p. 15.

in reality, they fell to about half that level. Instead of increasing oil revenues, the new policy made a bad situation worse.

At the OPEC meeting in August 1986, the fractured cartel decided to reinstitute production quotas, which had been effectively abandoned since late 1985, and reduce overall OPEC output in an attempt to raise prices. The agreement was stillborn. Almost immediately, a number of countries, including Saudi Arabia, Kuwait, the United Arab Emirates, Venezuela, and Indonesia, produced beyond their quotas. This was more or less the pattern that continued throughout the latter half of the 1980s. OPEC meetings took place every three or six months and production quotas were set. More often than not, this was followed by a progressive erosion of the agreements as various members with spare capacity found it in their interest to exceed their quotas.

For the Saudis, a number of factors helped to keep a bad situation from becoming catastrophic. Until mid-1988, when the Iran-Iraq cease-fire was implemented, the bombing of each country's oil installations by the other restrained overall OPEC output. Moreover, following the sharp decline in world oil consumption in 1980-83, consumption rose in the second half of the 1980s, stimulated in part by lower oil prices. Between 1985 and 1990 annual oil consumption rose by 2.2 percent, a far smaller growth rate than the pre-1973 7-8 percent, but a significant change from the absolute decline in the first half of the decade. More rapid economic growth in the major oil-consuming countries contributed to the upward trend in oil demand and helped to sustain and even raise prices somewhat between 1987 and 1989. Average annual prices, which had peaked at \$32-34 per barrel in 1981-82, declined to \$27 in 1985, plummeted to \$14 in 1986, and then climbed upward to \$18 in 1987. In 1988-89, prices ranged between \$14 and \$17 and then dropped sharply during the first half of 1990 to a low of \$14 in June.¹

Similarly, Saudi oil production, which had declined sharply to 3.7 mbd in 1985, rose to 5.3 mbd in 1986. This was a consequence of its aggressive marketing policy, which included the abandonment of OPEC prices. In 1987-1989, output ranged between 4.6 and 5.5 mbd, or about half of the peak levels in 1979-1981. The much smaller volume of exports, coupled with lower prices, reduced oil export revenues drastically from a peak of \$111 billion in 1981 to just \$18

¹ See Appendix IV; *Wall Street Journal (WSJ)*, July 1990, p. A4.

billion in 1986—the lowest point since 1973. In 1987-1989, annual oil revenues ranged between \$20 billion and \$24 billion.¹

Forced to revise their planning in view of the far lower level of oil revenues, the Saudi authorities cut back further on certain expenditures. According to published budgets, outlays on projects, which had been as high as \$35 billion in the early 1980s, were steadily reduced to \$7 billion in 1988; foreign aid was pared from an annual level of over \$7 billion in the early 1980s to less than \$2 billion in the later 1980s; and the announced military budget was cut from an annual level of about \$19 billion in the first half of the 1980s to \$13-14 billion in the second half of the 1980s. The deficits—according to the published budgets—were reduced from an unprecedented \$20 billion in 1986 (the equivalent of 27 percent of GDP) to \$8 billion in 1989 (9 percent of GDP).² However, as noted earlier, Saudi Arabia maintains considerable “off-budget” expenditures, particularly with respect to arms purchases abroad. Other off-budget outlays included subventions for the royal family and some elements of foreign aid.³ As a 1988 report of the U.S. embassy in Riyadh noted, “Defense and security, wages for Saudi [public sector] employees, and social welfare programs underwent no real cuts.” In other words, the authorities felt that further cutbacks in public spending were not politically feasible. The report also noted that payment delays to contractors were continuing and that “firms were frequently asked to settle for less in order to be paid and, sometimes, payment delays [were used as] a means of extracting additional services from the contractor.” For the most part these were foreign contractors.⁴

The fluctuating situation with Saudi budgets in 1988 led one respected journal to label the process as “chaotic.” It noted that the initial announcement of the 1988 budget stated that projected expenditures would be \$37.5 billion; a few days later this was amended to \$39.4 billion without any explanation. In fact, the increase followed an outcry from Saudi businessmen complaining about a proposed tax on foreign workers; the tax was rescinded within days of its announcement.⁵

¹ See Appendix IV.

² See Appendices II and XI.

³ *MidEast Markets*, February 22, 1988, p. 13.

⁴ U.S. Department of Commerce, *Foreign Economic Trends—Saudi Arabia* (Washington, D.C.: Government Printing Office, 1988).

⁵ *Petroleum Economist*, March 1988, p. 94.

Within a relatively short time, Saudi budget deficits were soon followed by sizable balance of payments deficits ranging from \$9 billion to \$13 billion annually between 1985 and 1989. Until 1987, the deficits were covered by drawing on foreign assets. As a result, central bank foreign assets, which had peaked at about \$145 billion in mid-1982, dropped to \$61 billion at the end of 1989.¹ In reality, the decline was far steeper, since aid to Iraq and to some of the poorer Arab countries was officially listed as loans and was included in the central bank portfolio as foreign assets. By the end of 1989, actual foreign assets held by the central bank (e.g., U.S. government bonds, as well as those of other Western countries) probably amounted to no more than \$30-35 billion.

The deteriorating financial situation presented Saudi leaders with a real dilemma. Saudi tradition looks askance at deficits, more so at borrowing to cover deficits, and even more so at foreign loans. This view was expressed very clearly by the king in his presentation of the budget for 1987: "The government has tried its best in these difficult circumstances to keep the welfare of its citizens in mind while not burdening itself with loans, either external or internal."² In other words, rather than cut spending any deeper, and thereby further depress living standards, the government would continue to cover deficits by drawing down financial reserves, as it had been doing since deficits emerged in 1983. But as financial reserves reached dangerously low levels, the government abandoned its policy against borrowing. A royal decree published in January 1989 stated that the deficit would be covered by borrowing "so that the citizens can enjoy prosperity."³ In fact, borrowing had begun in 1988—only a year after the king had told his people that this would be avoided. *The Economist* noted that the last time Saudi Arabia had borrowed was in the 1950s, reminding readers of the political ramifications of borrowing: "King Saud, whose extravagance made this necessary, was gently asked to resign in 1964."⁴

In order to cover the deficits of the late 1980s, the government issued bonds. By the end of 1989, outstanding bonds were valued at about \$20 billion, of which about 75 percent were acquired by various government agencies, mainly pension funds, and almost all of the remainder by local commercial banks. Evidently, pension

¹ See Appendix III.

² The National Bank of Kuwait and Gulf Cooperation Council, *Economic and Financial Bulletin*, Fall 1987, p. 24.

³ *MEED*, January 13, 1989, p. 44.

⁴ *Economist*, June 18, 1988, p. 56.

funds had to liquidate foreign assets in order to finance the purchase of Saudi treasury bonds.¹ The private sector, excluding banks, purchased negligible amounts. Prior to the Gulf War, there was very little foreign borrowing. Examples of what did occur include a 1989 loan of £2 billion (approximately \$3.2 billion) to cover payments to British arms contractors that a barter deal for 400,000 barrels of oil per day did not fully pay for. Also, the Public Investment Fund, a Saudi governmental agency, reportedly borrowed \$650 million in 1989 from a number of foreign banks,² and there were unconfirmed press reports that the central bank was selling gold from its reserves.³

The large-scale liquidation of foreign assets, as well as declining interest rates abroad during the 1980s, aggravated Saudi Arabia's fiscal problems. Government investment income from its holdings abroad had risen sharply from \$1 billion in 1974 to \$14 billion in 1983. Subsequently, however, there was an almost steady decline to \$3 billion to \$4 billion per annum in the late 1980s.⁴ Sharply lower oil revenues, combined with much diminished investment income, had a powerfully negative impact on the budgets. The reluctance to impose taxes and the downward inflexibility of government spending because of internal political and social constraints made deficits an almost inevitable outcome.

Deficits produced a recession whose negative impact was felt by many if not all Saudis, despite government efforts to insulate the population from the economic downturn. The U.S. embassy in Riyadh reported a significant increase in unemployment, especially among high school and university graduates. The government urged the private sector to hire more nationals, but with little effect.⁵ The budget for 1990 called for additional job openings in the already overstaffed military and civilian bureaucracies in order to reduce the level of unemployment.⁶ This would, of course, aggravate the budgetary situation, but unemployment is a more immediate political danger for the regime than deficits.

The effect of the recession showed up in other ways as well. The private sector witnessed a high number of bankruptcies, with

1 EIU, *Country Report—Saudi Arabia*, no. 4, 1989, pp. 11-12.

2 *MEED*, December 1, 1989, p. 6; December 8, 1989, p. 34.

3 *NYT*, March 22, 1990, pp. D1, D24.

4 See Appendix II.

5 Report of the U. S. Embassy in Riyadh, June 1989, p. 7.

6 EIU, *Country Report—Saudi Arabia*, no. 1, 1990, p. 9.

newspapers carrying many advertisements seeking the services of debt collectors.¹ Real estate prices dropped sharply. There are no figures on income distribution, but one scholar described the gap as “phenomenal.”² The official figures indicate that real private consumption per capita, a measure of average living standards, *quadrupled* between 1972 and 1982-83, and then dropped by *one-quarter* by the late 1980s.³ Public sector wages had been frozen since 1983, implying a decline in purchasing power. There is good reason to believe that the thousands of princes and other wealthy Saudis did not lower their living standards and that the income gap widened during the 1980s.⁴

¹ EIU, *Country Report—Saudi Arabia*, no. 4, 1988, p. 15.

² A. R. Osama, *The Dilemma of Development in the Arabian Peninsula* (United Kingdom: Croom Helm, 1987), p. 184.

³ See Appendix V.

⁴ *WSJ*, January 13, 1993, pp. A1, A8.

V THE VIABILITY OF SAUDI INDUSTRY

From its inception, the heart of Saudi Arabia's economic diversification program has been the industrial sector. The goal has been to increase non-oil exports and to provide locally-produced substitutes for imported goods, thereby reducing the country's overwhelming dependence on oil exports. As the deputy minister of commerce phrased it in 1986, "[i]ndustry is now the backbone of [Saudi] development."¹

The focus of Saudi industrial efforts in the 1970s was the construction of a mammoth gas-gathering system utilizing the natural gas associated with the extraction of crude oil, which, for the most part, had simply been burned off. According to Saudi planners, this previously-wasted source of energy would be used to generate electric power and provide raw materials for world-scale petrochemical plants that were to be built in two newly-planned industrial centers, Jubail on the east coast and Yanbu on the west coast. Other manufacturing would also be developed in these centers, based largely on the raw materials to be produced in the petrochemical plants. ARAMCO was named the major contractor for the gas-gathering project, whose final cost amounted to about *four times* the original scheduled budget of \$5.5 billion, despite a large cutback in its scope.

As for the planned petrochemical plants, the Saudis anxiously courted multinational firms to enter into partnership with the Saudi Arabian Basic Industries Company (SABIC), a newly-established state-owned industrial combine. In the flush days of the 1970s and early 1980s, they were not seeking outside financing. Rather, the Saudis were interested in partnerships in order to acquire the managerial and technical know-how and marketing

¹ *MEED*, November 29, 1986, p. 44.

channels of the multinationals. To that end, the Saudis offered loans on very favorable terms to finance most of their prospective partners' share of investment in the proposed joint ventures. Additional inducements included cheap feedstocks, land, water, electricity, and other inputs at highly subsidized prices.

Despite the inducements, however, foreign firms shied away from these ventures. They apparently felt that the outlook for profitability was poor, regardless of how much the Saudi government was willing to pump into the project. In 1978, the British *Quarterly Economic Review*, which surveyed already-established Saudi industries, arrived at very pessimistic conclusions:

Many of the industrial projects, both large and small, are not [internationally] competitive. . . . Most of the heavy industry now operating has been disastrous, and there is little reason to suppose that the [planned] new industries will be different. . . . The implications for the country's future are obviously momentous.¹

Frustrated by the reticence of multinational firms to accept their offer, Saudi authorities did not take kindly to this criticism. The minister of industry dismissed as "wicked" those who questioned the government's industrialization plans. In January 1979, he declared: "We shall go on implementing all our industrial projects in Jubail and Yanbu with international partners—if the international partners so wish—and without partners if they . . . hesitate. . . . We are not ready to remain mere [producers] of raw materials [i.e., crude oil] forever."² But despite the brave talk, the Saudis knew full well that they lacked the managerial and technical know-how to operate such industries

The second oil shock and the almost unanimous forecasts of future oil shortages and higher prices afforded the Saudis an opportunity to persuade foreign partners to enter into joint ventures. In the early 1980s, the "security" of oil supplies was a major concern of international oil companies and Western governments. What could be more secure than access to Saudi Arabia's vast oil reserves? Moreover, as noted earlier, while all other producers were raising their prices, the Saudis did not exact surcharges and premiums over and above officially-declared OPEC prices. Instead, the Saudis guaranteed any firm entering into a petrochemical or

¹ EIU, *Quarterly Economic Review—Saudi Arabia*, no. 3, 1978, pp. 11-12.

² *Business Week*, July 10, 1978, p. 38; see also *MEED Special Report—Saudi Arabia*, August 1978, p. 79; and *MEED*, January 19, 1979, p. 33.

other venture a long-term supply of oil with the quantity based on the size of the investment. A number of companies calculated that even if there was little prospect of profitability from the joint industrial ventures, they would be compensated for their investment by the assurance of oil supplies at favorable prices. As a result, Shell, Mobil, Exxon, Mitsubishi, Celanese, and Texas Eastern were among the major firms entering into joint ventures with SABIC in the early 1980s. The softening of oil prices and the OPEC agreement of October 1981 eliminated the Saudi price advantage and completely altered the picture. In subsequent years, other countries offered discounts and purchasers of Saudi oil found themselves at a distinct disadvantage. As a result, Dow Chemical withdrew from its agreement with SABIC in December 1982, while others requested revisions.¹

In addition to crude oil sales, the exportation of refined oil products was viewed as an important element in the drive to diversify the economy. Refinery capacity had been expanding rapidly in the 1970s, but so had domestic oil consumption. The rapid growth in local demand was a function of both the growth of the economy and the absurdly low internal prices for oil products and electric power. Domestic oil consumption escalated from 57,000 barrels per day in 1972 to 823,000 barrels per day in 1984, a phenomenal average annual growth rate of 20 percent. Refining capacity was expanded but exports of refined oil products remained at about 500,000 barrels per day during the 1970s and the first half of the 1980s.² In the early 1980s, a number of joint ventures with Petromin (a state-owned oil company) were concluded for the construction and operation of oil refineries designed specifically for export. During the second half of the 1980s, domestic oil consumption was more or less stable at 700,000-800,000 barrels per day, largely reflecting the impact of the recession. The completion of the new refineries raised exports of refined oil products from about 500,000 barrels per day in the 1970s and the first half of the 1980s to about 1 mbd in the latter half of the 1980s, but the bulk of Saudi oil production continued to be exported as crude, unlike some of its rivals in OPEC that export mainly refined oil products. In addition, Saudi Arabia negotiated a number of joint ventures—fertilizers, iron and steel, aluminum, and other industries.

¹ *MEED*, January 8, 1983, pp. 53-54; see also H. Askari, *Saudi Arabia's Economy: Oil and The Search for Economic Development* (Greenwich, Connecticut: JAI Press, 1990), p. 134.

² See Appendix IV.

Overall, government policy dictated that heavy industry would be the province of the public sector, preferably in partnership with multinational firms. In contrast, light industry, geared mainly to produce for the domestic market, would be undertaken by the local private sector, which would be provided with a wide range of incentives. These included financing of up to 50 percent of a project by interest-free loans of up to fifteen years; exemption from duties for imported equipment, raw materials and spare parts; the provision of land for a factory or space in a state-built industrial estate at nominal rents; water and electricity at very low rates; preferential treatment in government purchases; tariff protection up to 20 percent on competing imports; grants for training Saudis; and other subsidies. Under a regulation issued in 1983, foreign firms awarded government contracts were required to subcontract at least 30 percent of the value of a contract to local firms. The government also offered a wide range of incentives for foreign private investment in light industry, but foreigners have found few areas of profitable investment.¹

Under the stimulus of the various incentives there has been considerable investment in manufacturing, particularly petrochemicals, other heavy industry, oil refining, and in construction-related products. In the early 1990s, it was estimated that total investment in industry was £13.4 billion (approximately \$24.4 billion), of which about two-thirds came from SABIC (mainly petrochemicals) and Petromin (oil refining) and the balance largely in a wide range of light industries.² Measured in terms of value-added (in constant prices), manufacturing (excluding oil refining) expanded rapidly by an average annual rate of 14 percent between 1975 and 1985, and then stagnated around the 1985 level until the end of the decade. The very sharp drop in construction that began in FY1982 was the major factor retarding further growth in manufacturing during the second half of the 1980s. Much of the industry was geared to providing construction materials, and the sharp decline in construction was a direct result of the cutbacks in the projects budget.³

In 1987, the minister of industry reported that there were about 2,000 factories in the kingdom with a total investment of \$16

1 *Financial Times Survey—Saudi Arabia*, December 13, 1989, p. 4.

2 *MEED*, November 13, 1992, p. 36.

3 See Appendix VIII. Saudi Arabian Monetary Agency, *Annual Report* FY1411/1991, pp. 197-98. In 1989, construction spending was nearly half of that spent in 1981, the peak year.

billion, producing about 15 percent of the manufactured goods consumed in Saudi Arabia. He stated that value-added per capita in manufacturing exceeded that of South Korea. The undersecretary of the ministry of industry projected that by the early 1990s, value-added in per capita Saudi manufacturing would rise by two-thirds.¹ Comparing Saudi and Korean manufacturing was and is ludicrous. South Korea is light years ahead in terms of qualified management and a trained labor force. South Korean industrial production doubled between 1985 and 1991, while in Saudi Arabia value-added in manufacturing rose by 11 percent, implying a strong decline on a per capita basis.²

The dearth of high-level Saudi manpower, defined in its broadest context to include managers, technicians, and skilled personnel, is the major obstacle to Saudi economic development in general and to its industrial plans in particular. The government has long recognized the problem and has taken various measures to train a domestic labor force that can meet the challenges of a modern economy, but so far it has met with little success. The government budget sets aside large sums for education on all levels, with special provision and incentives for enrollment in vocational education. But it appears that, aside from the Shi'a, who suffer from discrimination and are mostly barred from white-collar government positions (and the armed forces), Saudi nationals shy away from occupations that involve manual labor, skilled or unskilled.³

By and large, industry (as well as construction, agriculture, and some other sectors) relies heavily on foreign managers and technicians, and expatriates perform a very large share of the skilled and unskilled labor. In 1982, a Saudi economist observed that "[i]t is not unusual for an industrial plant to have not a single Arabic-speaking (Saudi or other Arab) individual, for the managers are usually Europeans and the workers are almost certain to be from

¹ *MidEast Markets*, April 13, 1987, pp. 11-12; see also R. E. Looney, *Economic Development in Saudi Arabia: Consequences of the Oil Price Decline* (Greenwich, Connecticut: JAI Press, 1990), p. 182.

² See Appendix VIII; see also IMF, *International Financial Statistics*, August 1993, p. 326. The expansion in industrial production in South Korea presumably approximates the growth in value-added.

³ Almost all the Shi'a live in the oil province in the east and are estimated to account for as much as one-third of the labor force in the oil fields and installations. One study noted that, "[u]nlike many other Saudis, the Shi'a are willing to work with their hands. They are more than one-third of the ARAMCO work force and many have become junior managers." But the Shi'a account for only 8 percent of the citizenry.

the Indian subcontinent and from the Far East.”¹ In this regard little change took place during the 1980s. A 1992 study noted that there is “a striking absence of Saudi labor” in manufacturing.²

The authorities have tried to cope with this problem by issuing orders to the larger firms to hire and train Saudi nationals. But the managers complain that few Saudis are willing to enter into any training program and that the costs of training are prohibitive.³ One American economist, a longtime student of the Saudi economy, suggests that the reluctance of the Saudis stems from the “availability of foreign skilled and unskilled labor. . . . For a variety of economic and social reasons, Saudi workers have been slow to move into . . . occupations opened up in the newly-developed industries. The government has contributed to this problem by creating a large number of low-productivity public sector jobs” (i.e., a bloated, unproductive bureaucracy).⁴

“Saudization” is a theme often stressed by government authorities, but the obstacles are formidable. As another American economist and longtime student of the Saudi economy concluded in 1986:

In industry, Saudi Arabia will be dependent on foreign workers indefinitely for the same reasons this Kingdom has been dependent in the past. First, Saudis will resist doing certain types of work, and will not accept the lower incomes associated with many types of employment within industry. Second, . . . the mixture of skills and experience required by heavy industry will not be available in the Saudi labor force for decades.⁵

¹ A. Johany, “The Saudi Economy: Yesterday’s Performance and Tomorrow’s Prospects,” in *Saudi Arabia: Energy, Developmental Planning and Industrialization*, eds., R. El Mallakh and D.H. Mallakh (Lexington, MA: Lexington Books, D.C. Heath & Co., 1982), p. 5.

² *MEED*, November 13, 1992, p. 32.

³ *Financial Times (FT)*, April 22, 1985.

⁴ R. Knauerhase, “Saudi Arabian Oil Policies,” *Current History*, January 1984, p. 37.

⁵ Donald A. Wells, “The Effects of Saudi Industrialization on Employment,” *Journal of Energy and Development*, vol. 11, no. 2, 1986, p. 284.

A 1987 report in *The Middle East* reached rather pessimistic conclusions:

Saudi officials [are fearful] that the transfer of technology and skills is not going to reach Saudi nationals. . . . It increasingly looks as if Western joint venture entrepreneurs are going to have to [continue to] provide their own experienced manpower not just to train Saudis but also to run the sophisticated infrastructure . . . for years to come. . . . The big question is whether there are enough Saudis interested in learning the requisite skills. . . . Western companies in Saudi Arabia must not only supply the skilled manpower to set up the projects but be prepared to operate them for years to come.¹

A 1987 study of economic development in the Arabian peninsula, where Saudi Arabia is the dominant economy, noted that the percentage of students in secondary education enrolled in technical or vocational schools was abysmally low, ranging from just 1.5 to 3.6 percent. The report notes that these countries "consider industrialization as the key to development . . . yet their educational systems and institutions and social attitudes are inconsistent with the demands . . . of . . . industry. . . . Those who enter the vocational track are the failures of the general [academic] track. . . . [T]he association of the vocational track with failure reinforces the disdainful attitude towards vocational training. Nearly one-half of the graduates of all Saudi universities [specialize in] Arabic [literature] and Shari'a [Muslim religious] law."² The director of King Saud University noted that 70 percent of the graduates held degrees in what he called "non-technical" fields.³

In assessing the viability of Saudi industry, it is important to distinguish between private and social profitability. If an industry receives massive subsidies on a continuing basis, the firm or firms in that industry may be privately profitable, but they constitute a serious drain on the economy. As more and more petrochemical plants came into operation, SABIC's output expanded rapidly. In 1988 it announced profits of nearly \$1 billion. Despite increased production and sales, however, profits steadily declined over the next four years. Indeed, in 1992 they were about half the 1988 level.⁴ Much of this was due to a world-wide glut in petrochemicals. But even in the more profitable years, the returns were very meager in

¹ *The Middle East*, April 1987, pp. 36-37.

² A. R. Osama, pp. 132-33, 150.

³ *The Middle East*, April 1987, pp. 36-37.

⁴ *MEED Special Report—Petrochemicals*, May 21, 1993, p. 9.

relation to invested capital. As one recent study that appeared in the *Gulf States Newsletter* concluded, the profits made by SABIC and other large industries “are made possible only by the wide and generous range of government subsidies.”¹ Nonetheless, SABIC is continuing to expand capacity.

More recent studies confirm the pessimistic assessment of Saudi industry and its future prospects made in 1978: “Without financial transfers [from the government] at least two-thirds of . . . manufacturing industries would die if they had to pay for locally-produced inputs (e.g., electricity, gas, and water) at actual production cost, and make proper independent provisions for a proper return on invested capital.”² A British economic journal, the *Economist Intelligence Unit*, concluded in 1991 that, “[t]he development of self-sustaining private sector activity is proving an elusive objective given the small size of the local market and the dependence of companies in the private sector on government contracts and subsidies.”³ And, as an independent observer noted, “[t]he Saudis are learning the hard way that money alone cannot industrialize a country. Infrastructure, qualified manpower, an efficient bureaucracy, and the correct national attitude toward a whole spectrum of work are but a few of the prerequisites.”⁴

The goal of economic and especially industrial diversification was to reduce the country’s overwhelming dependence on oil revenues. Instead, the massive direct and indirect subsidies required to operate many of these industries *raised* the overall level of state revenue needs and *increased* the country’s dependence on oil—precisely the *opposite* of what the diversification program was supposed to achieve.

¹ *Gulf States Newsletter*, April 19, 1993, pp. 11-12.

² Looney, p. 143.

³ EIU, *Country Profile—Saudi Arabia 1991-1992*, p. 8.

⁴ *MidEast Markets*, September 30, 1985, p. 7.

VI THE DRIVE FOR AGRICULTURAL SELF-SUFFICIENCY

While the economic diversification plans put the greatest emphasis on industry, large sums were also allocated to the development of modern agriculture. According to Saudi planners, the rationale for heavy spending on agriculture was the "strategic significance of increasing domestic food production for a growing population." In addition, they argued that a focus on agriculture "contributed to import substitution and helps to prevent population drift to the urban centers."¹ Evidently, the "strategic" importance of "food security" (the terms used by the planners for agricultural self-sufficiency) stemmed from the fear that food exports to Saudi Arabia might some day be cut off by Western countries in order to pressure Saudi Arabia to change its oil policies, just as the declared Arab oil embargo of FY1973 was designed to influence Western policies.²

To achieve agricultural self-sufficiency, the Saudi government invested heavily in developing water resources, storage facilities, and other infrastructure, and provided very generous subsidies to producers. These subsidies included half the cost of irrigation equipment; 30-50 percent of the cost of imported farm machinery, equipment, and other inputs; the cost of transporting cows from abroad by air freight; interest-free loans; and a government decision to maintain high procurement prices that were often multiples of international prices. As planned, this manipulation of the agricultural market led to a rapid growth in agricultural production. With relatively modest spending in the 1970s, average annual growth was 6 percent; when subsidies and budget

¹ Looney, p. 5.

² Ibid., p. 117.

allocations were hiked considerably in the late 1970s, the average annual growth rate of farm production rose to an extraordinary 12 percent in the 1980s. Preliminary estimates for the early 1990s indicate that there has since been a slowdown in the rate of growth.¹

By far the most spectacular expansion was in wheat production. In addition to all the above-mentioned subsidies, in 1979 the government announced that it would buy wheat from the farmers at *six times* the price of imported wheat, including transportation to Saudi Arabia. In effect, the government offered to guarantee domestic wheat growers huge profits. Wheat production escalated from 142,000 tons in FY1979 to over 2 million tons in FY1984, more than twice domestic requirements. Storing all this excess wheat itself became a huge logistical and financial problem, and in addition to the massive drain on the treasury, finally persuaded the government to reduce the procurement price in the mid-1980s from six to three times the international price. But since the world price of wheat had declined during the latter half of the 1980s, the gap between the local and international price remained very wide. Between 1985 and 1991, wheat production doubled again to 4 million tons, much of which was bought by the government and given to some of the poorer Arab countries as foreign aid.² In 1991, the government paid \$2.1 billion to the wheat farmers for a crop valued (internationally) at less than \$500 million.³ This does not include the cost to the treasury of all the other subsidies noted above, nor the provision of massive supplies of water for irrigation at virtually no cost to farmers. According to one estimate, taking account of the price paid to farmers plus the direct and indirect subsidies, the Saudi government paid the equivalent of ten times the price of imported wheat for domestic wheat.⁴

Similar methods enabled the Saudis to achieve self-sufficiency in other agricultural products. Under the stimulus of very high prices

¹ See Appendix VIII; Askari, pp. 94-99.

² Saudi Arabian Monetary Agency, *Annual Report*, various issues; see also *MEED*, September 12, 1987, p. 44.

³ EIU, *Country Report—Saudi Arabia*, no. 1, 1992, p. 17; see also *FT*, January 21, 1992, p. 30.

⁴ *The Middle East*, July 1987, p. 24; see also EIU, *Country Report—Saudi Arabia*, no. 2, 1987, p. 15. Food exports—largely wheat—have been less than \$500 million per annum in recent years. Moreover, the figures for Saudi food imports do not include the importation of farm machinery, animal feed, pesticides, fertilizers, and other farm inputs, as well as imported machinery and equipment for water supplies and irrigation.

paid to the farmers and a host of other subsidies, production of eggs and dates rose substantially, leaving a small exportable surplus. Significant gains were also made in the production of meat, poultry, milk, fruits, vegetables, and other cereals in addition to wheat.

All this spending on agricultural development, however, did not leave Saudi Arabia self-sufficient in food. In fact, as spending on "food security" rose, spending on "food imports" rose with it. Food imports rose from \$300 million in 1972 to \$1 billion in 1976 and then jumped to over \$5 billion in 1981, where they remained for the first half of the 1980s. Several factors contributed to the rapid growth in food imports: the growth in population, including the influx of millions of foreign workers; rising income levels; and increases in international food prices until 1980. A decrease in world food prices in the 1980s helped pare the Saudi food import bill from \$5 billion annually in the early part of the decade to an annual average of \$3.5 billion in the second part of the decade. Additional factors that helped cut the import bill were related to the economic recession in the kingdom, including a fall in incomes.¹

Despite the rapid expansion in local farm production, there is no indication (at least since 1985) that food imports have dropped. The U.S. Department of Agriculture (USDA) expressed the view in 1986 that there was little prospect of a significant decline in the volume of Saudi agricultural imports.² In fact, USDA's predictions were conservative; food imports actually rose from \$3.2 billion in 1986 to \$3.8 billion in 1991.

Food security was not the only rationale for massive spending on agriculture. Another important objective was to stem the rural migration that had fueled a large growth in the Saudi urban population by offering generous subsidies to the farm sector. Despite large-scale government investment, however, this goal was not realized either.

Saudi labor force estimates are not considered very reliable. This is particularly true for the agricultural sector, and even more so of those (mainly nomads) engaged in traditional agriculture. Official

¹ See Saudi Arabian Monetary Agency, *Annual Report*, various issues, for food import figures; see also IMF, *International Financial Statistics Yearbook 1992*, p. 169, for world food prices. The composition of Saudi imports presumably approximates that of the IMF index.

² U.S. Department of Agriculture, *Middle East and North Africa: Situation and Outlook Report* (Washington, D.C.: Government Printing Office, 1986), pp. 41-42.

estimates show that agricultural employment (in the traditional and modern sectors, including both foreigners and nationals) rose from 426,000 in FY1974 (28 percent of total employment) to 650,000 in 1986 (16 percent of total employment). Subsequently, according to official estimates there was a sharp decline to 569,000 in 1989 (10 percent of total employment). Such a sharp decline in so short a time is not very plausible. All one may conclude is that there was a significant drop in agriculture's share of total employment, though the magnitude of the change is uncertain.¹ Despite planners' best efforts, Saudis were not taking up—or staying in—farming.

A further economic drain caused by efforts to achieve "food security" is the negative value-added in agricultural production in terms of saving foreign currency (through import substitution) or exports. As noted above, Saudi wheat exports are sold at prices that are a small fraction of the cost of production to the Saudi economy. As for import substitution, it was noted that in the modern sector "98 percent of the seed comes from the United States, insecticides and pesticides are all imported, so is equipment and spare parts. Farm managers are foreigners, usually from the United Kingdom, Australia, or the United States, and the laborers are Asian. The owner is a Saudi."² The result is a huge out-flow of foreign currency. The remittances sent home by foreigners working in this and other sectors of the Saudi economy represent the payment for imported labor services. Total remittances in 1989 were reported at \$8.3 billion, equivalent to over one-third of oil export revenues.³ The modern agricultural sector has contributed its share to the growth of imports of both good and services.

Another major problem aggravated by the drive for "food security" is water scarcity. Saudi Arabia lies in the extremely arid climate zone, where annual rainfall is a meager two or three inches. Sources of water are extremely limited. There are no permanent rivers or fresh bodies of water. As a result, almost all of the cultivated area is dependent on irrigation from wells, pits, subterranean canals, or springs. Fossil water, which comprises 75 percent of the kingdom's water reserves (desalination plants in the urban areas account for 5 percent of the country's total water supplies), is entirely non-renewable and is being rapidly depleted as a result of the expansion of modern agriculture, and in particular

¹ See Appendix VII.

² *Middle East Review*, 1986, p. 196.

³ See Appendix III.

the emphasis on irrigated wheat and other cereal crops.¹ Estimates for 1985 were that non-renewable water resources supplied nearly 80 percent of the country's total water consumption. Between 1980 and 1985, water consumption more than tripled, with agriculture accounting for 84 percent of total water usage. A 1989 report of the U.S. Department of Agriculture concluded that if water consumption grows by 10 percent per annum (far less than the growth rate in the 1980s), the aquifers could be exhausted in ten to twenty years. Growing a ton of cereals (mainly wheat) using desalinated water would cost an impossibly high \$3,500 per ton; the world price of wheat has been around \$100 per ton.² The absurdity is that farmers receive water supplies at virtually no cost.³

During a visit to Saudi Arabia in 1983, the U.S. secretary of agriculture undiplomatically characterized Saudi agricultural policies as "crazy." American agronomists commented that the "growing of cereals at an exorbitant cost in the desert makes about as much sense as planting bananas under glass [houses] in Alaska." In response to the critics, King Fahd asserted that "[Saudi Arabia] shall be able to refute allegations that the Kingdom is not an agricultural country."⁴ Other Saudi officials also responded to the criticism, calling the country's agricultural development "a thrilling story of success."⁵ Over the past decade, the expansion of agricultural production has continued in high gear, with three-quarters of the Saudi wheat crop being exported at about one-tenth of the real cost of production, multiplying the waste and economic distortions observed by the secretary of agriculture. The 1985-90 Development Plan called for expenditures of \$3 billion to expand water supplies, including the construction of more desalination plants.⁶

What is more surprising is that, despite the growing fiscal problems, the 1990-95 Development Plan calls for a further annual expansion of agricultural output averaging 7 percent or about double the planned growth rate of non-oil GDP.⁷ Barring unforeseen radical changes in subsidization policies, the result will

1 Looney, pp. 91-92.

2 *Economist*, July 15, 1989, p. 45.

3 Askari, p. 69.

4 *Economist*, April 6, 1985, p. 74; see also *The Middle East*, March 1984, pp. 26-27.

5 Looney, p. 40.

6 *MidEast Markets*, October 14, 1985, p. 143.

7 *MEED*, February 2, 1990, p. 5.

be an even greater drain on the treasury and an even more distorted allocation of resources.

There is no single reason why the Saudis—faced with large budget deficits since 1983—have failed to take strong measures to stem the drain on the treasury and the distortions arising from their agricultural policies. Such plans would necessarily have to include charging farmers for water supplies, sharply reducing procurement prices, and cutting or reducing many other subsidies. Though agriculture is an extreme case, the failure to implement serious cutbacks in farm-related subsidies is consistent with overall Saudi policy—namely, once subsidies are initiated, it is politically difficult or hazardous to attempt serious cutbacks. As noted earlier, Saudi public expenditures are inflexible on the downside. Moreover, it appears that the larger farms are owned by members of the royal family and other influential clans, adding considerable clout to the farm lobby.¹

It is clear that Saudi agriculture, rather than reducing the country's overwhelming dependence on oil has, in fact, increased it. Only large-scale oil revenues can possibly pay for these costly and wasteful policies.

¹ *WSJ*, January 13, 1993, pp. A1, A8; see also *The Middle East—Saudi Arabia—Special Report*, p. 14.

VII THE SAUDI LABOR FORCE AND PRODUCTIVITY

Few Saudi statistics are more controversial and politicized than those concerning the population and labor force. Many foreign scholars believe that official Saudi estimates exaggerate the size of the native population and labor force and underestimate the number of foreigners working in the country. *The Economist Intelligence Unit* has suggested that this has been done in order to minimize reports of Saudi dependence on both skilled and unskilled foreign workers, without whom the economy would grind to a standstill. Official statistics also aim to minimize the importance of the estimated 500,000 Saudi Shi'a, almost all of whom live in the vital eastern oil region.¹ One of the fundamental problems in assessing Saudi demography is the difficulty of estimating the large numbers of illegal Yemeni, Egyptian, Sudanese, Pakistani, and other workers. Many come as pilgrims to Mecca and Medina and then remain illegally to seek jobs.² Official statistics of those entering and leaving the country between 1987 and 1991 show a net positive balance of over 700,000. During the boom period between the mid-1970s and mid-1980s, the balance was even larger. Very few foreigners were granted Saudi citizenship (only about 2,000 to 3,000 annually) and most of them were females from Arab countries presumably married to Saudi nationals.³

In the late 1970s, unofficial estimates of the total number of Saudi nationals (i.e., excluding all foreigners) ranged between 4

¹ EIU, *Country Profile—Saudi Arabia, 1990-1991*, p. 7.

² *MidEast Markets*, February 19, 1990, pp. 4-5.

³ Saudi Arabian Central Department of Statistics, *Statistical Yearbook, 1411/1991*, pp. 230-32.

and 5 million.¹ A study published in 1990 estimated the number of nationals at 4-5 million.² A 1988 report by the U.S. embassy in Riyadh quoted an estimate of 5-6 million nationals and 3-4 million foreigners. The Saudi rate of natural increase is believed to be a very high 3.6 percent per annum. Therefore, the U.S. embassy's estimate of the number of Saudi nationals in the later 1980s is more or less consistent with the above estimate of 4-5 million Saudi nationals in the 1970s.³ These outside estimates contrast with much larger official Saudi estimates. Following a national census in 1992, an official announcement stated that there were 12.3 million Saudi nationals and 4.6 million foreigners, making for a total population of 16.9 million in 1992.⁴

Similar discrepancies between foreign and official estimates exist in discussions of the Saudi labor force. The size of the labor force is a function of the population and the labor force participation rate, i.e., the percentage of the population employed or seeking employment. Since women are almost completely excluded from the labor force, the labor force participation rate of the Saudi nationals is 21-22 percent—very low by international standards.⁵ This would imply that the number of Saudis in the labor force in the late 1970s was about one million. Looney estimated that there were less than one million Saudis in the labor force in the late 1980s, including 48,000 women.⁶ However, official estimates were that there were 1.4 million Saudis employed in FY1979 (excluding the armed and internal security forces), rising to 1.8 million in FY1985. The official estimates also show the number of foreign workers growing very rapidly from 300,000 in the mid-1970s to 1.5 million in 1980 and then to about 2.5 million in 1985-86.⁷ Including accompanying family members, the number of

¹ T.R. McHale, "A Prospect for Saudi Arabia," *International Affairs* (London), Autumn 1980, p. 632; see also J.A. Shaw and D.E. Long, *Saudi Arabian Modernization: The Impact of Change on Stability, Washington Papers* no. 89 (New York: Praeger Pub., 1982), p. 9; "A Survey of Saudi Arabia," *Economist*, February 2, 1992; and *MEED Saudi Construction Special Report*, October 1985, p. 4.

² Looney, p. 39.

³ U.S. Department of Commerce, *Foreign Economic Trends—Saudi Arabia*, p. 4; see also EIU, *Country Profile—Saudi Arabia, 1990-1991*, p. 7.

⁴ For foreign skepticism of the census results, see *The Middle East*, July 1993, p. 26.

⁵ *MEED*, June 7, 1987.

⁶ Looney, p. 39.

⁷ See Appendix VII.

foreigners in the country was much higher. In any case, even according to official estimates, the share of expatriates in total employment rose from 20 percent in the mid-1970s to over 50 percent in 1980 and almost 60 percent in the mid-1980s.¹ Unofficial estimates, as well as reports from various labor-exporting countries, indicated that the number of foreign workers was far higher than reported by Saudi officials.² Indeed, two American researchers estimated that in the early 1980s, foreigners accounted for as much as 80 percent of the total civilian labor force.³

Saudi officials have often expressed concern regarding the country's extreme dependence on expatriate workers. As a result, the 1985-90 Development Plan placed great emphasis on achieving a sharp reduction in the foreign labor force from 2.7 million in FY1984 (the base year of the plan) to 2.1 million in FY1989, while the number of employed Saudis would rise from 1.8 million to 2.2 million. This implied that there would be an overall drop in employment of 226,000, of which 195,000 would be unskilled and semi-skilled foreign laborers, mainly in construction. The overall annual growth target was 4 percent. Achieving this target with a decline in the total number of workers implied a substantial growth in labor productivity (production per employed person) in 1985-90. This would be a major achievement, in sharp contrast to the first half of the 1980s, when employment rose by 46.9 percent while output (measured by value-added) rose by only 28 percent (according to official estimates), implying an average annual decline in productivity of 2.7 percent.⁴ In reality, the average annual growth rate for GDP between 1984 and 1989 was a meager 1.4 percent and for non-oil GDP a paltry 0.5 percent.⁵ The oil sector is highly capital intensive, and employment in that sector accounted for only 1.5 percent of total employment in the mid-1980s.⁶ Since non-oil GDP was more or less stagnant, the total demand for labor should hardly have changed in the second half of the 1980s, assuming no change in labor productivity.

¹ See Appendix VII.

² *NYT*, October 15, 1993; see also *The Middle East*, February 1983, p. 39; and *MidEast Report*, August 15, 1993.

³ A.L. Richards and P.L. Martin, "The Laissez Faire Approach to International Labor Migration: The Case of the Arab Middle East," *Economic Development and Cultural Change*, April 1983, p. 480.

⁴ Looney, p. 35.

⁵ See Appendix VI.

⁶ See Appendix VII.

In 1985, the government issued strict new rules in order to restrict or reverse the growth of the foreign labor force. According to these regulations, the Ministry of Labor was authorized to ascertain whether local labor was available to fill jobs before companies were permitted to employ foreign workers.¹ These regulations coincided with the mid-1980s recession, when many Saudi employers began to feel the effects of rapid overexpansion in terms of employment and began to cut back, including dismissing many workers. The decline was especially marked in construction, where the labor force is overwhelmingly foreign.² Despite official policy, Saudi employers still preferred foreign labor, and especially Asians, who were viewed as "harder working and better trained" than Arab or African workers.³ Apparently, Saudi officials also favored Asians over foreign Arabs for non-economic reasons. Arab expatriates were viewed as a potential source of "social turmoil," whereas non-Arabic speaking Asians were more isolated from the local population.⁴

Without reasonably accurate data on the labor force at the end of the 1980s, one cannot fully assess productivity changes in the second half of the 1980s.⁵ The estimates of employment for FY1989 seem way out of line. The sharp rise in employment in construction is not plausible in view of the sharp drop in construction activity in the latter half of the 1980s. According to one estimate, plans to reduce the foreign labor force during the second half of the 1980s had little effect. It is estimated that in 1989 the number of foreigners in the kingdom in 1989 was 3.5-4 million, including accompanying family members. But for the most part, the kingdom did not allow low-wage foreign laborers to bring their family members with them. The large majority of foreigners were in the labor force, in contrast to the low labor force participation rate of the Saudi population.⁶ The estimated number of Yemeni workers in 1989 was 1-1.5 million.⁷ Another report suggested that there were 3 million foreign workers in Saudi Arabia at the end of the 1980s,

1 *MidEast Markets*, October 14, 1985, p. 3.

2 Looney, p. 35.

3 *The Middle East*, May 1982, p. 33.

4 *The Middle East*, September 1981, p. 58; see also Richards and Martin, p. 466; and Knauerhase, "Saudi Arabian Oil Policies," *Current History*, January 1984, p. 37.

5 See Appendices IV and VII.

6 *Middle East Review*, 1990, p. 135.

7 *MEED Special Report—Saudi Arabia*, November 23, 1990, p. 3.

about two-thirds of the labor force.¹ One report of the *Economist Intelligence Unit* suggests that there was a major decline in the number of foreign workers during the second half of the 1980s, mainly due to the recession, and yet another report suggests that there was an increase.² The official Saudi statistics cited earlier indicate that the number entering the country exceeded the number leaving in each year between 1987 and 1991—with a net gain of over 700,000. Given such contradictory evidence, all that can be said with reasonable certainty is that the goal of sharply reducing the number of foreign workers by replacing them with Saudis during the second half of the 1980s was not realized. *The Financial Times* noted in 1988 that there was a slight decline in the number of foreign workers. But as construction workers left, they were replaced by “armies of sweepers and maintenance men, while the number of domestic servants has [also] increased.”³

Saudi dependence on foreign labor is not confined to the skilled, technical, and professional categories. In fact, the majority of foreigners are unskilled and semi-skilled laborers. The reasons for this are not limited to the very small size of the Saudi labor force. Evidently, an inordinately large share of the Saudi work force is averse to manual occupations, and the proclivity of the growing number of more educated Saudis is toward white-collar jobs. As a result, Saudi nationals are heavily concentrated in the civil service, commerce, and other white collar occupations.

Despite the drop in construction activity in the 1980s, one British scholar asserted in 1986 that Saudi Arabia and other countries in the region would continue to require a large number of foreign workers simply for operations and maintenance of the huge and complex infrastructure built in the 1970s and early 1980s. Moreover, few Saudis are willing and able to replace foreigners in the industrial, agricultural, and some service sectors. According to this study, employers constitute a strong pressure group for permitting the entrance of foreign labor, and landlords and merchants (almost invariably Saudi nationals), interested in rental income and sales pressure the government to ease restrictions on foreigners.⁴

¹ *MEED Special Report—Saudi Arabia*, December 15, 1989, p. 6.

² *EIU, Country Profile—Saudi Arabia, 1991-1992*, p. 8.

³ *Financial Times Survey—Saudi Arabia*, April 13, 1988, p. 8.

⁴ *MEED*, July 26, 1986, pp. 28-29.

As for the distribution of the labor force, one must distinguish between the private and government sectors. Official surveys of private establishments (excluding agriculture) show that in FY1980 foreigners accounted for 82 percent of the labor force, and that this ratio was unchanged in FY1987. In the latter years foreigners accounted for 95 percent of private sector employment in construction, 84 percent in manufacturing, and in services as a whole, close to 80 percent.¹ A survey of employment conducted by the Jeddah Chamber of Commerce in the early 1990s found that 80 percent were foreigners. It was estimated that about one-third of the Saudi private sector labor force was in Jeddah.²

Labor force surveys of the economy as a whole (including government and agriculture) show that there was a continued growth in agricultural employment, though it declined as a percentage of total employment in the 1970s and 1980s. The continued growth in agricultural output, noted earlier, was due to heavy subsidization. Excluding an estimated 300,000 nomads, employment in the modern farm sector rose from about 200,000 in the early 1980s to 350,000 in 1986. Except for the owners, the managers and workers are almost all foreigners.³

Employment in manufacturing peaked in the mid-1980s and then declined. Much of the decline was in the production of construction-related materials. On the other hand, the production of petrochemicals expanded rapidly, but this is a highly capital-intensive industry requiring few workers. The share of manufacturing in total employment was 8-9 percent in the mid-1980s. Employment in the oil sector (including exploration, extraction, and refining) rose rapidly until the mid-1980s and then declined. This reflects the overall sharp decline in Saudi oil output between 1982 and 1987. There was a small upturn in the late 1980s, but oil production remained far below the peak levels of 1979-81. On the other hand, oil refining was expanding in the 1980s.⁴ The oil

1 *Statistical Yearbook, 1411/1991*, pp. 605, 611.

2 EIU, *Country Report—Saudi Arabia*, 1992, p. 15.

3 See Appendix VII. This analysis ignores the survey for 1989, whose findings are highly improbable. It shows the total labor force increasing by 1.6 million from 1986, an increase of 38 percent in three years, while the economy was in a recession. If true, this would imply a catastrophic drop in labor productivity, even greater than in the first half of the 1980s. It also shows a steep rise in construction labor while the national accounts show a sharp drop in construction activity.

4 See Appendix IV.

sector as a whole employed only about 2 percent of the labor force in the mid-1980s. On the other hand, employment in public utilities (electricity, gas, and water) continued to expand. Like agriculture, public utilities are very heavily subsidized. Farmers receive water at no cost and industry and households pay nominal rates. Electric power rates are also only a fraction of the cost of production. As a result, demand rose far beyond what had been projected by the planners. The Development Plan for 1980-85 had projected that employment in this sector would rise from 32,000 in FY1979 to 47,000 in FY1984. In reality, it rose to 147,000 in FY1984 and 162,000 in 1986, accounting for 4 percent of total employment in the latter year.

The growth in employment has been most rapid in the broad category designated as "other services" (excluding transportation), rising from 568,000 in FY1974 (37 percent of total employment) to 1.1 million in FY1979 (44 percent of total employment), and doubling again to 2.1 million (50 percent of total employment) in 1985.¹ Within this broad sector, employment in trade, finance and business services peaked in FY1984 and then declined in response to the downturn in overall economic activity in the second half of the 1980s. During the recession, there were numerous reports of business failures. The above-mentioned survey of private establishments indicated a small (1 percent) decline in employment in "other services" in FY1987. However, there was continued growth in employment in community and social services, largely in the public sector. Employment in this sector rose from 1 million in FY1979 to 1.3 million in FY1984. While in other sectors employment began to drop in 1983 and 1984 in response to the recession, there was continued growth in community and social services to 1.6 million in 1986, accounting for 34 percent of total civilian employment. Civil service employment rose from 400,000 in FY1979 to 469,000 in FY1984.² Full-time teaching staff in state schools at all levels rose from 161,000 in FY1985 to 215,000 in FY1990, with foreigners accounting for 30 percent in the latter year. The number of health personnel (physicians, pharmacists, nurses, and other technicians) employed by the government rose from 46,000 in FY1985 to 57,000 in FY1990. Foreigners accounted for 83 percent of the staff in the latter year.³

1 See Appendix VII.

2 Looney, p. 34.

3 *Statistical Abstract, 1411/1991*, pp. 57, 115

The 1985-90 plan projected that the employment of Saudis would rise by 3.9 percent per annum. The stated goal was that public sector employment would be frozen, and only the replacement of foreigners by Saudis would be sanctioned. The bulk of the planned growth in Saudi employment would be in the private sector. The planners were aware of the obstacles: "Saudis entering the labor market will have to possess the education and skills required by the private sector, while their remuneration, motivation, and attitude to work will have to reflect the realities of the private sector." In other words, government planners recognized that Saudi workers would have to put far greater emphasis on the acquisition of technical skills, work harder, and be prepared to accept lower wages and salaries. The planners also noted that the government had established a variety of training programs but that the number of Saudis enrolling was "insufficient." As far as higher education was concerned, planners underscored the fact that the fields of study chosen did not match "the high-level manpower needs implied by technological advances and the diversification of the economy."¹ In short, there were too many Saudi university graduates and too few plumbers, electricians, and other skilled workers. And among university graduates, there were too few with specialized expertise in the more technical fields.²

The surveys of private establishments referred to above indicate that between January 1985 and December 1988 the number of Saudis employed in the private sector rose from 290,000 to 328,000, while the number of foreigners increased from about 1.39 million to nearly 1.54 million.³ Instead of the planned reduction in the number of foreign workers, the private sector increased its expatriate labor force by more than 10 percent in four years. This reflects trends in Saudi education, a continuing reluctance of Saudi nationals to accept non-white collar jobs, and a lingering aversion of Saudi employers to hiring Saudi labor in the belief that they often have "a poor work attitude, inflexibility, low skills, and bad [punctuality]."⁴ Moreover, employers often argue that the costs of employing a Saudi are prohibitive, in that they demand higher salaries than foreign workers and their training is very expensive.⁵

1 *The Development Plan for 1985-1990*, pp. 54-56.

2 Osama, p. 96.

3 *Statistical Abstract, 1411/1991*, p. 605.

4 *The Middle East*, August 1990, p. 31.

5 *MEED Special Report—Saudi Arabia*, March 16, 1990, p. 18.

The problems associated with unemployment among university-educated Saudis are potentially acute. In recent years, education has expanded on all levels, especially university education. There are no tuition fees and even study abroad is highly subsidized. The number of university students rose from 75,000 in 1982 to 130,000 in 1987. This was followed by a decline to 114,000 in 1990.¹ In that year, an additional 3,500 Saudis were studying in universities abroad at government expense. As the U.S. embassy in Riyadh reported in 1989, the cumulatively large number of high school and university graduates, combined with the poor economic outlook of the recession years, left many educated Saudis with no work. They were searching for an "appropriate" position—i.e., a white collar job, preferably in the private sector, but the job did not exist. According to the embassy, the graduates had "expectations based on the boom years, not present realities."² Perhaps the poor employment prospects for university graduates was a significant factor in the drop in university enrollment in recent years.

Because of intense pressures to ease the freeze on civil service hiring, partially as a result of the large numbers of unemployed university graduates, in January 1990 the Saudi government announced an expansion of armed forces personnel by 26,000 and of civil service personnel by an additional 20,000. These measures were clearly aimed at reducing unemployment and social unrest.³ While alleviating one problem, however, enlarging the government bureaucracy only aggravated other problems.

Training a labor force capable of managing a modern economy is a *sine qua non* of economic development. The Saudi authorities have often stressed the importance of sharply reducing the country's dependence on foreign workers, but there is little evidence of significant progress. This failure compounds Saudi Arabia's current financial and economic problems.

¹ *Statistical Yearbook*, various issues.

² U.S. Department of Commerce, *Foreign Economic Trends—Saudi Arabia*, April 13, 1988, p. 8.

³ EIU, *Country Report—Saudi Arabia, 1990*, p. 9.

VIII SAUDI ARABIA'S SEARCH FOR SECURITY— THE ECONOMIC BURDEN

The "search for security" has been a central theme of Saudi government policy from the inception of the state to the present. From the outset, it is important to underscore the secrecy that surrounds Saudi military spending. Saudi budgets specify total allocations to the armed forces without providing a breakdown in terms of arms imports, expenditures on military infrastructure, operations and maintenance (largely implemented by foreign contractors), domestic military expenditures, and other components of defense expenditures. Nor do official Saudi sources provide information on the size of the armed forces.

Government budgets show that military outlays (in current dollars) rose from less than \$1 billion in 1972 (i.e., before the FY1973 oil shock) to over \$9 billion in 1978 (before the FY1979 oil shock). During the second half of the 1970s, military expenditures totaled over \$52 billion, more than double the amount specified in the 1975-80 Development Plan.¹ As was the case with civilian spending, the growth in military outlays initially lagged behind the sharp rise in GDP which followed the first oil shock, and the ratio of military expenditures to GDP dropped from 9 percent in 1972 to about 6 percent in FY1973. Subsequently, the continued escalation in military spending exceeded the growth of GDP and the ratio rose to 14-15 percent in 1975-79.

Following the FY1979 oil shock and the huge increase in oil revenues, there was another major rise in military outlays, from less than \$11 billion in 1978 to \$16-17 billion in FY1979, and then to over \$19 billion in 1981-84 (about double the outlays in 1976-78). And like

¹ See Appendix X.

the immediate aftermath of the first oil shock, the rise in military budgets lagged behind the very rapid growth in oil revenues in 1980-81, and the ratio of military expenditures to GDP fell from 14-15 percent in 1975-79 to 10-12 percent in 1980-81. But while oil revenues and GDP fell after 1981, Saudi authorities did not curb military spending, which remained at its peak \$19-20 billion annual level until 1984. Subsequently, according to official accounts, military outlays were reduced to \$13-14 billion per annum in 1986-89. As a ratio of GDP, military expenditures fell from 25 percent in 1983 to 14 percent in 1988-89.¹ Even after correcting for inflation, there was a very sharp escalation in the military budget in the 1970s and in the first half of the 1980s, according to the budgetary accounts.

Estimates published by the U.S. Arms Control and Disarmament Agency (ACDA) indicate that Saudi reports of military outlays since 1982 are seriously understated. According to the Saudi government's budgetary reports, average annual military expenditures were \$15.9 billion in 1982-89; but according to ACDA, they averaged \$18.8 billion, about 18 percent higher. Estimates published by the Stockholm International Peace Research Institute (SIPRI) are even higher.² According to SIPRI, the ratio of military expenditures to GDP rose from an average 13.9 percent in 1972-79 to 19.8 percent in 1980-88. By all accounts, Saudi military outlays were unusually high by international standards, especially for a country not engaged in active hostilities.³

According to ACDA estimates, Saudi military expenditures of \$14.7 billion in 1989 were exceeded only by Iraq in the Middle East. By way of comparison, Israel's outlays were 61 percent lower at \$5.7 billion. Saudi arms imports rose from less than \$5 billion in 1975-79 to \$14.2 billion in 1980-84 and \$23.2 billion in 1985-89. In the second half of the 1980s, Saudi arms purchases even exceeded Iraq's \$22.7 billion. Others were far behind: Iran, \$10.3 billion; Syria, \$7.2 billion; Israel, \$6.1 billion; Egypt, \$5.8 billion; and Libya, \$5.1

¹ See Appendices IV and X.

² *MEED*, October 31, 1987, p. 29; see also Stockholm International Peace Research Institute (SIPRI), *SIPRI Yearbook*, 1990.

³ *FT*, November 23, 1988, p. 5. Since the mid-1980s, the Saudis have concluded barter agreements, particularly with British arms suppliers, wherein payments are made primarily by oil shipments. These outlays are at least partly off-budget. Agreements with France for missiles and frigates (at a cost of about \$2.7 billion) concluded in the late 1980s were also based on barter. The arms agreements with British suppliers (mainly for Tornado aircraft) concluded in the latter half of the 1980s were much larger in scope, amounting to \$27 billion.

billion. Even after discounting for inflation, the Saudi escalation in arms purchases was exceptional, especially for a country not at war.¹

As large as they were, the purchases of arms abroad were but a fraction of total military outlays. In the first half of the 1980s, arms imports accounted for 14-15 percent of total military spending; in the second half, this ratio rose to 33 percent according to Saudi budgetary accounts, or 28 percent according to ACDA estimates.² A number of other factors help to explain the disproportionate role of military spending in the Saudi budget.

In terms of area, Saudi Arabia is a large country—about one-third the size of the continental United States—but it is sparsely populated and widely dispersed. This adds significantly to the costs of infrastructure—roads, ports, airports, electricity, communications, water supplies, etc. Saudi military budgets include the construction of “military cities,” often in distant desert areas where no infrastructure previously existed. These are inherently very expensive undertakings.³ The U.S. Army Corps of Engineers has long been engaged in military construction and the provision of various services. In 1985-89, the United States provided \$9.2 billion of construction and other services to the Saudi military forces.⁴ It was the largest single supplier of military services to Saudi Arabia, but there were also many others.

The Saudi proclivity to acquire the most sophisticated and expensive military equipment requires high outlays on operations and maintenance, as well as high costs of training military personnel. According to ACDA, the size of the Saudi armed forces increased from 75,000 during most of the 1970s to 84,000 in 1988-89. In addition to the regular armed forces under the command of Defense Minister Prince Sultan bin Abdul Aziz, there is also the

¹ U.S. Arms Control and Disarmament Agency (ACDA), *World Military Expenditures and Arms Transfers, 1990* (Washington, D.C.: Government Printing Office, 1991), pp. 36, 121, 131-34. Saudi Arabia's main suppliers in 1985-89 were: the United Kingdom, \$7.7 billion; France, \$7 billion; the United States, \$5 billion; and China, \$2.5 billion.

² See Appendix X.

³ *Financial Times Supplement—Saudi Arabia*, May 5, 1981, p. 11. Foreign arms suppliers and contractors seek “influentials” to help them promote their wares or increase the size of the orders placed. According to the *Financial Times*, “[t]here is a fierce struggle for patronage. The Prince and Saudi officers of the highest rank have treated the armed forces as a source of [private] profit.”

⁴ ACDA, *World Military Expenditures and Arms Transfers 1990*, p. 31.

powerful, well-equipped National Guard headed by Crown Prince Abdullah bin Abdul Aziz. Maintaining a second army equipped with the latest technology is a rather expensive proposition. In addition to these two forces, the Saudi military also includes a Frontier Force and Coast Guard under the direction of the Ministry of Interior, and other paramilitary units under the jurisdiction of the General Civil Defense Administration.

Adding to the security burden is the cost of maintaining a large number of foreign military advisers (American, British, and others) to train the armed forces in the use of modern military equipment and tactics. According to press reports, there were also 10,000 Pakistani troops attached to the National Guard in the mid-1980s, charged with providing additional insurance for the survival of the royal regime in the aftermath of the attempted revolt in Mecca in 1979.¹ In recent years, most Pakistani troops have been withdrawn, reportedly because of difficulties in screening the troops and for other political differences between the two countries.²

The country's small population inhibits a large expansion of the army. Therefore, military planners place a strong emphasis on the air force and the acquisition of sophisticated military equipment for the army, in the hope that it will partially offset the numerical advantage of neighboring countries that pose a threat, mainly Iran and Iraq. A second reason for a small army, as Yahya Sadowski has noted, is a reluctance "to create large standing armies for fear that they—like armies in other Arab states—might edge into the business of making coups."³ But operating and maintaining sophisticated equipment requires highly-skilled manpower that is in short supply within the Saudi population.⁴ The military forces are not only a severe drain on Saudi finances, they also exacerbate the shortage of skilled Saudi manpower in the various economic sectors, thereby increasing the country's dependence on foreign labor to operate and maintain the civilian economy.

¹ *MEED Special Report—Saudi Arabia*, July 8, 1985, p. 8.

² *Economist*, October 31, 1987, p. 58.

³ Y.M. Sadowski, *Scuds or Butter: The Political Economy of Arms Control in the Middle East* (Washington, D.C.: Brookings Institution, 1993), p. 73.

⁴ Looney, p. 199.

Saudi foreign aid is, for the most part, tied to defense considerations; it is a form of "preventive security." According to the budgetary accounts, annual average allocations for foreign aid rose from \$1 billion in 1974-75 to over \$7 billion in 1980-81 (when oil revenues were high), and then, as deficits emerged, declined steadily to less than \$2 billion in 1988-89.¹ The balance of payments figures show a similar trend, rising from \$2 billion dollars in 1974-75 to nearly \$6 billion dollars in FY1979, and then declining almost steadily to less than \$2 billion in 1988-89.²

While Muslim and Arab sympathies play a role in the determination of Saudi aid, the fact remains that the bulk (aside from aid to Iraq during the war with Iran) has been earmarked for Egypt (although less since it signed the Camp David agreements with Israel in 1979), Syria, Jordan, Yemen, and Oman. The latter three have common borders with Saudi Arabia, while Syria and Egypt have strong military forces and carry great weight in inter-Arab affairs.³ Saudi foreign aid is often motivated by the hope that it might avoid problems. As *The Economist* phrased it: "For years [the Saudis] have been buying off . . . the Syrians, Palestinians of many a hue, and almost every sort of Lebanese [faction], in the hope of keeping out of trouble. . . . Danegeld ["protection money" in the American vernacular] is an accepted factor of Gulf politics."⁴ Only a small share of Saudi aid goes to poor Arab countries like Sudan or Mauritania. These countries neither threaten nor enhance Saudi security.

The relationship of foreign aid to security was most pronounced in Saudi Arabia's very substantial support for Iraq in its war with Iran from 1980-88. The Saudis evidently feared that if revolutionary Iran prevailed over Iraq, their own security would be imperiled. They viewed Iraq as fighting the battle for the Gulf monarchies. This led to substantial (though off-budget) aid to Baghdad. After the 1990 Iraqi invasion of Kuwait, King Fahd revealed that aid to Iraq during the 1980s amounted to \$25.7 billion, of which \$5.8 billion were in grants, \$9.2 billion in concessionary (i.e., non-interest bearing,

¹ See Appendix II.

² See Appendix III.

³ *MEED*, August 22, 1987, p. 43. Until the Iraqi invasion of Kuwait in 1990, Saudi Arabia had a working alliance with Jordan. Unofficial reports state that a Jordanian battalion was called in to quell the riots of Iranian pilgrims in Mecca in July 1987 that resulted in the deaths of 402 pilgrims.

⁴ *Economist*, May 5, 1973, p. 43; and May 26, 1984, p. 12.

long-term) loans, \$6.8 billion from the sale of oil from the Saudi-Kuwaiti neutral zone, and \$3.7 billion in military equipment and other items.¹ The understanding was that the loans were to be repaid after the war by the shipment of Iraqi oil on behalf of the lenders. Of course, none of them was repaid. If these figures are reasonably accurate, it means that (off-budget) aid to Iraq in 1981-88 was about equal to announced allocations for foreign aid in those years. Clearly, aid to Iraq significantly aggravated Saudi Arabia's financial problems.

Other expenditures motivated by Saudi Arabia's search for security are also not included in the military budgets. The Saudi pipeline (known as the Petroline) from the oil fields in the east to Yanbu in the west was built primarily for security reasons. Its purpose is to provide an alternative route for oil exports in the event of the closure of the Strait of Hormuz. The pipeline was opened initially in 1984 with a capacity of 1.8 mbd and then expanded to 3.2 mbd, and has recently been expanded again to a capacity of about 5 mbd.² Much of the capacity has remained unused simply because transport by tanker is cheaper. The pipeline is, for the most part, an insurance policy with a rather high premium. Work is also proceeding on the construction of an extensive network of strategic underground storage caverns for oil products at an estimated cost of \$5-6 billion dollars.³ The kingdom's dependence on oil accounts for its extreme sensitivity to any disruption, and the government is willing to spend large sums on oil security, even if these sums are not labeled as security expenditures.

Saudi Arabia's custodianship of the Islamic holy sites of Mecca and Medina may add to its prestige in the Muslim world, but it also adds to the country's security problems. The attempted revolt in Mecca in 1979 and the riots of Iranian pilgrims in 1987 stimulated large-scale expenditures on additional security measures. The problem is accentuated by the fact that within a period of a few weeks every year over a million pilgrims converge on Mecca. In addition to the security problems, the pilgrimage requires the provision of housing, transportation, water, health, and other services. The pilgrimage also affords an opportunity to Muslims from poor countries to enter the country legally and then illegally seek employment. The very large number of foreigners is perceived

¹ *MEED*, January 25, 1991, p. 263.

² EIU, *Country Profile—Saudi Arabia, 1990-1991*, p. 20; see also *Country Report—Saudi Arabia*, no. 2, 1993, p. 16.

³ *Ibid.*, p. 10.

by the authorities to be a security problem; pilgrims might expound what Saudi leaders view as subversive ideas or actively organize groups opposed to the regime. In 1985, the government imposed new restrictions on foreigners, including a requirement that they carry a letter from their employer when traveling from one city to another in the kingdom, and obtain the employer's written permission if they wish to rent housing outside the area of their employment.¹ From time to time there are large-scale roundups of illegal immigrants. In 1987, the Ministry of Labor reported that 300,000 foreigners had been expelled in the previous two years.²

Saudi Arabia's search for security has been extensive and expensive. However, when Iraqi forces invaded and occupied Kuwait in August 1990 and threatened to march into Saudi Arabia, the leadership recognized that despite billions of dollars spent on defense, foreign forces were still needed to defend the country.

¹ EIU, *Quarterly Economic Review—Saudi Arabia*, no. 1, 1985, p. 83.

² *MEED*, January 24, 1987, p. 21.

IX ECONOMIC IMPLICATIONS OF THE GULF WAR

In January 1990, the Saudi government announced its Five Year Development Plan for 1990-95. According to this plan, public expenditures were expected to amount to \$201 billion, one-third of which would be military spending (plus an unspecified amount for foreign aid). The plan envisioned high average annual growth rates of value-added in production: agriculture, 7 percent; petrochemicals, 8 percent; oil refining, 5.4 percent; and other manufacturing, 5 percent. The targeted growth rate for GDP as a whole was 3.2 percent, including growth in non-oil GDP of 3.6 percent and in oil GDP of 2.7 percent. Industrial exports, including petrochemicals, were to rise by 50 percent over the five-year period. The planned expansion of the economy and a stronger drive toward "Saudization" would provide jobs for 575,000 Saudis over the plan period, of which 294,000 would be created by the expansion of the non-oil economy, and the remainder (281,000) by replacing foreigners with Saudi nationals. According to the deputy minister of planning, the overall goal of the development plan was "stable growth rates so that we don't have ups and downs that will greatly affect the private sector."¹ The emphasis was on greatly increased investment by the private sector, especially in industry, in order to relieve some of the burden previously borne by the treasury. In fact, the plan implied continued heavy subsidization of key sectors, especially agriculture and manufacturing. Indeed, the planned growth rate of 3.6 percent for non-oil GDP as a whole was double what had been achieved in the previous five years,² and could only be achieved through large-scale government spending.

¹ *MEED*, January 12, 1990, pp. 30-31; February 2, 1990, p. 2; and March 16, 1990.

² See Appendices VI and VIII.

The plan's growth rate of 2.7 percent for the oil sector implies that the Saudis had an expectation of a major expansion of oil output during the first half of the 1990s from its relatively low level of 5.5 mbd in 1989. In 1989, the oil minister had announced plans to restore production capacity to 10 mbd, where it had been two decades earlier.¹ Unofficial estimates published in the spring of 1990 envisioned Saudi production capacity rising from the current 7.75 mbd to 10 mbd by 1995.² The Saudi expansion plans were based on forecasts that both prices and demand for OPEC oil would rise significantly in the 1990s and beyond. The secretary-general of OPEC, quoting some of these forecasts, predicted that demand for OPEC oil would rise from 23 mbd in 1989 to 29 mbd by 1995, and oil prices would climb from \$17 in 1989 to \$30 a barrel. Saudi Arabia wanted to be in a position to capture a large share of the incremental demand for OPEC oil.³ These forecasts also prompted other oil producers, in the Middle East and elsewhere, to expand their productive capacity.

The significant rise in oil prices from \$14.15 per barrel in 1988 to \$17.19 in 1989 also had an impact on Saudi expectations of future prices and plans to raise productive capacity.⁴ At the time, many oil analysts predicted that these increases were only the beginning of an upward trend. What they failed to note, however, was that the price increases in 1989 were mainly a consequence of a confluence of exogenous factors that were not likely to be repeated.⁵ As the *Financial Times* noted:

1989 was a charmed year for OPEC. A dry winter shut down hydro-electric generators in Europe [increasing reliance on oil-powered generators]; nuclear plant problems in France and Japan boosted demand for fuel oil. Accidents in the North Sea reduced UK production by more than one-quarter. The Valdez accident shut off Alaskan production for a while. Soviet output declined; and then [there was] the coldest winter on record in North America.

Aside from the decline in Soviet output, these were all temporary factors not indicative of a new trend in oil prices. As should have been expected, after oil prices peaked in January 1990, they fell

1 *MEED*, November 10, 1989, pp. 25-26.

2 *Petroleum Intelligence Weekly*, March 26, 1990, p. 4.

3 *NYT*, February 24, 1990.

4 See Appendix IV.

5 *FT*, April 14, 1990.

precipitously by about one-third by June, back to the low levels prevailing in 1987, about \$14 a barrel.¹

Overall, the Saudi budget for 1990, presented in January, projected a deficit of \$7 billion, approximating the actual deficit in 1989.² However, the estimates of revenues were based on the expectation of continued high oil prices approximating their 1989 levels. The sharp fall in oil prices during the first half of 1990 implied that the actual 1990 deficit would have been far greater than had been projected even in the absence of armed hostilities in the Gulf. In any event, the Gulf War and its aftermath brought about far-reaching changes in the Saudi economy that could not have been envisioned by those who formulated the 1990-95 Development Plan and the 1990 budget.

THE GULF WAR AND OIL MARKETS

In July 1990, Iraqi officials issued threats to Kuwait and the United Arab Emirates (UAE), two members of OPEC that Baghdad accused of "over-producing." Iraq called these actions "a premeditated and deliberate plan to weaken Iraq and undermine its economy and security."³ Kuwait and the UAE were not the only countries over-producing, but they were more vulnerable than others to Iraqi threats. The impact of Iraqi threats in July 1990 was to reverse the down-trend in oil prices. Then, Iraq's invasion of Kuwait on August 2 led to a sharp increase in world oil prices. According to one estimate, panic buying added 2 mbd to demand virtually overnight.⁴ The subsequent UN embargo on oil shipments from Iraq and occupied-Kuwait had the immediate effect of removing 4.4 mbd from world oil markets.

The Saudis and others with spare capacity were more than happy to fill the void. As a result, Saudi output rose rapidly from 5.6 mbd in the first half of 1990 to 8.2 mbd in the third quarter of 1990, compensating for 60 percent of the gap left by the embargo. The balance was made up by Venezuela, Abu Dhabi (UAE), Libya, Nigeria, Indonesia, Mexico, Norway, and others.⁵ Like Saudi Arabia, these countries were suffering from budget and/or balance of

¹ Ibid., June 14, 1990.

² EIU, *Country Report—Saudi Arabia*, no. 1, 1990, p. 1.

³ *Associated Press* (AP), July 19, 1990.

⁴ *WSJ*, August 7, 1990, p. 6.

⁵ *Petroleum Economist*, various issues.

payments deficits and readily took advantage of the opportunity to expand the volume of sales and obtain higher prices. Though prices soon descended from the panic levels of \$30-40 a barrel, they remained far above their pre-invasion levels, prompted mainly by fear that Iraq might attack and damage oil installations in Saudi Arabia and throughout the Gulf. When allied air attacks on Iraq commenced in January 1991, prices again rose sharply, out of fear that Iraq would retaliate by air strikes on Saudi and Gulf oil installations. Following the cease-fire at the end of February 1991, oil prices declined.

In effect, the far higher oil prices in the second half of 1990 more than offset declining prices in the first half of the year. On average, oil prices in 1990 were \$22.05 per barrel, almost \$5 above 1989 prices. However, despite the hostilities in the first months of 1991 and concomitant increases in prices, average 1991 prices were far lower—\$18.30.¹

In addition to the higher prices, Saudi Arabia gained from a major expansion of its volume of exports. Oil production rose from 5.5 mbd in 1989 to 6.8 mbd in 1990, and then to 8.6 mbd in 1991 and 8.9 mbd in 1992. This increase was due to three main factors: the continuing embargo on Iraq, the two years needed by Kuwait to reach pre-war production levels, and (unrelated to the Gulf crisis) the sharp drop in oil production in the former Soviet Union.²

SAUDI OIL REVENUE AND ESCALATING MILITARY EXPENDITURES

The much greater volume of Saudi oil exports, combined with high prices, raised the kingdom's oil export revenues very sharply from \$24 billion in 1989 to \$40 billion in 1990 and \$43.5 billion in 1991. In 1992, they declined to \$39 billion.³ The 1992 decline in oil revenues is difficult to explain, since production rose from 8.6 mbd to 8.9 mbd, and the drop in prices from an average of \$18.30 a barrel in 1991 to \$18.22 a barrel in 1992 was hardly significant. One possible explanation might be the increase of oil shipments under

¹ See Appendix IV. Saudi oil prices may differ somewhat from average world prices presented in the appendix, but the changes are quite similar.

² See Appendix I. Soviet production peaked at 12.6 mbd in 1987-88 and then began to fall precipitously to 9.1 mbd in 1992 in the republics formerly part of the Soviet Union.

³ See Appendix IV.

barter arrangements (i.e., used as payment for weapons purchases that are off-budget and may also be excluded, at least in part, from the official balance of payments). Payments to some of the allies in the Gulf War were also in oil shipments, which may be unrecorded in the official balance of payments. In short, the Gulf War, aided by the wholly unrelated oil debacle in the former Soviet Union, allowed Saudi Arabia to raise its oil production and revenues far beyond expectations.

Government expenditures, however, rose even more rapidly than revenues. The budget report for the two-year period of 1990-91 (combined) includes an item called "emergency expenditures" of almost \$30 billion. These apparently refer to Saudi payments to the United States and other wartime allies. Among these were payments to the United States of almost \$17 billion; to Egypt, \$1.7 billion (in addition to cancellation of \$4.5 billion in debts); and to Britain, France, Syria, and Turkey of about \$1 billion each.¹

In addition, the budget report also states that military expenditures in FY1990 were \$31.5 billion, about \$5.5 billion above defense outlays in the previous two years. This presumably refers to higher outlays by Saudi forces as a result of the Gulf War. The report lists foreign aid in FY1990 as \$4.5 billion, nearly \$1 billion above the previous two-year period.² However, the balance of payments shows higher figures for foreign aid, almost \$10 billion for 1990-91 as compared with \$4.7 billion in 1988-89.³ The sum total according to the official accounts, including the higher estimate for foreign aid, is about \$40 billion. But other sources quote official estimates of Saudi war costs at no less than \$65 billion.⁴ Most of the discrepancy is probably attributable to the massive orders for military equipment that are included as costs of the war, even though the arms shipments and payments are spread out over a number of years. This would include, for example, \$25 billion in orders from the United States between August 1990 and the end of 1992,⁵ as well as a long-term agreement with British arms suppliers initiated in the mid-1980s and paid for by oil shipments of 500,000 barrels per day; orders for additional British military supplies were made during and after the war as well. A 1992 estimate stated that the orders were worth £30 billion (about \$53 billion), with annual payments of £3

¹ *Financial Times Survey—Saudi Arabia*, January 30, 1992, p. 2.

² See Appendix II.

³ See Appendix III.

⁴ *NYT*, March 1, 1992, p. 8.

⁵ *WSJ*, January 13, 1993, p. 2.

billion (\$5.3 billion) for the rest of this decade.¹ In January 1993, Saudi Arabia announced orders for 48 Tornado fighter aircraft at a cost believed to be between \$6 billion and \$7.5 billion. In 1992, when the value of the oil shipments of 500,000 barrels per day was not sufficient to cover their debt to Britain, the Saudis had to pay an additional \$2.6 billion in cash; to do so, the Saudis borrowed £1 billion (about \$1.8 billion) from British banks.² None of these payments are included in the budget.³

In addition to boosting military purchases, the war also persuaded the Saudis to double the size of armed forces and provide them with the latest in weaponry. The *New York Times* quoted an unnamed Saudi adviser to the royal family: "Iraq invaded and we all asked, 'where is the army?' We realized then that we don't really have one."⁴ The *Financial Times* reported in December 1990 that, "when British and U.S. military men arrived in Saudi Arabia [following Iraq's invasion of Kuwait] they were surprised to find warehouses full of unused 155 mm artillery and M60 tanks purchased from Britain and the United States. They were brand new, never touched. The Saudi armed forces' greatest weakness: lack of manpower." The reference was to quality as well as to quantity.⁵

Before the war, the Saudi monarchy apparently feared that a large army might become a base for a military takeover. The war experience prompted the leadership to take a different view, recognizing that an expensive "paper army" provides virtually no security. Shortly after the end of hostilities in 1991, the king announced "his firm decision . . . to expand and re-equip all sectors of our armed forces . . . with the world's most powerful and modern equipment and technology. . . . The government [also decided to] redouble recruitment efforts to meet the requirements of protecting and defending" the kingdom.⁶ One observer suggested that additional motives were that "the expanded armed forces represent a desirable means to discipline the country's youth [and] at the same time provide income and employment. Since open dependence on the United States for the kingdom's defense is not politically viable, the Saudis have stressed that they intend to bolster

1 *FT*, August 24, 1992, p. 1.

2 *MEES*, August 9, 1993, pp. B1-7.

3 *Gulf States Newsletter*, April 19, 1993, pp. 11-12.

4 *NYT*, October 31, 1990, p. A17.

5 *Financial Times Survey—Saudi Arabia*, December 12, 1990, p. 2.

6 *MEED*, April 26, 1991, p. 30.

their own military deterrent with greater determination than in the past.”¹ According to the International Institute for Strategic Studies (IISS), by 1992 the armed forces had been expanded to 158,000, including 57,000 in the National Guard (but not the 20,000 in “tribal levies” attached to it). This created a military twice its 1990 size. The IISS estimates of Saudi military expenditures, including payments to allies, for the three-year period 1990-92 are \$94 billion; Saudi budgets give military and “emergency” expenditures for the three years as \$76 billion.²

Clearly, the Gulf War not only raised Saudi military expenditures in the short run, but also led to long-term commitments for an expansion of the armed forces and for the acquisition of more sophisticated (and more expensive) military supplies. As a result, military expenditures in the future will almost surely be significantly higher than they were before the war when they were very high indeed.

¹ EIU, *Country Profile—Saudi Arabia 1993-1994*, p. 7.

² IISS, *The Military Balance, 1993-1994* (London: Brassey's, 1993), p. 127; see also *MEED*, November 6, 1992, p. 8; Appendix II; and *MEED*, April 30, 1993, p. 11. IISS' much higher figures include off-budget spending on military supplies. But aside from the cost of imported arms, there will also be far higher long-term outlays on military bases and infrastructure, training operations, maintenance, etc. According to press reports, the Saudis were recruiting in Pakistan and Morocco in order to bolster the armed forces.

X THE GRIM OUTLOOK FOR THE SAUDI ECONOMY

Over the past decade, Saudi Arabia has suffered a series of huge budget deficits that were first covered by drawing from accumulated financial reserves and then by resorting to large-scale borrowing. Independent assessments predict that Saudi deficits will grow larger over the next five years. To meet those debts, Saudi leaders will either have to curtail some key aspects of government spending or hope for a miraculous turnabout in the future of the oil market. For the time being, Saudi Arabia faces a dismal economic situation and grim prospects for the future.

SAUDI DEFICITS, RESERVES, AND DEBTS

According to official accounts, Saudi budget deficits between 1983 and 1989 totaled \$92.8 billion, an annual average of \$13.3 billion. In 1990-92 inclusive, they totaled \$48.2 billion, averaging \$16.1 billion per annum.¹ The current account of the balance of payments has also been in deficit since 1983. Cumulative current account deficits between 1983 and 1989 were \$86.5 billion, averaging \$17.4 billion per annum; in 1990-92, they totaled \$51.4 billion or \$17.1 billion per annum.² In short, although oil revenues in 1990-92 exceeded all years since 1983, expenditures and imports grew far more rapidly. The Gulf War did not initiate deficits but it certainly aggravated them, probably for many more years to come.

In the early deficit years, the Saudi treasury covered deficits by drawing down deposits in the central bank that were accumulated

¹ These figures exclude off-budget spending.

² See Appendices II and III.

during the earlier “years of plenty.” As a result, according to official accounts, central bank foreign assets fell from a peak of about \$145 billion in 1982 to \$69 billion at the end of 1987.¹ However, real foreign assets (mainly government bonds issued by the United States and other industrialized countries and deposits with the IMF) were much lower, since the official statistics include uncollectable debts of \$28 billion owed by Iraq, as well as smaller amounts technically owed by other Arab states.² In 1988, when real foreign assets dropped to dangerously low levels, the treasury began a program of internal borrowing. In 1988-89 combined, the treasury borrowed \$18.9 billion from government institutions (mainly pension funds) and local commercial banks; in 1990-92 (combined), internal borrowing more than doubled to \$43.5 billion as more money was needed to cover larger deficits.³ In 1993, an unnamed Saudi banker stated that government debt to Saudi commercial banks in the form of government bond holdings had risen from \$4 billion in 1989 to \$20 billion in 1993, equal to about 40 percent of total bank deposits. This is about twice the ratio of comparable government debt in the United States.⁴ Having largely exhausted the domestic market, future borrowing by the treasury will have to rely in larger measure on external loans.

Indeed, the Saudis have already begun to tap this market. The treasury borrowed \$4.5 billion from a consortium of Western banks in 1991. And as noted above, Saudi Arabia borrowed £1 billion (\$1.8 billion) from British banks in 1992 to cover part of the shortfall in payments to the British arms suppliers.

In total, the IMF estimated Saudi public debt at the end of 1992 to be about \$68 billion, including \$15 billion in external debt. This was equivalent to 56 percent of GDP, with a forecasted rise to at least 60 percent by the end of 1993. Readily available financial reserves had fallen to about \$12 billion by the end of 1992—the equivalent of about two months of imported goods and services.⁵

1 See Appendix III.

2 *Petroleum Economist*, September 1993, p. 20.

3 *Middle East Review*, 1992, p. 111. This figure includes an involuntary \$2.5 billion, five-year foreign currency loan made by the Saudi commercial banks to the treasury in 1991.

4 *NYT*, August 22, 1993, pp. 1, 12.

5 *MEES*, January 11, 1993, pp. B1-4; and August 8, 1993, pp. B1-7; see also *MEED*, November 13, 1992, p. 28.

These woeful figures, however, actually understate the critical condition of Saudi finances. Aside from direct borrowing by the treasury, state-owned firms have become major borrowers in recent years because the state can no longer provide necessary financing. Saudi ARAMCO and its subsidiary, for example, borrowed \$2.9 billion from foreign and local banks, and other state corporations borrowed an additional \$2 billion.¹ Another means of "borrowing" adopted by the Saudis has been lengthy delays in payments to contractors. In 1992 the U.S. Department of Commerce released a list of fourteen American firms with cumulative claims of about \$500 million.² There is every reason to assume that other foreign contractors suffered similar delays in payments.³ Local contractors have been complaining about this practice since the mid-1980s.⁴

BUDGET AND BALANCE OF PAYMENTS PROJECTIONS, 1993-97

In mid-1993, an IMF mission issued a report on the future of the Saudi economy. According to the report, large current account deficits (in the balance of payments) would not only persist but grow over the next five years from \$11.3 billion in 1993 to \$12.7 billion in 1994, \$14.5 billion in 1995, \$16.6 billion in 1996, and to \$18.5 billion in 1997. For the five-year period, the IMF forecasted a cumulative current account deficit of a massive \$73.4 billion. This would exceed even the \$67.9 billion deficit of the previous five years (1988-92), much of which was attributable to the extraordinary costs incurred as result of the Gulf War.⁵ The IMF projections were based on certain assumptions regarding world oil markets, including the maintenance of the UN embargo on Iraqi oil and a moderate recovery in oil output in the former Soviet Union. Based on these and other assumptions, the IMF mission projected that Saudi oil production would expand by about 500,000 barrels per day over the course of the five-year period, and Saudi Arabia's annual oil export revenues would rise moderately from \$42.3 billion in 1993 to \$46.7 billion in 1997. (The mission assumed that foreign aid would be a very modest \$1 billion per annum.) In addition to current account deficits, the IMF team also estimated a rise in the annual budget deficit from \$6.1 billion in 1993 to \$10.9 billion in 1997. Additional

1 *MEED*, November 13, 1992, p. 27; see also *MEES*, August 9, 1993, pp. B1-7.

2 *EIU, Country Report—Saudi Arabia*, 1992, p. 13.

3 *MEES*, January 11, 1993, pp. B2-4.

4 *EIU, Country Report—Saudi Arabia, 1993-1994*, p. 7.

5 *EIU, Country Report—Saudi Arabia*, November 23, 1993, p. 21.

loans taken to cover the deficits would then increase the total outstanding public debt from \$66.9 billion (56.2 percent of GDP) in 1992 to \$108.1 billion (77.5 percent of GDP) in 1997. Annual interest payments on the debt would rise from \$4.8 billion (7.3 percent of total government expenditures) in 1992 to \$7.5 billion (11.8 percent of government spending) in 1997. These figures do not include repayment of principal on the loans.¹ In short, the IMF mission forecasts a progressive deterioration of Saudi finances. If the last decade was bad, the next five years will be worse.

In theory, there are at least two ways for the Saudis to eliminate or at least substantially reduce current and future deficits: they can raise revenues to far higher levels, cut back sharply on expenditures, or both. Given past experience and present trends, however, neither option looks likely.

As noted, despite heavy public investment in economic diversification focusing mainly on industry and agriculture, Saudi dependence on oil revenues has actually increased, contrary to plans. Industry and agriculture received huge government subsidies in the expectation that they would substantially increase import substitutes and non-oil exports, thereby diminishing the country's dependence on oil exports. In reality, commodity imports (not including arms purchases abroad) rose from \$17.1 billion in 1986 to \$29.8 billion in 1992; this includes agricultural imports, which rose from \$3.2 billion in 1986 to \$3.8 billion in 1991. In the future, the above-mentioned IMF report projected that total Saudi commodity imports will continue to grow, reaching \$37.6 billion in 1997. Non-oil exports—mainly petrochemicals—were stagnant between 1988 and 1991 at somewhat over \$4 billion per annum and then dropped to \$3 billion in 1992, mainly as a result of lower prices. The IMF report projects a modest rise in non-oil exports to \$5.6 billion in 1997.

In short, the IMF mission is skeptical of the overall efficacy of the diversification goals. It projects that non-oil exports will rise by less than \$2 billion by 1997, while commodity imports will expand by almost \$8 billion during the same period. The dependence on oil export revenues will increase rather than diminish. Saudi Arabia is unlikely to offset deficits with increased income from non-oil related sectors and, if anything, deficits will grow and reliance on oil will be greater than ever.

¹ *MEES*, August 9, 1993, pp. B1-7.

If revenues will not increase, Saudi Arabia has the option of cutting spending. But the system of subsidies is so embedded in Saudi society and the economy that substantial decreases in government spending are highly improbable.

The real dimensions of subsidization are hard to measure since most are disguised or indirect; many are not explicitly called subsidies in the budget or are off-budget altogether. Direct cash subsidies, such as payments for crops to farmers, can often reach multiples of international prices. The most extreme case is the payment to wheat farmers, where the government buys the crop at multiples of the world price and then exports huge surpluses at low international prices. It has been estimated that if the government had reduced wheat production to the level of domestic consumption it could have saved \$2 billion in 1991.¹

Cash payments to utilities (electricity, gas, and water) cover operating losses incurred because the government orders the companies to sell electric power at a fraction of the costs of production. Water for agriculture accounts for 80 percent of total consumption and is provided free of charge, while residential and industrial consumers are charged rates far below costs of production. As a result of these policies, water and electric power consumption continues to rise rapidly, requiring further investment in additional power and desalination plants. A report issued in 1993 noted that very low prices for electricity have "eroded any incentive for Saudi householders and businesses to economize." The annual growth in consumption has been 10 percent in recent years, implying a doubling of demand in about seven years. The report noted that demand is "perilously close to capacity" and that additional power capacity needed by the year 2000 will require investment of \$12.5 billion.² Similarly, the government is investing heavily in water projects in order to avert future shortages.³ These shortages are a direct consequence of government pricing policies and heavy subsidization.

The Saudi government also orders the state-owned oil company to sell refined oil products at prices far below international levels. This includes sales to consumers (such as gasoline) and to industrial users. Oil-related subsidies do not appear in the budget. In effect, they reduce the profits of the state-owned oil company,

¹ *Financial Times Survey—Saudi Arabia*, January 30, 1992, p. 2.

² *MEED Special Report—Power*, August 20, 1993, pp. 10-12.

³ *MEED*, March 5, 1993, p. 8.

and thereby reduce the transfer of profits to the Saudi treasury. In addition to these direct subsidies, many housing, industry, and agriculture loans with zero or nominal interest rates also do not appear in the budget. Farmers also receive a wide range of other subsidies, such as imported agricultural machinery, irrigation equipment, fertilizers, seeds, feed, and other inputs at 30-50 percent below their cost. Industries likewise enjoy a wide range of subsidies in addition to power and water at very low rates, and loans at nominal rates of interest.

All these subsidies are in addition to free health care, education, and other services provided to all Saudi nationals. Those who pursue higher education abroad, or require health services abroad, receive generous grants. The government also subsidizes telephone services, the national airline, and other consumer services.

In short, government subsidies are massive. One scholar estimated that the collective cost of all subsidies, including those not specified in official budgets, rose dramatically from 2.4 percent of GDP in 1975 to 36.1 percent in 1984; as a percentage of oil revenues, subsidies rose from 4.3 percent to 68.4 percent, and as a percentage of total government spending, from 4.7 percent to 71.8 percent in the same period.¹

CAN THE GOVERNMENT CURTAIL SUBSIDIES?

There were significant cutbacks in government spending when deficits began to emerge in the early 1980s, but these cuts were largely in the projects budget, i.e., mainly infrastructure spending which mostly affected foreign contractors and foreign workers. Foreign aid was also sharply curtailed, at least prior to the Gulf War. However, the wide range of subsidies and other current expenditures was hardly touched.²

There are no official explanations as to why the Saudi leadership has refrained from cutting subsidies or imposing taxes, but the answer seems clear. It has been suggested that curtailing subsidies, which would require raising prices or imposing taxes, "may undermine the unwritten social contract between the royal family and the people, in which a portion of the kingdom's substantial wealth is distributed in return for acceptance of rule by the House

¹ Askari, pp. 88-115.

² See Appendix II.

of Saud.”¹ Government subsidies are not unique to Saudi Arabia. Indeed, they are quite common in both developed and less-developed countries, and all governments find it extremely difficult politically to curtail subsidies. But the magnitude of Saudi subsidies is unique, and despite its autocratic form of government, the kingdom’s rulers are in no position to threaten their own status by severing the economic bond that ensures acquiescence to their rule. According to Askari:

Subsidies once disbursed by the government, are difficult, if not impossible, to terminate. The population at large gets used to receiving government handouts, and important constituencies develop around individual subsidies and fight against [their] removal. In Saudi Arabia, this phenomenon is more entrenched than in other countries. Subsidies are all pervasive; they are large in magnitude and have a great impact on the daily life of the average Saudi. Subsidies are in part maintained to promote social stability.²

The “important constituencies” refer to royal princes and other “influentials.” Leading members of the royal family are the principal beneficiaries of the munificent agricultural subsidies.³ When the above-mentioned IMF mission recommended to Saudi officials that subsidies should be curtailed, the latter responded that “political and social considerations precluded a reduction in subsidies or increases in fees and charges.”⁴

The Gulf War and its aftermath underscore how powerful internal political and social impediments are to curtailing subsidies and/or imposing taxes. Despite the impending danger of an Iraqi invasion and the necessity to spend huge sums to defend the country, the government fully maintained subsidies and imposed no taxes. Indeed, a year after the war, in March 1992, the king even announced subsidy *increases* in the form of price cuts on gasoline, natural gas, electricity, and water. Charges on domestic telephone calls were eliminated and various business charges were reduced. King Fahd said that these measures were taken to “ease the burden of the cost of living on the citizens.”⁵ The new rates imply

¹ EIU, *Country Report—Saudi Arabia*, no. 3, 1993, p. 4.

² Askari, p. 9.

³ *NYT*, August 22, 1993, pp. 1,12; see also *The Middle East—Saudi Arabia—Special Report*, February 1992, p. 14.

⁴ *NYT*, August 22, 1993, pp. 1, 12.

⁵ *FT*, March 25, 1992, p. 4; see also *WSJ*, March 25, 1992, p. A8; and Askari, p. 69. Before this latest reduction in electricity rates, it was

an even larger subsidy.¹ The deputy minister of finance estimated that the additional subsidies announced by the king would add \$1.3 billion annually to budgetary expenditures, not including the extra expense involved in meeting additional demand created by the subsidies.

UNEMPLOYMENT: OVERT AND DISGUISED

Another aspect of government spending that is similar to subsidies is the policy of excessive hiring in the public sector. During the 1970s and 1980s, there was an implicit understanding between rulers and ruled that virtually all university (and even many high school) graduates would be given jobs in the public sector if they wanted them. According to official estimates, government employment rose rapidly from 469,000 in 1985 to 625,000 in 1990, an increase of 33 percent.² These figures do not include the military and internal security forces, which have doubled in number since the Gulf War. In 1989, it was estimated that about 550,000 university and high school graduates would be seeking jobs during the first half of the 1990s.³ In 1989, the U.S. embassy in Riyadh reported that "unemployment is emerging as a serious problem," in particular for university and high school graduates. They "have expectations based on [the] boom years, not present realities," the report stated. Although the government turned to the private sector to help the employment problem, this did not prove to be a solution.⁴ Only 10 percent of employed Saudi nationals are in the private sector, which generally prefers well-trained foreigners.⁵

In January 1990, the king announced openings in 20,000 additional government jobs, not including positions in the armed forces.⁶ These "make-work" jobs are not classified as subsidies, but their impact is similar, insofar as they place an additional long-term strain on the budget and, for social and political reasons, are difficult to terminate or curtail. However, it does appear that

estimated that the price charged to consumers was less than one-quarter of the costs of production.

¹ *MEES*, April 6, 1992, p. B4.

² *EIU, Country Profile—Saudi Arabia*, 1993-1994, p. 9.

³ *Financial Times Survey—Saudi Arabia*, December 13, 1989, p. 1.

⁴ U.S. Department of Commerce, *Foreign Economic Trends—Saudi Arabia*, (Washington, D.C.: Government Printing Office, 1989), pp. 6-7.

⁵ *WSJ*, January 13, 1993, pp. A1, A8.

⁶ *EIU, Country Profile—Saudi Arabia*, no. 1, 1990, p. 9.

budgetary constraints have *begun* to restrict the number of new workers hired by the state, and, as a consequence, unemployment has begun to shoot upward in the 1990s. According to one unofficial estimate published in 1993, the unemployment rate among graduates has climbed to the dangerously high level of 25 percent.¹

CORRUPTION, WASTE, AND INEFFICIENCY

During the 1980s, labor productivity was decidedly negative: total employment rose far more rapidly than non-oil GDP.² Much of this inefficiency stems from the bloated bureaucracy, but those segments of the private sector that benefited from generous government handouts also had little incentive to improve efficiency.

Between the mid-1970s and mid-1980s, the government spent massively on infrastructure, much of which has since been underutilized. Aside from the large waste of resources, this infrastructure requires continuing large outlays on operations and maintenance. But since the emergence of budget deficits, the government has tried to cut costs by unwisely reducing the quality of maintenance. This policy is counterproductive.³ Between 1986 and 1992, annual budget outlays on operations and maintenance fluctuated in a narrow range of about \$6 billion, despite the fact that the infrastructure was expanding as new projects were being completed. According to the projections of the IMF mission, these expenditures will rise to \$8 billion in 1997.

Another systemic problem in the Saudi economy is corruption, for which there is obviously no verifiable data. Anecdotal evidence, however, is overwhelming. In this context, of course, the term "corruption" is used in its Western sense, because in Saudi Arabia these payments may be entirely legal. A 1987 survey by *Fortune* listed King Fahd as the second richest person in the world (following the ruler of Brunei) with an estimated personal fortune of \$20 billion. In addition, there are thousands of princes and their numerous

¹ *Petroleum Economist*, September 1993, p. 20.

² See Looney, pp. 34-35, for the first half of the 1980s. See Appendices VI and VII for the second half of the 1980s, when the trends were similar. There is no data on the stock of capital, which would be necessary in order to estimate total factor productivity, a measure of efficiency.

³ Askari, pp. 77-84.

retainers who, reputable media report, “rake off 30 percent commissions” for arranging business transactions on behalf of foreign companies seeking contracts with the government. By law and custom, foreign businessmen must have a local sponsor, often a member of the royal family, in order to do business with an official body.¹ It has also been reported that an undisclosed share of the profits from Saudi crude oil exports is reserved for the private accounts of members of the royal family. In the oil industry this is referred to as “princely crude.”² The princes also have other sources of income from various business ventures in which they exploit their influence to obtain franchises and favorable treatment. The kingdom’s huge military expenditures are another lucrative source of income for some princes and high-ranking officers. There is good reason to believe that some of the contracts for military equipment, or at least their scope, were influenced by the incentive for individual profit.

In 1987, the Saudi central bank drew up a debtors’ blacklist of those who had defaulted on loans to the commercial banks, which completely avoided mention of the royal family. Evidently, Saudi banks are forced to lend to members of the Al Saud. In 1993, it was reported that banks held billions of dollars in uncollected loans made to members of the ruling family. An unnamed Saudi banker explained that banks had no choice but to “respect the wishes of an absolute monarch.”³

In addition to the princes, there are others with considerable influence who benefit from these practices. The *Petroleum Economist* quoted unnamed Middle East analysts who believed that \$10 billion disappears annually from “kickbacks and skimming.”⁴ Obviously this figure is an estimate, but even if only half true, it constitutes a considerable drain on the state treasury. It is ironic but telling that one of the few areas of growth in recent years has been palace construction on behalf of the extended royal family.⁵

¹ *Fortune*, March 16, 1987, pp. 47-57; see also *WSJ*, January 13, 1993, pp. A1, A8; *NYT*, February 14, 1993, p. 3; *WSJ*, August 7, 1990; and *NYT*, March 1, 1992, p. 8.

² *EIU, Country Report—Saudi Arabia*, no. 2, 1987, p. 19; see also *MidEast Markets*, November 26, 1987, p. 12.

³ *Economist*, June 27, 1987, p. 78; see also *NYT*, August 22, 1993, pp. 1, 12.

⁴ *Petroleum Economist*, September 1993, p. 20.

⁵ *Financial Times Survey—Saudi Arabia*, April 21, 1986, p. 3; see also *EIU, Country Report—Saudi Arabia*, no. 2, 1987, p. 22; no. 4, 1992, p. 7; and *NYT*, February 14, 1993, p. 3.

In an article entitled "As If There Was No Tomorrow," *The Middle East* noted that the Saudi budget for 1993

. . . fail[ed] to address the issue of relentless annual deficits. . . . Deriving income from any form of taxation is simply unthinkable; the increase in subsidies [in the 1993 budget] . . . indicates that the government is moving in precisely the opposite direction to making demands on the public. The kingdom may have a voracious appetite for weapons but certainly cannot digest all the material it buys. As the Kuwait crisis demonstrated . . . when the Kingdom's security is called into question, it promptly turns to the U.S. But the Saudi armed forces are a symbol of national pride and not likely to be asked to go short. . . . Spending on education, health and social welfare will rise inexorably in the coming years . . . [since] population is growing by over 3 percent . . . per annum. . . . An ever larger proportion of government resources will have to be devoted to servicing the growing official debt. It will be far from easy to break out of the self-perpetuating circle. Uncomfortable choices will have to be made at some stage. The alarming thing is that the government seems to display no interest in tackling the issue.¹

Since the government cannot control expenditures, its "policy" is to hope for an upturn in oil revenues.² This, however, is wishful thinking and poor governmental planning. The growing financial problems of Saudi Arabia and so many other oil-exporting states implies that they will make every effort to expand productive capacity and increase oil exports. At the same time, due to conservation, environmental concerns, a shift toward natural gas, and other factors, demand will continue to be sluggish. The inevitable result is lower prices. In addition, there are two major factors on the horizon that will depress oil prices even further—Iraq's eventual return to the export market and the probable turnaround in production from the former Soviet Union.

This analysis does not imply a smooth downtrend in prices. There will most probably be fluctuations as a result of extreme weather conditions, major accidents, and especially wars and revolutions, which may disrupt oil production in one or more major oil countries. But, as in the past, the result will probably be even greater efforts to improve energy efficiency and accelerate oil

¹ *The Middle East*, February 1993, pp. 7-8.

² *The Middle East*, July 1993, p. 26.

displacement, and within a few years, prices will most probably decline to levels even lower than those prevailing before the latest oil shock. This was the experience following the two major oil shocks of the 1970s and the more recent "mini" oil shock precipitated by the Gulf War. The outlook for Saudi Arabia and other oil dependent countries is indeed grim.

XI CONCLUSIONS

Saudi Arabia is in a financial bind that will probably worsen in coming years. This trouble stems from the fact that, following the oil shocks of 1973-74 and 1979-80, the Saudis raised state expenditures precipitously—and often very wastefully. When oil prices and revenues then began to drop sharply after 1981, the regime was unable to implement the necessary reductions in expenditures, resulting in the emergence of large and persistent deficits. In a sense, the regime trapped itself into the high-spending patterns of the “fat years” that it can no longer afford.

Any significant cutbacks in the wide range of subsidies will be resisted by powerful interest groups or by the population at large. The Gulf War and its aftermath raised current and future military expenditures to even higher levels than those that prevailed in the 1980s. Moreover, since public spending, based mainly on oil revenues, continues to be the engine of growth, serious budget cutbacks would have recessionary repercussions throughout the economy. The high rate of population growth requires a continued expansion of expenditures on education, health, and other services provided free-of-charge by the state. The massive expenditures on infrastructure in the boom years require large and continuing outlays for operations and maintenance. The extremely low (i.e., highly subsidized) prices charged for water and electricity (and other goods and services) stimulate a rapid rate of growth in consumption, requiring large-scale imports and additional investment in water supplies and electric power. The “kickbacks and commissions” received by the extended royal family and other influentials add billions of dollars annually to the drain on the state treasury.

Every year since 1983, Saudi Arabia has incurred large budget and balance of payments (current account) deficits. Until 1987, they

were covered by drawing down the bulk of financial reserves (foreign assets) accumulated in earlier years. Since 1987 there has been increasing domestic borrowing, and since the Gulf War there has been a greater recourse to external loans and credits. The sharp drop in foreign assets held by the state was soon followed by a strong decline in dividends and interest from abroad that had also been a substantial source of government income in the early 1980s. At the same time, the growing public debt necessitates rising budgetary allocations for payment of interest and principal to the creditors.

If expenditures cannot be seriously curtailed, another way for the treasury to raise income would be taxation. Imposing an income tax appears highly unlikely, however. A royal edict announced in December 1987 did impose an income tax on the more highly-paid foreign workers, but it was withdrawn a few days later when Saudi businessmen expressed strong opposition, since they would have had to bear the burden of the tax in order to retain their employees. If spending cutbacks and general income or sales taxes are politically taboo, that leaves Saudis hoping for an improbable increase in oil revenue.

Saudi Arabia is by no means the only financially strapped oil-exporting country. Iran, Kuwait (since the Iraqi invasion), Venezuela, Nigeria, and Algeria, as well as a number of non-OPEC oil producers, are also facing serious or severe financial problems and are expanding their productive capacity in order to increase oil exports and, they hope, revenues. Importantly, excluding the former Soviet Union and the United States, there has been steady and significant growth in oil production in a wide range of non-OPEC countries. There is every reason to assume that this trend will continue, especially due to the far greater involvement of Western oil companies in exploration and development. In the United States, oil production has been declining since the mid-1980s, though new technology holds the promise of retarding the rate of decline.

It appears that the growth in world oil demand will lag behind the prospective increase in supplies. Energy efficiency has been improving almost steadily since the 1973-74 oil shock, while at the same time there has been a steady displacement of oil by other sources of energy. The year-to-year changes in both energy efficiency and fuel substitution are not spectacular, but their cumulative effect is powerful. In recent years there has been large growth in natural gas reserves almost world-wide, and the

movement for a cleaner environment has provided additional impetus to the displacement of oil by natural gas. New technology has increased both the success rate of exploration and the recovery rate of oil extraction from existing wells. In short, the prospects are for increasing supplies and sluggish demand, which will put downward pressure on oil prices. Moreover, the eventual reentry of Iraq into world oil markets and increased exports from the former Soviet Union threaten to intensify the current oil glut in the coming years.

OPEC was never a strong cartel. It usually followed the market rather than led it. The rise in prices in 1973-74, in 1979-80, and more recently during the Gulf crisis, were all caused by exogenous events, not by OPEC decisions. OPEC's attempts to curtail the downtrend in prices since 1982 have had very limited and short-lived success. New quotas established by OPEC every three or six months were soon followed by "cheating" by some members who had the productive capacity to exceed the quotas. In the first half of the 1980s, Saudi Arabia absorbed much or most of the decline in world oil demand; since 1985, it has refused to do. Its increasingly precarious financial situation has dictated a policy aimed instead at the expansion of sales. The financial problems of other oil exporters make them equally anxious to augment sales. OPEC may continue to hold meetings but its efficacy will suffer from further erosion.

This analysis suggests that the underlying trend in oil prices will be downward, at least when measured in constant (inflation-corrected) dollars. This does not necessarily imply a smooth downtrend in prices. They will surely fluctuate. Seasonal changes in demand, extreme weather conditions in the main oil-consuming countries, and accidents will cause prices to vary. Revolutions and wars in one or more major oil-producing countries can have a powerful impact on oil prices. But after each oil shock the trend toward improved energy efficiency and oil displacement receives an additional boost, and oil companies seek to diversify their supplies by increasing exploration and development outside the volatile Middle East. Within a few short years another oil glut appears and depresses prices to levels even lower than those prevailing before the latest crisis. Measured in real dollars, prices today have returned to their 1973-74 levels and are probably heading lower.

For the United States and the large majority of oil-importing countries, both rich and poor, lower oil prices tend to reduce inflation, improve their balance of payments, stimulate economic growth, and increase employment and income. However, for

countries highly dependent on oil revenues, this spells serious troubles ahead. The policy of the Saudi regime can only be described as trying to muddle through, in the hope that external events will raise oil prices and revenues. The Saudi regime can and probably will continue to pile up debts in order to postpone difficult decisions that might create or increase unrest. But sooner or later, this dam will burst.

There are reports from Saudi Arabia indicating growing internal disaffection. Unemployment among the rising number of high school and university graduates has reached politically dangerous levels—25 percent according to one unofficial estimate—and unless the authorities create more make-work jobs in the bureaucracy (thereby exacerbating the state's financial problems), unemployment among young Saudis entering the labor force may reach even higher levels. The income gap between the extended royal family, including the thousands of princes and others in high government positions, and the large majority of citizens has widened. As an observer noted, “[t]he middle class is growing resentful of nepotism which gives control of jobs and contracts to the ruling family and those in high government positions.”¹ As the *Wall Street Journal* reported:

Years of mismanagement, corruption, and budget deficits have left schools overcrowded and many young Saudis unemployed. . . . [M]any Saudis are struggling. . . . [M]any can afford little beyond basics. [M]any also cannot find jobs. The bloated public sector can no longer absorb every young Saudi, and the private sector prefers cheap well-trained foreigners to Saudi graduates. . . . Despite years of state prodding, private sector employment remains only 10 percent Saudi. . . . The infrastructure and welfare state built in the boom years . . . are starting to creak. . . . Doctors often deliver babies in the emergency room because hospital beds are scarce, and handouts such as no-interest housing loans require a wait of five years or more. . . . Across Saudi Arabia fundamentalism is particularly strong among the young. . . . Economics is one reason. . . . Saudis note the gilded palaces of the royal family and the practice that allows princes and their retainers to rake off 30 percent commissions for business transactions. . . . Many Saudis wonder how well the state can weather the next crisis, whether [as a

¹ *NYT*, June 6, 1991, p. D1; see also EIU, *Country Profile—Saudi Arabia 1993-94*, p. 7.

result of] the death of the king, a fall in oil prices, or a fresh military challenge.¹

In 1992, 109 Islamic scholars sent a petition to the king calling for an end to royal palaces for princes built at public expense, public disclosure of all state expenditures, an end to corrupt practices, and more funds to be spent on the poor. The king reacted by tightening restrictions and imposing heavier censorship. A report issued by a human rights group argued that Saudi citizens have fewer rights today than they had sixty years ago (i.e., before the discovery of oil in Saudi Arabia).²

A study of the Saudi economy published in 1990 concluded that “[t]he real problem is that the country has, since 1973, locked itself into what appears to be an inflexible situation with very little room for manoeuvre.”³ This bleak assessment was made before the Gulf War and the decision to double the armed forces and greatly increase purchases of costly military equipment. In its more colorful style, *The Economist* concluded in 1987 that Saudi Arabia’s “budget has got into [a] great bind. . . . [The oil shocks] gave . . . the Saudis extra purchasing power per head, greater than that of the U.S., and the Saudis employed a pack of planners to tell them how to spend it. Their plans now stand like Shelley’s desert statue of Ozymandias. . . . Those billions of extra public spending have not increased by twopence-worth the Saudis’ ability to earn a living in the harder times ahead, but have probably reduced it.”⁴

Between mid-1990 and mid-1993, Saudi contracts signed with the Pentagon totaled \$30 billion. This is aside from large arms purchases from the British and others. An unnamed financial advisor to the Saudi government who reportedly has access to secret financial data stated in 1993:

I don’t think the U.S. government knows what it’s doing by shoving weapons down the Saudis’ throats. They’re forgetting that what they are doing is creating instability in Saudi Arabia [by aggravating its fiscal problems]. That could be the greatest risk to Saudi security.⁵

1 *WSJ*, January 13 1993, pp. A1, A8

2 *NYT*, February 4, 1993, p. 3; see also EIU, *Country Report—Saudi Arabia* no. 4, 1992, p. 7.

3 Looney, p. 145.

4 *Economist*, June 27, 1987, pp. 13-14.

5 *NYT*, August 23, 1993, pp. A1, A6.

In 1987, a study of the Saudi economy revealed the ominous signs of poor economic decision-making and potential future political instability.¹ With the record of another seven years to judge Saudi behavior, the kingdom's economic future looks even more dismal today.

¹ Eliyahu Kanovsky, "Saudi Arabia's Dismal Economic Future," in *Middle East Contemporary Survey*, I. Rabinovich & H. Shaked, eds. (Tel Aviv: Tel Aviv University and Westview Press, 1987).

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APPENDIX I

OIL PRODUCTION (million barrels per day)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Saudi Arabia	7.7	8.6	7.2	8.8	9.4	8.6	9.8	10.3	10.2	6.9	5.4	5.0	3.7	5.3	4.6	5.4	5.5	6.8	8.6	8.9
Kuwait	3.1	2.6	2.1	2.2	2.0	2.2	2.6	1.7	1.2	0.9	1.1	1.2	1.1	1.4	1.3	1.5	1.8	1.2	0.2	1.1
U.A.E.	1.5	1.7	1.7	1.9	2.0	1.8	1.8	1.7	1.5	1.3	1.2	1.2	1.4	1.6	1.7	1.8	2.0	2.3	2.6	2.5
Iraq	2.0	2.0	2.3	2.4	2.4	2.6	3.5	2.6	0.9	1.0	1.1	1.2	1.4	1.7	2.1	2.6	2.8	2.0	0.2	0.5
Qatar	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.4	0.5
Libya	2.2	1.5	1.5	1.9	2.1	2.0	2.1	1.8	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.1	1.2	1.4	1.5	1.5
Algeria	1.1	1.0	1.0	1.1	1.2	1.2	1.3	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.3	1.3	1.3
Arab OPEC	18.2	17.9	16.2	18.8	19.5	18.8	21.6	19.7	16.4	12.5	11.1	11.2	10.2	12.6	12.1	13.8	14.9	15.4	14.9	16.3
Iran	5.9	6.1	5.4	5.9	5.7	5.3	3.2	1.5	1.3	2.4	2.5	2.2	2.2	1.9	2.3	2.3	2.8	3.1	3.3	3.5
M.E. OPEC	24.1	24.0	21.6	24.7	25.2	24.1	24.7	21.2	17.7	14.9	13.6	13.4	12.4	14.5	14.4	16.1	17.8	18.6	18.2	19.7
Total OPEC	31.3	31.1	27.5	31.1	31.7	30.3	31.5	27.5	23.4	20.0	18.4	18.4	17.3	19.7	19.2	21.2	23.3	24.6	24.8	26.2
World	58.5	58.6	55.7	60.1	62.6	63.1	65.8	62.8	59.4	57.1	56.7	58.0	57.5	60.2	60.2	62.4	63.8	64.7	64.5	64.9
U.S.A.	11.0	10.5	10.0	9.7	9.9	10.3	10.1	10.2	10.2	10.2	10.5	10.5	10.5	10.2	9.9	9.8	9.2	8.9	9.1	8.9
F.S.U.	8.7	9.3	9.9	10.5	11.1	11.6	11.9	12.2	12.4	12.4	12.5	12.3	12.0	12.4	12.6	12.6	12.3	11.5	10.4	9.1
Other	7.6	7.8	8.2	8.7	10.0	10.9	12.3	13.0	13.5	14.6	15.6	16.8	17.6	17.9	18.4	18.8	19.0	19.6	20.2	20.7

Source: *BP Statistical Review of World Energy Annual* (London: British Petroleum Company, June 1993).

Notes: The figures for Saudi Arabia and Kuwait include their shared of production in the Neutral Zone. Arab OPEC is defined as the seven Arab members of OPEC; Middle East OPEC is Arab OPEC plus Iran. Other members of OPEC are Venezuela, Nigeria, Gabon, and Indonesia. Ecuador withdrew from OPEC at the end of 1992. F.S.U. refers to the states that used to constitute the Soviet Union.

APPENDIX II

SAUDI BUDGETS (in billions of dollars)

	FY 1974	FY 1975	FY 1976	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	1986	1987	1988	1989	1990	1991	1992	1993
Total Revenues	28.4	29.3	38.5	37.9	39.3	63.0	104.9	108.2	71.8	59.6	48.4	36.7	26.4	31.3	22.6	32.4	42.3	42.3	44.1	45.2
Oil Revenues	26.8	26.5	34.3	32.7	34.4	56.5	96.2	96.6	54.2	41.9	29.3	16.8	13.1	16.1	12.9	21.1	32.9	32.9	33.9	35.8
Investment Income	1.2	2.2	3.2	3.3	3.0	4.4	6.4	8.9	14.0	13.6	9.0	6.3	5.7	4.8	3.2	4.0	2.6	2.1	2.4	2.2
Special Transfers	—	—	—	—	—	—	—	—	—	—	4.3	7.1	2.1	4.6	—	—	—	—	—	—
Other Revenues	0.5	0.6	0.9	1.9	1.9	2.1	2.2	2.7	3.6	4.1	5.8	6.4	5.5	5.8	6.5	7.3	6.8	6.8	7.8	7.1
Total Expenditures	10.0	23.2	30.2	39.3	43.7	56.2	71.3	83.7	71.4	66.4	61.0	50.6	46.4	49.5	36.0	40.1	61.1	61.1	54.7	48.6
Projects	5.6	12.3	15.5	19.1	19.2	31.2	37.1	42.8	36.3	23.9	22.5	14.7	12.0	15.4	6.8	9.3	7.8	7.8	13.4	7.5
Operations and Maintenance	—	—	—	—	—	—	—	—	—	7.7	7.3	6.7	6.2	6.1	5.0	5.7	6.0	6.0	6.3	6.6
Military	2.5	6.7	9.0	9.1	10.6	16.9	16.5	19.3	19.4	18.4	19.1	16.4	14.2	14.1	12.8	13.0	15.7	15.7	15.2	11.5
Foreign Aid	0.8	1.2	2.4	3.2	1.9	2.9	7.4	7.1	3.9	3.7	2.9	3.0	2.7	3.1	2.0	1.7	2.2	2.2	0.6	0.5
Emergency	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.9	14.9	—	—
Other	1.0	3.0	3.3	8.0	11.9	5.3	10.3	14.5	11.8	12.7	9.2	9.8	11.4	10.8	9.4	12.4	14.4	14.4	19.2	22.4
Budgetary Balance	18.5	6.1	8.3	-1.4	-4.4	6.8	33.6	24.5	0.4	-6.9	-12.6	-13.9	-20.1	-18.2	-13.4	-7.7	-18.8	-18.8	-10.6	-3.4

Sources: Saudi Arabian Monetary Agency, *Annual Reports*; *Middle East Economic Digest*; Economist Intelligence Unit: *Saudi Arabia—Country Report and Country Profile*; *Middle East Economic Survey*.

Notes: All the figures are actual except 1992 figures, which are provisional, and 1993 figures, which are budgetary projections. Until 1985-86, the fiscal years were based on the Muslim calendar; since 1987, fiscal years approximate the common (Roman) calendar. The figures for 1986 are annualized. Off-budget expenditures consist mainly of arms imports and loans to Iraq during the Iran-Iraq War and others. Actual revenues and expenditures were reported for 1990 plus 1991; in the table, it is assumed that they were equal in both years, but were probably higher in 1991 than in 1990. "Investment Income" is derived from government deposits held by the central bank, the bulk of which are held abroad. "Special Transfers" from the state-owned oil companies Aramco and Petromin began in fiscal 1984-85 and ended in 1987; these profits were previously held by the oil companies to finance investments in the oil sector. "Other Revenues" consist mainly of customs duties and various fees, many of which have been raised in recent years. The "Projects" budget consists mainly of investments in infrastructure and health facilities, etc.; until 1983-84, it included the budget for "Operations and Maintenance." "Emergency" expenditures are special allocations arising from the 1990-91 Gulf War.

APPENDIX III

SAUDI ARABIAN BALANCE OF PAYMENTS (in billions of dollars)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Exports: Goods and Services	4.4	6.7	35.3	30.5	40.2	46.4	43.5	65.7	112.0	127.9	92.8	65.9	55.0	43.5	34.1	36.2	37.1	41.3	56.5	59.2
Oil Exports	3.9	5.8	32.6	27.2	35.5	40.2	36.8	57.9	100.6	111.0	72.9	44.6	36.2	25.8	18.0	20.4	20.1	24.0	40.0	43.5
Other Commodity Exports	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.9	1.0	1.0	1.3	1.5	2.1	2.8	4.2	4.3	4.3	4.1
Investment Income	0.1	0.2	1.2	1.9	2.9	4.0	4.3	4.9	7.4	11.0	14.1	15.9	13.4	12.4	11.3	10.5	10.5	10.4	9.2	8.7
Other Service Exports	0.4	0.6	1.4	1.3	1.7	2.0	2.2	2.8	3.8	5.1	4.9	4.4	4.2	3.6	2.7	2.6	2.4	2.6	3.0	2.9
Total Imports: Goods and Services	2.1	3.6	11.2	13.0	22.5	30.5	42.2	49.6	64.8	83.8	81.3	79.1	70.2	53.4	42.9	42.7	42.0	48.3	56.4	80.5
Commodity Imports	1.2	1.9	3.6	6.0	10.4	14.7	20.0	20.9	25.6	29.9	34.4	33.2	28.6	20.4	17.1	18.3	19.8	19.2	21.5	26.0
Imports of Services	0.7	1.4	7.1	6.4	11.1	14.3	19.3	24.9	35.1	48.6	41.5	40.7	36.3	27.8	21.0	19.5	15.7	20.8	23.3	40.4
Workers' Remittances	0.3	0.4	0.5	0.6	1.0	1.5	2.8	3.8	4.1	5.3	5.3	5.2	5.3	5.2	4.8	4.9	6.5	8.3	11.6	14.1
Foreign Aid	0.2	0.5	1.0	3.1	3.3	3.9	3.5	5.9	5.7	4.4	4.0	3.6	3.2	3.0	3.0	3.3	2.5	2.2	4.4	6.5
Balance on Current Account	2.1	2.5	23.0	14.4	14.4	12.0	-2.2	10.2	41.5	39.6	7.6	-16.9	-18.4	-12.9	-12.0	-9.8	-7.3	-9.2	-4.3	-27.7
Foreign Assets of Central Bank	2.9	4.6	22.0	38.7	51.2	59.4	60.0	61.7	86.8	126.5	137.7	125.3	109.7	87.7	73.7	68.9	63.3	60.5	56.7	55.8
Net Assets of Banking System	3.2	5.1	22.2	39.2	52.3	61.4	61.7	64.8	93.7	139.4	153.7	141.2	126.3	104.2	93.1	89.7	86.3	83.0	81.6	80.1

Sources: Saudi Arabian Monetary Agency, *Annual Report*; International Monetary Fund, *International Financial Statistics*.

Notes: Trade figures are FOB. Figures for oil exports include both crude and refined products but exclude bunker oil, which is included in the export of services. The figures for "Other Commodity Exports" include re-exports. During the 1980s and early 1990s, re-exports ranged between \$572 million and \$786 million annually. "Imports of Services" apparently includes so arms purchases abroad. Foreign aid figures exclude loans to Iraq during the Iran-Iraq War, as well as loans to poorer Arab countries with little or no prospect of repayment. These loans are formally included in the foreign assets of the Central Bank, and therefore Saudi Arabia's foreign assets are actually far lower than indicated in the table.

APPENDIX IV

THE SAUDI OIL SECTOR

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Crude Oil Production— Thousands of Barrels Per Day (TBD)	6068	7708	8620	7220	8758	9430	8550	9840	10263	10173	6853	5380	4963	3735	5323	4555	5415	5465	6840	8645	8898
Crude Oil Exports (TBD)	5431	7005	7913	6591	8018	8592	7692	8807	9219	9018	5641	3979	3187	2151	3266	2416	3030	3159	4195	6000*	6200*
Exports of Refined Oil Products (TBD)	566	582	576	480	562	516	488	489	494	533	537	407	460	593	732	1020	1141	1085	1140	1100*	1100*
Output of Refineries (TBD)	608	644	650	578	703	731	777	835	826	834	851	914	955	1138	1360	1374	1437	1336	1538	1417	1450*
Domestic Oil Consumption (TBD)	57	71	95	127	170	179	234	290	519	618	682	772	823	806	789	783	782	701	872	873	900*
Government Oil Revenues (Billions of Dollars)	2.7	4.3	26.8	26.5	34.3	32.7	34.4	56.5	96.2	96.6	54.2	41.9	33.6	24.0	15.2	20.7	12.9	21.1	32.9	32.9	33.9
Value of Oil Exports— Crude Plus Refined (Billions of Dollars)	3.9	5.8	32.6	27.2	35.5	40.2	36.8	57.9	100.6	111.0	72.9	44.6	36.2	25.8	18.0	20.4	20.1	24.0	40.0	43.5	39.0
Crude Oil Reserves End-of-Year (Billions of Barrels)	137	137	141	145	151	170	167	168	168	165	168	169	169	169	170	170	255	260	260	261	261
Oil Prices (Dollars per Barrel)	1.90	2.70	9.76	10.72	11.51	12.40	12.70	17.26	28.67	32.50	33.47	29.31	28.27	26.98	13.82	17.79	14.15	17.19	22.05	18.30	18.22
Oil Prices (In Constant 1985 Prices)	4.88	6.54	21.30	21.44	21.76	22.02	20.96	25.57	37.43	38.46	37.31	31.65	29.27	26.98	13.56	16.13	12.88	14.92	18.16	14.45	13.97

* Estimated

Sources: Saudi Arabian Monetary Agency, *Annual Report*; British Petroleum Co., *BP Statistical Review of World Energy*; International Monetary Fund, *International Financial Statistics*.

Notes: Oil production figures include natural gas liquids (NGL). Until 1984, oil prices are for Saudi Light oil, which was the "marker" crude; from 1984 on, prices are world averages as listed in *International Financial Statistics*. The deflator used to calculate oil prices in constant 1985 prices is the U.S. Consumer Price Index. The sharp increase in Saudi oil reserves in 1988 is based on a reassessment, not on any significant discoveries made in that year.

APPENDIX V

SAUDI ARABIAN EXPENDITURE ON GROSS DOMESTIC PRODUCT
(in billions of current Saudi Riyals unless indicated)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990*	1991**
Private Consumption	7.9	9.8	18.0	29.9	34.4	54.6	68.6	102.4	114.9	126.5	151.3	157.4	159.4	158.6	140.1	135.5	139.4	145.0	155.9	168.8
Government Consumption	5.3	9.9	15.9	28.9	41.0	47.0	71.9	77.6	81.9	128.5	126.9	121.3	121.1	114.4	106.4	107.7	97.4	96.6	120.1	165.0
Gross Fixed Capital Formation	5.7	8.4	17.7	33.5	51.2	66.9	76.7	97.1	106.4	122.3	115.5	103.2	96.5	76.3	66.1	65.2	56.9	60.4	73.8	78.5
Changes in Stocks	-0.1	0.8	0.7	0.8	0.8	7.6	-7.4	-17.3	6.4	-19.8	-2.6	9.3	19.6	-10.6	-12.3	-12.9	2.7	6.8	2.8	5.2
Exports: Goods and Services	30.0	85.7	114.5	120.3	140.3	140.8	147.2	258.5	368.4	354.9	219.4	167.2	145.5	113.2	86.0	99.1	103.1	118.2	181.1	197.3
Imports: Goods and Services	8.3	15.3	27.3	42.9	62.7	91.5	107.5	132.4	157.5	187.8	195.3	186.4	190.6	137.9	115.2	119.2	114.4	116.1	141.7	182.8
Gross Domestic Product (GDP)	40.6	99.3	139.6	164.5	205.1	225.4	249.5	385.8	520.6	524.7	415.2	372.0	351.4	313.9	271.1	275.5	285.1	310.8	392.0	431.9
GDP (billions of dollars)	9.8	26.8	39.3	46.8	58.1	63.9	73.4	114.8	156.5	155.1	121.1	107.7	99.7	86.7	73.2	73.6	76.1	83.0	104.7	115.3
Total Consumption as Percentage of GDP	32.7	19.8	24.3	32.1	36.8	45.1	56.3	46.6	37.8	48.6	67.0	74.9	79.7	86.9	90.9	88.3	83.1	77.8	70.4	77.3
Gross Domestic Savings as Percentage of GDP	67.3	80.2	75.7	67.9	63.2	54.9	43.7	53.4	62.2	51.4	33.0	25.1	20.3	13.1	9.1	11.7	16.9	22.2	29.6	22.7
Gross Fixed Capital Formation as Percentage of GDP	14.0	8.5	12.7	20.4	25.0	29.7	30.7	25.2	20.4	23.3	27.8	27.7	27.5	24.3	24.4	23.7	20.0	19.4	18.8	18.2
Consumer Price Index (1985=100)	34.7	40.4	49.1	66.1	86.9	96.8	95.3	97.0	100.7	103.5	104.6	104.8	103.2	100.0	96.8	95.3	96.2	97.2	99.2	103.6
Population (millions)	6.6	6.8	7.0	7.3	7.6	8.1	8.5	8.9	9.4	9.8	10.3	10.7	11.1	11.6	12.1	13.6	14.0	14.4	14.9	14.7
Index of Real Private Consumption per Capita (1985=100)	25.3	26.3	38.6	36.5	38.0	51.2	62.0	86.5	89.1	91.1	103.2	102.7	101.5	100.0	87.7	76.4	75.6	75.7	77.4	80.8

* Preliminary

** Estimated

Sources: Saudi Arabian Monetary Agency, *Annual Report*; International Monetary Fund, *International Financial Statistics*.

Notes: "Total consumption" refers to private plus government consumption. "Gross Domestic Savings" is equal to GDP minus total consumption. The population estimates are the official estimates as reported in *International Financial Statistics*; many scholars doubt their accuracy. The "Index of Real Private Consumption Per Capita" was calculated from the official estimates of real private consumption per capita to provide some measure of changes in living standards.

APPENDIX VI

SAUDI ARABIAN OIL AND NON-OIL SECTORS
(in billions of current Saudi Riyals)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990*	1991**	1992**
Gross Domestic Product (GDP)	40.1	98.8	138.2	163.9	203.9	223.8	247.6	283.6	518.0	522.2	411.8	368.4	347.4	310.0	267.8	272.0	276.9	304.1	385.0	424.9	446.0
Oil Sector	28.7	83.4	110.1	116.6	136.2	133.9	140.4	252.7	360.7	337.9	206.4	158.0	132.6	97.0	67.5	70.4	69.1	90.7	146.5	157.7	165.5
Non-Oil GDP	11.4	15.4	28.1	47.3	67.7	89.9	107.2	130.9	157.3	184.3	205.4	210.4	214.9	213.1	200.4	201.6	207.8	213.3	238.5	267.2	280.5
Private Sector	7.8	10.1	18.3	28.4	40.2	50.9	61.3	74.6	88.5	102.9	117.4	127.8	130.0	131.0	123.7	123.0	126.8	130.0	139.0	148.1	157.0
Government	3.6	5.3	10.0	18.9	27.5	39.0	45.9	56.3	68.8	81.4	88.0	82.6	84.9	82.1	76.7	78.6	81.0	83.3	99.5	119.1	123.5
GDP (1970 prices)	27.1	31.2	31.5	34.3	39.3	41.8	44.5	49.1	53.0	53.9	48.0	48.0	46.8	44.9	47.5	46.8	49.9	50.2	55.6	61.0	62.5
Oil Sector	17.4	20.1	18.9	19.1	21.6	21.5	22.0	23.9	24.7	22.4	14.3	13.0	11.5	9.3	13.0	11.5	13.9	13.6	16.7	21.0	21.9
Non-Oil GDP	9.7	11.2	12.6	15.1	17.7	20.3	22.5	25.2	28.3	31.5	33.7	35.0	35.4	35.7	34.5	35.3	36.0	36.5	38.9	40.0	40.9
Private Sector	6.9	7.8	8.4	9.9	11.8	13.6	15.0	16.9	18.9	21.3	23.6	25.0	26.7	27.0	26.0	26.3	26.9	27.3	28.3	28.8	29.4
Government	2.8	3.4	4.2	5.2	5.9	6.7	7.5	8.3	9.5	10.2	10.1	10.0	8.7	8.7	8.4	9.0	9.1	9.3	10.6	11.3	11.5
GDP—Implicit price Deflators (1970=100)	148.0	316.0	441.0	479.0	519.0	536.0	556.0	782.0	978.0	969.0	857.0	768.0	742.0	690.0	564.0	581.0	555.0	606.0	693.0	696.0	710.0
Oil Sector	165.0	416.0	588.0	610.0	630.0	623.0	638.0	1059.0	1463.0	1510.0	1442.0	1212.0	1157.0	1044.0	518.0	611.0	496.0	666.0	879.0	751.0	755.0
Non-Oil GDP	117.0	138.0	223.0	313.0	383.0	444.0	476.0	520.0	555.0	585.0	609.0	602.0	607.0	598.0	581.0	571.0	577.0	584.0	613.0	668.0	687.0

* Preliminary

** Estimated

Sources: Saudi Arabian Monetary Agency, *Annual Report*; Economist Intelligence Unit, *Country Profile—Saudi Arabia*; and Economist Intelligence Unit, *Country Report—Saudi Arabia*.

Note: GDP figures exclude import duties.

APPENDIX VII

SAUDI ARABIAN CIVILIAN EMPLOYMENT (in thousands)

	1974-75	1979-80	Apr. 1980	Feb. 1982	Nov. 1982	1984-85	1985-86	1986	1989-90
Agriculture	426.0	599.0	464.0	512.0	524.0	617.0	633.0	650.0	569.0
Oil, Mining, Refineries	46.0	43.0	26.0	40.0	63.0	70.0	63.0	57.0	65.0
Manufacturing	47.0	104.0	167.0	330.0	357.0	411.0	379.0	360.0	360.0
Electricity, Gas, Water	18.0	32.0	64.0	86.0	131.0	147.0	162.0	178.0	126.0
Construction	314.0	330.0	598.0	937.0	954.0	886.0	682.0	580.0	944.0
Transportation, Communications	103.0	215.0	177.0	296.0	262.0	303.0	294.0	286.0	262.0
Other Services	568.0	1099.0	1435.0	1699.0	1824.0	2010.0	2045.0	2063.0	3444.0
Total Employed	1522.0	2471.0	2930.0	3899.0	4115.0	4446.0	4259.0	4174.0	5772.0
Foreigners Employed	314.0	1060.0	1533.0	—	—	2660.0	2527.0	2426.0	—
Percentage of Foreigners in Saudi Workforce	20.6	42.9	52.3	—	—	59.8	59.3	58.1	—

Sources: Saudi Arabian Ministry of Planning, *Five Year Economic Development Plans*; Economic Intelligence Unit, *Country Profile—Saudi Arabia*.

Notes: The official estimates of the population and labor force are believed to be of dubious accuracy. The size of the foreign labor force may be underestimated. Civilian employment apparently excludes the armed forces, the National Guard, and internal security forces. The figures for employment in agriculture include an estimated 300,000 nomads. The sharp rise in construction employment in 1989 is inconsistent with the national accounts, which show such activity declining between 1986 and 1989.

APPENDIX VIII

SAUDI ARABIAN GROSS DOMESTIC PRODUCT BY ECONOMIC SECTORS
(in billions of Saudi Riyals in constant 1970 prices)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Agriculture	1.1	1.1	1.2	1.2	1.3	1.5	1.6	1.6	1.7	1.8	2.0	2.3	2.7	3.2	3.7	4.3	4.7	5.1	5.4	5.5	54.4
Crude Petroleum and Natural Gas	15.6	18.2	17.3	17.5	19.9	19.7	20.1	21.7	22.5	20.2	12.0	10.5	9.5	7.4	11.2	9.6	11.7	11.6	14.5	18.4	39.0
Mining and Quarrying	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Petroleum Refining	1.4	1.4	1.3	1.4	1.5	1.6	1.7	1.7	1.7	1.7	1.7	2.0	2.0	2.4	2.5	3.2	3.7	3.4	3.6	4.1	8.5
Other Manufacturing	0.6	0.7	0.7	0.8	1.0	1.1	1.3	1.5	1.7	2.0	2.3	2.6	2.9	3.1	3.0	3.0	3.1	3.2	3.4	3.4	3.1
Electricity, Gas, and Water	0.4	0.4	0.3	0.3	0.4	0.5	0.7	0.9	1.1	1.4	1.7	2.0	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	29.8
Construction	1.4	1.7	2.5	3.3	4.1	4.6	4.7	5.1	5.7	6.2	5.8	5.3	5.1	4.3	3.7	3.6	3.4	3.4	3.4	3.5	12.7
Transportation and Communication	1.8	2.2	1.3	1.6	1.9	2.4	2.7	3.1	3.4	3.7	4.0	4.4	4.5	4.5	4.4	4.3	4.3	4.4	4.5	3.9	1.5
Government Services	2.0	2.2	2.4	2.8	2.8	3.0	3.1	3.3	3.7	3.9	4.2	4.5	4.9	5.2	5.2	5.2	5.2	5.3	6.6	7.8	—
Other Services	2.9	3.3	4.5	5.3	6.3	7.5	8.7	10.2	11.6	13.0	14.3	14.6	14.5	14.1	13.0	12.8	12.8	12.8	13.1	13.2	—
Total GDP	27.5	31.6	31.7	34.5	40.0	42.0	44.8	49.4	53.3	54.2	48.3	48.3	47.2	45.3	47.8	47.2	50.7	50.8	56.2	61.7	me

Sources: Saudi Arabian Monetary Agency, *Annual Report*; Economist Intelligence Unit, *Country Profile—Saudi Arabia*.

Notes: Production, or value-added for electricity, gas, and water, is far lower in the current price series than in the constant price series due to the heavy subsidization of public utilities. GDP differs slightly from the totals indicated because imputed bank service charges must be deducted and import duties must be added in order to calculate GDP at market prices.

APPENDIX IX

SAUDI ARABIAN ECONOMIC INDICATORS (percentage change from previous year)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Agriculture	3.8	3.9	4.0	5.0	15.7	4.5	5.8	5.8	6.0	10.0	13.0	18.4	18.0	15.0	16.4	10.8	7.0	7.0	1.3	—
Manufacturing	11.0	8.4	14.8	15.5	15.4	15.7	15.8	15.8	15.9	15.9	13.1	12.0	5.5	-3.1	-0.3	3.0	4.0	5.5	1.8	—
Construction	25.3	41.7	34.5	25.3	10.5	2.6	9.1	10.3	10.1	-6.2	-8.7	-3.8	-16.9	-12.4	-2.8	-5.0	-0.5	0.0	1.9	—
Non-Oil Goods Sector	14.2	17.7	22.2	19.2	13.4	6.6	10.3	12.1	12.5	3.3	2.8	-4.3	-1.4	-0.7	4.2	4.0	4.0	4.5	2.1	—
Non-Oil Goods Private Sector	13.1	7.7	17.8	18.9	15.0	10.2	12.7	11.8	12.7	11.0	5.9	6.8	1.1	-3.5	0.9	2.4	1.4	3.8	1.6	2.1
Non-Oil Goods Government Sector	19.9	25.3	23.9	12.9	13.5	13.2	10.1	13.8	8.1	-1.2	-1.4	-12.8	-0.4	-2.5	7.0	0.7	1.9	14.4	6.4	2.2
Non-Oil GDP	15.1	13.0	19.8	16.9	14.5	11.2	11.8	12.4	11.3	7.0	3.7	1.2	0.7	-3.3	2.4	1.9	1.5	6.4	2.9	2.1
Gross Fixed Capital Formation (Investment)	25.0	30.4	35.0	24.7	12.7	6.9	15.9	2.7	9.1	-9.3	-9.5	-7.3	-19.7	-10.8	3.0	-13.6	4.9	18.0	-3.7	—
Private Consumption Per Capita	3.9	46.5	-5.4	4.1	34.8	21.2	39.4	3.0	2.3	13.3	-0.5	-1.2	-1.5	-12.3	-12.9	-1.1	0.1	2.2	4.4	—

Sources: Saudi Arabian Monetary Agency, *Annual Report*; Economist Intelligence Unit, *Country Profile—Saudi Arabia*; International Monetary Fund, *International Financial Statistics*.

Notes: The calculations of annual percentage changes, up to and including non-oil GDP, refer to value-added in constant prices. Estimates of private consumption are also provided only in current prices. The national accounts provide estimates of gross fixed capital formation in current prices. The "Non-Oil GDP" deflator was used in this instance to correct for inflation; though imprecise, it should provide some broad order of magnitude and direction of change. The official consumer price index was used to correct for inflation, and official estimates of population to estimate private consumption per capita. The population estimates are widely viewed as unreliable, and include the large foreign labor force. Manufacturing excludes oil refining. The "Non-Oil Goods Sectors" include agriculture, manufacturing, mining, construction, and public utilities (electricity, gas, and water). In the national accounts, "Non-Oil GDP" includes the private and government sector.

APPENDIX X

SAUDI ARABIAN MILITARY SPENDING

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Saudi Accounts of Military Expenditures (Billions of Dollars)	0.9	1.5	2.5	6.7	9.0	9.1	10.6	16.9	16.5	19.3	19.4	18.4	19.1	16.4	14.2	14.1	12.8	13.0	30.6	30.6	15.1
ACDA Estimates of Military Expenditures (Billions of Dollars)	0.8	1.2	2.6	6.4	9.2	9.3	9.6	12.4	15.0	18.4	22.0	24.8	20.4	21.3	17.3	16.2	13.6	14.7	—	—	—
Military Expenditures as Percentage of GDP*	9.2	5.7	6.4	14.4	15.6	14.2	14.5	14.7	10.5	12.4	16.0	17.1	19.1	18.9	19.4	19.2	16.8	15.6	29.3	26.5	13.1
Military Expenditures as Percentage of GNP**	11.1	13.2	10.9	17.4	19.1	15.3	15.9	18.1	14.3	12.1	17.0	22.0	19.7	22.7	20.9	19.4	15.9	16.0	—	—	—
Military Expenditures as Percentage of Total Oil Revenues*	26.3	13.7	9.4	25.4	26.3	27.7	30.9	29.8	17.1	19.9	35.8	44.0	56.8	68.4	93.4	68.5	98.7	61.5	47.9	47.9	42.2
Military Expenditures as Percentage of Total Government Expenditures*	8.7	5.4	29.2	29.0	29.9	23.0	24.3	30.0	23.1	23.0	27.2	27.7	31.3	32.4	30.5	28.6	35.4	32.3	48.0	48.0	27.7
Arms Imports (Billions of Dollars)**	0.1	0.1	0.3	0.3	0.6	1.1	1.5	1.2	1.6	2.7	2.8	3.8	3.3	3.8	5.5	7.0	2.7	4.2	—	—	—
Armed Forces (Thousands)**	75.0	75.0	75.0	75.0	75.0	75.0	75.0	79.0	79.0	79.0	80.0	80.0	80.0	80.0	80.0	80.0	84.0	84.0	—	—	—

* Saudi estimates

** ACDA estimates

Sources: Saudi Arabian Monetary Agency, *Annual Report*; U.S. Arms Control and Disarmament Agency (ACDA), *World Military Expenditures and Arms Transfers*; Economist Intelligence Unit, *Saudi Arabia—Country Report*; and Economic Intelligence Unit, *Saudi Arabia—Country Profile*.

Notes: It is widely believed that official Saudi budgets understate the magnitude of military outlays. For example, the purchase of Tornado aircraft and other military equipment is believed to be, at least in part, off-budget, which may account for the fact that in the 1980s ACDA estimates of Saudi military expenditures are higher than those given in the budgetary accounts. No Saudi estimates are available for the size of the armed forces and arms imports. The budget reports for 1990 and 1991 include an estimate referred to as "emergency expenditures" related to the war against Iraq.

APPENDIX XI

SAUDI ARABIA'S KEY ECONOMIC INDICATORS

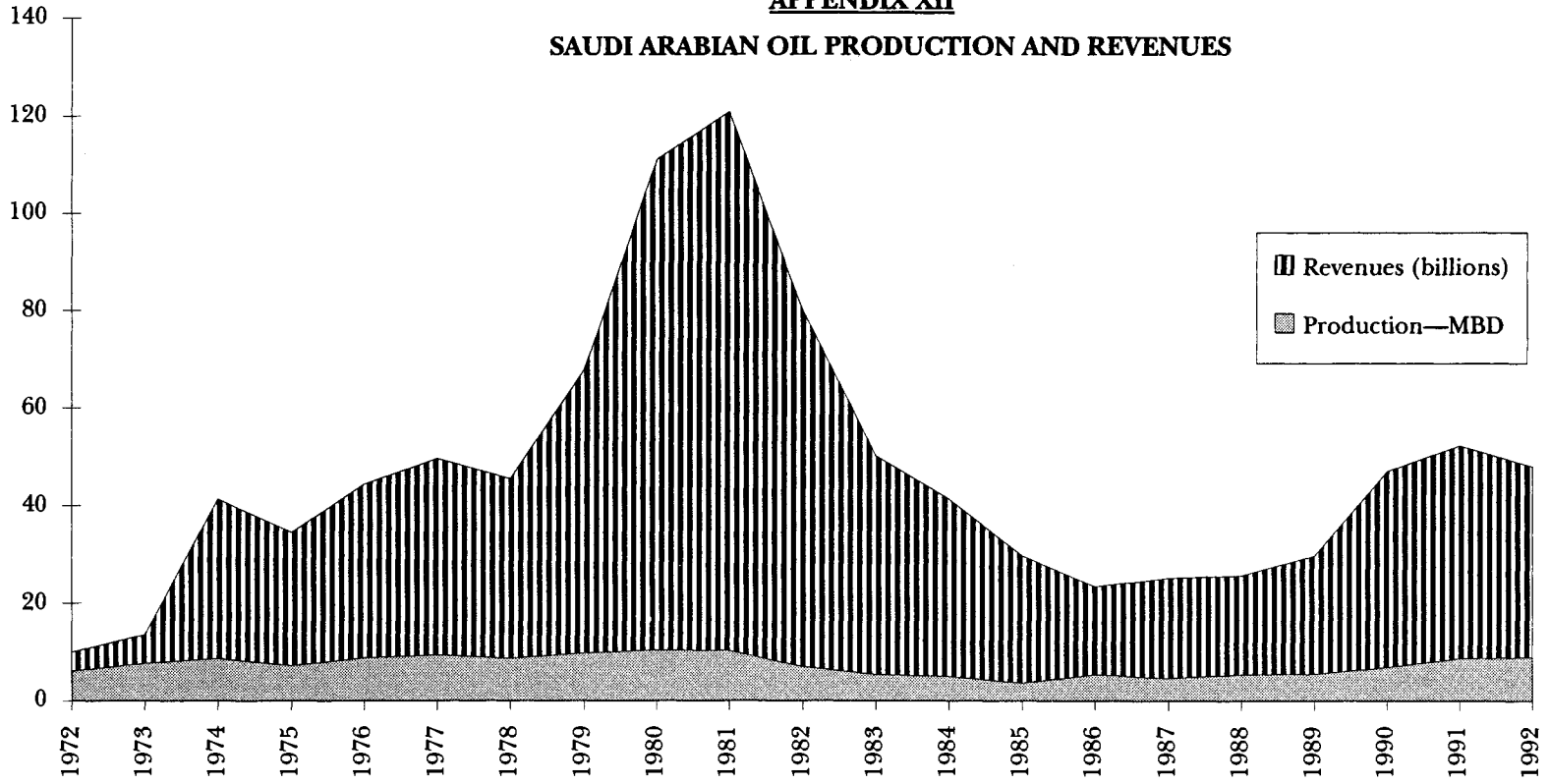
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Oil Production (MBD)	6.1	7.7	8.6	7.2	8.8	9.4	8.6	9.8	10.3	10.2	6.9	5.4	5.0	3.7	5.3	4.6	5.4	5.5	6.8	8.6	8.9
Oil Export Revenues (Billions of Dollars)	3.9	5.8	32.6	27.2	35.5	40.2	36.8	57.9	100.6	110.5	72.9	44.6	36.2	25.8	18.0	20.4	20.1	24.0	40.0	43.5	39.0
Government Oil Revenues (Billions of Dollars)	2.7	4.3	26.8	26.5	34.3	32.7	34.4	56.5	96.2	96.6	54.2	41.9	33.6	24.0	15.2	20.7	12.9	21.1	32.9	32.9	33.9
Gross Domestic Product (Billions of Dollars)	9.8	26.8	38.5	46.8	58.1	63.9	73.4	114.8	156.5	155.1	121.1	107.7	99.7	86.7	73.2	73.6	76.1	83.0	104.7	115.3	121.1
Balance of Payments (Balance on Current Account in Billions of Dollars)	2.1	2.5	23.0	14.4	14.4	12.0	-2.2	10.2	41.5	39.6	7.6	-16.9	-18.4	-12.9	-12.0	-9.8	-7.3	-9.2	-4.3	-27.7	-19.4
Budgetary Balance (Billions of Dollars)	1.3	6.2	18.5	6.1	8.3	-1.4	-4.4	6.8	33.6	24.5	0.4	-6.9	-12.6	-13.9	-20.1	-18.2	-13.4	-7.7	-18.8	-18.8	-10.6
Military Expenditures (Billions of Dollars)	0.9	1.5	2.5	6.7	9.0	9.1	10.6	16.9	16.5	19.3	19.4	18.4	19.1	16.4	14.2	14.1	12.8	13.0	30.6	30.6	15.1
Military Expenditures as Percentage of GDP	9.2	5.7	6.4	14.4	15.6	14.2	14.5	14.7	10.5	12.4	16.0	17.1	19.1	18.9	19.4	19.2	16.8	15.6	29.3	26.5	13.1
Gross Fixed Capital Formation as Percentage of GDP	14.0	8.5	12.7	20.4	25.0	29.7	30.7	25.2	20.4	23.3	27.8	27.7	27.5	24.3	24.4	23.7	20.0	19.4	18.8	18.2	—
Budgetary Balance as Percentage of GDP	12.7	22.2	48.0	22.8	17.7	-2.2	-6.0	5.9	21.5	15.8	—	-6.4	-12.7	-16.0	-27.4	-24.7	-19.6	-9.2	-18.0	-16.3	-8.7
Index of Private Consumption Per Capita (1985=100)	25.3	26.3	38.6	36.5	38.0	51.2	62.0	86.5	89.1	91.1	103.2	102.7	101.5	100.0	87.7	76.4	75.6	75.7	77.4	80.8	—

Sources: This table is a selection of key economic indicators taken from previous tables. For specific sources, see tables I-X.

Notes: The figures for military expenditures in the Saudi budgets for 1990 and 1991 do not include "emergency expenditures" (payments made to the United States and its allies during the Gulf War) and other special war-related outlays. The estimates for real private consumption per capita are derived from the official estimates of private consumption in current prices, the official consumer price index, and the official population estimates reported in *International Financial Statistics*. The population figures are believed to be of dubious accuracy. Nonetheless, the index should give some indication of direction of change.

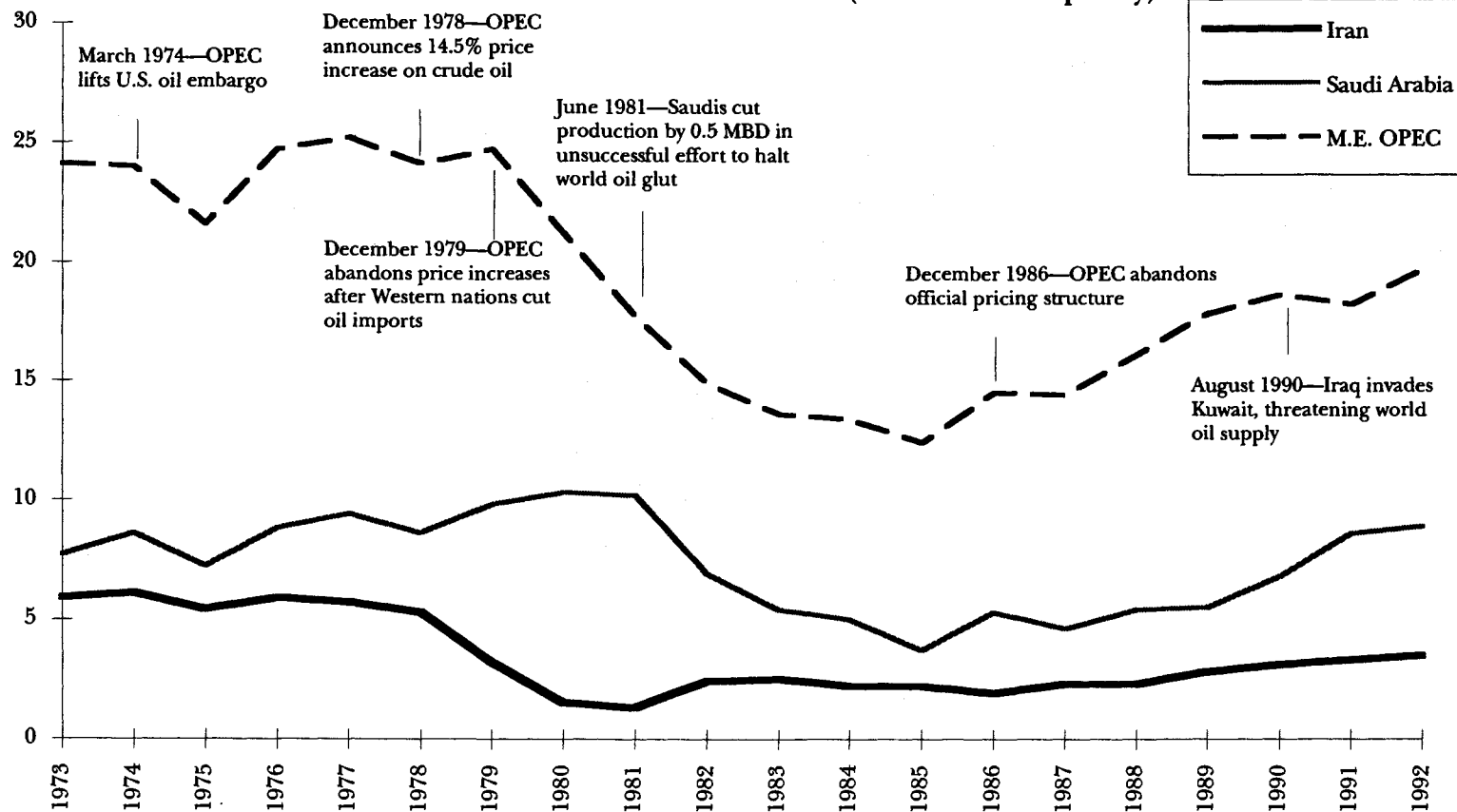
APPENDIX XII

SAUDI ARABIAN OIL PRODUCTION AND REVENUES



APPENDIX XIII

OIL PRODUCTION TIMELINE (millions of barrels per day)



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