PROJECTIONS OF SURPLUS OIL REVENUES THEIR RECYCLING AND THE INTERNATIONAL ECONOMIC SYSTEM

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Zusammenfassung

Obwohl derzeit das Hauptproblem der ölkonsumierenden Länder in der Preisentwicklung und in der Sicherung der Ölversorgung liegt, war der Zeitraum zwischen 1974-77 zusätzlich durch teilweise hektisch geführte Diskussionen über die Fähigkeit des internationalen Finanzsystems gekennzeichnet, die Rückführung der überschüssigen Ölerträge der OPEC-Länder ohne größere Schwierigkeiten bewerkstelligen zu können. In der Zwischenzeit hat sich das System als hinreichend flexibel erwiesen, um den raschen Transfer außergewöhnlich hoher Einkommen bewältigen zu können.

Die vorliegende Arbeit analysiert die Methoden, durch welche dies erreicht werden konnte; sie enthält auch eine Schätzung der erwarteten Überschußerträge aus dem Ölverkauf bis 1985. Ein eigener Abschnitt beschäftigt sich mit den verschiedenen Effekten der erhöhten Ölpreise auf die Wirtschaften entwickelter und unterentwickelter Länder.

Summary

Although at present the main concern in the oil consuming countries is with the pricing issue and the security of oil supplies, the period between 1974-77 was additionally marked by much panic - stricken debate about the ability of the international financial system to manage the smooth recycling of excess oil revenues accruing to OPEC countries. In the meantime, the system has exhibited enough resourcefulness and flexibility to master the enormous and rapid transfer of income.

This paper analyses the means by which this has been achieved; it also presents an estimate of the size of surplus oil revenues expected till 1985. A separate section deals with the differential effects of increased oil prices on the economies of the developed and developing countries.

Contents

INTRODUCTION

The quadrupling of crude oil prices at the end of 1973 - start of 1974 - has had a profound shock impact on the international economy and has aroused much discussion about the nature of the problems posed by the price change and the necessary policy measures needed to cope with the new situation. Never before had there been such a rapid change in the structure of world trade. In 1974 the OPEC countries as a group enjoyed a current account surplus of $66 bn and in 1975 of $32 bn, rising again to $38 bn in 1976 (18). This has caused a lot of panic stricken discussion as to the ability of the consumer countries to pay for their increased oil bill and, whether the huge transfer of income would not threaten most of them with deep recession. Many fears were also expressed concerning the ability of an already shaky international financial system to adjust successfully to the new situation and to manage the smooth recycling of excess oil revenues without threatening many consumer countries with 'national bancruptcy'.

Although most of the fears and complaints came from the more developed countries (MDCs), who are proving quite capable of taking care of their economies, the balance of payments problem is a far more serious burden to some of the poor non-oil producing less developed countries (LDCs), whose growth prospects in the near and medium term, already bleak, seemed now almost hopeless. If at present there is a weak link in the chain of consumer countries that threatens the financial system with collapse, then it certainly lies in some of the most affected countries of the less developed world.

In order to analyse the recycling problem of the last three years and the expected one in the future, the discussion below is divided into three main sections:

1. The first section deals with the estimation of the world energy demand and supply situation to the mid-1980s. Consequently, the demand for OPEC oil is derived and from the latter one gets a rough estimate of the extent of oil revenues accruing to OPEC countries, making some assumptions about the development of the oil price during the projected period. Based on estimates of the absorption capacity of different OPEC countries, one can then proceed to estimate the cumulative surplus revenues expected in 1985.

2. The second section looks at the effect of the oil price increase on the ecomonies of MDCs and LDCs, analysing the responsibility of the new oil prices for stagflation in industrial countries and the slowing of the growth rates in LDCs. The effect of higher oil prices on world distribution of income is discussed specifically in the light of the acute problems of some LDCs.

3. The third section analyses the mechanisms of recycling of surplus oil funds: direct lending by OPEC, bilateral loans among OECD countries and the eurocurreny market. An attempt is made to study the functioning of this market, its size, limitations and problems. At the same time the investment behaviour of OPEC countries is discussed. Fears of destabilizing speculation and control of consumer countries' economies caused by OPEC investments are also looked into.

The analysis is mainly carried out in terms of three major blocks of countries: OPEC, OECD and LDCs.

CHAPTER 1

DETERMINATION OF SURPLUS OIL REVENUES

1.1 Projections of supply and demand for OPEC oil: significance

Projections of world supply and demand for energy in general and oil in specific, keep pouring in periodically from many different sources: from oil companies, OECD, OPEC and from national governments' studies. They all try to estimate how much energy will be needed in the next ten to fifteen years and from which sources and what countries is it most likely to be forthcoming.

For our immediate purpose such considerations are essential to estimate the potential oil revenues accruing to OPEC and consequently the surplus oil funds can be calculated and hence the size of the future problem of recycling.

For consumer countries such projections are important for several reasons. To begin with, the process of developing new energy sources and exploiting new reserves of presently known ones is a long drawn-out affair and a very costly one [1]. A timely estimate of energy needs is therefore important to plan

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1) Estimates of the necessary U.S. energy Industry's investments between 1976 and 1990 in new plants and equipment amounts to $790 bn representing 22% of total U.S. capital savings during that period (Bankers Trust Corporation); Estimates of world petroleum industry's capital needs are placed at $995 bn in the next ten years (Chase Manhatten Bank), while the EEC's energy investments are estimated to be $300 bn till 1985 (BEIC).

for the needed allocation of resources, and to avoid the evergrowing fear of a world energy crisis, raised so loudly and partly fictitiously in the early 1970's. What most countries now realize is that the world is not running out of energy but rather that the age of cheap energy generally, and very cheap oil specifically is over for good, or at least in the forseable future. This fact was driven home by the fourfold increase in oil prices in 1973/74 and by the constant upward revaluation of the costs of developing other energy sources.

Secondly, projections of supply and demand help to provide a picture of the possible developments in energy prices based on evaluations of the market tightness of the supply-demand situation in the coming years. Thus, other price revaluations similar to the 1973/74 one could well be predicted in advance (and thus consumer countries hope to be able to avoid reaching such a situation through timely policy measures). Of course, one should not forget that there are huge vested interests in the energy sector that are likely to have a say in the determination of energy prices.

Lastly, projections also throw light on the balance of payments situation of energy consuming countries (i.e. the net importers of energy), since the balance between domestic energy production and domestic needs will have to be imported.

1.2. Projections of supply and demand for energy: method

The major elements affecting the medium-term evolution of OPEC's current account balance are: -

1) The price of oil
2) The volume of oil exports
3) OPEC expenditure out of export revenue on imports of goods and services. (38, Jly.1975, p75)

The projection of these factors is subject to great margins of uncertainty, especially since they tend to be inter-dependent over time.

The volume of oil exports depends on the difference between demand and supply of oil in the consuming countries. An attempt is made below to compare the recent studies, carried out in 1977 by three sources: the Exxon study (11), the CIA study (7), and the OECD study (41), in order to ellicit some estimates of world demand for OPEC oil. The OECD and CIA reports carry the estimates to 1985, the Exxon Corporation till 1990.

1.2.1 Demand for energy and for oil

To determine the demand for energy in general and for any source in particular one must be able to make assumptions about the income elasticity of demand for energy, or in other words the relationship between fluctuations in GNP and energy demand; secondly one must determine the price elasticity of demand for energy, and lastly the effect of non-price conservation on demand.

It was observed that the 'normal' demand for energy in the last twenty years before the 1973/74 oil price increase in nearly all OECD countries, grew at nearly the same rate as the GNP, so that the income elasticity of demand for energy was nearly equal to 1. (38, Jly, 1974 p91). This was determined by time series regression analysis which tends to give doubtful results if one is interested in short term fluctuations and not in long term trends. In the short run, it is better to use direct quantification of the proportion of total energy use that is likely to respond to moderate

fluctuations in the growth of output. In most industrial countries only half of the total energy required is consumed directly in industrial and related processes (process use of energy), the balance being used for domestic and industrial heating and in passenger transport (non-process use of energy). The latter is less responsive to short-run fluctuations in GNP than the former (34, op cit).

The CIA study mentioned above uses a smoothed time series 4-year weighted average of GNP (called SGNP), as a predictor of energy demand prior to 1973 [1)] and this is utilized as a baseline of energy demand to 1985. The base is then reduced to take account of projected energy savings from higher prices and conservation measures already introduced.

On the other hand, the OECD study assumed directly that energy will grow more slowly than economic growth implying an energy/GNP growth elasticity of 0.84 (41, p11) for 1974-85 compared to the 0.99 value prevailing in 1960-74. The Exxon study assumes an elasticty of 0.93 from 1975-80 falling to 0.84 in the following period of 1980-90 (11, Chart 2).

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1)

$$SGNP = \frac{a\ GNP + a^2\ GNP(-1) + a^3\ GNP(-2) + a^4\ GNP(-3)}{a + a^2 + a^3 + a^4}$$

ED = Ed(-1)(x((SGNP/SGNP(-1))-1)+1) where x=1 is the constant income elasticity

and SGNP = smoothed value of GNP represting economic acitivity

ED = normal energy demand.

Before proceeding to a discussion of the price elasticity and conservation effects, one must mention the actual growth rates for GNP assumed in the different studies. All of them predict that medium-term economic growth rates may be lower than the long-term historic trend prevailing before 1973[1].

Table 1.1 summerizes the projected GNP growth rates assumed in the three studies for the OECD and LDC countries.

TABLE 1.1

PROJECTED GNP GROWTH RATES (%)

	OECD			CIA		EXXON	
Average GNP growth rate	1974-80		1981-85	1977-80	1981-85	1975-80	1981-90
CANADA		4.8	4.0	4.25	4.5		
USA		4.4	3.5	4.75	4.0		
OECD/EUROPE		3.6	4.1	3.0	3.5	4.3	3.7
JAPAN		6.0	6.6	6.0	6.0		
TOTAL OECD		4.3	4.1				
	74-76	77-80					
NON/OPEC LDC	4.5	5.6	6.1	4.5(1)	4.5	n.a.	n.a.
OPEC (2)	8.8	6.2	8.0	n.a.	n.a.	n.a.	n.a.

(1) compared to past long-term rate of 5.6%

(2) 13 OPEC countries including Bahrain, Oman, Brunei, Trinidad and Tobago

SOURCE: assembled from CIA (7), table 1, p4 and p11
OECD (41), pp 35,37,45,56 and table 27 p83
EXXON (11), Chart 2

1) The OECD assumes an average 4% per annum GNP growth rate for 1972-85 compared to 4,9% in a previous study made in 1974 (40).

The reason for the slower growth rate in OECD countries is attributed by the OECD study firstly to higher oil prices, the cause of a severe one-time effect [1]; secondly, the favourable circumstances prevailing in the 1950s and the 1960s are seen to be no longer present, mainly the large scope for labour shifts from lower to higher productivity sectors. Future resources are more likely to shift towards sectors with lower productivity growth, like the private services and the public sector. Another reason given is the drop in productive investment which has occurred in the past few years which has slowed down the growth in capital stock, thereby diminishing growth in potential production.(41,p24-25).

In addition to these aspects responsible for slower growth, the Exxon and CIA reports draw attention to the persistant balance of payments strains which exert pressure on governments to retard growth. At the same time, the high unemployment rates in many OECD countries is a factor exerting an opposite pressure to stimulate economic growth. The resulting levels of growth rates reflect the effect of both these pressures. In addition, the continuing inflationary forces also contribute to slow down the long-term historic GNP trends.

Unlike the previous projections carried out by the OECD in 1974 (4o) the present study considers three scenarios for GNP growth rate rather than looking at different price level scenarios. This indicates an acceptance of the high oil prices. This is

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1) Exept perhaps in the USA where domestic controls on energy prices are practiced.

also exhibited by the other two studies where it is assumed that the real price of oil will remain constant, thus the nominal price increase during the projected period will be just enough to compensate for inflation.

The OECD's three different economic growth rate cases, with a central growth rate of GNP of 4% combined with two different energy policy scenarios, demonstrate the importance of the growth parameter and its uncertainty. The lower case considers a growth rate of 0,5% lower than the central case thus resulting in an energy demand 5% lower by 1985 - and vice versa for the upper case of 0.5% higher growth rate). The effect on oil imports would be the following: a 1% increase in GNP in 1985 would imply an increase in demand for oil imports of about 2% by 1985.

1.2.2 Price effects and conservation

The price elasticity of demand for energy is difficult to assess at present since the price increase in energy was so great and also because it is almost impossible to seperate price effects from non-price conservation which is occuring at the same time. The OECD study classifies in descending order of importance the forces that have affected energy demand in the past two years: recession, higher energy prices, milder weather and non-price conservation (41,p11). The CIA also finds that energy economists have attempted with little success to quantify savings due to conservation, early estimates tending to overestimate the impact of price induced conservation, while recent estimates have erred in the opposite direction, understating energy savings from conservation.

The OECD has estimated that there is a 5-10% scope for saving in the short run through reductions in non-process use of energy (lower thermostat settings, reductions in vehicle speed limits, etc...) while a lower saving level (around 5%) in the process use of energy can be expected given the presently existing capital stock (38, Jly.1974 p92).

The OECD also explores the potential for saving that might accrue from the adoption of additional various conservation practices by introducing an accelerated policy case (see table 1.2). This leads to considerable savings amounting to 242 Mtoe (million tons oil equivalents) [1]. More than one third is assumed achievable in the US alone, in the transportation, household and industrial sectors. There is also considerable potential for saving in European and Pacific regions.

Despite relatively large assumed savings in the US (5-7 mb/d equivalent by 1975) [1], the CIA study estimates that the US will account for about 45% of the growth in OECD demand between 1977 and 1985. These savings reflect the impact of higher gasoline mileage standards (about 2.5 mb/d), the rest following from modifications in life style and changes in capital stock, requiring a sharp increase in energy efficiency of new capital equipment of 15-20% over the existing capital stock. European saving incorporated in the projection requires even greater increases in efficiency of new capital than in the USA.

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1) 1 million barrels per day (mb/d) = 50 Mtoe on average since the heat content of fuels differ in different countries.

The Exxon study, on the other hand, includes conservation in a three stage manner whereby by 1980 a savings level of 9% is achieved rising to 13% in 1985 and to 17% in 1990.

All three studies emphasise the urgent need to save energy as the only way to prevent another great price increase or shortages of supplies in the 1980s. Fear is expressed that as a result of increasing demand for OPEC oil (see tables 1.2, 1.3 and 1.4) a tight supply-demand situation will develop whereby the price of oil may again rise dramatically or that oil producers will simply refuse to meet the OECD and other world demand for oil, since such a high level of production would be unnecessary for their development needs (see discussion below). This would apply to producers with excess productive capacity, mainly Saudi Arabia, whose low absorptive capacity prevents it from using up all its oil export revenues on imports of goods and services. Saudi Arabia's role as a residual supplier is emphasised, it being the only country with sufficient reserves to develop capacity to the required level (see table 1.5). The CIA report expresses great doubts about Saudi Arabia's willingness to increase production to such high levels for several reasons: firstly, the Saudi Arabians are committed to ambitious industrialisation programs which are already stretching their management and logistical capabilities thin. The second reason is that even considering that the Saudis have the adequate capacity, it is doubtful that they would be willing to produce at the required rate since it would result in the generation of enormous surplus funds and also they would be running the risk of rapid reserve depletion. If production reaches 20 mb/d in the mid 1980s, output would begin to decline in the mid 1990s because of depletion.

The main results of all three studies are given below in table form: -

TABLE 1.2

PROJECTED WORLD OIL TRADE

Mtoe (mb/d)

Net imports (+) / Exports (-)

	1974		1980		1985 Reference case		1985 Accelerated policy case	
CANADA	-9	(-0.2)	38	(0.8)	54	(1.1)	35	(0.7)
USA	290	(5.9)	458	(9.3)	477	(9.7)	211	(4.3)
OECD/EUROPE	708	(14.2)	624	(12.4)	738	(14.7)	554	(11.0)
JAPAN	263	(5.2)	348	(6.9)	441	(8.7)	382	(7.6)
AUSTRALIA/ NEW ZEALAND	14	(0.3)	30	(0.6)	40	(0.8)	35	(0.7)
TOTAL OECD	1,266	(25.3)	1,498	(30.0)	1,750	(35.0)	1,218	(24.4)
CENTRALLY-PLANNED EUROPE	-41	(-0.8)	-25	(-0.5)	20	(0.4)	20	(0.4)
CENTRALLY-PLANNED ASIA	-7	(-0.1)	-25	(-0.5)	-60	(-1.2)	-60	(-1.2)
OIL-IMPORTING LDCs	161	(3.2)	148	(2.9)	149	(3.0)	149	(3.0)
OTHER COUNTRIES	39	(0.8)	57	(1.1)	61	(1.2)	61	(1.2)
NON-OIL IMPORTING LDCs	-46	(-0.9)	-150	(-3.0)	-189	(-3.8)	-189	(-3.8)
RESIDUAL (1)	72	(1.4)	25	(0.5)	25	(0.5)	25	(0.5)
TOTAL NET IMPORT DEMAND	1,444	(28.9)	1,528	(30.6)	1,756	(35.1)	1,224	(24.4)
OPEC CONSUMPTION	97	(1.9)	146	(2.9)	208	(4.2)	204	(4.1)
OPEC PRODUCTION	1,541	(30.8)	1,674	(33.5)	1,964	(39.3)	1,428	(28.6)

(1) change in stock at sea and statistical difference

SOURCE: OECD, (41), p9 table 1.

The method of constructing the table was the following: for each country, energy balances were constructed making estimates for all items except oil consumption, marine bunkers and net oil imports. Net oil imports emerge as a residual after sub-

tracting supplies of all forms of energy and non-oil imports from total energy requirements. Therefore oil imports are viewed as the energy source of last resort, and errors in any of the other variables in the projection affect oil imports considerably - a small percentage change in variables such as total energy requirements leads to large percentage changes in oil imports. Despite this disadvantage, the OECD justifies this approach because they believe it reflects the actual situation. "Shortfalls in production of indigenous fuels or increases in energy demand put pressure everywhere on the energy system, but the most expansible point is oil imports because oil production in the main producing countries is physically the most readily expansible source and also the lowest cost." (41, p30).

It should be noted that both studies report similar figures for the growth of OPEC internal consumption of oil, which is quite substantial as a result of their rapid economic development. The estimates are for a consumption of nearly 3 mb/d in 1980 rising to 4 mb/d in 1985.

The main differences between the two tables' results are the following:firstly, in the assumptions concerning the centrally planned countries; the CIA assumes they will cease to be net exporters of oil by 1980 and will require substantial imports by 1985 (about 3.5 - 4.5 mb/d) while the OECD maintains that centrally planned Europe and Asia will continue to be net exporters of oil although at a reduced level. The other main discrepency between the two projections lies in the net US oil needs by 1985 which are substantially higher in the CIA study (by about 2-4 mb/d). This is mainly due to the higher GNP growth rate assumed in the CIA study for the US economy from 1981-85 and to slower US supply response (see below).

TABLE 1.3

OIL DEMAND AND SUPPLY PROJECTIONS

	1976	1977	1978	1979	1980	1985
Free World Oil Demand	48.4	49.8-50.5	51.2-52.2	52.5-54.1	54.9-56.7	68.3-76.2
USA:	16.7	17.8-18.3	18.2-19.0	18.4-19.7	19.3-20.7	22.2-25.6
OECD Europe	13.6	13.9-14.3	13.8-14.2	13.7-14.4	13.7-14.7	15.8-18.2
JAPAN	5.2	5.3- 5.4	5.5- 5.8	5.9- 6.2	6.2- 6.6	8.1- 8.8
CANADA	2.0	2.0- 2.1	2.1- 2.2	2.2 -2.3	2.2- 2.4	2.9- 3.5
Non-OPEC LDC	6.7	7.1	7.5	7.8	8.5	12.1
Other MDC (1)	1.2	1.2	1.3	1.3	1.4	1.9
OPEC	2.1	2.3	2.5	2.8	3.0	4.0
Other Demand (2)	0.9	0	0	0	0	0
Non-OPEC Supply (3)	17.5	18.5	20.1	21.2	22.0	20.4-22.4
USA	9.7	9.6	10.2	10.2	10.0	10.0-11.0
OECD Europe	0.9	1.8	2.5	3.1	3.7	4.0-5.0
JAPAN	0	0	0	0	0	0.1
CANADA	1.6	1.6	1.5	1.5	1.5	1.3-1.5
Other MDC	0.5	0.5	0.5	0.5	0.5	0.4
Non-OPEC LDC	3.7	4.1	4.6	5.3	6.1	8.0-9.0
Net Communist Trade						
USSR-East Europe	0.9	0.7	0.5	0.2	-0.3	-3.5--4.5
CHINA	0.2	0.2	0.3	0.4	0.5	0
Required OPEC Production	30.9	31.3-32.0	31.1-32.2	31.3-32.9	32.9-34.7	46.7-51.2

(1) Australia, Israel, New Zealand and South Africa
(2) Including stock exchanges and statistical discrepency
(3) Including natural gas liquids.

SOURCE: CIA (7), table 5, p15

The net results are on the other hand quite similar for 1980 where required OPEC production is over 33 mb/d but for 1985 the CIA estimates are much higher than the OECD reference case figure: 39.3 mb/d for OECD versus 46.7-51.2 mb/d in the CIA case.

TABLE 1.4

WORLD OIL DEMAND mb/d

	1975	1990
World oil demand	46	76
Non-OPEC world oil supply	16	32
Demand for OPEC oil (1)	30	44
Of which Arabian peninsula production	13(2)	23

(1) demand for OPEC oil in 1980 will be nearly 36 mb/d
(2) figure for 1976

SOURCE: compiled from the Exxon report (11)

The Exxon report gives projections for 1990 of 44 mb/d demand for OPEC oil which is equal to the CIA's figure for 1985. The interesting point to notice is that by 1990 the Exxon corporation estimates that about two-thirds of the OPEC output will be produced by the Arabian gulf countries, mainly by Saudi Arabia (see tables 1.5 and 1.6). While almost all OPEC producers are producing below capacity at the present, in

1985 and 1990 the CIA and Exxon believe, contrary to the OECD, that there will be very little if any under-utilization of capacity.

TABLE 1.5

PRODUCTION CAPACITY PROJECTIONS
of OPEC COUNTRIES

	March 1977	1980	1985
ALGERIA	1.0	1.0	0.9-1.1
ECUADOR	0.2	0.2	0.2
GABON	0.2	0.2	0.2
INDONESIA	1.7	1.9-2.1	1.6-2.1
IRAN	6.7	6.5	5.5-6.5
IRAK	3.0	4.5	5.0-6.0
KUWAIT	3.5	3.0	3.0
LIBYA	2.5	2.5	2.0-2.5
NIGERIA	2.3	2.3	2.0-3.0
QATAR	0.7	0.6	0.5
UAE(1)	2.4	2.6-3.2	3.0-3.5
VENEZUELA	2.6	2.2-2.4	2.2
SAUDI ARABIA	11.5	16.0(a)	18.0-23.0(b)
TOTAL	38.3	43.6-44.3	45.5-52.4

(1) United Arab Emirates
(a) planned level
(b) level required to satisfy world demand for OPEC oil-technically feasible but economically and politically problematic.

SOURCE: compiled from CIA (7), table 6, and pp17-18.

TABLE 1.6

ESTIMATED OPEC PRODUCTION CAPACITY(1) AND UTILIZATION

	April 1976		1980	
	Capacity	Underutilization	Capacity	Underutilization
Saudi Arabia	11.5	3.2	15.0	n.a.
Kuwait	3.5	1.7	3.5	n.a.
Irak	3.0	1.5 (2)	6.0	n.a.
Iran	6.5	1.0	7.0	n.a.
Libya	2.5	0.6	2.5	n.a.
Others	11.0	1.5	11.0	n.a.
Total	38.5	9.5	45.0(3)	11.5(4)

(1) Production capacity is understood as the average rate of production from existing wells that could be maintained for a period from 6-12 months without further development and with no significant loss in ultimate recovery.

(2) subject to considerable variation in early 1976

(3) same capacity for 1985 of 45 mb/d.

(4) underutilization of 5.7 mb/d in 1985 for OECD reference case.

SOURCE: compiled from OECD, (41), tables 28 and 29.

1.2.3 Non-OPEC supply expansion of energy

The OECD table 1.2 gives net figures for imports and exports and does not show the development of indigenous oil supply in the non-OPEC world as does the CIA table 1.3 and Exxon table 1.4. But all studies point to the slow and uncertain response to the higher OPEC oil prices in terms of development of indigenous supplies of energy made economically feasible

by the 4-fold increase in oil prices.[1]

One aspect of the difficulty of doing away with oil as an energy source and shifting to other sources is that although the demand for a particular energy source is more elastic with repect to its price, because buyers are able to substitute one energy source for another, in the short run it is quite difficult to convert from one source of energy to another. This is mainly due to the fact that the costly and specialised mechanical energy conversion equipment cannot be economically replaced within short periods of time. Hence, demand for crude oil in general, which is derived from demand for its various products, is quite inelastic in the short-run (22, p 14-16). At present, OPEC accounts for 50% of the world's petroleum production and for 90% of world crude petroleum exports and for more than 70% of world oil reserves (39, p79 and 40, vol.2, p113). So the demand for crude oil from a particular region which would have been elastic given the buyer's ability to substitute oil from one region to another has been effectively curtailed by the presence of an oil exporters cartel.

At the same time, the development of indigenous supply of energy sources that could replace oil in some of its functions is subject to a variaty of uncertainties: technical, economic and political, making it difficult to assess the supply potential. Technical uncertainties concern such things as short and medium-run bottlenecks, climatic conditions and technical innovations; Economic uncertainties are largely

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(1) estimated cost of producing crude oil in 1972 dollars per barrel of oil: North Sea: 1.5-2.0; United States 0.3-7 depending on different categories: high grade oil shales: 4.1-7.3 , tar sands: 3.4-3.8, syncrude from coal: 6.5-7.5. This is to be compared with 0.15-0.20 costs in the Persian Gulf (40,p 95).It is to be noted however, that all prices have been since revalued upwards.

related to both the evolution of long-run marginal costs of additional energy supplies and long-run energy prices; Political uncertainties arise essentially from the fact that the potential for conflict between various objectives of government policies has greatly increased (e.g. environmental considerations, stabilizing inflation, etc...).

In the OECD study estimates of indigenous supply expansion are lower for all sectors than previous estimates made in 1974 (40), due to a continued reduction in oil production in the USA, to technical delays in the North Slope and portions of the North Sea, to postponements in issuing licences to produce proven fields in some sections of the North Sea and the Outer Contential Shelf of North America. Natural gas prospects are also lower due to the continuing presence of price controls on natural gas in the USA and the slowing of projected production in the Netherlands. Coal output for 1985 is also down from the previous study but it is mainly in nuclear power that the greatest shortfalls from earlier expectations has occurred. This is the result of pressure from conservationalists and environmentalists and the escalation of capital costs primarily to meet higher security standards (41, p11-13).

As far as the rest of the world is concerned, the OECD estimates that net exports of energy from the Eastern European bloc will decline, China will also find increasing internal needs for its rapidly expanding oil production while LDC (non-OPEC) countries will move from a position of net oil imports to one of small net oil exports - in large part due to the growing exports of Mexico, Egypt and Malaysia. This aggregate figure masks the plight of many low income, energy-poor countries. It must be noted that supply projections for the non-OECD world are subject to even more uncertainty because

of either state secrecy or scanty information about energy needs and sources as well as energy development policies. (41, p 11-13).

The CIA reports higher estimates for required OPEC oil production because it estimates that the USSR will change from an exporter to a substantial importer of oil -about 3.5-4.5 mb/d in 1985 - along with Eastern Europe. By 1980, the North Sea oil supplies will be slowing down and Alascan output will have stabilised. While the CIA report also expects the emergence of Egypt and Mexico as substantial oil producers by the mid-1980s, the net effect on demand for OPEC oil will be small. Non-oil supplies are not expected to relieve the problem before 1985, given the long lead times required and the delay in nuclear power plant construction. Natural gas supplies will increase slightly outside OPEC, coal will expand in the USA but not in most other countries (7, Summary).

Consequently, estimates of the shares of different energy sources in 1980 or 1985, show that the share of oil will only fall slightly from 51 to 49% in the OECD estimate and from 53 to 48% in the Exxon estimate while the CIA actually predicts an increase of 1% in the share of oil- from 51 to 52% despite efforts to develop other energy sources. The main increase after 1980 is predicted to be achieved by nuclear energy. (see table 1.7).

TABLE 1.7

SHARES OF ENERGY SOURCES IN WORLD CONSUMPTION OF ENERGY

	OECD (1)		CIA (1)		EXXON (2)	
	1974-80	1981-85	1977-80	1981-85	1975-80	1981-90
Average annual growth in energy consumption (%)	3.6(3)	3.6	3.8	5.0	4.0	3.1
Average annual growth in oil consumption (%)	3.1(5)	3.1	2.5	3.6	5.5	2.5
% share of oil in total energy requirements	1974 51	1985 49	1980 51	1985 52	1975 53(6)	1990 48
% share of coal	20	18	n.a.	n.a.	19	19
% share of gas	20	17	n.a.	n.a.	19	15
% share of nuclear energy	2	9	n.a.	n.a.	2	11
% share of hydro energy (4)	7	6	n.a.	n.a.	6	6
Oil imports as % of energy requirements	36	34	n.a.	n.a.	n.a.	n.a.

(1) OECD countries only
(2) World excluding communist countries
(3) 1972-80
(4) Including geothermal and solar energy
(5) compared to 6.7% in 1960-74
(6) Expected to rise till 1980 and then to decline to 1990

SOURCE: own calculations based on Exxon, (11), Charts 2 and 3
OECD, (41), p29, 31
CIA, (7), tables 2 and 5

To conclude, the main results of the projections lead to the following inferences:

1. Oil will continue to be an indispensible source of energy, the need for which is expected to rise rapidly in absolute terms and to fall only slightly in importance

in relation to other sources of energy. Therefore, a continuing dependence on imported oil from OPEC countries is expected into the late 1980s.

2. If saving is not taken more seriously and policy measures for conservation are not speedly and rigorously implemented in all sectors of the economy of oil-importing countries, then a second price-revolution is not unlikely to occur in the early 1980s as the supply demand market situation tightens and OPEC countries are producing at or near capacity.

3. Doubts are also expressed as to the willingness of OPEC countries to produce at such high levels to satisfy the growing world demand for oil.

1.2.4 Analysis of the results

It is beyond the scope of this paper to go any deeper into the analysis of the basis on which the various assumptions made above in the three projections are founded. It is enough to note the sensitivity of the results to a small change in the size of any of the variables which is reflected in substantial differences in the requirements for imported oil. (e.g. a 0,5% change in GNP growth rate or the size of the income elasticity of supply or demand).

It is also difficult to ignore the fact that energy in general and oil in specific is a very strategic commodity and such projections are invariably affected by the overall policy attitudes of the organisation which makes the projection.

It is perhaps not surprising that the CIA study gives such high assessments of oil needs when one knows the official pressure in the USA to achieve energy independence and self-sufficiency. The low supply response of the US energy sector, in fact the actual fall in indigenous supply, plus the rising oil imports can perhaps be partly counteracted by projection of greatly increasing expected imports. It would then be hoped that a stronger official strategy would be set in motion to speed up the development of oil and other sources of energy such a nuclear power. Also, a projection of a tight supply demand situation indirectly implies a tendency for energy prices to rise and thus an inducement for private investments in the energy sector, the costs of which are constantly rising.(1). Thus less government subsidy would be needed to help the private sector in their huge needed investments.

1.3 Absorptive capacity of oil producers

Having established estimates for the required OPEC production of oil till 1985, the next question is

a) is OPEC willing to satisfy the world demand for oil and if so, then what would be the total oil revenues, assuming some price for oil during the projected period?

b) how great a portion of these revenues can be absorbed in imports of goods and services and what would be the residual surplus funds, if any, till 1985?

We have chosen the CIA figures for required oil production to make our estimates of surplus oil revenues so as to get an upper limit for the surplus, given that the CIA projection

(1) It is interesting to note that the CIA report has been used President Carter to draw his energy policy.

gives the highest figures. It is most likely that the surplus will be lower. The real price level of oil is assumed to remain fixed at 11.5 dollars per barrel (price of Saudi Arabian reference crude) in 1975 dollars. We abstract from the fact that oil is not exactly a uniform good. There exists variations in prices due to different qualities of different crudes - e.g. density and sulfer content.(1)

We shall further assume for the purpose of these calculations that OPEC is willing to produce at the required level of world demand.

The next step is to calculate the absorptive capacity of OPEC countries. One can do that by means of a country-to-country analysis, but for simplicity we can divide the OPEC countries into two groups: The first includes Saudi Arabia, Kuwait, Libya, Qatar and the United Arab Emirates, which are classified as "low absorbers" i.e. countries with a relatively low propensity to import out of export revenues. The rest of OPEC members, Iran, Iraq, Algeria, Nigeria, Venezuela, Ecuador, Indonesia and Gabon, can be classified as "high absorbers". The low absorbers have high oil revenues, small populations, limited skilled manpower and few natural resources apart from hydrocarbons.(2)

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(1) It should be noted that OPEC members have yet to reach an agreement concerning price differentials

(2) In Saudi Arabia oil accounts for 75% of GDP, 95% of government revenues and 100% of exports. In Qatar, oil makes up for 96% of exports, in Kuwait for 74%, in the UAE 97% and in Libya 90% (13, 9.7.1977)

They also happen to be the countries possessing two thirds of OPEC's proven oil reserves (or 40% of proven world reserves). The high absorbers, on the other hand, are characterised by large populations, limited oil supplies, more diversified natural resources and larger domestic markets in relation to oil reserves. They have large development needs and can absorb all their oil revenues in the form of imports of goods and services.

Projections of the rate at which OPEC countries can spend their oil revenues are subject to high degrees of uncertainty. In most OPEC countries oil revenues flow directly to the publicly owned companies or treasuries. Therefore, the decision-making body dealing with the time, size and form of disposition of oil revenues, is the state. Most OPEC members have announced ambitious development plans but it is difficult to assess the extent to which the plans can be implemented given the infrastructural limitations, supply bottlenecks and institutional constraints. Table 1.8 shows that the absorption has been much higher than most experts expected in the last four years. The surplus is diminishing since 1974 despite rising oil revenues indicating an increase in the absorptive capacity of even the low absorbers. It is true that military imports of some OPEC countries have been very high and prices of imports, especially manufactured goods have risen; but despite these facts, nonmilitary imports have risen remarkably, in absolute terms.

Next we make the assumption that the low absorbers (LA) will be willing to act as residual suppliers, i.e., to allow the high absorbers (HA) to produce at full capacity while the LA just supply the remaining world demand. This implies a willingness to produce at levels much below productive capacity till 1980

(underutilization of nearly 10 mb/d), after which demand for oil from LA will rise sharply since the productive capacity of HA will have stabilized (and in some countries will be actually falling) till 1985 when even LA would be also producing at full capacity (see tables 1.2, 1.3,1.5 and 1.6)[1]

TABLE 1.8

OPEC BALANCE OF PAYMENTS

(bn dollars)

	1974	1975	1976	1977
Oil exports	102	97	117	127
Other exports	11	12	13	14
Investment income	4	5	7	9
Total	117	114	137	150
Goods imports	35	56	68	81
Services imports	16	26	31	37
Total	51	82	99	118
Surplus (PARIBAS)	66	32	38	32
Morgan Guarantee Trust estimate of surplus	65	32	33	35

SOURCE: compiled from (18), and (34), 4.4.1977.

The above behavioural assumption concerning LAs is justified for the following reasons: to some extent this behaviour has already been demonstrated by LAs. The cut in world demand

(1) Taking the CIA figures; the OECD, on the other hand, would still place excess capacity of LA at 7 mb/d in 1985.

for oil in 1974 and 1975 (-1,3% and -11,6% respectively) (43, Sep. 1976) has been more than proportionally born by the LA countries. Saudi Arabia has, for example, accepted a reduction of 17% in its production in 1974/75 to keep prices from falling. Also, before 1973, Kuwait, Qatar and Libya had already introduced supply restrictions as a desired policy measure. At present there is internal political pressure in Kuwait to reduce the oil production ceiling (from the present 2 mb/d to 1.5 mb/d) (13,9.7. 1976), since there is little need in the country for extra funds. Both Kuwait and Saudi Arabia have already substantial income from investments abroad, the former expecting a current account surplus of 7 bn. dollars in 1977- although it earns not much more than that amount from oil exports- (13, 9.7.1976, p87). In Saudi Arabia too, the official policy is not to exceed a ceiling of 8.5 mb/d [(1)]. At present, only 13 out of Aramco's 35 discovered fields are in operation. Saudi Arabia's foreign assets are estimated at 49.6 bn. dollars which yield an annual income of 3.8 bn. dollars. (13, 9.7.1976). Table 1.9 estimates the growth in investment income between LAs and HAs till 1985

TABLE 1.9

ESTIMATED INCREASE IN INVESTMENT INCOME FROM 1973 LEVEL*

	1974	1975	1976	1977	1978	1979	1980	1985
HA	1	4	4	3.5	3.5	3	2	-2
LA	2	8	8.5	10	12	12.5	14	16.5

* 1973 = 1

SOURCE: OECD Economic Outlook, Jly. 1975, No.17, Table 33 p79.

(1) exept when they tried to bring other OPEC members into line WRT pricing policies. They attempted, only with partial success, to flood the market with oil at the beginning of 1977.

The IMF etsimates that by 1981 Saudi Arabia will have an income of 10 bn. dollars per year from investments abroad. (13, 9.7.1977). By that time some HA will be slipping into deficit. In 1976, the 5 LA countries already accounted for 95% of the surplus with Saudi Arabia and Kuwait together making up 82% of it. (51 p1).

At the same time most of the LA are facing many undesirable effects of their programs of forced and speedy development. Problems of infrastructure limitations, inflation and lack of skilled and unskilled manpower are beginning to force a slow down in the hectic tempo of development followed since 1974. As mentioned above, the LA have small populations (1) of which a sizable portion is foreign.(2) Most of the development plans require large increases in the working force so that the ratio of foreigners to nationals is expected to rise even further.(3) This is considered politically undesirable by the governments concerned since it creates a community which does not share the same cultural values and political rights and is thus considered to be a source of potential political discontent. Kuwait has already introduced restrictions on immigration to slow down the process, and development plans are being geared towards concentration on capital intensive investments.

Other consequences of hypergrowth have been the very high rates of inflation, attributed mainly to imported goods, the costs of which have risen sharply partly due to severe port congestions, causing sometimes a 40% increase in prices in 1975/76. (44, 12.11.1976).(4) Pressures on residential

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(1) Saudi Arabia: 8 mn., Kuwait: 1 mn., Libya: 2.3 mn., Qatar: 0.2 mn., and the United Arab Emirates: 0.7mn. (13,9.7.1977

(2) 50% in Saudi Arabia, with 65% of the labour force non-Saudi; 55% in Kuwait, and 55% in Qatar. (14, 28.3.1977 p12).

(3) The Saudi Arabian 5-year plan for 1975-80 predicts that by 1980, almost 75% of the total labour force will be foreign (34, 26.4.1976).

(4) The Morgan Guarantee Trust f.o.b. wholesale price index for manufactured goods reports price increases of less than 3%; OPEC sources argue, on the other hand, that the 40% figure refers to c.i.f. prices of imported goods.

accomodation in the Gulf states have lead to speculation in real estate and caused rental prices in Saudi Arabia to rise 10 fold in the last four years. Inflation has also led to a constant revaluation of development projects costs and has caused hardships where the blessing of oil riches was unevenly spread. The lack of institutions and mechanisms of effective financial control does not help to ease the problem.

At the same time, and for the above reasons, there has been a growing feeling among LA that it might be wise and necessary to slow down the frantic growth rate. Many projects are being cancelled or reconsidered as a result of inflated costs or lack of economic feasibility.

In the last three years, LAs have accounted for 48% of OPEC production in 1974, 45% in 1975, rising to 50% in Jan-April 1977. Based on the above mentioned assumption that LAs are ready to act as residual producers, the ratios of production between LAs and HAs are calculated in table 1.10.

In 1974 imports of HA amounted to about 40% of their export revenues; in 1975, the proportion is estimated at 60%. In the medium-term we adopt the OECD assumption that the development needs of HA will be such that by 1980 they will be spending all their export revenues, despite the constraints which may result from inadequate infrastructure, lack of manpower and possible shortage of well-prepared projects. After 1980, the constraints are likely to be only financial for the HAs. But these countries will be well placed to attract foreign investments. Therefore, it is expected that HAs will have a growing current account deficit from 1980-85. (38, Jly.1975, p81).

As mentioned previously, it is difficult to assess the import demand of LAs but one can safely assume that absorptive capacity will be the only constraint in the next few years. In 1974 LAs absorbed less than 20% of their revenues in the form of imports. In 1975, an estimated 25% (38, Jly. 1975 p82). It is expected to rise to 40% by 1980 and to about 75% in 1985 as infrastructure built in the 1970s will ease up the absorption capacity problem.

The above assumptions plus the results of the estimations of the surplus are shown in table 1.10. The resulting estimate for the cumulative surplus oil revenues is very high :493.9 bn. dollars (1975 dollars). As pointed out previously, this is an upper limit and represents a very rough estimate of the surplus. A small change in the absorption capacities or production rationing between LAs and HAs will lead to substantially different results.

There has been a growing consensus among economic forecasters that the astronomical figures for the surplus cited in 1974 (around 600 bn dollars) will not be reached. Most estimates now place the figure at between 125-300 bn. dollars by 1980, compared to the figure derived in table 1.10 of 353.7 bn. dollars. These estimates were mainly carried out in 1975-76 when the world demand for oil was rather depressed while the our high estimate reflects the very high production levels assumed by the CIA study.

TABLE 1.10

CALCULATION OF SURPLUS OIL REVENUES[1)]

	1977	1978	1979	1980	1981	1982	1983	1984	1985	Tot.
Total required OECD-production[3)] (mb/d) (mb/d)	31,6	31,5	32,1	33,8	35,7	39,0	42,1	45,4	48,9	
Production capacity of high absorbers	17,8	18	19	19,2	19,2	19,3	19,3	19,4	19,5	
% production of low absorbers	50	44	43	40	46	50	54	57	60	
% production of high absorbers	50	56	57	60	45	50	46	43	40	
Oil Revenues of low absorbers	66,4	58,2	58,0	56,8	69,0	81,9	95,5	108,7	123,3	
Oil Revenues of high absorbers	66,4	74,1	76,9	85,2	81,0	81,9	81,4	82,0	82,2	
Total oil-revenues	132,8	132,3	134,9	142,0	150,0	163,8	176,9	190,7	215,5	1538
Absorptive capacity of low absorbers (%)	25	30	35	40	45	50	60	65	75	
Absorptive capacity of high absorbers (%)	70	80	90	100	105	110	112	114	115	
Surplus funds of low absorbers	49,8	40,7	37,7	43,1	38,0	41,0	38,2	38,1	30,8	
Surplus funds of low absorbers	19,9	14,8	7,7	-	-4,1	-8,2	-9,8	-11,5	-12,3	
Total Surplus (1975 ₰)	69,7	55,5	45,4	34,1	33,9	32,8	28,4	26,6	18,5	
Total cumulative surplus 2)	69,7	125,2	170,6	204,7	238,6	271,4	299,8	326,4	344,9	

1) assuming price of oil: ₰ 11.51/barrel in 1975 ₰
2) adding 13 bn. dollars: the cumulative surplus till 1973
+ 66 " " : the surplus in 1974
+ 32 " " : " " " 1975
+ 38 " " : " " " 1976
we get the total cumulative figure of 493.9 bn. dollars
3) figures taken from table 1.3

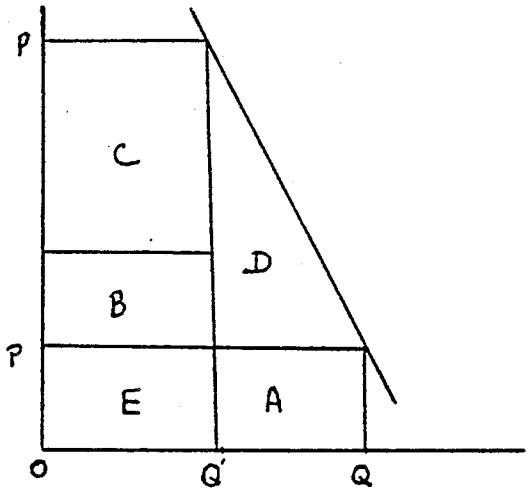
note: the estimates ignore investment income of surplus oil funds.

SOURCE: own calculations

CHAPTER 2

MACROECONOMIC EFFECTS OF HIGHER OIL PRICES ON OIL-CONSUMING COUNTRIES

The short-run consequencies of higher oil prices has affeted both the internal and external balances of oil-consuming countries. This can be illustrated by reference to figure 2.1. (8, p135). The elasticity of demand for oil being less than one, and taking area B to be equal to area A, then the area C represents the new deficit incurred by oil importers as a result of the higher oil prices, the price having risen from OP to OP' and the resulting reduction in quantity demanded from OQ to OQ'. One can distinguish the following effects.



2.1 General macroeconomic effects

(a) A recessionary effect: caused by a real resource loss resulting from reduced oil supply.Assuming income was equal to expenditure before the oil price increase, then the real

income will fall resulting from the higher oil bill paid out of constant money income. The costs can be represented by areas A and D. Unemployment will result as the demand for domestically produced goods falls assuming sticky money wages. If OPEC countries do not spend the extra income they get but keep it idle in deposits within the consuming countries'banking system, then this will be equivalent to a short-term capital inflow exactly equal to the current account deficit C due to the oil price increase and the resulting rise in the oil bill. If they decide to spend all their income on increased imports from oil-consuming countries, then this in itself might cause unemployment in the short run since the pattern of spending of oil producers will not necessarily coincide with the former recepients' pattern of spending, thus necessitating changes in the pattern of industrial production, which may prove difficult to affect in the short run.

(2) An inflationary effect: due to a cost push effect since energy enters in the production of most goods. Also, one reaction of monetary authorities to unemployment might be to increase the rate of monetary expansion hoping to counteract unemployment in this way. Also, inflation follows from the fact that real expenditures fall while money expenditures are maintained.

(3) A transfer effect: if OPEC members decide to spend their extra revenues. This would represent a shift of real resources from importers to exporters. It would lead to reduced real expenditure represented by area C (the deficit), which means that the decline in domestic absorption of domestically produced goods would be equal to that amount. (see below).

(d) Changes in the terms of trade: occurs between different oil-importing countries as a consequence of the fact that OPEC countries' imports from each individual consumer country will not correspond to the deficit of that country. Or, if no transfer effect is expected, then the same should follow for the relative exchange rate from capital inflows not being proportionally distributed in accordance with the oil deficit. That would lead to

(e) Balance of payment problems: which would not arise for the group of consumer countries as a whole but for individual countries where the flow of funds is insufficient. Problems of illequidity or insolvency - i.e. national bancruptcy [1] may arise for some. This is possible since OPEC funds will continue to be unevenly distributed among OECD and LDC countries in response to relative monetary conditions, exchange rate expectations and other economical and non-economical factors.

With respect to the inflationary effect, the OECD has estimated the direct contribution of the increase in the c.i.f. price of oil to the rise in the deflator of total domestic expenditure in 1974 to be 1.5% on average for the OECD countries and 2.3% for European OECD. The difference reflects the low ratio of oil imports to GDP in North America. Thus without the increase in oil prices, inflation in 1974 would have been 11.5% on

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(1) National bancruptcy in this situation can be interpreted in either of two ways: (a) Insolvency: when an oil importer is only able to finance its oil imports by borrowing and is only able to service that borrowing by further borrowing so that it gradually surrenders an ever increasing share of its assets to foreign control. Eventually, its net worth would tend to zero as the whole of its capital stock is foreign owned. (b) Illiquidity: a situation in which some oil-importing countries are unable to meet their contractual obligations to the outside world or more generally will be faced with acute liquidity problems, being unable to raise more funds since they are deemed not credit worthy. (53,pp199-2o3)

average rather than 14% as measured by the IMF for the industrial countries.[1] (50, p106). This effect is also seen as being a once-for-all effect.

Despite these calculations, there is a firmly held opinion, originating in oil-importing countries that the rise in oil prices bears a heavy share of responsibility for the high level and the acceleration of world inflation. The opposite view is held by OPEC which claims that the world-wide inflation was largely responsible for the rise in oil prices.

The consumers assert that the 4-fold increase in oil prices had a tremendous cost-push effect, increasing directly the price of all oil by-products, and indirectly the price of all oil substitutes. But one can argue that if aggregate expenditure is held constant than the general price level should be constant since the rise in expenditure on oil will bring about a fall in expenditure on other goods and services and thus a fall in their prices. Even if demand management is such as to maintain money prices of other commodities stable, then the impact of higher oil prices would be substantial but not extreme. Also, it would be a once-for-all effect and would not explain the increase in the rate of inflation.

One must look elsewhere for the causes of inflation since it was raging long before the 4-fold increase in oil prices.[2]

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(1) Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Switzerland, the United Kingdom and the United States.

(2) From 1961-71, the average annual rate of increase in consumer prices was 3.7% in OECD countries, from 1971-72 it was 4.7%, then from 1972 to 1973 it rose to 7.7%, jumping to 12.5% for the 12 months ending in April 1974; The average realised price of Saudi Arabian crude was 1.3 dollars per barrel for 1961-71, rising to 1.65 then to 1.90 between 1971-72, then increasing by 42% to 2.7 dollars in 1973 and finally from 3.14 to 9.41 dollars in Jan.1974. (50,p107).

Kaldor (24) argues that the price of oil has an excessive effect on the general price level as a result of market imperfections. Prices of manufactured goods, according to him, are not market clearing but rather cost determined. They are administered by large corporations with superior market power, through adjustments in stocks. Commodity markets, on the other hand, are thought to be determined by market forces, although they are subject to high speculation and other imperfections such as time lags in the adjustment of supply to price changes.

Consequently, any large change in commodity prices - in this case oil-tends to shift the terms of trade only temporarily in favour of the producers, because of the assymetry between commodity prices and manufactured goods prices. What actually happens is that a rise in commodity prices exerts a very powerful blown-up inflationary effect at every stage of production pùshing profits of manufactured goods up and causing a wage-price spiralling effect. The industrial sector, with its superior market power resists compression of its income through a cost induced inflation. It is true that manufactured goods prices have been rising at a faster rate than other goods and out of proportion with the inflationary effect on costs of the oil price increase. But in the case of petroleum, the price is not only determined by market forces, and the producers' cartel is in a strong enough position to regain any loss in the newly acquired improvement in its terms of trade vis-a-vis consuming countries.

One last point with respect to the effect of higher oil prices has been the argument that a large and hidden cost resulting from the oil price rise, is that energy intensive capital goods will consequently become obsolescent at a much faster rate.

2.11 The transfer problem

A controversy has been going on in the industrial oil-consuming countries since 1974, concerning the relative advantages and disadvantages of a rapid real transfer of resources to OPEC countries, that would lead to a rapid diminution of surplus oil funds in OPEC hands, as against a slow transfer leading to higher surpluses and therefore greater investments of funds in oil-consuming countries. In the last three years a marked preference has been shown for a rapid transfer, and the lower than anticipated OPEC current account surpluses have aroused satisfaction on the part of the oil-importers. More recently, however,doubts have been expressed as to the advantages of such a course and there has been an awakening interest in trying to convince OPEC to invest more of its funds in the West.(1)

The issue involves a number of complex considerations. Some of the arguments put forward in defence of each position are the following:

It is clear that eventually a transfer of real resources is inevitable. The choice is to transfer now or to transfer in the future. The real resources transferred will be the same at any two dates if the rise in export prices from oil-consumer countries is sufficient to offset the pecuniary returns on the obligations held by OPEC. Recent history shows that export prices have risen faster than the general

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(1) OPEC countries themselves have shown a marked preference for rapid absorption of their oil revenues in the past few years.

price level, and that the interest rate accomodation to the inflation rate has been less than complete. (22, p41). If these conditions prevail, then the investment of OPEC revenues abroad could result in a lower total transfer of real resources to OPEC over time. OPEC countries are aware of these problems and have since long demanded that the rate of return on investments of surplus revenues should be indexed to the rate of inflation, and prices of oil to those of import prices[1].

The oil-producing countries are, however, not likely to be indifferent between a real transfer now or in the future. To begin with, goods transferred now can be put to production use to generate more goods; In addition, present valuation of future consumption is likely to be lower than that of current consumption. This explains OPEC countries' priorities with respect to their oil revenues. Primarily, they want to develop their domestic economies as fast as possible by absorbing the greatest amount of imports they can; second, they express the desire to extend aid to LDCs (mainly Arab and African countries), and only thirdly do they think of investing the ramainder in international financial centres with a clear preference for big banks and investment in government securities and blue-chip stocks of large corporations.

In principle OPEC investments in the industrial countries would help to increase the latters productive capacities and

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1) In a seminar on investment policies in Kuwait in 1974, oil-producers expressed the desire to see surplus capital held in 'Index Bonds' the return on which would be insulated from inflation; and in 'World Unit Trust' international investment funds providing OPEC investors with balanced portfolios consisting of shares, international bonds, real estate, and foreign exchange.

and thus enable them to redeem OPEC claims in the future [1]. The opposite argument is that an increase in exports now through the multiplier effect also generates income that could finance future investment; at the same time, exports increase effective demand resulting in increased capacity utilisation which in turn leads to a rise in demand for investment capital.

The desire in the West to see a rapid utilisation by OPEC of its oil funds stems from a fear that these revenues would create major recycling problems. This was based on doubts about the ability of the western financial institutions to deal with the sudden surge of funds, and that the flow of funds to Europe which is the major importing area of the world, would be insufficient, thus forcing severe domestic adjustment policies.

So far these fears have proved to be unfounded. The international financial system has passed the test. This success has led some to say that the recycling process and the reshuffling process-secondary recycling among individual countries - has disappeared. It was another of these doomsday stories created along with other myths attempting to make oil-producers responsible for all economic ills consumer countries were facing.

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1) This argument is questionable: any change in the level of productive capacity depends on many factors other than the availability of financial capital. The rate of capital formation depends on idle capacity which also partly depends on government policies to influence levels of economic activity. It will also depend on expectations, and on the sources traditionally used to finance capital expenditures. (eg. internally generated funds). OPEC funds sought mainly relatively liquid assets; this bore down on short-term interest rates rather than long-term rates which would have been more relevant towards stimulating fixed investments. The great uncertainty and the end of the inflationary boom led to little investment demand and a preference to accumulate liquid assets despite inflation.

Recently the opposite tendency is manifesting itself. The satisfaction with the high absorption of revenues is turning into alarm as the West is slowly emerging from recession. Of the twin fears of inflation and stagnation, the first appears to be the greatest at the moment. It is seen as possible that the fruition of government measures of monetary and fiscal expansion leading to increased domestic demand will coincide with increased demand from OPEC countries. In additon, the inflationary force is expected to be reinforced by another factor: the heavy investments in alternative sources of energy. Thus, while the OPEC oil price rise aggravated an already expected recession at the end of 1973, OPEC demand for imports would now, in the late 1970s, make the subsequent expansion sharper and more inflationary.

As a result, it is hoped that more efforts will be exerted by the industrial countries to find profitable outlets for OPEC investments in the productive sectors.

2.2 Special problems of LDCs

The detrimental effect of higher oil prices on non-oil producing LDCs centers on the impact on foreign exchange earnings and reserves rather than on aggregate demand. Economic growth in most of these countries is heavily dependent on availability of foreign exchange in the present systems. This in turn determines the capacity to import capital goods, support investment and generate growth.The main consequences are the following: Firstly, an oil induced recession in MDCs shrinks the export markets of LDCs. This depressing effect can even be larger than that exerted by the oil price increase. In an econometric model set up by the World Bank, it is estimated that a change of 1%

in the GNP of OECD countries is eventually associated with a change of 0.85% in the same direction in the GNP of LDCs. (15, p34).

Secondly, out of reduced foreign exchange receipts, LDCs have to pay a higher fraction for oil imports since most of them have little possibilities to save much energy or to increase domestic production at comparatively low economic cost. Therefore, a smaller fraction is left over for other imports. It must be noted, nevertheless, that although the distribution of their energy reserves is uneven, all non-OPEC LDC together have enough economically recoverable reserves to reduce their dependence on energy imports from other countries from about 30% of total consumption in 1974 to between 12 to 6% in 1980. The poorest countries among them (per capita income less than 200 dollars) have about halfthe energy reserves of the group (eg. India's coal and Niger's uranium). However, to achieve such levels of independence requires annual investments of 1,3% of their GNP in energy production over the next five years. The dilemma they are facing is wether they should sacrifice economic development in other fields for the sake of energy and because of the long lead times still have to continue paying for high costs of imported oil in the meantime (26).

It should be noted that for the small non-OPEC oil exporting LDCs, higher oil prices were a positive factor of great significance. Oil revenues of countries like Mexico, Columbia, Egypt, Syria and Angola have increased and are likely to grow further if possibilities of expanding production exist.

Thirdly, the adverse change in trade balance impairs the ability of LDCs to borrow in private capital markets since

their creditworthinessdiminishes.[1] Lastly, the transfer of income from OECD to OPEC is bound to reduce the flow of concessional aid to LDCs from the former.

One can make a distinction among the non-oil LDCs between those that are rapidly growing export-oriented countries and those that are slow growers with a high ratio of population to resources. The first group pay 3/4th of the increase in the oil import bill of all LDCs (15, p38). But they can bear this burden more easily because of their potential for rapid growth. Their recovery is greatly dependent on the recovery of the industrial countries but they also have access to private capital markets and to facilities extended by international organisations. With adequate financing they can weather the transition to world economic recovery, namely at a slower economic growth rate, but if these credits are not made available, then their situation would be difficult.

On the other hand, the low income LDCs face a burden of 2-3 bn. dollars a year as a result of the oil price increase. They are in a more difficult situation since it is harder for them to borrow on private capital markets. They are also not likely to be the recipients of OPEC investments and are therefore, heavily dependent on concessional capital from OPEC and OECD countries. The IMF Oil Facility fund has helped 40 countries but its scope was insufficient and it was seen

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(1) Credit-worthiness in the strict sense is the ability of a country in a deficit situation to move back to a position of surplus. If this is the criterion, then many LDCs would not qualify.A less strict condition would be that a country must have a clear prospect that its indebtedness does not grow faster than its debt servicing ability; i.e. a country remains solvent (53, pp2o7-2o8)

as a temporary arrangement and has since been discontinued. It is interesting to note, that the greatest share of these funds went to the United Kingdom and Italy, who were in serious balance of payments problems!

2.3 Changing world income distribution

Now that it seems possible that oil funds will prove manageable within the present world monetary system, it is interesting to analyse if the world redistribution of income can really be considered as "better" or "worse" than the one that existed prior to the oil price increase. Table 6.5 shows that the Gulf Sheikdoms have enjoyed gains large enough to raise their income markedly above OECD level, but only 15% of the total transfer of income has accrued to them. At the other extreme, some 40% of the increased oil revenues have accrued to countries that are still poor by OECD standards. 85% of the losses of income have been sustained by OECD countries (53, Williamson, pp217-18).

Unfortunately, this redistribution has further impoverished some of the poorest non-oil producing developing countries who sustained a loss of 10 bn dollars a year of which 2 bn. was accounted for by the poorest (eg. Bangladesh, India and Pakistan). Even before the oil price increase their economic growth had been constrained by balance of payments problems, and the new deterioration in their current accounts due to the oil price rise, will make it more diffidult for them to qualify for loans since it further undermines their credit-worthiness. However, the Indian current balance seems to have greatly benefitted from increased export of labour to OPEC Gulf countries and the monetary remittances to India have more than compensated for the increased oil bill.

TABLE 2.1

EFFECTS OF THE OIL PRICE INCREASE ON INTERNATIONAL DISTRIBUTION OF INCOME

Country	1971 per capita GNP in Dollars	Approxiamte 1974 per capita GNP in Dollars	1974 Income Transfer in billions of Dollars
OPEC			
Kuwait	3,860	12,000	+ 8
United Arab Emirates	3,150	19,000	+ 3
Qatar	2,370	17,000	+ 1
Libya	1,450	6,000	+ 5
Venezuela	1,060	2,000	+ 9
Saudi Arabia	540	3,500	+18
Iran	450	1,300	+14
Irak	370	1,100	+ 4
Algeria	360	750	+ 2
Nigeria	140	250	+ 5
Indonesia	80	125	+ 3
OECD	3,160	4,700	-63
United States	5,160	6,600	-17
France	3,360	5,200	- 6,5
Germany	3,210	6,400	- 6,5
United Kingdom	2,430	3,300	- 5,5
Japan	2,130	4,700	-12,5
Italy	1,860	2,700	- 5,5
Non OPEC Developing Countries	60-1,230	na	-10

SOURCE: World Bank Atlas 1973, OECD Economics Outlook 1974, BP Statistical Review of the Worl Oil Industry 1973, Energy and US Foreign Policy 1974 found in Williamson, J., "The International Financial System", p217. (53).

It is doubtful if aid will increase sufficiently to cover these deficits. The bonds of sympathy between OPEC and another LDCs are being strained.(1) OPEC grants and loans, though constituting a much higher percentage of GNP(2) than the aid extended by MDCs, are still inadequate being based on projects and disbursements which take time to be implemented thus not solving the most immediate balance of payment problem of LDCs.

OPEC countries have been conscious of the gravity of these problems and help has been extended in various forms - bilateral aid, multilateral aid, funds to the IMF Oil Facility, and the setting up of a Special Fund which allocated 800 mn. dollars in aid (mainly interest free loans) to LDCs in 1976. This constitutes 3/4 of 1% of the income of OPEC countries but in 1976 some OPEC members were facing some financial problems of their own and hesitated to contribute much. Indonesia and Ecuador for example, refused to contribute to the 1976 aid fund, claiming that their overall financial situation was too precarious, thus reducing the initially planned sum from $1 bn to $800 mn. Aid in the following years will have to be further negotiated among OPEC members as the present sum allocated is only for one year. But most OPEC countries do consider themselves as an integral part of the Third World and are therefore ready to provide aid and to

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(1) After the 10% price increase in 1975, there were some angry reactions from some LDCs. Tanzania condemned the increase, India termed it as "very bad news" and Kenya went so far threatening to ban exports of charcoal-used as a fuel - to the Arab world. (32, 3.10.1975 and 24.10.1975). It should not be forgotten that LDCs have a high income elasticity of demand for energy of more than unity, so that it is difficult to reduce demand fast.

(2) In 1974 Kuwait gave 6% of its GNP as aid, Saudi Arabia 3% the United Arab Emirates 3% and Iran 2% (The Middle East, Oct, 1975)

encourage other primary producers to follow in their footsteps, as exhibited by their attitude in the North-South conference

TABLE 2.2

OPEC CONCESSIONAL AND NON-CONCESSIAL ASSISTANCE TO DEVELOPING COUNTRIES AND MULTILATERAL INSTITUTIONS

$ bn

	Commitments					
	Bilateral			Multilateral		
	1975	1974	1973	1975	1974	1973
Total	8.04	7.34	2.36	2.65	7.58	0.45

Jan-June 1975

	Disbursements					
	Bilateral			Multilateral		
	1975	1974	1973	1975	1974	1973
	2.21	3.35	0.18	1.03	3.67	0.30

SOURCE: Middle East Economic Digest, 16/1/76, p27. (32)

CHAPTER 3

MECHANISMS OF RECYCLING OF SURPLUS OIL FUNDS

3.1 Trends in recycling

In 1974 the recycling process was dominated by the growth of the Eurocurrency market (see section 3.2). Publicy announced Eurocurrency bank credits rose by 28 bn. dollars while US and German banks increased their foreign loans by 18.3 and 8.3 bn. dollars resepctivelly. (45,p5).

The estimated disposition of OPEC oil surplus funds in 1974 (see table 3.1) shows the preference of OPEC countries for liquid assets which they tended to place in strong financial institutions usually in economically strong countries, with the exception of the UK (see below). Nearly 2/3 of the 55 bn.dollars [(1)] OPEC surplus was invested in liquid assets- one half in bank deposits and one sixth in government securities. 5% were made available as direct grants and loans to developing countries.

The current account position of several major industrial countries in 1974 (table 3.2) shows who the main beneficiaries of OPEC loans and deposits have been.

It emerges that Germany was in the strongest position, with a current account surplus of almost 9 bn. dollars despite a 6.7 bn. dollar increase in oil import expenditures. It received little investment money from OPEC but it needed none. The US was also in a favourable position despite having the

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(1) elsewhere estimated at 66 bn. dollars; see table 1.8.

TABLE 3.1

ESTIMATES DISPOSITION OF OPEC SURPLUSES IN 1974

(in billion of dollars)

Bank deposits		27.5
Dollars in United States	4.5	
Sterling in UK	2.5	
Eurocurrencies	20.5	
Marketable government securities		9.5
US	6.0	
UK	3.5	
Direct investment in developed countries		0.8
Portfolio and real estate investments in developed countries		1.0
Direct loans to official institutions in developed countries		6.5
Loans to international financial institutions		4.2
International Monetary Fund	2.0	
World Bank and other development banks	2.2	
Direct grants and loans to LDCs		2.5
Other		3.0
Military assistance grants to Arab nations	1.8	
Debt repayment	0.7	
Participation payments to oil companies	0.5	
Total		55.0

SOURCE: Morgan Guaranty Trust Company in Pollak, G.A. "Are the Oil-Payments Deficits manageable", Essays in International Finance, No 111, June 1975, p3.

TABLE 3.2

ESTIMATED CURRENT ACCOUNT POSITIONS IN 1974 AND GOVERNMENT FINANCE ACTIONS

(in bn of $)

	Current Account		Capital Account		
	Overall Balance	Increase (-) in Net Oil Expenditures from 1973 (cif)	OPEC Deposits, Loans, and Investments	Known Government Borrowing Commitments	
				In Private Money Markets	From IMF EEC, Other Governments
US	-4.0	-17.8*	11.0	0	0
Germany	8.6	- 6.7	0.5	0	-2.0**
UK	-9.2	- 6.5	6.0	4.2	0
France	-6.1	- 6.9	1.2	2.8	0
Italy	-9.0	- 5.4	1.2	2.0	6.2
Japan	-4.6	-14.4	1.0	8.6***	0

SOURCE: Pollack, G.A., "Are the Oil Deficits Manageable", EIF, No 111, June 1975, p4.

* f.o.b.

** Bundesbank loan to Italy, included in Italy's $6.2 bn borrowings.

*** Includes $8.5 bn of interbank borrowing which the Japanese government encouraged the commercial banks to undertake.

largest increase in oil payments, mainly because it benefited from an 11 bn. dollar capital inflow from OPEC, the biggest share of all. Other oil importers were in a less enviable position. Italy and the UK, the latter despite a high inflow of OPEC capital (8 bn. dollars) still needed to arrange for substantial credits on the Eurocurrency market. Japan and France also incurrend Eurocurrency loans. Italy's 2 bn.dollar loan was arranged by the German Bundesbank.

In 1975 OPEC investments in Europe and the US fell from 28 bn. dollars in 1974 to 9 bn. dollars in Europe, and from 11 bn. to about 9 bn. in the US. This reflects partly the fall in the size of the total surplus (36 bn in 1975), but there were also changes in the disposition of the funds. 5 bn. out of the 9 bn. invested in the US went into long-term investments (32,27.2.1976). This shows a change in the preferences of OPEC countries. (see section 3.2).

There was also a definite shift from deposits in the UK and a flow towards the US market. (see table 3.3). In 1974 OPEC investments in the US amounted to 22% of total investments. In 1975 this went up to 32%, and in 1976 it reached 44% (14, 18.2.1977 p11). The Eurocurrency market's share fell from 40% in 1974 to 30% in 1975; but the UK was by far the greatest loser. From a level of 7.2 bn.dollars investments in 1974 - mainly in the government sector and property sector - the inflow of OPEC funds almost stopped in 1975, and an outflow of Sterling equivalent to 1.4 bn. dollars was recorded in 1976[(1)]. At the same time, OPEC investments in LDC countries rose in 1976 to 17% of total investments.

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(1) In 1975 Sterling deposits amounted to 13% of total OPEC investments in the UK (19, 3o.1.1975).

The role played by London in the 1974 recycling process goes back to several factors. At the time a large part of the oil earnings was being paid in Sterling. Also, due to historical links between the UK and some oil producers, the latter found it natural to maintain their earnings in sterling and to deposit them in the UK. At that time London had already established itself as the center of the Euromarket. In addition the London market provided the liquidity and security desired by the OPEC investors, in the form of a large British government debt and a willingness exhibited by the UK authorities to see OPEC investing in their capital market,(1) which was not exactly the case with other countries where xenophobic fears of being invaded by oil money were at their highest peak (see below).

In 1975 and 1976 the situation changed perceptibly. London began to lose its special position. This may be attributed to the fall in the value of the pound (especially in 1976) and to the running down of sterling balances(2). Also, some of the OPEC countries (among which Abu Dhabi, Saudi Arabia and Kuwait) have decided to get all their oil revenues paid in dollars while previously an important part had been in sterling. In 1973 oil producers permitted payment in sterling for 20.3% of their oil revenues; in 1975 the share went down to 11.8%, while in the first nine months of 1976 it was only

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(1) It was seen as a way of postponing action on cutting down the UK current account deficit by other policy measures.

(2) The UK government has decided to arrange the orderly run down of sterling balances by selling foreign currency bonds or borrowing from other industrial countries' central banks. This action will close-off the UK as a recepient of official holders of sterling, thus pushing OPEC further into the Eurocurrency and US markets.

5.7%. The rest is paid in dollars. (36, Jly/Aug 1976 p16). Arab financial authorities lay the blame on the UK's uncertain political situation and the mistaken measures taken by the UK government to restore confidence. They claim to have held on to the sterling longer than was provident to their own interests.

In the past year, France has emerged as a growing market for the recycling of oil funds. A rush of short-term 'hot' petrodollars into French banks started in March 1976, when US banks began to turn down short-term OPEC deposits. The French government has welcomed this development and encouraged it. All banks in France are government owned and therefore the risk for investors is low since they will not go bankrupt. The French policy aims at attracting strong currencies into the country. The French banking system enjoys another advantage over other European banks in having a very low capital to deposits ratio of 1% compared to 8% in Swizerland and 3% in Germany. (2, 17.1.1977 p76).

On the whole one can say that the West has managed quite well in sharing the oil deficit through direct bilateral loans between countries (eg. the German loan to Italy). Official efforts, on the other hand, have not met with equal success. The IMF Oil Facility as mentioned before, was just a temporary measure that was discontinued in 1976 and it offered loans that were insufficient to the needs of LDCs. The EEC had decided to constitute a 3 bn. dollar fund to help its members in need, but the money is still to be raised. The OECD had proposed a much more ambitions plan of 25 bn dollars safety net but the project has not yet gained the approval of the US Congress.

TABLE 3.3

ESTIMATED DEPLOYMENT OF OIL EXPORTERS' SURPLUSES

Bn. dollars

	1974	1975	1976
UNITED KINGDOM			
British government stocks	0.9	0.4	0.2
Treasury bills	2.7	-0.9	-1.2
Sterling deposits	1.7	0.2	-1.4
Other Sterling investments§	0.7	0.3	0.5
Foreign currency deposits	13.8	4.1	5.6
Other foreign currency borrowing	1.2	0.2	0.8
	21.0	4.3	4.5
UNITED STATES			
Treasury bonds & notes	6.0	2.0	4.2
Treasury bills		0.5	-1.0
Bank deposits	4.0	0.6	1.6
Other§	1.0	6.9	6.7
	11.0	10.0	11.5
OTHER COUNTRIES			
Bank deposits	9.0	5.0	5.5
Special bilateral facilities and other investments§+	11.9	12.4	9.7
	20.9	17.4	15.2
INTERNATIONAL ORGANISATIONS	3.5	4.0	2.0
TOTAL	56.4	35.7	33.2

§ includes holdings of equities and property etc.
+ includes loans to LDCs.

SOURCE: Bank of England Bulletin, compiled from (14,17.6.1976 and 17.3.1977).

There has also been some scholarly discussion about the proper management of the sharing of oil deficits among consumer countries. (see 9 and 49). The discussion centers on the problem of how best to direct the OPEC flow of capital between oil-consumers to adjust their current and capital accounts in an optimum fashion. The purpose is to avoid 'begger my neighbour' policies to develop whereby each country tries to solve its balance of payment problem seperately through devaluations, import restrictions or export subsidies or by contracting seperate individual arrangements with the oil-producers.

The assumptions are that a laissez-faire attitude and a total confidence in the market mechanism is unwarrented since it would not solve all the problems and minimize the loss of welfare incurred by oil-consuming countries. The suggestions offered were to arrange for the distribution of oil funds according to a wheighing scheme based on some indicator of wealth, such as GNP or capital formation. But these discussions have remained on a very abstract level and they suffer from a total disregard of the real situation prevailing in the capital markets and the preferences of the OPEC investors themselves.

3.2 The Eurocurrency market: prospects and problems

As a result of the leading role played by the Eurocurrency market since the oil price increase in 1973, interest has been aroused as to its function in the international financial system and wether it will be able to continue playing such a prominant role in the recycling of petrodollars.

The prime mover behind the expansion of the Eurocurrency market has been the demand for loans rather than the supply of loans. The Eurocurrency market developed so rapidly because it could surmount the various legal barriers to the flow of funds between national capital markets. In this process, foreign branches of US banks played a leading role, due to the credit stringency in the US during the 1960 and the financing requirements of US corporate business abroad. Also, in 1968 mandatory ceilings were placed on US direct foreign investments with dollars exported abroad while no ceilings were placed on US corporate investments abroad financed by funds borrowed abroad. The result was that between the end of 1969 and the end of 1972 the Eurocurrency market more than doubled in size (35, p2).

An additional advantage enjoyed by the Eurocurrency market has beens its freedom from national currency reserve requirements. This leads to a reduction of the costs incurred by the banks when dealing with liabilities denominated in foreign currencies. The result has been that interest rates on loans have been lower and rates paid on deposits higher than would otherwise have been the case (35, p1).

A Eurocurrency deposit is a time deposit denominated in the currency of a country other than the currency in which the bank is located. Sources of funds for the Eurodollars market include Eurodollar deposits of non-bank firms and individuals, central bank deposits and dollars injected into the market by the Eurobanks themselves. About 3/4 of total Eurocurrency deposits are dominated in dollars, the remaining in German marks, Swiss francs, pounds sterling, goulders and French francs, in that order.(1) (35, p1). In 1974 the OPEC countries

(1) At the end of 1973 the non-dollar share of the market has increased to 28% from about 17% in 1969 in favor of German and Swiss currencies.

became the most important single source of Eurocurrency funds. At the same time, their borrowings from the Eurocurrency market increased tremendously.

During the first half of 1974, the Eurocurrency market grew at an annual rate of 50% (35, p4), the supply coming mainly from OPEC countries, and the demand for loans from the oil - importing countries. The largest borrowers were the MDCs: Italy, France Japan and the UK; but LDCs also borrowed substantially. The market was in a euphoric state. By the third quarter of 1974, both supply and demand fell sharply as a result of a loss in confidence caused by the much publisized failure of a few banks in Europe and America, plus heavy losses incurrend by a number of banks on Eurocurrency credits. Also a growing cautiousness was developing with respect to loans to LDC countries where the credit-worthiness of some borrowers was put into question. Another reason for the fall in demand and supply was probably the depressive effect of the recession on credit demand of industrial firms. However, at the end of 1974, the market resumed its expansionary trend.

There are several problems facing the Eurocurrency market. The first is its ability to continue financing large volumes of intermediate and long-term loans on the basis of relatively short-term deposits supplied by OPEC countries. The constraints of sound management limit the degree to which banks can lend long and borrow short. But despite the declared reluctancy of banks to carry out such transactions, this type of financial intermediation has been taking place all along. Nevertheless, the Eurobanks do need some assurance from OPEC depositors that they will not withdraw their deposits suddenly. There is also evidence that OPEC is gradually moving towards deposits with longer maturity either on a fixed or variable interest rate

basis. The structure of interest rates has helped in this shift since short-term rates fell while long-term rates rose thus forcing lenders and borrowers to modify their preferences.(1)

Another probelm raised in connection with the Eurocurrency market is wether it has a more inflationary effect on oil-importing countries's economics than would direct investments by OPEC countries in these economies. In itself, depositing dollars on the Eurodollar market is not inflationary since it does not create additional means of payment in the hands of the public. On the other hand, if central banks inject credit into the system in the process of financing oil deficits, this will lead to an expansion of the domestic money supply and may have inflationary effects.(2)

The future problems facing the Eurocurrency market are seen to be tightly connected with the situation in the LDCs. In 1975, 2/3 of the syndicated loans went to LDSs,40% of the funds were acquired to cover financial needs. This represents a big exposure of the private financial system to countries that might find it difficult to service their foreign debt burden, since their exports are increasing at a slower rate than the increase in outstanding debts. This

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(1) It could be asked why Eurobanks do not expand their equity base by inducing OPEC to participate in equity capital. Perhaps the answer lies in the weakness of equity markets which makes banks hesitant to sell control cheaply.

(2) If national currencies are exchanged for dollars by central banks to pay OPEC for the oil imports, then the money supply is reduced by an equal amount and redepositing by OPEC of the dollars in the Euromarket only restores the former level of money supply, as dollars loaned to the non-bank sector are converted back into national currencies at the central bank.

is also true of some East European countries. The spiralling external debts of both groups of countries are seen to represent the weakest link in the system.

As the demand for oil is expected to rise in the next few years so will the demand for credits. There will result an increasing competition for credits with LDCs, who will have to pay more for oil while getting less credits (14, 3.3.1977).

The advantages enjoyed by the Eurocurrency market, on the other hand, are many. It affords a wider distribution of OPEC funds than that possible through deposition of funds in a few countries with well developed money markets. It facilitates the procurement of loans to oil-importing countries under favourable circumstances and with no imposition of any conditions for economic adjustments such as those imposed ny international organisations like the IMF. OPEC countries also benefit since returns on Eurocurrency deposits are generally higher than those obtained in other money markets.

Confidence in the market has also been strengthened by assurances from leading central banks, including the US Federal Reserve, that they would support the Eurobanks in the event of an abrupt withdrawal of petrodollars or other deposits.

The market has solved some of its other problems quite well. The difficulty of extending medium and long-term loans due to world-wide fluctuations in the rate of interest, was overcome by the use of roll-over credits where the rate on credit is subject to adjustment every six months on the basis of the prevailing interest rate. The problem of excess liquidity existing in a few banks and shortages elsewhere (due to OPEC countries' preferences for some particular institutions) was

solved through extensive interbank operations. The Eurocurrency market is to a large extent an interbank market with more than 70% of foreign currency liabilities and assets of Eurobanks held against other banks. (16, p16). There remains the problem of the foreign exchange risk faced by OPEC depositors on the market. Hence their desire to have their assets denomonated in SDRs. Up to the present, this has not been carried out on any large scale.

The recent reemergence of New York as a world capital and money center cannot take away the major role played by the Eurocurrency market in the last decade. But it is likely as a result of the recent lifting of the US restrictions on capital outflows in 1974 that the European market will become more and more integrated within the US market. The interest rates on the Eurodollar market are now more closely related to those on the domestic US market. This increasing integration implies a growing influence of the US monetary policy on other countries' domestic monetary conditions as well as their external deficit financing through the Eurodollar market (38, Jly 1974, p103).

3.3 Investment behaviour of OPEC countries

There are two ways in which OPEC countries can increase their claims against other countries: through foreign direct investment (FDI), or through foreign portfolio investments (FPI). In the former, the primary concern of the investor is to exercise management control while in the latter, the investor has only a financial interest. FDI is usually defined as ownership of a specific percentage of a firm's shares by a foreign investor, often 25% sometimes even as low as 10%, the actual

percentage necessary for effective control depending on the amount of cooperation extended by the firm's management and the tacit agreement of the other shareholders, especially important if the share is as low as 10% (25, p661-666). If other groups feel threatened by the investor, than the latter would need to own substantially more than 10% of the firm's assets.

Studying the behaviour of OPEC investors so far, one can deduce that they have in general the following objectives in mind, here stated in descending order of importance: safety, stability, diversity, anonymity and maximum yield. In other words, they are risk aversive, low-profile investors. They would like to maintain anonymity because they are sensitive to the reaction they got from host countries and would like to avoid nationalisation moves directed against their investments in these countries. They were, and still are to a lesser extent now, interested in liquidity, since they tend to think the surplus will only be temporary and they show a preference to use up their funds as quickly as possible on the imports of goods and services for the purpose of developing their own economies. In addition, most OPEC countries lacked the experience as investors and had not yet developed agencies that could deal with the sophisticated investment decisions that had to be made. So they preferred to have a breathing spell in which they would look around and consider where they would finally want to place their funds on a more long-term basis. OPEC, as an organisation, did not extend its activities to the provision of general guidelines for investment policies for its members, and each country developed its preferences independently of the others. In this field, they were more like competitors than colluders. Of the two countries who had the largest share

of the surplus, Saudi Arabia and Kuwait, the latter was better equipped to deal with the new situation since it had already set up the institutional framework for investment before 1973. The Kuwaiti government encouraged indigenous organisations to assume the responsibility of chanelling the surplus funds. At present, Kuwait has achieved a surprisinglydiverse and sophisticated investment portfolio. In Saudi Arabia, on the other hand, the funds are still chanelled mainly through foreign banks (1), reflecting the greater dependence on foreign consultancy. The Saudi Arabian Monetary Agency (SAMA) is the only body within Saudi Arabia which is responsible for both internal and external monetary decisions. The agency is a very lean organisation - reflecting the lack of administrative skills in the country - and therefore tends to minimize as much as possible the administrative burden of recycling the surplus funds. These are placed exclusively with foreign banks belonging to a small approved list originally consisting of just 10 banks, but expanded since 1972 and again in 1975 to include 40 banks. SAMA's investment policies are conservative and arc changed only occationally to introduce some innovations, such as shifting to equity shares and corporate bonds or decisions to invest some of the newest surpluses in other currencies than the dollar (2) but month to month adjustment are rare. SAMA also adheres strictly to conventional central bank principles.

The competitive advantage of OPEC investors does not lie in advanced managerial and technological abilities but mainly in abundant capital. Capital is an advantage only when there

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(1) In the UK, the foreign branches of two American banks: Morgan guarantee and Chase manhatten.

(2) Although the dollar remains the main foreign currency in which the surplus is kept.

is need for large scale investment projects which are indivisible and therefore favour large investors - for example, corporations in serious financial difficulties such as Lockheed and Pan Am, or enormous investment projects such as supersonic transport or The trans-Alaskan pipeline. OPEC purchases of significant interests in Krupp (Iran) and Daimler Benz (Kuwait), so much publicized in the Western press, were motivated more by a desire to acquire foreign technology than a desire for control. Due to imperfections in capital markets and lack of information or discrimination against small shareholders, or some particular group of shareholders, it is sometimes tempting for OPEC investors to gain control of some firms if they are interested in getting the technology to develop their own economies. But if they can get the technology without having to invest heavily in specific firms, then they certainly prefer to diversify investment into FPI rather than FDI.

Another competitive davantage of OPEC investors lies in their control over the production of petroleum so that it is reasonable to consider downstream investments as a natural strategy for OPEC investors. But here also, things are not so clear-out, and the prevailing conditions may not be too favourable for such investments. Firstly, downstream investments would immediately create a situation of more competition among OPEC countries as they fight for markets for crude oil and refined products. Secondly, such downstream investments would require an increasing proportion of managerial and technological resources relative to petroleum resources which clearly members lack. Lastly, investments in transportation, marketing of oil and refining of petroleum products would greatly increase the exposure to risk associated with future prices of petroleum and petroleum products. It would be a case of putting all one's eggs in one basket.

When one compares the size of financial holdings of all OPEC countries in 1980 - taking the Morgan Guarantee Trust figure of 200 bn. dollars - to the market value of world stocks or even to US stocks, one realises that OPEC investors cannot constitute any risk to the world economy in the sense of bying it up or controlling large sections of it by means of the oil surplus funds (see table 3.4).

TABLE 3.4

	Bn.dollars
Financial holdings of all OPEC investors in 1980	200
Estimated holdings of a single investor group	10
Present market value of US stock	600
Present market value of all traded securities in the US	1500
Present value of world traded financial assets	1000
Book value of shareholders' equity in 10 largest US corporations	100
Book value of shareholders' equity in 25 largest US corportations	150

SOURCE: (25, p667)

Thus to acquire sufficient holdings in individual firms, in order to exercise managerial control, implies a portfolio which is heavily concentrated in a few assets; for any conceivable OPEC investor this would highly increase diversifiable risk [1] and is thus highly undesirable for OPEC investors.

In this respect it is interesting to note the series of protective measures taken by industrialised countries to

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1) It has been shown that the risk of an internationally diversified portfolio falls rapidly to 1/8 of the average risk of individual securities, with the aquisition of 20 securities and decreases only slightly as the number of companies is further increased.

defend themselves against the big OPEC invasion! Besides the big scare propaganda in the media, there were effective measures taken in 1974/75: when Iran wanted to buy a 29% share in Daimler Benz - following Kuwait's puchase of a 14% in the same company - the Deutsche Bank interfered to buy the shares, apparently pushed by the German government. West Germany then proceeded to draw up a list of 700 W. German firms which were classified as too sensitive for foreign investment and the government reserved the right to veto transactions it considered dangerous to the security of the country.

In the UK, an approval of the Bank of England is needed for purchases of 10% or more of a British corporation. It is interesting to note that no approval is required for purchases of real estate - perhaps explaining the increasing share of OPEC's, especially Kuwiat's, investments in real estate in the UK.

In France, on the other hand, there was a liberalisation of investment. No fear was exhibited from oil money inflows, although the purchases of more than 20% of a French company does require the approval of the Finance ministry.

In Italy, where Iran bought a 50% share in some parts of ENI'S network, a guarantee was required from Iran in the form of 10 years supply of oil.

In Switzerland and Sweden, there are strict controls over sales of stocks and real estate to foreigners. In many Swiss corporations voting stock can only be sold to Swiss citizens. Some banks have issued registered non-voting shares to be sold

to foreigners as compared to the traditional anonymous bearer shares.

In Japan, funnily enough, there was no great anxiety from OPEC funds, since in addition to legal ceilings on foreign investments, there is also the question of the Japanese management system which the Japanese are convinced would prove too baffling for foreigners!

More recently, as it became obvious that the fears had been unfounded, one finds that the media now praises OPEC investors for being such rational and cautious investors and hope is being expressed that they would be induced to invest even more in the productive sectors of oil-consuming countries, and not to increase their absorptive capacity any further.

Another area where fears have been allayed is that of the potential danger that OPEC may have a disequilibrating effect on capital movements. It has often been suggested that OPEC members having accumulated a large proportion of their additional portfolio in highly liquid assets, might then be tempted, for speculative and political reasons, to shift large sums from one currency to another. It now seems unlikely that such an event will arise, mainly because of the increasing two way dependence between producers and consumers. The OPEC countries have a strongly growing stake in Western economies, both as investors, exporters and importers. It follows that sagging Western economies are less useful for OPEC than booming ones. The past record of cautiousness of OPEC investors should be a sign that they would not risk another recession in the West if they can help it, Saudi Arabia's role as a price moderator within OPEC is strongly motivated in this direction. This is despite some existing political motivation to use the

oil weapon to further political aims, especially with regards to the Arab-Israeli conflict.

As it becomes clear that some OPEC countries are to remain surplus countries in the forseable future and their importance in international monetary affairs is bound to make itself felt, some recognition of this fact is demonstrated in suggestions to give Saudi Arabia a special status within GAB (General Arrangements to Borrow) set up by the Group of Ten industrial countries within the IMF. It is hoped that OPEC countries will get more into official recycling and direct lending to LDC and MDC countries - eg. the recent Spanish loan from Kuwait - rather than the recycling mainly through commercial banks, which is what was happening in the last three years.

Other recent developments have seen the emergence of more regional recycling efforts among the Arab OPEC and non-OPEC countries. The inception of an Arab capital market and the establishment of an Arab Monetary Fund, offering short and medium term loans to its members - exclusively Arab countries- with the ultimate aim of unifying monetary policy and establishing a unified Arab currency, are signs of new trends in the future. (13, 23.4.1977).

Conclusion

The world is gradually getting used to the idea that high oil prices are here to stay, that oil surpluses will continue to be generated in large quantities and therefore the problems associated with recycling will continue to require solution. At the same time it is realised that the big surplus countries are in effect exercising, through their portfolio and direct investments in the economies of the West, as well as by their deposits in the Eurocurrency market, a growing role in world monetary affairs. Suggestions are being made to include them more officially into some of the international organisations dealing with world monetary affairs, as a recognition of their importance and also for the purpose of influencing the ways in which the recycling is carried out.

At the same time OPEC countries have gained some experience in managing their surpluses and are becoming more venture - some in their investments attempts. But most of them are not presently convinced of the advantages of producing so much oil to generate more funds then they need for their own economic development. Therefore, the official OPEC line is to encourage the consumers to develop new sources of energy and thus to phase out the exploitation of oil resources which according to present knowledge may be exhausted in the next 30-50 years. It is believed, especially by the low absorbers, that oil in the ground is of more value and presents less problems than surplus funds invested in consumer countries. But no attempt is being made by OPEC surplus countries themselves to invest great sums in the development of other energy sources in consumer countries, perhaps because of the enormous sums required and therefore the greater risk associated in investing great amounts of money in single projects, especially since energy is considered one

of the most strategic sectors and therefore the risks of nationalisation are very great.

A development worth mentioning is the emergence of two main path setting nations on the energy scene: The US and Saudi Arabia, the first on the consumer side and the latter on the producers. They are both bound to play an even greater role in the near future than they have in the past. The US is the main consumer country, which buys the biggest share of OPEC oil and projections point out that this trend will only become stronger in the next few years. Saudi Arabia is the main OPEC producer and has enormous reserves and productive capacity.

Both countries are at present on very good terms, both politically and economically which leads to the presumption that they may reach some common ground on energy problems. The influence of the US in the consumer block is strengthened by the recent lifting of capital restrictions concerning outflow of capital which will increase the integration between the Eurocurrency market and the US market and consequently the influence of the US monetary policy on other countries' domestic monetary conditions.

Saudi Arabia has enough weight within OPEC to play a moderating role on price issues and on other issues like production programming or pricing differentials. The seperate and joint moves of these leading countries is bound to have a great effect on the production of petroleum, its price and the allocation method of surplus oil funds. Already, in the last two years the share of the US market of OPEC surplus fund investment has increased considerably.

To end on another note than that of quantitative figures involving billions of dollars or millions of barrels, it is perhaps appropriate to note that underlying the problems of recycling is the too rapid exploitation of a natural resource the exhaustability of which has been blissfully ignored for so long, in the hope that science and technology will always come up with a painless solution to the energy problem once the oil is gone.

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