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EXCHANGE RATES, PAYMENTS ADJUSTMENT, AND OPEC: WHY OIL DEFICITS PERSIST

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International Finance Section

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Introduction

The balance-of-payments experience of the United States and other major oil importers in the period since 1973 produces an embarrassing paradox for many supporters of flexible or floating exchange rates. For decades it was argued that balance-of-payments disequilibria were solely the result of misguided decisions to maintain fixed parities and that, if the world would only adopt a system of floating exchange rates, payments problems would disappear. In 1973 most of the industrial countries abandoned parities and floated their currencies, not because of a general acceptance of academic arguments for floating rates, but because the Smithsonian Agreement collapsed and it was impossible even to guess what equilibrium parities might be under the circumstances existing at that time. Although flexible exchange rates were adopted by default rather than intent, the arguments to the effect that payments problems should then disappear remained relevant.

Seldom have the expectations of economic theory been more disappointed. The sharp increase in the price of oil in January 1974 produced a massive shift in the international payments pattern. As can be seen in Table 1, the OPEC countries moved into a large and sustained surplus, most of which was concentrated in a minority of the member countries. The oil-importing countries as a group necessarily had a parallel payments deficit. This payments pattern has continued for five years. Although the size of the OPEC surplus declined in 1978, it is now expected to be much larger in 1979 and 1980. A flexible-exchange-rate system of sorts was maintained by most of the industrial countries throughout this period, but it has remained strangely ineffective or even irrelevant to the adjustment of this payments disequilibrium.

The purpose of this essay is to analyze three related questions raised by this unhappy experience: (1) Why hasn't the payments disequilibrium caused by OPEC price increases been much affected either by the flexible-exchange-rate system adopted by the industrial countries or by other traditional adjustment mechanisms? (2) How would the adjustment process have worked if the necessary changes had been made in the payments system to produce exchange rates that forced payments positions into equilibrium, as the standard theory of floating rates suggests? Although it would have been possible to make the changes necessary to produce this conclusion, it turns out that the results would not have been pleasant or even acceptable. And (3) what has been the effect of floating exchange rates on the distribution of the oil deficit among the

TABLE 1

OPEC CURRENT-ACCOUNT BALANCES BY COUNTRY, 1973-80
(in billions of U.S. dollars)

	1973	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*[a]	*1980*[a]
Algeria	–0.9	1.0	–1.7	–0.9	–2.8	–3.4	–1.4	–1.6
Ecuador	0	0.1	–0.2	0	–0.3	–0.3	–0.2	–0.3
Gabon	0	0.1	0.1	0	–0.1	0.1	0.4	0.4
Indonesia	–0.4	0.7	–1.1	–0.9	0	–1.3	0.5	0.3
Iran	1.1	12.7	4.7	4.7	5.1	–1.4	2.8	5.8
Iraq	0.5	3.0	2.8	3.8	5.0	4.5	10.0	7.4
Kuwait	1.5	8.1	5.9	7.0	5.4	5.8	12.2	11.5
Libya	–0.6	2.2	–0.2	2.3	2.1	1.5	5.5	5.7
Nigeria	0.3	5.0	0	0.3	–0.9	–3.4	0.5	–1.6
Qatar	0.1	1.6	1.0	1.0	0.4	0.9	1.9	2.2
Saudi Arabia	3.1	26.4	13.9	13.8	16.7	2.8	8.9	4.8
United Arab Emirates	0.3	5.6	3.2	3.9	4.1	3.5	6.0	7.2
Venezuela	–0.1	5.8	2.3	1.0	–2.1	–4.1	–2.1	–1.8
Total[b]	4.9	72.3	30.7	35.4	33.0	5.3	45.0[a]	40.0[a]

NOTE: These accounts are on an accrual rather than a cash-payments basis, meaning that exports of oil are counted when the oil is shipped rather than when final payment is made. The 1974 total would be about $12 billion less on a cash-payments basis, but the numbers for the other years would be only slightly affected.

[a] Preliminary U.S. Treasury projections, which assume no further increases in the price of oil beyond July 1979 levels. Informal estimates currently available in Washington suggest that the OPEC surplus will be about $60 billion during 1979, and that the 1980 total could be anywhere from $80 billion to $100 billion. The increases are expected to accrue primarily to Saudi Arabia, Iraq, Kuwait, and perhaps Iran.

[b] Totals may not add owing to rounding.

SOURCES: Estimates by U.S. Dept. of the Treasury and Chase Manhattan Bank.

importing countries? Although the size of the total OPEC surplus, and hence the total deficit of oil importers, was unaffected by exchange-rate changes under the current float, the distribution of that deficit among oil importers is in large part determined by the workings of the managed, or "dirty," float that now prevails for most of the countries in the Organization for Economic Cooperation and Development (OECD).

The Irrelevance of Conventional Adjustment Mechanisms to the OPEC Surplus

The massive payments disequilibrium that followed the 1974 increase in the price of oil has remained largely immune from the effects of exchange-rate changes or other traditional adjustment mechanisms because of an unusual arrangement that virtually isolates the domestic econo-

mies of the surplus oil-exporting countries from changes in oil revenues and from the resulting shifts in the balance of payments. Like most other exporters of primary products, the OPEC countries receive their export revenue in foreign exchange (dollars). Unlike most others, however, they do not have to provide parallel local-currency payments to domestic residents. The demand for OPEC exports is not matched by a demand for OPEC currencies by either foreigners or OPEC residents. Therefore, an increase in export receipts puts no upward pressure on the exchange rates for OPEC currencies and thus no downward pressure on the exchange rates for the OECD currencies as a group relative to the OPEC currencies. The maintenance of flexible exchange rates by a number of OECD countries produces no force for the adjustment of OPEC current-account surpluses.

One might still expect the classical fixed-exchange mechanism to operate; monetary expansion and rapid increases in disposable incomes in OPEC surplus countries would produce adjustment through inflation and the resulting increase in imports. But the governments of the OPEC countries are the oil producers and the recipients of the resulting revenues. Accordingly, increases in export proceeds do not result in automatic increases in either money supplies or domestic incomes. There are no pressures inside the OPEC economies that would rapidly expand private expenditures on domestic or imported goods when oil revenues increase sharply.

Although individuals in the OPEC countries receive no additional income when oil revenues increase, the governments of these countries do receive this income and might be expected to behave like individuals. Additional government revenue from exports increases both "cash balances," which in a monetarist framework will lead to increased expenditures on imports and to foreign investments, and government "incomes," which in a Keynesian framework will lead directly to increased expenditures on both domestic and imported goods. Although payments equilibrium is not reestablished through increases in privately held cash balances or private incomes, a similar result might occur through the responses of governments to these same forces.

These mechanisms have, in fact, operated in OPEC countries whose oil revenues are small relative to their populations and their development or military goals. As can be seen in Table 1, Indonesia, Nigeria, Venezuela, and similar countries have not run persistent surpluses; government expenditures on imports have been adjusted quickly to use all or most of the extra revenues provided by increases in the price of oil. These mechanisms have not operated, however, in Iraq, Kuwait, Saudi

Arabia, and the United Arab Emirates, whose oil revenues and surpluses have largely dominated OPEC. (Iran was the only other OPEC member to run large and consistent surpluses from 1974 to 1977, but that situation changed dramatically in 1978. Libya has had modest surpluses since 1975, and these are expected to increase sharply in 1979 and 1980.)

The current-account surpluses have been concentrated largely in countries with very large oil revenues, small populations, and development or military goals that are modest relative to the revenues. Iraq and Saudi Arabia each have populations of just over ten million and massive incomes from oil. Because major investment projects were bunched up, resulting in inefficiencies from carrying them all on at once, and because the price of oil fell relative to the price of imports, Saudi Arabia spent almost all of its oil revenues during 1978.[1] The recent increases in the price of oil and the likelihood that the Saudi government will respond to fundamentalist Islamic pressures by reducing the rate at which the country is modernized mean that Saudi Arabia is now returning to the previous pattern of large current-account surpluses. Tiny countries such as Kuwait and the United Arab Emirates probably cannot spend their receipts on sensible development programs. The governments of the major surplus countries cannot be expected to respond to increases in either cash balances or incomes in ways ascribed to individuals by theories of balance-of-payments adjustments. Libya would superficially appear to have the oil revenue and population characteristics of these four surplus countries, but it has apparently managed to spend almost all of its revenues on military equipment and "foreign aid." Treasury predictions of large Libyan surpluses in 1979 and 1980 are apparently based on the expectation that Colonel Qaddafi's financial support of radical efforts in the Middle East and elsewhere will not increase as rapidly as the price of oil.

As can be seen in Table 2, monetary expansion has been rapid in all of the OPEC countries in recent years. It was particularly rapid in Saudi Arabia and the United Arab Emirates, although a sharp deceleration occurred in the latter country from 1976 to 1978. Rates of growth of the money supply were considerably less extreme in the other major surplus countries, Kuwait and Iraq. The apparent lack of any relationship between rates of monetary expansion and the size of continuing current-account surpluses in the OPEC countries results in large part from the differing roles of oil revenues in different economies. In countries such as

[1] According to *IMF Survey* (Sept. 17, 1979, p. 287), the terms of trade of major oil exporters fell by 10.5 per cent during 1978. This was a major cause of the sharp reduction in the OPEC current-account surplus that year.

TABLE 2

PERCENTAGE ANNUAL GROWTH IN DOMESTIC MONEY SUPPLY IN OPEC COUNTRIES, 1973-78

	1973	*1974*	*1975*	*1976*	*1977*	*1978*	*1973-78 Average*
Algeria	28.3	9.1	30.4	29.6	21.3	26.3	24.2
Ecuador	34.9	50.8	10.8	31.1	23.1	11.6	27.1
Gabon	24.1	66.9	54.7	76.4	–8.0	–6.2	34.7
Indonesia	41.6	40.4	37.3	23.7	25.3	24.0	32.1
Iran	29.9	37.1	20.2	45.9	23.1	n.a.	31.2[a]
Iraq	24.2	43.0	35.3	20.6	n.a.	n.a.	30.8[b]
Kuwait	21.1	14.0	48.0	35.9	24.6	29.5	28.9
Libya	24.5	46.7	15.1	31.2	26.8	n.a.	28.9[a]
Nigeria	24.0	51.1	85.5	44.6	38.1	1.7	40.8
Qatar	19.4	35.8	78.6	57.0	32.7	10.5	39.0
Saudi Arabia	39.9	41.4	89.6	71.2	58.3	28.1	54.8
United Arab Emirates	n.a.	57.3	69.5	81.5	10.4	10.8	45.9[c]
Venezuela	19.7	43.6	50.3	14.7	24.1	15.7	28.0

[a] Average for 1973-77.
[b] Average for 1973-76.
[c] Average for 1974-78.
SOURCE: *International Financial Statistics* (October 1979, line 34 for each country).

Venezuela and Ecuador, oil revenues are not large enough to dominate the economy and relatively modest accelerations of growth in the money supply are sufficient to produce adjustment when oil revenues increase. In countries such as Kuwait or the United Arab Emirates, however, the oil industry *is* the economy. This means that recent increases in oil revenues have been so large relative to the economy and the money supply that even a rapid acceleration of monetary growth will not produce current-account adjustment.

Although forces inside the OPEC surplus countries have not produced adequate adjustment, monetary and income changes in the oil-consuming countries might be expected to encourage a movement toward current-account equilibrium on their side of the payments disequilibrium. As noted earlier, the OPEC practice of accepting payment in dollars and of maintaining surplus funds in dollars and other OECD currencies has meant that there has been no exchange-rate pressure on the OECD currencies as a group that would cause adjustment. To the extent that the OPEC governments hold their surplus funds in assets that are not liabilities of the OECD central banks, there is also no automatic downward pressure on the money supplies of the OECD countries. If U.S. dollars are transferred from oil companies to OPEC governments, which hold

them in commercial banks in New York or London, there is no decline in the reserve base of the U.S. commercial banking system. If the OPEC governments purchase U.S. Treasury securities in the open market, these funds move to the seller of the securities and are still in the commercial banking system. Only if the OPEC governments hold deposits in, or buy securities from, the Federal Reserve System would the U.S. money supply fall automatically. That decline, moreover, would probably be quickly sterilized. When the OPEC countries hold Eurodollar deposits or other U.S. dollar assets purchased from private parties, however, there is no decline in commercial bank reserves to sterilize.

Real incomes decline in the oil-importing countries because of worsened terms of trade, and this might be expected to be a modest force for current-account adjustment. The decline in real incomes in the oil-importing countries reduces other purchases, producing recessions and a reduction in current-account deficits. The recessions experienced by many OECD countries after the 1974 oil price increases were examples of this process, and they did produce a decline in the OPEC surplus from the 1974 peak of $72 billion. The combination of strong recoveries in the OECD countries and further oil price increases is producing a return to massive OPEC surpluses in 1979 and 1980, but the further worsening of the terms of trade of the oil-importing countries may soon produce another set of recessions and a temporary reduction in the OPEC current-accounts surplus.

The balance-of-payments adjustment processes that economists describe for regimes of either flexible or fixed exchange rates are based on direct linkages between shifts in the balance of payments and the domestic economy. The linkages are automatic in the sense that they do not require changes in government policy to produce adjustment. If the government remains passive, payments disequilibria either cause exchange-rate changes, which affect relative prices within one or both economies, or they affect the domestic money supplies and incomes in both the deficit and surplus countries. Under either exchange-rate regime, the balance of payments is linked to one or more aspects of the domestic economies of both surplus and deficit countries, and these linkages produce some degree of payments adjustment. The circumstances under which the OPEC countries sell oil eliminate all of these linkages in the OPEC countries and almost all of them in the oil-importing industrialized countries. The result is the current situation, in which there are no major automatic forces for adjustment of either the OPEC surplus or the deficit of the oil-importing countries as a group.

Balance-of-Payments Accounting for OPEC

The fact that the same economic agents (the governments of the OPEC countries) who receive virtually all the oil revenue also determine what imports will be purchased and how the remaining surplus will be invested abroad makes the normal definition of a balance-of-payments surplus arbitrary or meaningless for these countries. The distinction between the capital-account and foreign-exchange-reserve items, on which the official settlements definition of payments disequilibrium is based, assumes that the economic agents who make investment decisions, which are recorded in the capital account, are different from those who undertake residual or accommodating transactions, which appear as foreign-exchange reserve flows. Since this assumption obviously does not hold for the dominant OPEC surplus countries, it is not at all clear how their balance-of-payments surpluses can be measured.

Saudi Arabia, for example, ran an accumulated current-account surplus of just over $54 billion from 1974 through 1976, but it accumulated only about $23 billion in foreign-exchange reserves during the same period.[2] Since the government or its agents made almost all of the other $31 billion in foreign investments, the distinction between foreign-exchange reserves and the remainder of Saudi Arabia's foreign assets seems almost meaningless. It is at least clearly misleading to suggest that Saudi Arabia had a payments surplus of only $23 billion during this period.

Under these circumstances, it might be more reasonable to use the current account as the measure of payments disequilibrium, which would suggest a surplus of $54 billion for Saudi Arabia in 1974-76. One objection to this measure is that foreign-exchange reserves are supposed to be highly liquid, so that it is not reasonable to view Saudi investments in long- and medium-term assets as constituting reserves. The use of the "basic" balance-of-payments format, where the balance of payments is measured as the sum of the current and long-term capital accounts, avoids this problem by placing such nonliquid investments above the line as autonomous items, while short-term investments of all types are placed below the line with official foreign-exchange reserves. Since the vast majority of Saudi investments have reportedly been in short-term forms, the difference between the current-account and the "basic" balance-of-payments results would be quite small. In contrast, Kuwait has apparently made sizable long-term investments, so the difference between the two accounts there would be considerably larger.

[2] *International Financial Statistics*, International Monetary Fund, various issues.

The use of the "basic" format still leaves the question of whether Saudi and Kuwaiti medium- and long-term investments are really autonomous. Do these countries really "want" to invest abroad, or are they doing so only because huge current-account surpluses make it necessary to put the resulting surplus funds somewhere? The credibility of the latter explanation argues that these investments are accommodating, and consequently that the current account is the best measure of Kuwait's and Saudi Arabia's payments positions. The $54 billion figure appears to be a far better estimate of the Saudi payments surplus in 1974-76 than the $23 billion figure suggested by the official-settlements accounts or whatever figure the basic-payments format would indicate. Kuwait had a current-account surplus of $21 billion in 1974-76, while official foreign-exchange reserves increased by only about $1.5 billion. The $21 billion figure also appears to be the more reasonable estimate of Kuwait's surplus.

The current OPEC experience is not the only occasion on which revenues from a dominant export have been isolated from the domestic economy to block normal forces for payments adjustment. Other developing countries have responded to sudden and sharp increases in the price of a dominant export by applying heavy export taxes to prevent or at least greatly reduce an increase in domestic disposable income. They have also taken payment for these exports in foreign exchange to avoid pressure on their exchange rates or domestic money supplies. Colombia adopted this response to the increases in coffee prices that followed the partial destruction of the Brazilian crop by frost in 1975, and the operations of the government marketing boards for cocoa in Ghana and Nigeria have produced the same effects when cocoa prices have increased sharply. In these and similar instances, however, the payments surpluses were both small and temporary. The OPEC situation appears to be a unique combination of the absence of historic forces for payments adjustment and a huge and apparently far from transitory surplus.

The Application of Conventional Adjustment Mechanisms to the OPEC Surplus

The conclusion that the resistance of the massive OPEC surplus to standard adjustment forces results from the isolation of the internal economies of the OPEC countries from their international sectors might suggest that the solution to the current payments disequilibrium is to end this isolation and allow the traditional forces to produce adjustment. But how would such forces operate in the current context, and would the ap-

plication of the classical remedies for payments deficits really be acceptable to the oil-importing countries? It appears that the adjustment mechanism would be so harsh in this case that a continuation of a difficult and disruptive disequilibrium is probably preferable.

If, for example, the OPEC countries had set prices and received oil payment in their local currencies, a decision to adopt floating exchange rates would have produced a sharp appreciation for a number of OPEC currencies and parallel increases in the U.S. dollar price of oil. If at the outset Saudi Arabia had set a riyal price of oil equivalent to $8 per barrel and then allowed the riyal to float, a Saudi decision not to make investments abroad during recent years would have necessitated a large appreciation of the riyal to clear the exchange market. There is no way of knowing what the dollar price of oil would have been if Saudi Arabia and its neighbors had adopted this approach, but the combination of the highly inelastic demand for oil in the consuming countries and demand for imports in Saudi Arabia and its neighbors suggests a very high price. The OPEC countries that are not in large current-account surplus have been producing oil at close to full capacity during recent years; their terms of trade would have improved with such a price increase, but they would have produced very little additional oil. The burden of adjustment would have been on reductions in world consumption of OPEC oil and increases in oil output and imports in the major surplus countries. The small populations of these countries suggest a very limited ability to absorb more imports, particularly since the governments rather than individuals receive the extra income from oil sales. If the governments of Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates had decided not to make foreign investments but instead to allow the U.S. dollar price of oil to increase through an appreciation of their currencies sufficient to produce current-account equilibrium, the result would have been increases in the price of oil far in excess of those experienced by the importing countries between 1974 and 1978.

A similar result would have occurred in the unlikely event that the OPEC countries had adopted local-currency pricing of oil and fixed exchange rates before allowing their domestic money supplies to adjust to the payments surplus. If both the OPEC countries and oil importers had refrained from sterilizing the monetary effects of the payments disequilibria, the result would have been rapid inflation in the OPEC countries, which would have caused a rapid increase in imports. A parallel deflation in the oil-importing countries would have produced a recession (or worse) and an eventual decline in wages and prices.

If the OPEC countries did not increase the local-currency price of oil

as other domestic prices rose, the only additional effect on the terms of trade would have been through the decline in the prices of exports in the oil-importing countries. Equilibrium would have been established primarily through the effects of rapid inflation in the OPEC countries and a severe downturn in the oil-importing countries.

If the OPEC countries wanted oil revenues to remain a constant proportion of government receipts or wanted to recapture increases in wage rates and other oil-industry costs, the price of oil would have had to increase as domestic inflation accelerated. In such a case, the terms of trade of the oil-importing countries would have deteriorated far more rapidly and the adjustment process would have been even more painful. Current-account adjustment would still have been achieved through the effects of deep recessions in the oil-importing countries and inflation in the OPEC economies, but the change in the terms of trade caused by the further increases in oil prices would have made the process even less pleasant for the oil-importing countries. Flows of capital from OPEC to the rest of the world would have continued until the adjustment process was completed. The OPEC countries would have accumulated foreign-exchange reserves, which are financial claims on the rest of the world, until their inflation and deflation in the oil-importing countries produced current-account equilibrium. These capital flows would not have been autonomous or voluntary but would instead have been necessitated by OPEC's decision to maintain fixed exchange rates for their currencies.

These scenarios have been developed not because they are likely but rather to suggest that the classical adjustment process is not always to be preferred over a continuing disequilibrium. Professors and central bankers in the industrialized countries frequently lecture officials of developing countries about the desirability of forcing rapid payments adjustment rather than depending on continued use of the Euromarkets, the International Monetary Fund, or other credit sources. Devaluations and domestic austerity are prescribed and accompanied by admonitions about "biting the bullet." Although these policies may in fact be necessary in some developing countries, the imposition of the same "bullet biting" adjustment mechanisms on the industrialized countries in general and the United States in particular during the last five years would have been more than painful: It would have produced a recession far worse than that of 1974-75.

Fortunately, the OPEC surplus countries are apparently willing to continue accumulating financial claims on the OECD countries, so this unpleasant process is unnecessary. The industrialized countries are not in the situation faced by many developing countries, because they appear