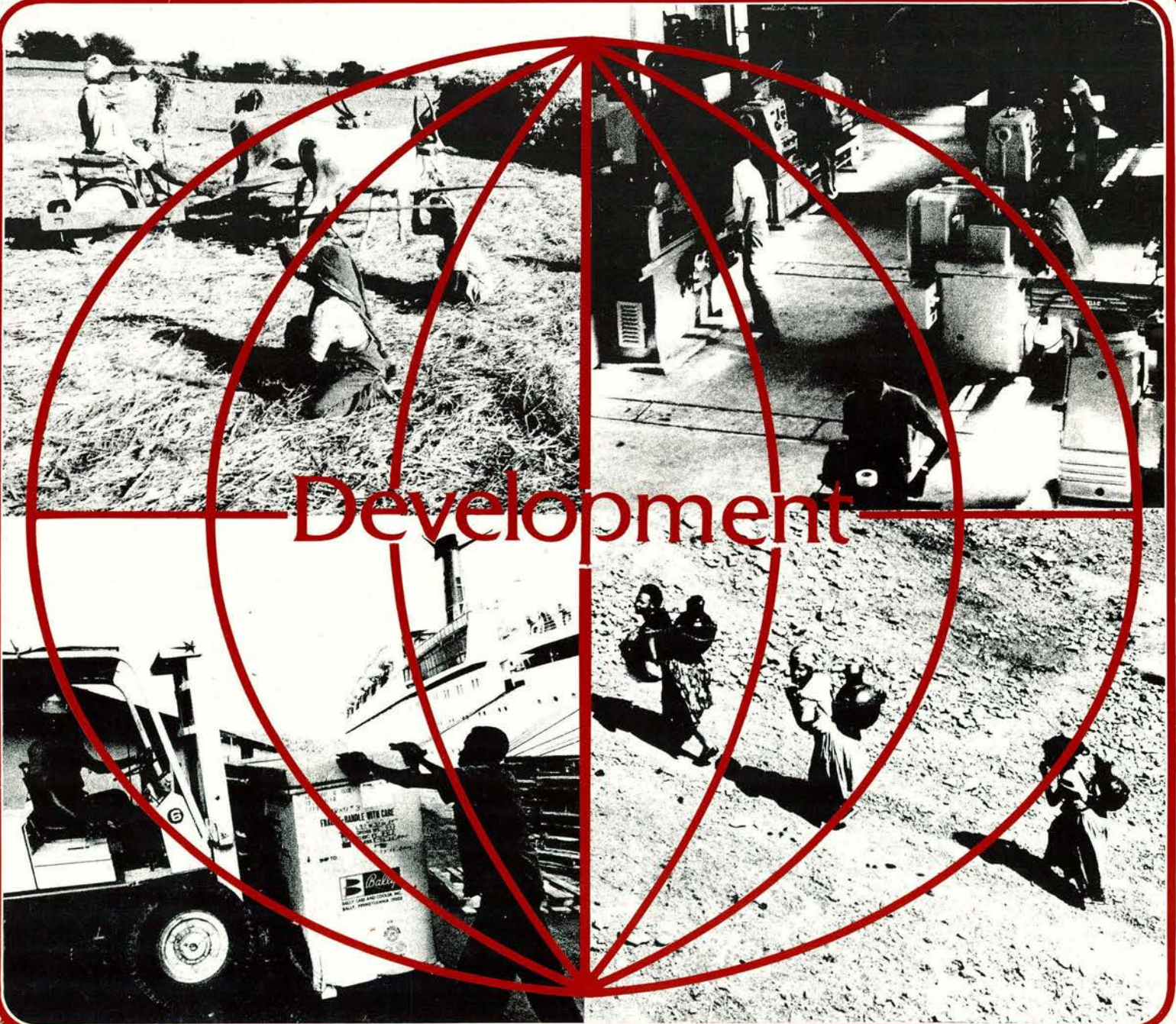


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Cover: *The new comprehensive approach to relations with developing countries covers agriculture, industry, trade and efforts on behalf of the poorest countries like those of the Sahel. It is described by OECD's Secretary General (page 3) and reflected in new initiatives by OECD countries, OPEC nations and international organisations (pages 4-16).*

The Need for Realism

by Emile van Lennep
Secretary General of OECD⁽¹⁾

Looking at the international economic scene today, it is clear that there is a need for realism — a need to face up to facts, and to adjust to changing circumstances. More specifically I see three areas where the industrialised countries need to face up to facts : these are energy, inflation and relations with developing countries.

Energy

We have some reasons to be satisfied with the way industrialised countries have responded to the immediate challenge of the oil crisis. But the fact is that they are, and will remain, vulnerable to changes in either the price or the supply of energy. Awareness of this in the immediate aftermath of the crisis two years ago has tended to wear off, aided by the recession-induced decline in oil imports. The momentum behind national energy conservation drives has slackened in some countries.

Significant progress has nevertheless been made at the international level. The 18 members of the International Energy Agency, established just over a year ago within the framework of the OECD, have recently reached agreement on a comprehensive programme for long-term cooperation. This covers the conservation of energy, the development of new sources of supply, a growing range of joint research and development projects in the field of energy, and a minimum support price for oil to provide an underpinning for new investment in energy-rich countries such as the United States and Britain.

But this will not be enough unless our societies, led by our governments, are prepared to shoulder the burdens of actually increasing indigenous energy production — of actually achieving significantly greater conservation — of actually tackling the structural problems which exist, for example, in finding the right balance between environmental protection and energy production. These are all very long-term problems, but we must start to work on them now. And we must continue to tackle them in an international context. If not, we are likely to fall back into the familiar scenario of conflicting national approaches which has characterised our past responses to energy problems.

Inflation

The accelerating trend of inflation since the mid-1960s is probably the single most serious and immediate threat to the economic and political stability of the Western democracies. Experience has shown only too clearly how dangerous are the distortions, inequities and disincentives created by high and accelerating rates of inflation. In the past it may have been possible to regard a moderate and reasonably steady rate of inflation as a necessary evil. Today, inflationary tendencies in a number of countries, including Britain, have become so strong that governments have been increasingly less able to honour their undertaking to maintain

high levels of employment, which has been one of the key features of post-war prosperity.

There are many who are pessimistic about the prospects of bringing the inflation of the 1970s under control. But I would like to suggest that they may not be making enough allowance for our capacity to learn from past mistakes. I believe there are now some tentative but encouraging signs.

It has seemed all too possible that in reacting to the present recession, the governments of the industrialised countries would collectively overdo the switch to expansionary policies. This would have been to repeat the mistake they made in the early 1970s. It would almost inevitably have led to an early re-acceleration of world-wide inflation, followed quite shortly by another recession. It is therefore encouraging that the major countries have been very conscious of this danger. As things stand now, the prospects are for a rather moderate recovery in the OECD area this year. A moderate recovery means that it will be some time before the present high rates of unemployment are brought down to less unacceptable levels. But if a resurgence of inflation can be avoided, a moderate recovery should also be a *sustainable* recovery, during which reasonable growth rates and satisfactory levels of employment can be re-established on a more durable basis.

But this is by no means all that will be needed if we are to achieve sustainable non-inflationary growth. Recent experience with an extremely unpleasant combination of inflation and recession must give new impetus to efforts to enlist the support of the social partners in bringing inflation under control. Governments will have to be more ready to face up to the hard choices that have to be made between consumption and investment, between public and private expenditure. Closer international co-operation will be needed to provide better management of the world business cycle, and to avoid the emergence of a global inflationary spiral between the prices of raw materials and manufactures.

It would be wrong to be naïvely optimistic. It would also be wrong to forget that much of our prosperity today is based on lessons learned from the economic crisis of the 1930s. Our problems now are both more complex and more truly international. But I see no obvious reason why — with the necessary political will — we should not be able to overcome them.

Relations with the Developing World

The industrialised countries have got to face up to a growing assertiveness of developing countries. This is prompted primarily by the pressing problems they are facing. Many developing countries have made major progress in their economic and social development, but a large number of them have not been in a position to advance sufficiently, and many are still faced with extremely

(1) From a speech delivered in London, 9th February 1976 to The Pilgrims' Society.

severe problems of poverty and serious vulnerability of their economies.

While the fundamental problems of poverty remain unresolved for most developing countries, there has, at the same time, also been a striking increase in the economic and political strength and cohesion of developing countries as a group. The reversal of bargaining power in the international oil market is only the most dramatic manifestation of a wider trend which has been going on for some time. Indeed, the developing countries have, in spite of the growing differences in economic strength among them, increasingly been able to define common attitudes in their relations with the industrialised countries. They have become more confident and effective in cooperating together to increase their bargaining strength in the world-wide international negotiations.

The industrialised countries accept these facts. There is a new awareness of our interdependence with developing countries as well as among ourselves. And there is a clear recognition of the seriousness of their fundamental problems and of the need, not of talking to, but of talking with the developing countries as a group.

This new attitude found clear expression in the OECD Declaration on Relations with Developing Countries which the Foreign Ministers of the OECD Member countries adopted at their meeting in May last year. This Declaration, largely an initiative of the British Foreign Secretary who chaired the meeting, was meant to be a political signal. The industrialised countries grouped together in the OECD expressed their firm determination to enter into a meaningful dialogue with the developing countries, in all appropriate fora, in order to make real progress towards a more balanced and equitable structure of international economic relations.

Since then, agreement has been reached on the establishment of a new framework for negotiation with the developing countries — the so-called Conference on International Economic Cooperation in Paris. This Conference will enter a new and important phase when its four commissions on energy, raw materials, development and financial questions meet for the first time.

It is critically important that this new opportunity be grasped wholeheartedly — not in order to overturn the world's economic system, but as a means for facing new problems and of considering concrete, practical proposals for their solution.

It seems inescapable to me that our traditional approach to development will not be enough. We will have to review the policies, the norms, the rules and the decision-making structures governing the relations between industrialised and developing countries.

Many of the changes in the developing countries and in the structure of international economic relations at which we should aim will have profound effects upon our national policies and our national economies. The dialogue will present the industrialised countries with hard political choices. The OECD intends to contribute to an effective dialogue by trying to evolve constructive initiatives and to harmonize, where possible, the substantive positions of its Member countries. Various committees and new groups in the OECD will be used for this purpose.

Beyond declarations, resolutions, and procedural decisions, what is now needed is concrete action.

It would be wrong to underestimate the difficulties that lie ahead, and it would be unrealistic to expect a whole package of spectacular new decisions to emerge in the short run. But in time the present « Dialogue » may well be seen as having marked a new departure in the relations between industrialised and developing countries.

Some Policy Initiatives by DAC Members

The introduction of a comprehensive approach to development cooperation, in which aid is seen as one element of a whole range of coordinated measures concerning trade, commodities, monetary policy, industrial development and other areas became a central issue for most OECD Governments in 1975. This new approach was reflected in an OECD Declaration on Relations with Developing Countries last May (1), in new proposals put forward at the Seventh Special Session of the UN General Assembly and in new policy documents of a number of Members of OECD's Development Assistance Committee (DAC) (2).

- The *Norwegian* Government submitted to Parliament a report on "Norway's Economic Relations with Developing Countries" in April.
- A 25-point "Programme for Cooperation with Developing Countries" was adopted by the *German* Cabinet in June, and a "Report on the Development Cooperation Policy of the Federal Government" was presented to Parliament in November.
- The *Canadian* Government presented a new "Strategy for International Development Cooperation 1976-1980" in September.
- Similar, although less extensive, policy documents were prepared in *France*, the *Netherlands* and *Switzerland*.

In order to facilitate policy coordination under the comprehensive approach, new administrative structures were introduced in a number of countries:

- In the *United States*, a Development Coordination Committee, chaired by the Administrator of the Agency for International Development (AID) and including representatives of other departments and agencies, was established in February to examine the United States' overall relations with the developing countries, to assess the effects of policies towards these countries and improve their coordination.
- Interministerial Coordinating Committees were also established in *Canada* and *Norway*.
- *Japan* announced the creation of a Ministerial Council on Foreign Economic Cooperation.

On the multilateral level, the *Lomé Convention*, signed in February of 1975 (3) by the European Economic Community and 46 developing countries in Africa, the Caribbean and the Pacific, represents a practical application of the comprehensive approach to development cooperation, combining a package of aid, trade and other measures including a scheme for the stabilisation of export earnings (STABEX).

In the 1975 development cooperation budget of the *Netherlands* funds were earmarked for the first time to restructure domestic industry to make room for more imports from developing countries. A similar measure was proposed to Parliament by the *Norwegian* Government.

Plans for Increased Aid

Some DAC Members took further steps to increase their aid volume in the next several years. In three of them, aid appropriations are to reach or exceed 1 per cent of GNP:

- In the *Netherlands*, a new rolling four-year plan for development cooperation came into operation in 1975, calling for ODA appro-

atives in Development Cooperation s in 1975

priations of more than 1 per cent of GNP, from 1976 onwards.

- The *Norwegian* Government proposed in 1975 that ODA appropriations should continue to increase after 1978 beyond the level of 1 per cent of GNP planned for that year.
- In *Sweden*, ODA appropriations voted in 1975 for fiscal year 1975-1976 amounted to 1 per cent of projected GNP, an increase of 36 per cent over the previous year.

More Aid for the Poorest

The growing concern for the poorest among the developing countries—mainly those most affected by the current economic situation—and for the poorest people within the developing countries, led to a re-orientation of policy and new measures concerning the distribution of official development assistance in most DAC countries, e.g.:

- The new aid strategy announced by the *Canadian* Government in September 1975 implies a concentration of bilateral aid on the poorest recipients. No more than 10 per cent of Canada's bilateral ODA will be allocated to countries with a per capita GNP of over \$ 375.
- The 25-point action programme adopted by the *German* Government in June 1975 included as an objective greater concentration of bilateral ODA on the very poor countries.
- The *Netherlands'* Government decided that, among some 20 "target countries", a priority group consisting mainly of the poorest countries will receive both programme and project assistance. The aid budget for 1975 introduced a new category of aid for the direct alleviation of poverty, to supplement aid for long-term development.

- In its October 1975 White Paper on aid policy, the *United Kingdom* said that it would give an increasing emphasis in its bilateral aid programme to the poorest countries, and that aid should go increasingly to the poorest people.

Specific action to improve the financial terms of aid extended to the poorest countries was announced by several governments; conversely, harder conditions were introduced for some of the richest developing countries (in some cases charging full payment for technical assistance provided).

- *Canada* declared in September 1975 that it will introduce a standard set of concessional terms (interest-free, 50 years' maturity) for low-income countries.
- The *German* Government announced in June 1975 a standard set of concessional terms (0.75 per cent interest, 50 years' maturity) for the least-developed countries and those most seriously affected by the rise in oil prices.
- The *Netherlands* stated that special terms (minimum grant element of 60 per cent) will be introduced for poorer countries such as India, Pakistan and Bangladesh.
- The *United Kingdom* announced that as from June 1975 its commitments to countries with a GNP per capita of less than \$200 will normally be in the form of grants. These countries will also become eligible sources for procurement under ODA loans.
- Under the Lomé Convention the 24 least developed States associated with the *EEC* will receive payments under the STABEX scheme in grant form.

(1) *The OECD OBSERVER* No 75 May-June 1975.

(2) *The examples cited are those connected with the work of the DAC.*

(3) *Ratification was completed in February of this year.*

OPEC Countries as Aid Donors 1974-1975

The OPEC nations (1) are now established as an important new group of donor countries (see Table 1), and a number of individual OPEC countries rank high on the list of major sources of aid and development finance. The essential characteristics of their programmes have become clearer. At the same time, aid has become a subject of international discussions involving OPEC and industrialised countries, as well as other developing countries, in the United Nations, UNCTAD and the Conference on International Economic Cooperation (CIEC). The following analysis of OPEC aid is part of the continuing work on this subject carried out by OECD's Development Assistance Directorate which has more detailed material available.

Concessional Flows

The *volume* of concessional flows from OPEC countries, on a disbursements basis, is substantial — \$2.5 billion (net) in 1974, equivalent to 22.5 per cent of DAC disbursements. Saudi Arabia was by far the largest OPEC donor with net disbursements in 1974 reaching \$860 million. (Saudi Arabia ranked fifth among all donors). The other most important OPEC donors were Iraq and Iran with aid disbursements in the vicinity of \$ 400 million. OPEC

aid was also large in relation to GNP. Qatar led with 4.6 per cent, followed by the United Arab Emirates (around 3.9 per cent), Iraq (3.1 per cent), Saudi Arabia (2.4 per cent) and some more modest ratios for the other countries. The overall OPEC average was 1.4 per cent.

Preliminary estimates for 1975 indicate a small increase in OPEC concessional disbursements of about \$45 million to \$2.6 bil-

(1) *The OPEC donor countries considered are : Algeria, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates (UAE) and Venezuela.*

lion, of which \$2 billion was probably bilateral and the remainder disbursements to multilateral organisations, mainly newly-created regional Arab institutions. Consequently, OPEC concessional aid disbursements are likely to have decreased in terms of GNP (to 1.28 per cent). Commitments are thought to have declined somewhat from \$4.2 billion in 1974 to \$4.1 billion in 1975.

Of the latter almost 85 per cent was bilateral assistance. In terms of disbursement Saudi Arabia was again by far the largest donor in 1975 (\$900 million), followed by Iran and the United Arab Emirates. Together, they provided more than two-thirds of 1975 OPEC aid disbursements.

There is a high degree of geographic concentration of OPEC aid.

While the work done on OPEC statistics so far, mainly in the OECD Secretariat, has led to the establishment of statistics covering qualitative as well as quantitative aspects of OPEC flows, it must be stressed that the accuracy of these figures, although continuously being improved, cannot be as great as that of the statistics on DAC flows. This is primarily due to the methods used to obtain the figures, which depend on a variety of sources rather than direct information from the donor concerned.

Care also has to be taken in comparing the figures for OPEC flows with those of DAC countries because of difficulties in applying DAC definitional criteria to OPEC flows. This is particularly true of comparisons concerning transactions defined as "official development assistance" (ODA) or "concessional flows".

The DAC has developed the concept of ODA to refer to official transactions which have the promotion of economic development and welfare as their main objective and which are provided at concessional financial terms (minimum grant element of 25 per cent, using a 10 per cent discount rate). While every effort has been made to apply this definition in establishing the statistics for the various categories of OPEC flows, there are two major difficulties; first, the terms of transactions are not always clearly stated; and second, the purpose of the transactions is not always known. In particular, it is often difficult to classify transactions which have a quasi-military character. (Military transactions are excluded from all DAC statistics, both for ODA and for "other official flows" (OOF).

1. Estimated Financial Flows from OPEC Members to Developing Countries

	\$ million				as per cent of total			
	1972	1973	1974	1975	1972	1973	1974	1975
ODA (Net)								
DAC Countries	8,538	9,378	11,316	(12,700)	86	86	75	(78)
OPEC Countries	418	482	2,544	(2,589)	4	4	17	(16)
USSR & Eastern Europe	650	650	750	(450)	7	6	5	(3)
China	300	450	500	(450)	3	4	3	(3)
Total	9,906	10,960	15,110	(16,189)	100	100	100	100
Total Flows (Net)								
DAC Countries	19,693	24,665	27,553	(30,000)	92	92	82	(82)
OPEC Countries	530	922	4,647	(5,589)	3	3	14	(15)
USSR & Eastern Europe	875	850	925	(600)	4	3	3	(2)
China	300	450	500	(450)	1	2	1	(1)
Total (1)	21,398	26,887	33,625	(36,639)	100	100	100	100

(1) Excluding relatively small flows from Luxembourg and South Africa, Data for DAC countries for 1972 through 1974 are precise figures. For the other countries figures are Secretariat estimates, which are highly tentative for 1975.

2. OPEC Countries' Concessional Assistance (net disbursements)

OPEC Aid Donors	GNP per head 1974 (\$)	in \$ million			% of GNP		
		1973	1974	1975	1973	1974	1975
U.A.E.	25,000	85.6	288.9	403.7	3.57	3.86	4.64
Kuwait	14,000	148.1	274.8	337.7	3.22	2.24	2.82
Qatar	13,300	4.1	91.5	106.9	0.69	4.58	4.65
Libya	5,270	41.9	117.5	125.9	0.74	1.03	1.24
Saudi Arabia	4,180	180.7	861.3	901.4	1.74	2.45	2.59
Venezuela	2,380	1.0	56.0	24.9	0.01	0.21	0.09
Iran	1,430	2.7	397.4	458.4	0.01	0.89	0.81
Iraq	1,240	9.9	403.6	204.8	0.17	3.13	1.35
Algeria	740	3.1	42.8	15.8	0.04	0.37	0.12
Nigeria	250	5.0	9.9	9.7	0.04	0.06	0.05
Total		482.1	2,543.7	2,589.2	0.53	1.40	1.28

Four countries, Egypt (by far the largest recipient), Pakistan, Syria and India received about 60 per cent of total bilateral disbursements in 1974. In 1975, according to preliminary information, Jordan replaced India as the fourth largest recipient, and, 1975 saw a tendency towards a wider geographic spread. For comparison, the four largest recipients of bilateral ODA (2) from OECD's Development Assistance Committee (DAC) together received 26 per cent of the DAC total in 1974. Assistance to developing countries with per capita incomes of \$ 200 or less accounted for about 40 per cent of the ODA bilateral disbursements of OPEC in 1974; the corresponding proportion for DAC ODA was 56 per cent. The share of multilateral assistance was 14 per cent for OPEC and 27 per cent for DAC. Most of the OPEC commitments go to new regional institutions under their direct control, rather than to the world-wide institutions (3).

It is particularly difficult to obtain definite information on the *financial terms* of OPEC flows, but they are considerably harder than those of DAC. The total grant element of OPEC ODA commitments is estimated to be about 70 per cent (86 per cent for DAC) due to a lower grant share (54 per cent as against 65 per cent) and to harder loan terms (about 40 per cent grant element, as against 60 per cent). During 1975 some OPEC countries — partly, no doubt, as a consequence of the reduced income from oil — committed financial resources increasingly in the form of investments and non-concessional credits rather than ODA. Venezuela, for instance, almost ceased to provide concessional assistance.

The main feature of the *allocation* of OPEC aid by purpose (apart from the understandably small proportion of technical assistance) is the high share for general support which, on a disbursements basis, accounted for 50 per cent of 1974 bilateral aid (4). Concessional credits for the sale of oil accounted for another 14 per cent. The remainder was tied import credits, relief assistance, project assistance and amounts for unspecified purposes.

In the short run, there are prospects of further increases in the volume of OPEC aid disbursements. With commitments still substantially higher than disbursements and taking into account the heavy accumulation of undisbursed commitments of various

kinds and the recently announced OPEC Special Fund (see below), disbursements may rise for one or two years. Looking further ahead, it seems likely that some of the present donors will no longer be running major surpluses on current account and will, therefore, decline as major aid donors. Kuwait, Qatar, Saudi Arabia, the UAE and possibly Libya are likely to maintain substantial balance-of-payments surpluses into the next decade, and they will probably provide an even higher proportion of OPEC aid, than the 64 per cent they provided in 1974 and 72 per cent in 1975.

Non-Concessional and Total Flows

In addition to ODA, OPEC countries committed and disbursed substantial amounts of non-concessional flows in 1974 and 1975 mainly in the form of World Bank bond purchases. No complete information is available on disbursements by semi-private banks and institutions, but official non-concessional disbursements amounted to at least \$2.1 billion in 1974 and \$3 billion in 1975 (5). However, contrary to 1974, most disbursements in 1975 were made bilaterally (\$2 billion).

Total concessional and non-concessional flows from OPEC donors thus reached about \$4.6 billion in 1974. In absolute terms Saudi Arabia (\$1.5 billion) ranked seventh among donor countries, Iran (\$0.7 billion) eighth and Kuwait (\$0.6 billion) ninth. During 1975 total disbursements seem to have reached \$5.6 billion, about a billion dollars more than in 1974.

(2) Vietnam (Republic), India, Indonesia and Bangladesh.

(3) The traditional multilateral institutions received 49 per cent of OPEC multilateral contributions on a disbursements basis, but only 30 per cent of commitments.

(4) Excluding war supporting assistance. Nevertheless, some general support assistance might be used for military purposes.

(5) The figures exclude OPEC contributions to the IMF Oil Facility (\$1.8 billion in 1974 and \$2.9 billion in 1975) which, in accordance with normal IMF practice, are not regarded as resource flows and which benefit developed as well as developing countries. They also exclude participation in Euro-currency financing.

Most Recent Development Initiatives

A number of steps of considerable importance for the developing countries had already been taken by early 1976.

- At the January meetings of the Interim Committee of the IMF and the World Bank-IMF Development Committee in Jamaica it was agreed to establish the IMF Trust Fund without delay. This Fund is to be financed largely by the sale of 25 million ounces of IMF gold over a four year period. The resources, some \$400 million per year will be used to provide balance-of-payments assistance on concessional terms to IMF members with low per-capita incomes, initially below SDR 300.

Pending the agreed increase of IMF quotas, the size of credit tranches was

increased by 45 per cent. This will give all members, including developing countries, correspondingly greater access to IMF credit.

It has been agreed to liberalise the IMF's Compensatory Financing Facility, a step which will go some way towards meeting the problems of developing countries suffering from fluctuations in their export earnings.

The Third Window facility of the World Bank has now become operational and will permit the extension of some \$600 million of loans on intermediate terms to poorer developing countries.

- OECD Countries have publicly pledged \$366 million towards establishment of the

U.N. International Fund for Agricultural Development (IFAD). The OPEC countries' contribution is still to be decided.

- Commodity and cash pledges for 1977-78 to the value of \$523 million have been made for 1977-78 to the UN/FAO World Food Programme by 45 countries from OECD, OPEC and other countries.

- The OPEC countries have agreed to set up an \$800 million Special Fund with contributions from eleven countries. The Fund, which must still be ratified by contributing countries, is intended to provide long-term interest-free loans to needy developing countries without geographical or political restrictions. Some portion of the funds will go to the IFAD.

The Sahel: Time for

THE NEW APPROACH

Some months ago Minister Dakouré of Upper Volta, Coordinator of the CILSS (1), asked me to help in engaging the support of the international community for the long-term development of the Sahel. This initiative received strong backing from several members of the OECD Development Assistance Committee. The idea of a "Club des Amis du Sahel" has been widely discussed in Europe, in the United States, in Africa and with other countries. At the March 1975 Ministerial Meeting of the CILSS in Niamey, the Sahel Ministers endorsed the idea of the Club and requested preparation of a specific proposal. In response, an OECD mission consulted with officials of the Sahel governments as to means for concerting efforts in support of long-term development.

In this way, the proposal for a "Club des Amis du Sahel" evolved progressively among both the Sahel and donor countries—a common fraternal response to a shared need for a concertation for development. At their Meeting in Nouakchott on December 23, 1975 the Sahel Chiefs of State hailed "initiatives to support medium and long-term development efforts, especially the Club des Amis du Sahel".

The underlying elements of the Club des Amis are as follows:

First, donor countries now have a clearer understanding of the greater efforts which must be made to overcome the basic environmental and economic obstacles to the development of the Sahel. They are more aware of the ecological fragility of the Sahel region, as well as of its potential for long-term development. They appreciate the importance of broad sectoral programmes and sustained major assistance to help break the distressing cycle of ecological and economic deterioration in the region and, thereby realise the real potential for development and better lives for the peoples of the Sahel.

Second, to cross the threshold of more effective development will require new and bold perspectives and plans. The development approaches of the past may well be inadequate to this challenging task. The Club must be oriented to the future, to the longer-term, which means initiating broad programmes which will overcome the basic structural problems of the Sahel. The principal obstacles to progress are insufficient development of water resources, poor transport and communications, declining productivity for livestock and agriculture, insufficient protection of national resources, and the inadequate training of those called upon to plan and manage development programmes. It is in these areas that broad sectoral programmes are needed.

The purposes of the Club are to give tangible expression to the growing cooperation among Sahel and donor countries to overcome these major structural problems and to mobilise the longer-term support of the international community for the development of the region. This cooperation must be based upon equal participation by all concerned, mutual confidence, and decision by consensus.

The support of donors should be broadly based, engaging all the friends of the Sahel—industrial countries, oil producing countries and international organisations. The Club will be attentive to African development priorities and aims. Through the Club, representatives of donor countries will better understand the major needs and important development programmes for the Sahel region. In this way, the partnership for development will be mutually reinforcing in the realisation of a new and unique form of cooperation—the "Club des Amis du Sahel" (2).

MAURICE J. WILLIAMS

CHAIRMAN, OECD'S DEVELOPMENT ASSISTANCE COMMITTEE

(1) *Comité inter-États pour la lutte contre la sécheresse au Sahel.*

(2) *The inaugural meeting of the "Club des Amis du Sahel" will be held 29th-31st March 1976 in Dakar Senegal.*

The Sahelian countries are seeking a The outstanding lesson of the drought is resolving the basic structural problems There is ample reason to believe that, ecologic and economic trends and realise

Some Indicators of Poverty

At least five of the six Sahel countries (Senegal is the exception) are, by virtually all indicators and definitions, among the poorest and least developed in the world. A few of the conventional measures are summarised in Table 1. Although the data used is from the pre-drought period, the situation has changed little and, in some respects, poverty as measured by the indicators has probably intensified.

Structural and Ecological Reasons for Poor Economic Performance

The Sahel countries are intensely dependent on conditions and forces beyond their influence. First and most basic is dependency on the vagaries of weather or, more precisely, on rainfall. Agricultural production in these economies is overwhelmingly rainfed; pasturage for animals and output of staple foods depend on the amount and distribution of rainfall, and this is notoriously irregular.

The Sahel is also constrained by its physical environment in another, more fundamental sense. Its ecological balance is terribly fragile, and less is known about it than about gentler, more densely populated, more intensively exploited regions. This makes successful adaption more demanding, and means that ecological errors are at once more likely and more costly. There is less margin in every sense. For example, small shortfalls in rainfall seem to have disproportionate effects on plant growth. This derives from the "rainfall/evaporative demand relationship" where the amount of rainfall is limited relative to evaporative demand for water. In this instance even minor changes in rainfall tend to have magnified consequences. A related climatic phenomenon has also been noted; that

For a New Approach

new approach to overcome the twin disasters of long years of drought and underdevelopment. how tenaciously the people of the Sahel have managed their survival and how they now are reorienting their energies to of environmental vulnerability and underdevelopment. through cooperative planning and action, and with increased economic assistance, the Sahel can reverse deteriorating the real potential of its unique natural and human resources (1).

rainfall patterns in recent years have had a kind of escalation character in the northern parts of the Sahel: in years of good rain these regions seem to get a far larger amount than their expected "normal", and in bad years they are much drier than "normal". In this sense the ecological system is easily thrown into imbalance and Sahelian society is subject to uncommon hazards, many of them beyond the effective control of the people.

But apart from ecological factors, it is not difficult to find other reasons for the general economic stagnation or decline in real output and income during the Sahel's post-independence decade.

There is first of all the list of general

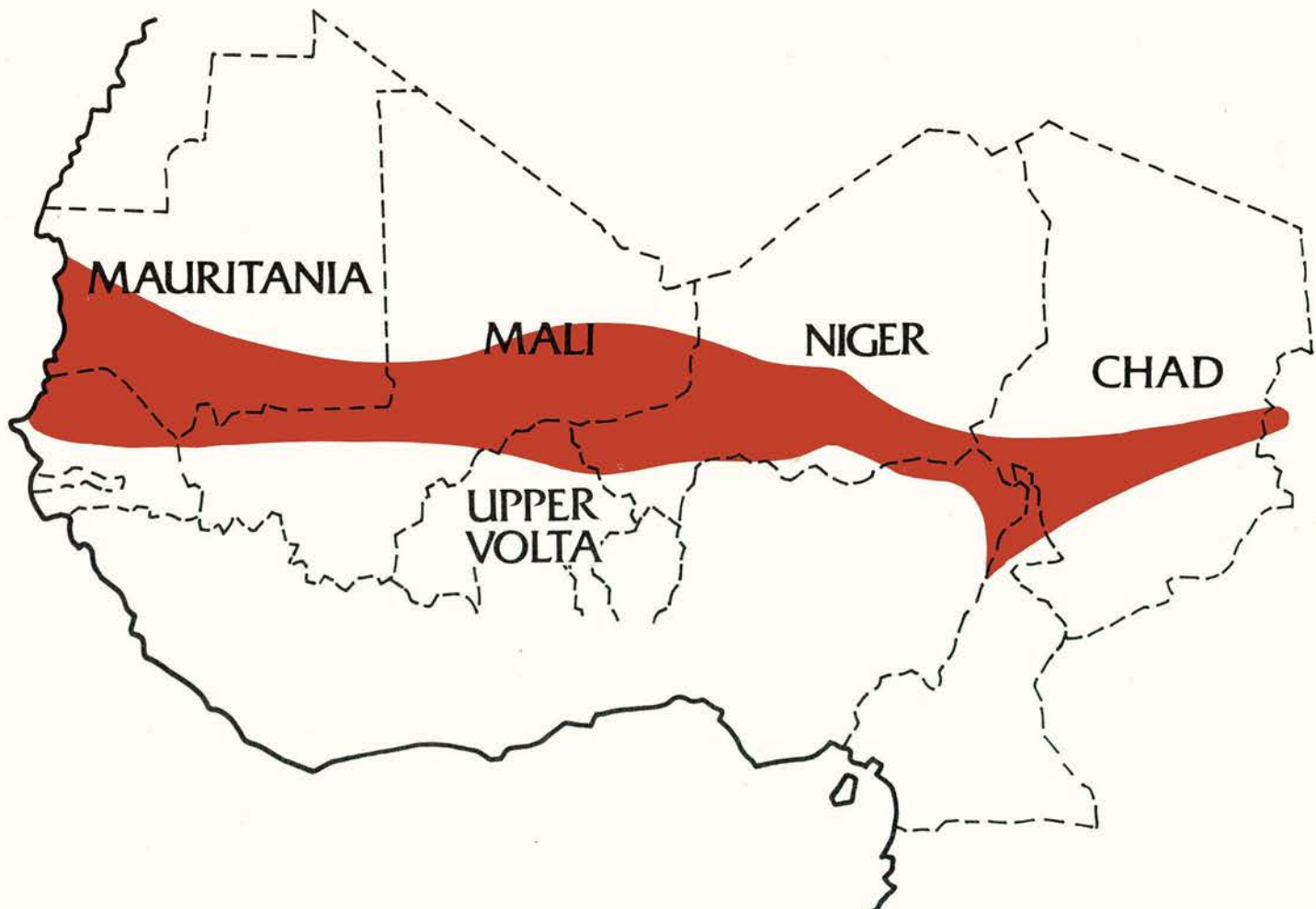
obstacles to economic expansion in this region: limited resources, including the quantity of good agricultural land; small numbers of trained people; limited organisational and management capacities; insufficient knowledge of the environment, particularly its agricultural potential (there is little in the way of field research, work on locally suitable seed varieties or experiments with fertilizers and irrigation); unfavourable physical location (700 to 1,500 miles — 1,100 to 2,400 km from seaports) with enormously high transport costs as a result. Moreover, all the Sahel countries had to adjust rapidly to institutional realignments in the post-independence period. These ranged from slow and long-term matters such as the

erection of new, more indigenized administrative structures and reforms in educational systems, to more immediate day-to-day problems of managing their development programmes.

The Economic Effects of the Drought

It is too soon, of course, to make a full assessment of the economic impact of the drought. Data even for 1974 are incomplete; and it will be years before the full

(1) Elements of this article have been selected from a study by Dr. Elliot Berg, University of Michigan, entitled "The Economic Impact of Drought and Inflation in the Sahel".



1. Measures of Relative Poverty and Development

LDC (1) Average	Actual Figure = Black Rank among LDCs = Colour	CHAD	MALI	MAURITANIA	NIGER	SENEGAL	UPPER VOLTA
271	GNP per capita in 1967 (\$)	70/75	80/70	130/54	70/75	190/43	50/81
48.2	Life expectancy in 1966 (years)	31/79	26/82	40/53	39/57	37/61	32/71
874	Infant survival per 1,000 live births	840/61	877/52	810/68	800/72	907/41	818/66
62	Agricultural labor force as percentage of economically active population (%)	92/79	90/75	89/74	96/81	74/52	87/70
13.56	Share of manufacturing in GDP in 1966 (%)	5.0/71	6.0/67	1.4/79	11.0/53	13.7/39	2.0/78
427	Energy consumption per capita in 1966; kg. of coal equivalent	12/79	21/75	53/64	14/77	145/49	12/79
13.26	Share of non-primary products in exports in 1966 (%)	3.0/60	1.6/64	0.9/70	4.3/51	5.6/45	4.0/54
41.3	Literacy (%)	8/71	3/80	3/80	3/80	8/71	8/71
21	Enrolment in secondary education as percentage of population aged 15-19 in 1964	2/78	7/59	2/78	1/81	9/55	2/78
208.7	Enrolment in higher education per 10,000 inhabitants in 1964	2/76	65/51	11/70	2/76	75/47	2/76

(1) 82 countries

Source : Dr. Elliot Berg, *The Recent Economic Evolution of the Sahel*.

picture is clear. Enough information is available, however, to permit description of the main lines of Sahelian economic evolution during these difficult years.

It is useful, in considering the effects of drought, to group the effects into two major categories: some effects are "reversible", others "irreversible". The irreversible effects are of three main kinds: loss of human life; permanent physiological damage to the affected population, particularly children; irreparable ecological transformations such as destruction of topsoil and permanent yielding of vegetation to sand. The "reversible" effects are those conventional dimensions of drought's economic impact most stressed by economists: effects on agricultural output, on size and structure of livestock herds, on the general level of economic activity, on budgets and the balance of payments.

• Irreversible Effects

Human Mortality. Undoubtedly many deaths were caused by the generalised debilitating effects of the drought and hence greater vulnerability to sickness and

disease. It is impossible to find an appropriate estimate of the numbers involved. The most widely quoted assertion is that 100,000 deaths were due to the Sahel drought, but this estimate is assumed to be an upper limit based on the highest death rate found in a number of nomad clusters relative to the "normal" death rate for West Africa. There is no adequate measure for deprivation and shortened lives. The lesson of the Sahel drought is not that man succumbed to the drought but rather how tenacious he has been in managing his survival.

Physiological Damage. In the acute phase of the 1973 drought, doctors from the Center for Disease Control studied the nutritional status of thousands of Sahel children. They found significant numbers seriously undernourished. Since it is known that children in certain age groups (e.g. post-weaning) are particularly vulnerable, and since it is likewise suspected that important physiological effects can be associated with malnutrition (e.g. brain cell growth), significant irreversible costs may be involved.

Ecological Change. Drought raises soil

temperature and reduces its humidity. As the topsoil heats up, its life-giving organisms die and its physical composition changes. It turns to dust, presumably irretrievably. A related drought-induced change has to do with changes in plant cover, notably trees. Prolonged dry weather lowers water tables, reduces soil moisture and generally thins out plant cover. On sandy hillsides, in particular, plants lose out in their struggle against suffocation. This phenomenon is also related to the more popular notion of "southward advance of the Sahara".

It is known that the drought and the indiscriminate cutting of trees for firewood has resulted in a thinning of plant cover in severely affected regions. Trees—not only on hillsides but in affected areas in general—have withered and died. The acacia, which yield gum arabic, have perished by the thousands in Senegal and Mauritania. According to some estimates, over 10 per cent of Senegal's acacia trees have died. What is not so clear is the extent and degree of permanence of these changes. It is widely believed that the "southward advance of the Sahara", is

not related directly to short-term variations in rainfall, but rather derives from the resultant imbalance in the ecosystem—between men, animals and pasture.

• Reversible Effects

Livestock. A number of post-1973 herd size estimates have now been made. The results of these efforts reflected in Table 2 must be accepted with considerable caution. They show losses of about one-third of the overall cattle population between 1972 and 1973. This is somewhat smaller than earlier estimates but is now widely believed to be reasonably close to reality, although it is still too early to be sure.

In any case, the shrinkage of herd size represents an enormous economic loss in the short-term to the cattle-raising population of the Sahel. There are three aspects to this loss: (a) smaller herd size means a smaller flow of current income, mainly because milk supplies are much lower and the sale of animals may involve higher real cost to the stock-raiser who now has fewer animals and a changed herd structure; (b) loss of cattle involves reduction in income-generating assets (capital stock). The wealth of herders has thus been gravely diminished, as has that of sedentary farmers who keep savings in the form of cattle; (c) the drought has a series of longer-term effects on the stock: it caused generalised feeding deficiencies,

2. Size of Cattle Herds, 1970-1973 (thousands of head)

	1970	1971	1972	1973	% loss 1973/1972
Chad	4,500	4,600	4,700	3,000	37
Mali	5,000	5,300	5,000	3,300	34
Mauritania	2,600	2,500	2,300	1,600	30
Niger	4,000	4,100	4,200	2,700	36
Senegal	2,600	2,700	2,500	2,200	25
Upper Volta	2,700	2,500	2,600	2,200	15

Source: Dr. Elliot Berg "The Economic Impact of Drought and Inflation in the Sahel".

increased fractures, reduced fertility, induced higher abortion rates, and reduced survival rates of calves. All of this may have future effects on the productivity of herds. It will surely mean difficulties in reconstituting them.

Agricultural Production. The dry years between 1970 and 1974 had important deterrent effects on agriculture. Table 3 shows the evolution of agricultural production since the mid-Sixties.

Balance of Payments Effects. It was with respect to the balance of payments that the drought was expected to have its most striking economic impact. It was predicted that it would widen already sizeable trade deficits by reducing exports (via its impact on agricultural and animal production), increasing imports of needed foods and increasing transport and related

charges for moving heavy food grains to the Sahel from distant ports.

The incidence of the drought cannot be separated from the major changes occurring at the same time in the world economy, notably the escalation of fuel and food prices after 1972. These developments raised grave challenges for the Sahel. The Sahel countries produce no petroleum and rely on oil as their main source of fuel. Most are big food importers. With the exception of Senegal and Mauritania their geographical position makes transport cost particularly burdensome. The drought-induced decline in volumes of export commodities (peanuts,

Despite its extremely delicate ecological balance, the Sahel has — contrary to popular belief — development potential including underutilised river basins.



3. Agricultural Production, Principal Crops, 1968/69 - 1974/75 (1,000 tons)

		1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75 Forecast
CEREALS	<i>Millet + Sorghum</i>							
	Chad	700	651	610	639	490	430	559
	Mali	556	700	715	715	474	530	910
	Mauritania	50	110	81	80	50	25	n.a.
	Niger	948	1,384	1,100	1,230	1,130	780	1 134
	Senegal	450	635	401	583	323	467	650
	Upper Volta	925	830	770	772	769	1,138	900
	<i>Corn</i>							
	Senegal	35	49	39	39	20	20	30
	Upper Volta	66	69	72	66	2	n.a.	n.a.
	<i>Rice</i>							
	Chad	35	37	39	51	25	30	35
	Mali	80	96	98	117	60	48	120
	Niger	39	38	37	37	32	23	28
	Senegal	58	156	91	108	37	50	90
Upper Volta	29	31	36	37	29	n.a.	n.a.	
CASH CROPS	<i>Cotton</i>							
	Chad	149	117	95	109	104	115	121
	Mali	50	51	59	74	72	58	67
	Niger	7	11	10	8	5	1	8
	Senegal	10	12	12	21	23	34	n.a.
	Upper Volta	32	36	24	28	33	27	29
	<i>Groundnuts (unshelled)</i>							
	Chad	99	115	96	75	75	76	80
	Mali	96	136	158	152	134	120	145
	Niger	177	207	144	171	140	50	30
	Senegal	830	789	582	988	570	643	989
Upper Volta	75	75	78	66	67	63	n.a.	

Source: Dr. Elliot Berg "The Economic Impact of Drought and Inflation in the Sahel".

cotton), meant the Sahel would not be able to take advantage of the commodity price boom in 1973-74 and that it would be forced to have massive imports of food and pay much higher oil prices. It is no surprise that balance of payments catastrophe was predicted.

Preoccupation with the impact of increases in petroleum prices, which underlay in part the gloomy projections, was certainly warranted. However, the Sahel states were partially shielded from some of the effects of oil price changes by their very poverty, being among the half dozen smallest users of energy in the world. Average per capita consumption of energy in the early 1970's was estimated to be 48 kg. of coal equivalent in the Sahel states, compared with 348 for the developing world as a whole and almost 2,000 for the world. So while rising oil prices hurt (especially in Senegal, more industrialised than the other Sahel states), they were not

crippling. Petroleum products were under 10 per cent of total imports, in 1972, and about 5 per cent in three of the six states. In 1974 the import bill for petroleum doubled or tripled while the share of petroleum in total imports doubled in most Sahel countries. However, oil imports still amounted to a relatively small share of total imports, for example, only 11 per cent in Upper Volta and Mauritania, and 13 per cent in Senegal.

In contrast, the higher prices for grain and sugar had greater impact. Food imports were about a quarter of total imports in Mauritania, Senegal and Mali in the late 1960's and early 1970's. In Upper Volta and Chad, food accounted for nearly 20 per cent of total imports; only in Niger were they as low as 11 per cent. The trebling of wheat and rice prices since then has been more serious in balance of payments terms than the quintupling of crude oil prices. The significant

cost escalation of sugar has also been a vital concern, since sugar imports in some of the countries (Mali for example) also accounted for a larger proportion of total imports than petroleum.

In all the Sahel countries during these years, governments purchased food grains on the world market, in addition to seeking food aid. Accordingly, the value of cereal imports rose nine-fold in Mali between 1972 and 1974, (from 2 billion CFA francs (2) in 1972 to 19 billion in 1974). Drought emergency relief in Mali amounted to the equivalent of 10 billion CFA francs, or half the 1974 increase in the food import bill. In 1974 food imports were almost 60 per cent of Mali's total imports and purchased food imports were 35 per cent of the total. In 1974, food imports cost Mali 60 per cent more than the total value of its exports. In Senegal and Mauritania grain import costs doubled between 1972 and 1973 and rose sharply again in 1974—another 30 per cent in Senegal.

Why then did the balance of payments picture fail to turn out as badly as expected? Put more broadly, why didn't drought and world price inflation result in generalised balance of payments disaster in the Sahel?

Of the six Sahel states, five came through the drought and the menace of world inflation with their external economic stability reasonably intact. Stability of course is no goal in itself, and the stability in question is one in which the Sahel economies remain at a very low level of development and welfare. But the maintenance of an external market structure and minimum deficits is nonetheless an important achievement under the circumstances.

A number of factors help explain this rather unexpected outcome: first, and most important in terms of resource availability, the favourable terms of trade enjoyed by the Sahel through this period. Crude oil, wheat, rice and sugar prices all soared after 1972, but so did phosphates, copper, iron ore, groundnut products, uranium concentrates, and—less persistently—cotton. The Sahel states' low consumption of fuel diluted the impact of crude oil price rises, and food aid went a long way in reducing the impact of increased food prices. At the same time these specialised economies temporarily benefited from the price buoyancy of their main exports.

The second major factor was the international aid response. As Table 4 shows, disbursements to the region as a whole

(2) 100 CFA franc = \$ 0.44

almost doubled between 1973 and 1974, and probably stayed at this same level or higher in 1975.

There was, finally, an array of lesser factors of a compensatory or counter-vailing kind. Because of distress in affected areas, outmigration increased and employed citizens already abroad sent home more money. Remittance inflows thus increased very substantially. Tourism, which had been slowly gathering steam in Senegal, began to really advance, and growth in tourist receipts was an important balancing element in Senegal in 1973 and 1974. In Niger, uranium mining came on stream after 1973, bringing important revenue increases for the budget and important foreign exchange inflows for the balance of payments. The same was true for iron ore in Mauritania.

Future Opportunities

A number of the reversible consequences of the drought favour the improvement of long-term cooperation for major programmes on a regional basis. It is precisely for this reason that the DAC Chairman of OECD's Development Assistance Committee was requested to determine donor and Sahelian interest in a more mature form of development partnership. As a result of consultations with concerned parties, the Sahelian states have announced the formation of the "Club des Amis du Sahel". This new and unique forum of concertation will have as its key objectives the expression of long-term support for the Sahel to facilitate information-sharing and technology-transfer and to advance significantly the planning on major programmes that could reverse the structural and environmental handicaps of the region.

● Expanded Intra-Sahel Cooperation

If it has caused new tensions, the drought has also brought the Sahel states closer together in key areas. To coordinate drought relief efforts, and also to make joint proposals for regional development (especially river development) schemes, a number of coordinating bodies were created (Le Comité Inter Etats pour la Lutte Contre la Sécheresse au Sahel), and some which previously existed (Senegal River Organisation, Lake Chad Basin Commission) have been given new life.

The experience with the disaster of the drought has signalled the need, both locally and in the world community, for closer attention to the human and ecological problems of the Sahel region. It can be argued that major policy changes are almost never initiated except by catastrophic events. There certainly now exists a far wider awareness of the delicacy of the Sahel environment, the vulnerability of its people and its resources, and the need to know and do more to bring the region into better ecological balance and its people to a better life. Now their priorities are being evolved in the broad sectors of water, transportation, agriculture and livestock, human and natural resources, for the more balanced development of the region as a whole.

● New External Relations

This new awareness of the special needs of the Sahel is also being translated in more concrete terms into a much broader and more intensive relationship among the Sahel countries and the outside world. Aid relationships have in particular be-

come more diversified. The region is now open to outside influences and help to a much greater degree than five years ago. The world has become involved in the Sahel, and is not likely to drop this involvement quickly. This interest has been translated in institutional terms into the "Club des Amis du Sahel".

● Restoration of Ecological Balance

In the 1960's, the size of Sahel herds grew very substantially. This was partly due to government policies, anti-pest campaigns, provision of deep wells, etc. and partly to the relatively abundant rainfall of the decade. The 1968-1974 drought cut herd populations back to a size more consistent with the carrying capacity of the region at existing levels of technology. This painful process of contraction is a social benefit achieved at great private cost.

● Stimulation of Innovative Behaviour

The drought has stimulated adaptive behaviour in a variety of ways. Farmers and herders have shown quick responsiveness in adjusting to harsh climatic circumstances through funding of small, quick-impact relief projects. Both herders and farmers have engaged in a broader range of multiple resource conversions than they had previously. For instance certain nomadic groups have exploited opportunities for vegetable farming and some sedentary groups benefited from fishing and cash employment on reconstruction programmes. It is indicative of an adaptive flexibility on the part of individual economic agents and these economies as a whole and suggests a greater receptiveness to innovation, even to such basic cultural changes as voluntary sedentarization of nomadic people.

● Availability of Resources

Contrary to popular belief, the Sahel possesses a combination of unique resources. For one, there exists a highly adaptable, resourceful and innovative population. In complement, the under-utilised river basins and areas being freed from the threat of disease open up vast new areas with more fertile soil and critical ground and surface water resources. Given this combination one could say that the problems of the Sahel are solvable with available technology and substantial increases in concessional assistance flows. This claim is more difficult to make in other poor regions of the world where enormous population pressures on the land restrict development options.

4. Net Receipts of DAC Bilateral ODA (1) and Flows from Multilateral Agencies 1969-1974 (\$ million)

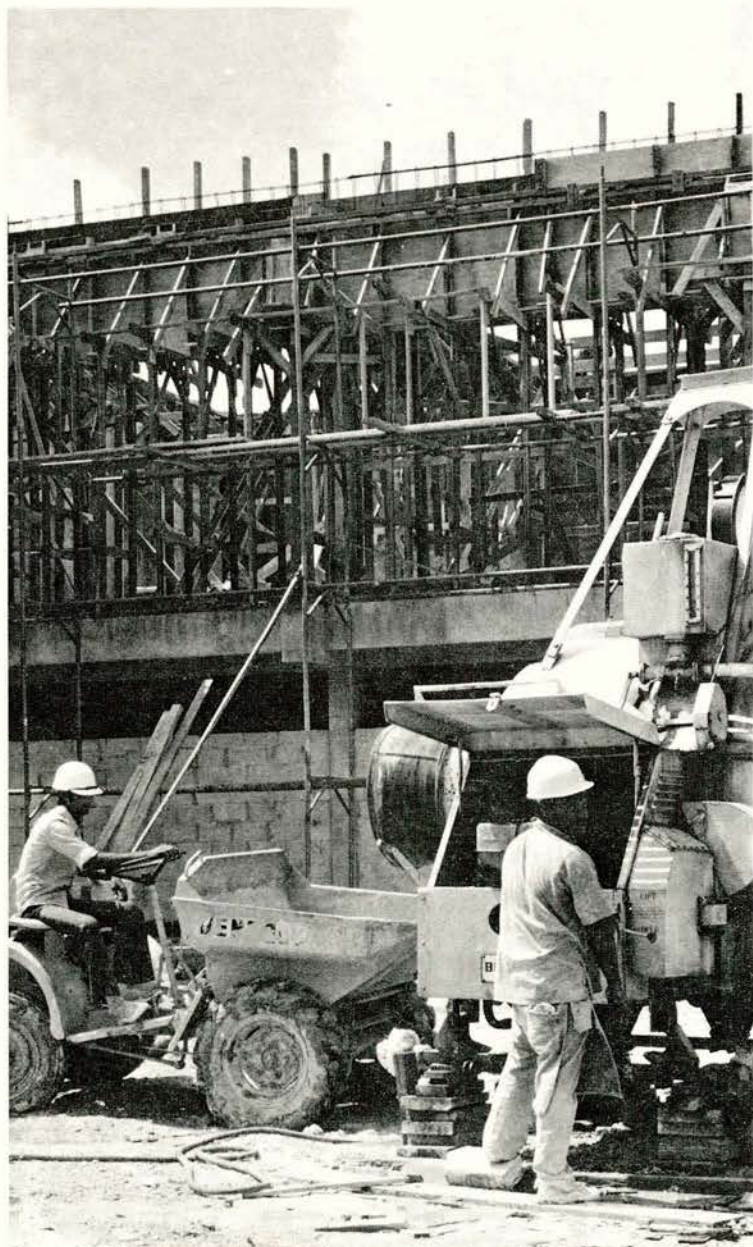
	1969	1970	1971	1972	1973	1974(2)
Chad	23.78	22.30	30.47	30.86	42.20	74.53
Mali	23.24	21.01	30.87	38.32	69.87	116.52
Mauritania	17.73	17.18	5.02	— 2.13	14.26	81.73
Niger	33.24	31.47	37.94	43.07	70.95	142.65
Senegal	56.54	43.23	52.63	48.41	78.80	107.02
Upper Volta	23.93	22.03	29.29	34.72	59.56	98.36
Total	178.46	157.22	186.22	193.25	335.64	620.81

(1) Official Development Assistance

(2) Including Bilateral OPEC flows and receipts from Arab Multilateral Agencies.

Source: Development Assistance Committee, OECD.

Industrial Cooperation with the Developing Countries



The developing countries give high priority to broadening their industrial base and securing for themselves a larger share of world industrial production. Industrial cooperation and better ways of transferring technology therefore rank high on their list of issues for the " Dialogue " in the Commission for Development established by the Conference on International Economic Cooperation (1). The article that follows describes some of the problems with which this group will have to deal.

The Lima Declaration and Plan of Action on Industrial Development and Cooperation (2) and the Resolution of the Seventh Special Session of the United Nations General Assembly identify a number of areas in which the developing countries are seeking to improve their cooperative relationships with the industrialised nations.

OECD countries are prepared to work closely with the developing nations to get pragmatic and constructive action underway; although it is of course the developing nations who must evolve their own industrial strategies. Given the importance of the private sector in this field, action by OECD governments will mainly consist in providing a general framework of policies and institutional arrangements which can offer encouragement to and incentives for industrial cooperation at all stages. They can also contribute by providing financial and technical support, organising informational and promotional activities in the broadest sense and by practising trade policies which further open up their markets to competitive industrial goods produced by developing countries.

Financial and Technical Support

• *Official Development Assistance (ODA)*

Public aid programmes are one way of helping the developing countries to expand their industrial base within the framework of the economic and social priorities they have set. However, in view of the importance of competing claims on necessarily scarce official development assistance (ODA) resources, hard

(1) *The OECD Ad Hoc High-Level Group on Economic Relations between Member Countries and Developing Countries created by OECD's Council in May 1975 has discussed the problem on several occasions.*

(2) *UNIDO (United Nations Industrial Development Organisation). Second General Conference.*

choices will have to be made about how to allocate these resources by sector and project.

Remunerative industrial projects can generally attract commercial funds, but the use of aid funds in the industrial sector is justified in certain cases, for example, to finance the creation of industrial zones and other supporting activities with high priority for economic development. Official assistance may also be instrumental in removing critical bottlenecks in infrastructure (transport and communications, energy, industrial research and training, etc.), and in linking industry with other sectors of the economy, especially agriculture within the framework of a coherent policy for rural development.

Official financial and technical assistance may also be of great value if it is used to support developing countries' programmes to establish or expand small and medium-sized firms' manufacturing of finished and semi-finished products, handicraft and cottage industries and industries using traditional skills to produce modern goods.

There have also been many requests from developing countries for assistance to industries processing local raw materials and agro-allied industries.

The developing countries' own institutions—industrial development banks and industrial information and promotion centres—can be powerful catalysts in stimulating industrial development and can generate counterpart funds and additional capital from domestic and foreign investors.

● *Incentives to Stimulate Non-ODA Flows*

Non-ODA flows represent by far the most important component of total external financing of industrialisation in the developing countries. In the main, these flows are dictated by market forces. However, a number of investment incentives have been devised by OECD Member governments to stimulate such flows. Cases in point are national investment and export credit insurance schemes, fiscal measures and bilateral investment protection and promotion agreements. (The International Centre for the Settlement of Investment Disputes created by the World Bank has an important role to play in this context.)

Measures of this sort might conceivably be expanded or strengthened in order, for example, to encourage foreign investors to increase local training activities or to develop labour-intensive technologies suited to local economic environments. However, since incentives primarily favour investment in the better-off developing countries, the use of official funds or tax exemptions for these purposes does not immediately appear as a high priority use for scarce budgetary resources.

Government incentives are usefully complemented by financial and technical support from the public development finance corporations of donor countries, as well as from the World Bank, the International Finance Corporation and regional development banks. The developing countries themselves can effectively promote private flows by maintaining or establishing a favourable investment climate. They can enhance the developmental contribution of such flows by making it clear into which sectors they should be channelled.

Technical Assistance

The more advanced developing countries will be able to benefit from technical support services, offered at commercial terms by private foreign investors, sometimes with official support which might be reimbursable. As for the poorer countries, although they stand to benefit to some extent from such activities, they would need to obtain official technical support on concessional terms.

Certain aspects of technical assistance are of particular importance:

- Strengthening the capacity of developing countries to evolve effective industrial planning policies, to assess their industrial potential, to undertake pre-investment studies, and to improve project identification and preparation.
- Helping the developing countries evolve a manpower policy which effectively supports their industrial development. Such a policy would provide for training programmes at all levels, both in OECD countries and locally.
- Sending the necessary specialised personnel to developing countries to help in the initial stages of setting up and operating industrial projects, especially turn-key operations.
- Encouraging the reintegration of manpower trained in OECD countries into the industrialisation process of the developing countries.

Industrial Information and Promotion Activities

Direct financial and technical support measures are now being supplemented more and more by a wide range of informational and promotional activities designed to strengthen cooperation with developing countries.

Intergovernmental Industrial Co-operation Arrangements

Arrangements providing for industrial cooperation between OECD countries and developing countries have increasingly taken the form of intergovernmental agreements. They cover such matters as the setting up of joint working groups in various sectors (industry, manpower, education, technology, research, energy, agriculture, trade and finance); the establishment of joint business councils to gather and disseminate pertinent information among the private sectors in the host and home countries; support activities (trade missions, market surveys, feasibility studies, etc.); joint ventures; training facilities; investment protection and promotion agreements (investment and export credit guarantees, double taxation regulations, long-term supply and sales contracts, etc.).

Given the great differences in local conditions and bilateral relations from country to country, there is little to be gained from trying to work out a standard-type agreement or specific guidelines for intergovernmental industrial cooperation. →

Multilateral Measures

Bilateral industrial cooperation arrangements are complemented and reinforced by a number of multilateral institutions.

The EEC, acting within the framework of the Lomé Convention (3) takes an integrated approach to industrial cooperation between its members and 46 countries in Africa, the Caribbean and the Pacific (ACP). The Lomé Convention provides for the establishment of a centre for industrial development, to be managed jointly by the Community and the ACP States. The centre began operations early this year and will provide essentially practical information about the conditions of and opportunities for industrial cooperation.

The EEC, either through the Commission or through its Centre for Industrial Development, will also provide specific industrial support services, notably by carrying out pre-investment and feasibility studies, by facilitating the acquisition on favourable terms of patents and other industrial property and by helping to establish and expand industrial research facilities in ACP States.

The UNIDO Secretariat is undertaking a number of informational and promotional activities in the field of industrial cooperation. It has also been suggested that UNIDO might become a clearing-house for the dissemination of publicly financed pre-investment studies.

Promotion of Industrial Exports

In addition to pursuing trade policies that favour developing countries, OECD Members can actually encourage the expansion of industrial exports from these countries by a variety of bilateral and multilateral schemes to provide marketing information and assistance. Such activities should be closely linked with other OECD governmental schemes (financial aid for example) as well as with private initiatives. It would be helpful if OECD countries were to set up or strengthen national organisations to promote trade with developing countries and to support the UNCTAD/GATT International Trade Centre as well as regional export and trade promotion centres which have been established with similar objectives.

In practice, the governments of developed countries have only limited scope for direct action in regard to industrial redeployment, or restructuring of the international distribution of industrial locations. There are greater opportunities in the trade field, particularly through improvements in the generalised system of preferences on which OECD countries have agreed and which has now become operative for all of the countries concerned.

(3) See page 5.

Adjustment of Industry to Imports from the Developing World

Progress towards a more balanced and equitable evolution of the world economy will necessarily be linked to structural adjustment in the industrialised countries, and to a considerable extent the acceptability of a new pattern of industrial activity by these countries will depend on the effectiveness and cost—social and political—of measures intended to bring about or facilitate such adjustments. It is within this broad context that Paul Marc Henry, President of OECD's Development Centre introduces a new book entitled "Adjustment for Trade" published by the Development Centre which reviews the "state of the art" of research on problems of structural adjustment as well as some existing national policies.

The industries examined include a number of those in which increased imports from the developing countries are becoming important—the most typical examples being textiles and footwear—and the studies refer to varied aspects of the adjustment problem in Belgium, Canada, France, Japan, the Netherlands, Sweden and the United Kingdom. This review leads to the conclusion that structural adjustment policies specifically oriented towards imports from developing countries are relatively rare. In advanced economies, assistance for survival is more common than assistance designed to shift factors of production (especially labour) away from "declining industries". And most important, adjustment assistance often takes the form of relief measures for "problem cases" rather than making the absorption of imports easier. Still rarer are "anticipatory" policies.

Assistance to trade adjustment is a fairly novel concept, still recognised only in quite specialised circles, notes the Swedish economist Göran Ohlin in a resumé of the papers submitted. But as a means of easing the process of trade liberalisation in the relationship between developed and developing countries, it engenders great hopes.

There are divergent interpretations of adjustment assistance as between countries, and the difference is more than a semantic imprecision: it expresses the conflict of interests that arises in the course of rapid change in trade patterns. And therefore it is not surprising to find that in practice adjustment assistance often results in bolstering defences against imports even when the objective is to clear the ground for them. The greatest contribution to rapid reallocation has probably been the pursuit of expansionary policies, geared to full employment and a generally high level of demand, which have the effect of making adjustment less painful for those concerned.

Structural problems in industrial economies are not primarily due to competition from imports. Indeed the main characteristic of industrial economies is incessant adaptation and adjustment to new conditions, most of which arise from internal pressures—technical progress, new products, urbanisation and sectoral shifts. Thus it may be difficult or meaningless to identify manpower policies, financial aid to industry or other similar measures as specifically oriented to trade adjustment. And in fact the displacement effect of imports from developing countries is minimal when seen in relation to the magnitude of overall structural change in industrialised countries, notes Prof. Ohlin on the basis of the studies.

He further adds that the pursuit of an improved international division of labour is not merely a matter of trade policy and trade-focussed adjustment measures. Both developed and developing countries must direct their attention to the whole complex of structural, regional, and employment policies in their countries. If these policies are to promote rather than thwart the expansion of exports from developing countries, they must not remain politically and administratively isolated from trade policy.

Economic Forecasting

The International Dimension

The large—and partly unanticipated—swings in economic activity which have characterised most OECD economies in recent years have served to focus attention on the mechanisms through which fluctuations in economic activity in one country, or group of countries, influence economic activity in partner countries. Unless the international repercussions of cyclical movements in countries' economic activity are fully and systematically taken into account, there is a danger that both the accuracy of economic forecasts, and the appropriateness of policy measures based on these forecasts, will be seriously compromised. A key activity of OECD is to help Member countries incorporate the international dimension into their economic forecasts and hence into their policy decisions.

The following article, describing the international transmission and multiplier processes (see inset pages 18-19) and some approaches to quantifying them, is written by Lee Samuelson, Head of the Econometric Unit in OECD's Department of Economics and Statistics.

As international investment and foreign trade have grown in importance, OECD economies have become ever more sensitive to external impulses brought about by economic developments in other Member countries.

Economic forecasting must of course take this growing interdependence into account. Individual countries, especially, those for whom foreign trade is a major determinant of economic activity, do attempt to allow for the increasingly important external impulses. Because of OECD's international character and the opportunity it has to follow developments and policies in its Member countries—which account for 73 per cent of

world trade—the Organisation's forecasters are well placed to take this interdependence into account in systematic fashion.

The Mechanics of Forecasting

OECD's forecasting exercise is carried out at least twice yearly, in spring and autumn. The procedures for forecasting countries' domestic economic trends are similar to those of national administrations, central banks and research institutes of the countries concerned. It is the emphasis placed on securing a set of forecasts that is globally consistent from both domestic and international points of view, that serves to distinguish OECD forecasting activities from those of any one Member country.

Each OECD forecasting round begins with preliminary forecasts of domestic demand, imports and cost and price aggregates, prepared by Country Desks—experts who follow closely the economies of one or more individual Member countries. These forecasts are made on the basis of current economic indicators and announced fiscal and monetary policies, with allowance being made for any special factors that are likely to play a role in the short term. The initial projections also involve an assumption as to the evolution of exports. At the outset, exports are regarded as exogenously determined, as they depend on choices made not in the home country but rather in trading partner countries.

While consistent in terms of each individual country's national accounts, the initial forecasts are not likely to be compatible on an international basis. For example, the level of imports embodied in the preliminary forecasts may imply a stronger, or weaker, export picture than initially assumed. Therefore the forecasts for individual countries are passed to balance-of-payments experts who, taking as a point of departure Country Desks' initial import forecasts, as well as their best judgement as to likely imports of the non-OECD countries from the OECD area (1), work out an estimate of total exports for the OECD as a whole and how this total will be distributed country by country. The balance-of-payments experts take into account not only past trading patterns, but also such elements as relative export prices, exchange rates and export capacity.

While consistent on an international basis, the resulting export figures themselves may not be compatible with those assumed

(1) Projections are made for six non-OECD areas—oil producers, the Sino-Soviet zone, relatively developed non-OECD countries and three groups of developing countries which are not producers of oil.

when preparing the preliminary forecasts of individual countries' economic activity. Since the export outlook, whether stronger or weaker than initially assumed, will have implications for each country's own level of activity, the export figures for each country are passed back to the Country Desks, completing the first iteration of a forecasting round.

A second iteration begins when individual Country Desks adjust their own estimates of domestic activity to a revised, internationally consistent, export outlook, thereby taking into account impulses emanating from other countries. Because of the sensitivity of countries' imports to changes in economic activity, new import forecasts are prepared for each country, which are again sent to balance-of-payments experts for reconciliation. A further revised set of export forecasts is then passed back to Country Desks, completing the second iteration in the forecasting round.

The Use of Econometric Methods

In principle further iterations take place, until a globally consistent set of forecasts making due allowance for domestic and international adjustment processes is achieved. In practice, however, only two cycles of revision and re-revision are possible over a period of about a month. That this should be the case is easily understandable, given the enormous quantities of data to be gathered, analysed and imbedded in a consistent frame-

work for each of the more than twenty OECD countries, as well as the various groupings of non-OECD countries.

The problems inherent in handling these large quantities of data are, in fact, compounded by the flow of new information during a forecasting round—policy changes, updating of current economic indicators, revisions to historical data. In principle, the iterative procedure would begin again with each newly arrived piece of information, so that it might be consistently integrated into the global forecast picture. From an organisational point of view, however, this would clearly be impractical, if not impossible. On the other hand, the cumulative effects of additional information could become quite important, and serious forecast errors could result from failure to take them into account.

With these considerations in mind, a computerised econometric model has been developed, which allows for the iterative process to work fully through, as well as for new information to be consistently integrated into the forecast picture. The model—appropriately called STEP (the Short-Term Economic Prospects model)—simulates the behaviour of the OECD economies, linking them, and the non-OECD area, through international trade flows (2). With the STEP model, the iterative process that leads to a globally consistent set of forecasts is carried to completion in a matter of minutes.

Any econometric model necessarily involves some simplifica-

The International Transmission and Multiplier Process

An Illustrative Example

If the world consisted of two countries only—a “home” country and a “partner” country—what would be the effect on both of an autonomous increase in domestic expenditure in the home country? This diagram traces through the effect, which might reflect a deliberate fiscal or monetary policy measure or, alternatively, be related to changed consumer or business spending behaviour. Irrespective of its origin, the additional autonomous domestic expenditure represents a stimulus to the home economy. This stimulus not only results in a direct, mechanical increase in domestic demand (1), but also initiates a domestic multiplier process that gives rise to even further increases in domestic demand (2).

The increase in domestic demand, in turn, tends to increase the home country's demand for imports (3). (By how much depends on the import elasticity). The change in domestic demand, together with the induced change in imports, serve to define, for the home country, a corresponding change in that country's GNP.

Were the home country to be considered in isolation, adjustment of the home economy to the autonomous expenditure change could be considered complete. From a global point of view, however, this is not

the case: the repercussions of the home country's adjustment on the partner country, and the associated feedback effects, are yet to be taken into account.

For the partner country, the direct consequence of an increase in the home country's imports is a corresponding increase in exports (4). In much the same way that the autonomous increase in domestic expenditure represented a source of stimulus to economic activity in the home country, increased exports are a source of stimulus to the economy of the partner country. This increase in partner countries' exports, as is illustrated in the diagram, also leads, through the domestic multiplier process, to further increases in domestic demand (5).

The increase in the partner country's exports and the subsequent induced increases in domestic demand, serve to determine an increase in that country's GNP. This is the essence of the international transmission process: an autonomous expenditure change in a given country will have repercussions for economic activity in any partner country.

The global adjustment process is not yet complete, however. Further rounds of adjustment of both trade flows and economic activity in both countries will be

involved; the cumulative effects serve to define the international multiplier process.

The increase in demand in the partner country gives rise to an increase in partner country imports (6) which is fed back to the home country in the form of an increase in exports (7). This increase in exports of the home country represents a further source of stimulus to that country's economic activity, serving to reinforce the effects of the initial increase in expenditure. This additional source of stimulus can be viewed as an “echo effect”. An impulse transmitted to the partner country via a change in trade flows is, in effect, retransmitted, or echoed back to the country in which the impulse originated.

It is readily appreciated that this second round of stimulus gives rise to further adjustments, with multiplier effects, of domestic economic activity in the home country. These, in turn, result in a further increase in imports, reinforcing the external stimulus to partner country economic activity, and so on. This process of simultaneous and mutually reinforcing adjustment and readjustment of trade flows and economic activity continues as the mutual interactions of the two economies work themselves through.

tion of the complex relationships among the variables with which it deals. A noteworthy feature of the STEP model is that an initial set of "benchmark" forecasts, involving important judgemental elements, is a key input. In other words, the model is not intended to be an independent source of forecasts, but rather is designed to ensure consistency in the revisions that are being made to the benchmark forecasts. The simultaneous determination of trade flows and domestic economic trends, as the successive iterations are carried out, ensures that the mutual interactions of all economies are taken into account. The STEP model also provides a convenient framework for assessing the sensitivity of forecasts to alternative assumptions.

The Role of National Forecasters

The resulting forecasts of domestic and balance of payments trends are presented to a group of national forecasters from OECD capitals, who meet in Paris twice yearly as the Working Group on Short-Term Economic Prospects. The national forecasters—from Central Banks, Finance Ministries, Councils of Economic Advisers—bring their own forecasts to compare with, and confront, those of the OECD. Discussion in the Working Group is of a technical nature, in the sense that it tries to estimate the most likely developments over the subsequent 12 to 18 months on the basis of existing policies. It does not discuss whether or not the forecast developments are desirable

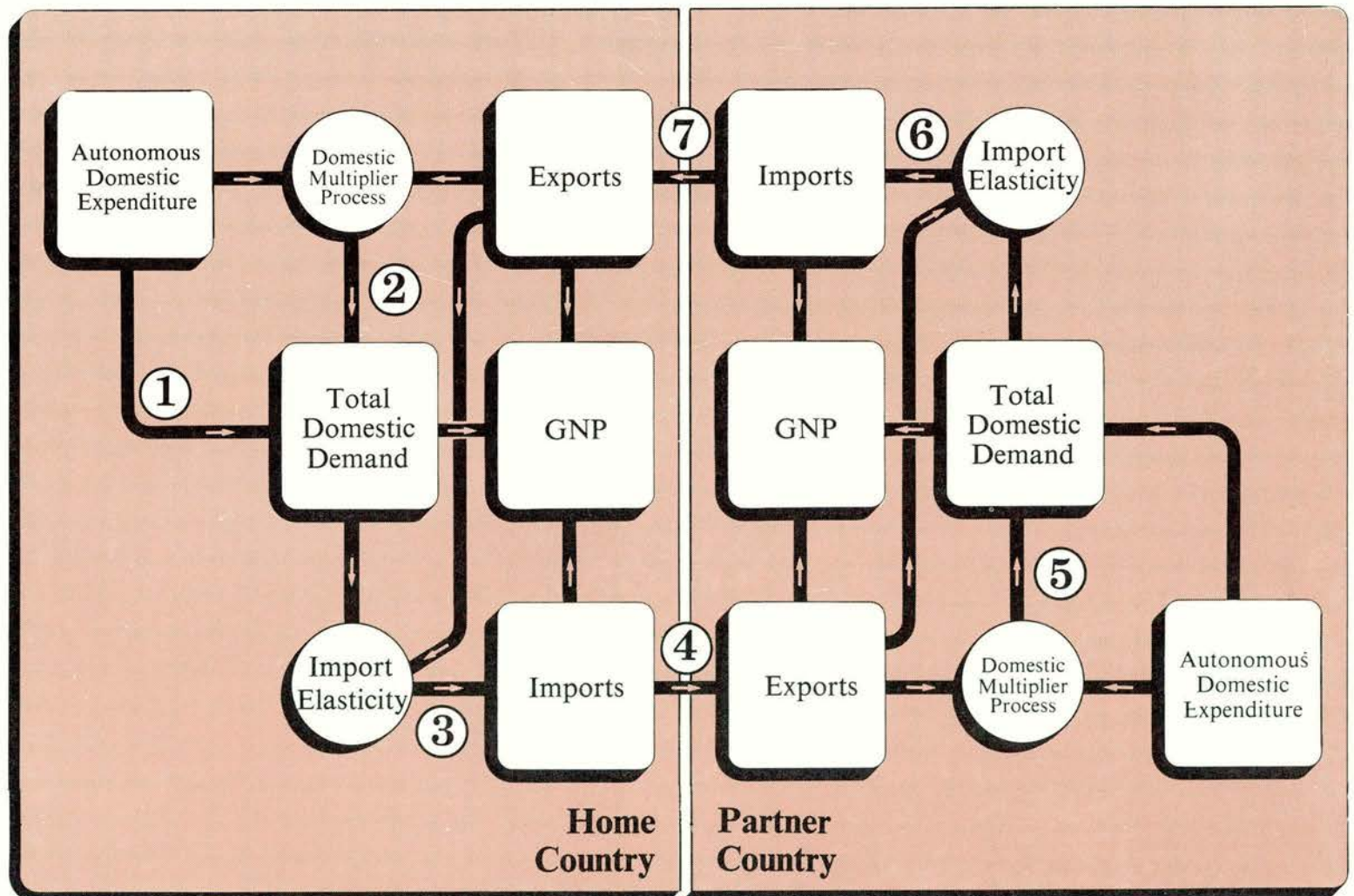
or whether economic policy should change as a result of the forecast picture. This is the task of the OECD's Economic Policy Committee which meets one to two weeks later.

Within the Working Group, national forecasters themselves must come to grips with the international dimension—as regards forecasts for their respective economies. The process of confrontation and consultation on respective forecasts, and envisaged policy measures, leads to a clearer appreciation of probable developments in each of the OECD economies and the likely impact of these economies on one another. As a result, national forecasters are often led to revise—sometimes substantially—their own preliminary estimates.

Discussion in OECD's Economic Policy Committee is directed largely to the formulation of internationally coordinated policy measures which, when taken collectively, will be consistent with each country's particular objectives.

Because of the interdependence of the OECD economies (see inset 2), failure to coordinate policy programmes could result in a tendency for their effects to cancel out, with the result that no country's objectives would be realised. On the other hand, a simultaneous, but uncoordinated, adoption of broadly similar policy measures could lead to a serious overshooting of policy

(2) For an early description of this model, see "OECD Economic Outlook - Occasional Studies", December 1973.



targets, because of the mutually reinforcing effects of what has come to be known as the international multiplier process.

The potential importance of the international multiplier process may not have been fully appreciated in the past. That this should be the case is perhaps attributable to the largely asynchronous movements of economic trends in the 1960s; for it is when countries are experiencing synchronised movement in economic activity that the international multiplier process makes its effects felt most strongly. In recent years the coincidence of economic trends has given rise to wider swings in economic activity than country-by-country analysis of domestic policies would have suggested. Multiplier effects associated with the international transmission process were clearly involved: rapid rates of economic growth in most OECD countries in the early 1970s gave rise to strong increases in the volume of world trade, which served to further stimulate already buoyant economic activity. Similarly, the widespread and persistent recession of the mid-1970s not only led to a decline in world trade, but was in turn reinforced by that decline.

Quantifying the International Multiplier Process

Given the importance of the matter both for forecasting and policy making, OECD has attempted to throw some light on the potential magnitude of the international multiplier effect if synchronised expansionary measures were to be taken in each of the OECD countries. Simulation studies addressed to this question have been carried out with the STEP model. The results suggest that the international multiplier process could augment

the overall impact of synchronised expansionary measures by half-again what might be concluded on the basis of a country-by-country analysis.

A numerical illustration can serve to elucidate the point. A survey of national econometric models, other available econometric evidence and expert opinion indicates that the value of the domestic multiplier for the "average" OECD economy is approximately $1\frac{1}{4}$: an autonomous injection of \$1 billion into the country's economy would increase GNP by \$1.75 billion if the country were considered in isolation. (Actual effects would of course vary from country to country). If, on the other hand, due allowance is made for the international multiplier process, the average response in economic activity of each country to the synchronised policy measures could well exceed \$2.5 billion. (In other words due to synchronisation of the upswings, their amplitude would be $1\frac{1}{2}$ times as great as might otherwise have been expected).

These considerations serve to underline the importance of taking into account the repercussions of the international multiplier process. If a country were to neglect them, it could end up adopting policy measures that—on the upside—would lead to unforeseen and perhaps undesirably rapid rates of growth or, on the downside, recession. Many economists feel this may have been an important factor contributing to economic developments in the early Seventies, when a synchronised upswing of unanticipated magnitude was followed by a synchronised downswing of unforeseen depth and duration. Now many economic policy makers are beginning to express concern that a similar cycle of synchronised over-rapid expansion and recession could recur.

In view of the simultaneous adoption of expansionary policy measures in many OECD countries, at a time when available

A New Look at the Future

Governments are now experiencing the need to make their day-to-day policy decisions in the context of various assumptions about the longer-term future and also to take a wider range of social, economic, environmental and other relevant elements into account. OECD has just launched a major research programme to provide the necessary insights into possible alternative patterns of longer-term development.

Increasingly conscious of the need to re-examine their policy approaches in the face of rapid change and growing complexity in the world economy, a number of OECD Member governments decided to invite the Organisation to examine systematically the future of industrialised societies in their international context. OECD's Council has accordingly approved a three-year project costing an estimated \$4 million and underwritten by the following 14 Member governments: Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom and United States.

Possible patterns of evolution in advanced industrial societies will be examined by a research team of about 15 full-time experts drawn from a number of different disciplines. The study will



examine longer-term inter-relationships both among OECD countries and between them and the various regions of the world, particularly the developing countries. It will therefore provide a valuable longer-term insight into some of the problems to be tackled in the Dialogue between industrialised and developing countries.

The project will explore issues and opportunities in the longer-

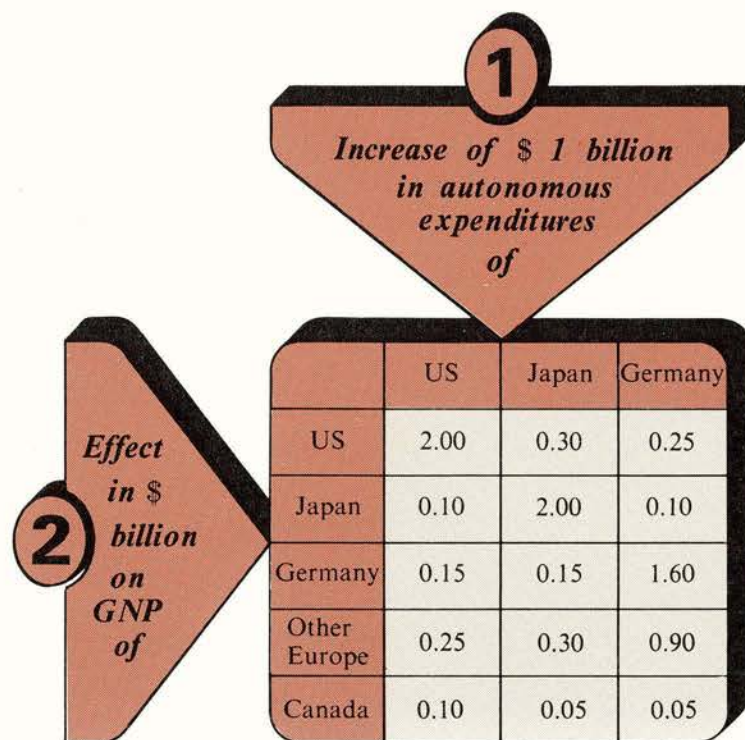
Impact of Expenditure Increases in Large Countries

This chart shows how the international transmission process might work for individual countries (1).

- Although the effects of increases in expenditures in the United States and Japan are felt very largely at home (over three-quarters and two-thirds of the total effects respectively), nearly one-half of the total effect of increased expenditures in Germany may be felt in other countries.
- Increased demand in Germany has a particularly marked impact on the rest of Europe: an additional dollar expenditure in Germany may have over three times the effect of the same expenditure in the United States.
- Such is the immense size of the United States economy, that an increase in demand in that country has a greater effect on the smaller countries than an equivalent increase in Germany. An increase in demand in the United States also has significant effects on Canada, Japan and Germany.

(1) See "OECD Economic Outlook No. 18" December 1975.

The figures are derived from simulations carried out with the STEP model. They should be regarded as no more than orders of magnitude, indicating possible international effects of autonomous increases in domestic demand in the three countries after allowance for the impact of foreign trade, secondary repercussions and multiplier effects.



indicators suggest most OECD economies are poised for recovery, this concern appears to be justified. Another round of synchronised, excessively rapid expansion could aggravate inflationary pressures, in turn setting the stage for subsequent re-

cession. This is an important consideration for the coming years, to be balanced against the imperative of rapid elimination of economic slack and unemployment that still persist in many OECD countries.

of Industrialised Societies

◀ Jacques Lesourne, Director of the project (left) with OECD's Secretary General, Emile van Lennep.

"One of the original features of the project will be a continuous intellectual exchange between the research group and government officials in Member countries."

"To have as wide a range of insights as possible, it will be necessary to develop several different methods of thinking simultaneously."

term future, well beyond the time period to which governments and international organisations can generally give their attention. It will focus not only on alternatives but on the interaction of various problems, opportunities and choices and on the potential consequences of today's decisions. One feature should be a questioning of the implicit, and perhaps well entrenched, assumptions behind policy decisions.

The results of the exploration of these global, longer-term developments will be made relevant to national policy-making in three ways :

- The programme provides for regular exchanges between the research team and senior policy officials directly concerned with decision-making on specific issues which are identified by research.
- Broad guidance on the research programme will be given by a

project steering committee composed of top-level government officials.

- A small panel of independent experts will be invited by OECD's Secretary General to advise both the research team and the steering committee.

In assessing longer-term developments both within the industrialised world and between advanced industrial societies and developing countries, the research programme will take into account the consequences of socio-cultural trends, potential problems and opportunities related to energy, raw materials, environment, and the future evolution of international economic structures and systems in response to growing interdependence.

The first phase of the project will be devoted to an operational definition of the main topics, within the broad areas described above, on which the research should be focussed.

The project, entitled "The Future Development of Advanced Industrial Societies in Harmony with that of Developing Countries"; was worked out by an ad hoc OECD group of government experts under the chairmanship of Professor Saburo Okita, President of the Japanese Overseas Development Fund. The project director, to head the OECD Secretariat team of researchers, is Professor Jacques François Lesourne, professor of economics and formerly head of the SEMA-METRA group of consulting firms.

Employment: Focus of Ministerial

Some 15 million men and women in the OECD Member countries are unemployed, and this figure underestimates the extent to which human resources are being under-utilised. It is one of the main factors which prompted Labour Ministers to meet on 4th and 5th March 1976 at the Organisation's headquarters.

There is a growing realisation that the defensive mechanisms introduced to protect employment and guarantee a minimum income for the unemployed are beginning to lose their effectiveness because of the depth and duration of the recession. The recovery, which is beginning in a number of countries, will not materially reduce unemployment for some time because of the degree of under-utilisation of those already employed.

This is the general context for discussions at the Ministerial meeting; the main topics included were: measures to stimulate job creation; equity in employment; migration, mobility and adaptation of manpower; positive action to accompany income maintenance for the unemployed.

The Quantitative Picture

The rise in production between 1960 and 1970 was accompanied by an expansion in employment in all Member countries, with the exception of Austria and Italy. But fluctuations in employment were greater than in production. One of the main characteristics of the current recession is that its effects on employment have been smaller than might have been expected in view of the substantial fall in production, although employment has risen more slowly than during the Sixties. As to unemployment, severe though it has been during the recession, it is less than what was anticipated or what one might expect considering the size of the drop in output.

In part, this is because a good deal of the slack which has developed in the labour market during the recession has been absorbed by various measures to prevent the emergence of overt unemployment. Working hours have fallen in a number of countries; jobs have been preserved by selective subsidies to employers, by restrictions on dismissals or by deterrents such as redundancy payments.

Figures indicate that working hours in all countries have dropped more than the 1960-70 trend would have suggested, the largest decrease having occurred in Japan. The fall in working hours explains some of the decline in productivity which has taken place but by no means the whole of it.

The incidence of unemployment is higher for women than for men in many countries and for the younger age groups in the labour force. Before the recession, young people under the age of 25 accounted for a large part of total unemployment, more than half in some countries such as Australia and Italy. The effect of the recession on the incidence of unemployment has varied considerably among the main age-groups: there has been a larger increase in the unemployment of young people than of other groups in Canada, France and the United Kingdom, but the increase has been greater among people aged 25-54 in Australia, Germany, Japan and the United States. In many countries, the incidence of unemployment varies considerably from region to region.

Levels of migration in European countries have been affected by the recession. The number of foreign workers rose rapidly in some European countries in the Sixties and early Seventies, and it is clear that the situation has changed appreciably since 1973.

In some countries, there have been changes in participation rates during the recession. This is particularly true in Japan, where the number of women in the labour force has declined. In some other countries, however, there may have been a contrary movement as additional workers entered the labour force to sustain family income.

An important indication of weakness in the employment situation is the number of job vacancies, which was low in 1975 compared with 1974 or with the Sixties, save in the case of Sweden. It seems likely that vacancies will remain low well after the recovery in output because of the under-utilisation of employed manpower during the recession.

New Phenomena

But these facts are only the quantification of more complex phenomena, some of them qualitative and structural in nature, which have become evident over the last few years. One example is the combination of high rates of inflation and unemployment appearing simultaneously. A number of unprecedented shocks to world markets, such as the reduction in petroleum supplies, shortages of food and raw materials, have also contributed to the problems.

Macro-economic policies both fiscal and monetary continue to be central in governmental efforts to prevent economic activity from slowing down and to limit any further increase in rates of inflation; but many governments have not felt themselves able to expand overall activity more rapidly because of the serious danger that this would inevitably lay the groundwork for an even more serious recession. New links therefore need to be forged between macro-economic policy and selective employment and manpower policies so as to entail a minimum of inflationary effects.

The unemployment/inflation dilemma must be dealt with in the context of longer-term developments which affect governments' ability to stabilise total employment at a level of full manpower utilisation.

These developments include: new demands for job security and more liberal social security systems; the tendency for the risks of unemployment to be particularly concentrated on disadvantaged groups and areas so that special measures must be developed to provide them with adequate employment opportunities; the

Meeting at OECD

themselves. But although migratory flows can be desirable in a period of sustained and rapid economic growth, they become difficult to reconcile with higher rates of unemployment.



increasing number of families in which both parents work and in which the employed women are seeking educational, working, social-security and family arrangements which reflect their aspirations to equality; increasing demands for a more equitable distribution of incomes; the need to adjust to new relationships with developing countries; the increasing speed of diffusion of technological innovation; the rising level of education and increasing occupational specialisation which make it necessary to have more coherence in the educational system and working life; rising expectations regarding careers and the quality of working life; and the growing proportion of each country's national income being devoted to government budgets and social insurance systems.

Another factor has been the internationalisation of Member countries' economies. Industrial and commercial ties have been strengthened not only through trade in goods and services but also through exchanges of industrial capacity and movements of investment capital and workers with their families. As a general rule, the influx of migrant workers to certain major industrialised countries in Europe has helped to make up for the shortage of manpower and contributed to the growth of consumer demand, thus playing a role similar to the one historically played by immigration in North America and Australia. In addition, workers in certain of the more industrially developed Member countries are showing growing reluctance to accept relatively badly paid and disagreeable work or jobs in isolated places. This has induced employers to look elsewhere to fill these types of jobs. The process has benefited both home and host countries as well as the migrants

Given the impossibility of predicting Member countries' growth rates for the medium- and long-term, these structural changes make it difficult to forecast exactly the overall rate of unemployment. But there is a risk that it will remain high compared with past levels and that it will particularly affect, although in different ways, certain groups, regions and industries. Many people will still have difficulty finding and keeping a satisfactory job, even under reasonable growth conditions. Governments will, therefore, not only have to work out policies to reduce the gap between employment targets and their fulfillment; they will also have to devise a new kind of full employment policy adapted to the economic and social conditions of the years to come.

It is almost certain, in any event, that continuing inflationary pressures will prevent extensive reliance on traditional budgetary and monetary policies to bring about a growth in demand sufficient to reduce unemployment to rates that would be acceptable by the standards of previous years. Yet persistently high unemployment rates may give rise to pressures for policies that will be dangerously inflationary unless the reduction of unemployment can in part be brought about by strict application of selective employment and manpower policies. If governments wish to achieve the highest possible levels of employment despite the constraints imposed by the current economic situation, they will have to concentrate more than they have so far on policies to reduce unemployment selectively, especially for the benefit of those who bear an increasingly disproportionate share of the economic and social burden which unemployment represents.



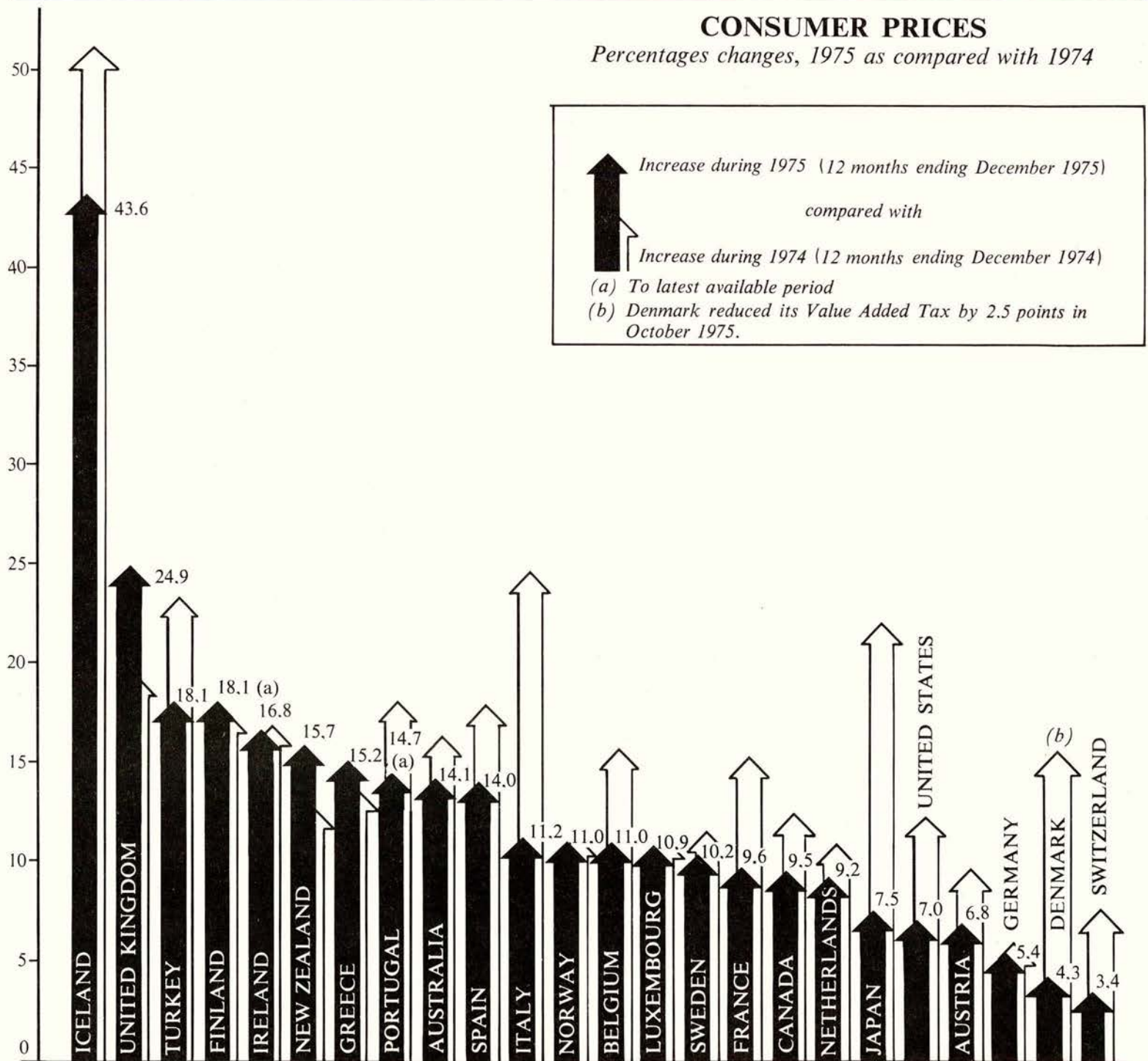
WHAT HAS HAPPENED TO INFLATION ?

In the twelve months to December 1975 the rise in OECD consumer prices slowed down to 9.2 per cent from 14.2 per cent over the previous 12 month period. This reflected a deceleration in the majority of Member countries, nine of which brought the rate of inflation down to a one digit level.

There was also some shrinkage of the

inflation differentials as between countries. Indeed, an important reason why the average price increase fell is that some of the countries with the worst performance earlier moved down. In particular, both Italy and Japan moved nearer to the average OECD inflation rate. A few smaller countries also did somewhat better than during the Decem-

ber 1973 - December 1974 period. But this is not to say that the spread of inflation rates between countries does not still remain large. The latest *OECD Economic Outlook* (December 1975) forecast a levelling-out of OECD consumer price increases at an annual rate of about 8 per cent in 1976.



The Impact of the Economic Situation on Environmental Policies

By R. J. van Schaik,
Chairman of OECD's Environment Committee (1)

Have government policies to combat recession and inflation led to the weakening of environmental standards and policies? This question has been a matter of concern to OECD's Environment Committee, which has collected evidence and concluded that, although there are mounting pressures in a few countries to delay some programmes or to apply lower standards, on the whole, environmental policies and programmes are still being implemented without undue restriction or delay.

Basic Issues

The Environment Committee focussed its discussion on the basic issue of whether or not the problematic economic situation has led to a relaxation of environmental policies. It also discussed the related, but inverse, question: whether in specific cases economic recovery policies have stimulated the spending of public funds on environment programmes. Closely linked with this last problem is another question, also investigated by the Committee: what are the implications of such public expenditures for the costs of applying the "Polluter Pays Principle"?

The Committee examined and stressed the growing need to calculate the costs of pollution and pollution control. Finally—and most relevant for its future work—the Committee tried to answer two questions about international environmental co-operation: whether it has been harmed as a result of present economic difficulties and what the outlook is for the future.

Although the overall conclusions of the Committee were positive, it is true that in various countries national environmental policies are under some pressure either because of the economic situation or the energy crisis, or in some cases technological problems. If adverse economic trends were to reassert themselves, the implications could become more serious.

Of course, it is difficult to speculate as to what the "state of the art" would have been if no economic problems had arisen. But it seems fair to conclude that, at least at present, existing environmental policies in most countries are still being implemented without delay. It has also been pointed out that in many countries the force of public opinion, particularly that of the various interest groups, could work against relaxation of environmental programmes. And for those who have developed an allergy to reports of waning interest in environmental affairs, it is heartening to hear from countries where policies have been strengthened and programmes intensified.

Members of the Committee agreed that implementation of environmental policies as a whole should not be slowed down by fluctuations in the business cycle and, in this connection,

took great interest in a significant *Japanese* court ruling, with regard to the discharge of pollutants dangerous to human life and health, that companies should take complete control measures with the best technology available, regardless of the higher costs involved. Encouraging information was also given by the *German* delegate, who reported on a declaration made by the *German* government to the effect that, even in the present circumstances, *Germany* will continue to pursue its environmental goals. This declaration was the result of an extensive review by the Chancellor, the Minister of the Interior (who is responsible for the environment) and several other ministers, representatives of industry and trade unions, environmental experts from the nation's political parties, the *Länder* and the scientific community.

In countries such as the *United Kingdom* which have decided to defer certain improvements they earlier hoped to make, implementation of some legislative provisions had to be postponed. In the *United States*, certain environmental legislation, such as the Clean Air Act, presently in force, is being amended. One result may be to lengthen the period of transition to full compliance. Furthermore, proposed laws such as the Surface Mining Act have been trimmed or postponed. Factors underlying such cases are complex, but the higher cost of energy has figured to a greater degree than the economic recession.

Other countries are still developing legislation with environmental content without undue delay. An example is the *Netherlands* where a chemical waste law, a general waste law and a noise abatement law have recently been proposed as well as modification of the Air Navigation Act to provide further charges on airports.

Economic Recovery Policies

As far as economic recovery policies are concerned, they have, in specific cases, served the cause of environmental protection. Thus, for example, at least four countries—*Belgium*, *Denmark*, *Japan* and *Norway*—are taking anti-cyclical measures, which are linked to the environment, while *Sweden* took this approach as early as 1971.

Belgium in its 1976-1980 plan (drawn up in 1973) provided for public investment to maintain demand during 1975-1976 when it was expected to fall, and the sum included funds to protect both the natural and urban environments. Of late, subsidies for firms wishing to equip themselves with pollution control facilities have been stepped up. In the budget for 1976,

(1) R. J. van Schaik is head of the Economic Cooperation Department of the *Netherlands* Ministry of Foreign Affairs.



During the downturn, the growth of industries producing anti-pollution equipment has continued. Right: monitoring air pollution in Tokyo.

the total amount of investment aimed at abating water pollution is double the amount available for 1975.

In *Denmark*, under the terms of a law enacted in 1975, firms can apply for aid to investments designed to reduce pollution on condition that the spending is undertaken before April 1976 and completed by 1977. Roughly one hundred million Danish Kroner have been allocated for assistance on pollution control equipment; inexpensive loans for the insulation of houses have also been granted.

In *Japan* a reflationary policy announced on 18th September 1975 included loans for pollution control; the Government continues to give high priority to anti-pollution activities and expects them to have a reflationary impact.

In *Norway* anti-cyclical measures have included:

- Grants for the detailed planning of local government sewerage works, followed by grants for accelerated investment in public sewerage systems which doubled investments over the level for normal programmes (grants constitute 20 per cent of the cost).
- Accelerated pollution control expenditures in existing industrial plants, again twice the normal level. The idea is to reduce lay-offs by transferring a company's personnel to the installation of pollution abatement equipment and to provide breaks in production for the purpose of making such installations during periods of slack demand.

The foregoing examples indicate (and this was reported by several OECD countries) that public funds have been made available to the private sector for use on environmental projects. Nevertheless, the Committee concluded that the Polluter Pays Principle remains a fundamental guideline for both national and international environment policies.

The net result of these trends is that, during the downturn, the growth of industries producing anti-pollution equipment has continued. And it may be, as some governments believe, that early application of the most advanced means for control of environmental pollution could provide a competitive advantage to industries which are prepared to utilise such techniques.

Calculating Costs of Pollution

Environmental protection constitutes a policy area in its own right, the content and implementation of which cannot be determined solely by cost considerations. Nonetheless, the Committee underlined the importance of more intensified research on the effects and costs of damage caused by environmental pollution and more analysis of the costs and benefits attributable to environmental protection policies. Such calculations could provide a solid basis for establishing priorities among specific environment programmes.

International Cooperation

I do not believe the economic crisis has significantly affected the efforts undertaken on international level in the field of the environment. On the contrary, delegates to the Environment Committee have stated that their governments continue to attach great importance to international cooperation. They have stressed that in view of the global economic situation and the international dimension of the problems, international cooperation could become even more significant in the future.

It should be noted however that cooperation on environmental matters in the early Seventies began with fairly broad principles. Now we have reached the stage at which these general principles must be implemented, and this in a context of severe economic problems. Thus economic bottle-necks—e.g. the short-term cost of environmental measures to industry—have become more apparent. Also countries have become more aware than they were of the delicate political nature and widening scope of certain transfrontier pollution problems.

The OECD, as an important forum for balancing economic, social and environmental factors, can make an important contribution to the solution of many of these problems.

The Tanker Crisis ... and its Effect on Norway

The situation in the world shipping market—and especially the tanker market—is very serious indeed for shipowners, and equally so for ship-builders; the implications for employment and foreign exchange earnings are evident.

Norway is particularly affected by the difficulties in the shipping sector (1), because of the size of its merchant fleet which is the world's fourth largest in terms of tonnage, and the largest compared to population or GDP among the traditional seafaring countries.

The contractionary effect on production and employment of the sudden huge increase in the oil price was felt later in the tanker market than in many other sectors.

During the first half of 1974, the tanker market fell from the peaks it had reached in October, 1973, but chartering of tankers remained well above the break-even level. This was because of the demand for oil transport capacity, which was sustained for three reasons: the interruption in supplies of oil flowing through pipelines to the Mediterranean during late 1973; the need to conserve bunkers by reducing speed; and the complete dislocation of traditional supply patterns caused by the crisis.

But as the oil embargos were lifted, stocks reached high levels and the measures taken to limit the demand for oil started to bite. This led to a slump in the world tanker market which has steadily deteriorated since mid-1974. Indeed, throughout 1975, freight rates often failed even to cover the cost of bunkers and wages, so that shipowners began to withdraw their vessels from the market.

While at the end of 1974 only 79 tankers totalling 2.8 million d.w.t. were inactive, a year later 500 such ships (41.9 million d.w.t. in all) were laid up (see Table 1).

Another factor which helped to swell the tonnage of inactive tankers was the continuous influx of new vessels into the market, amounting to 40 million d.w.t. in 1974 and about 43 million d.w.t. in 1975. Meanwhile only 11 million d.w.t. were scrapped or lost during this period, 9 million of them in 1975 which was by far the highest figure ever recorded. A net increase of some 8 million d.w.t. in the combination carrier fleet must also be taken into account; thus some 80 million d.w.t. of additional tonnage became available for carrying oil between the end of 1973 and the end of 1975 whereas demand was appreciably lower.

To this unused capacity must be added the tonnage which was deliberately operated inefficiently, mainly by reducing speed.

According to various estimates the cutback through slow steaming has amounted to almost a quarter of all tanker tonnage now in service; tankers of over 175,000 d.w.t. reduced their average speed by more than 3 knots to about 11½ knots.

If these two factors, idle tonnage and slower operation, are taken together, total excess tonnage amounted at the end of 1975 to about 115 million d.w.t., some 37 per cent of the total fleet available for carrying the required quantities at fully efficient operation.

The Impact on Norway

Contrary to the situation in previous recessions, the 1975 crisis hit the shipping sector more severely in Norway than in most other shipping countries, and by the end of January 1976 43.9 per cent of its tanker fleet—31 per cent of its entire fleet—was laid up, whereas the laid up percentage for the world tanker fleet as a whole was only about 15 per cent. Norway's percentage is the highest recorded since the War and almost as high as the figures reached in the crisis of the Thirties. The drastic effects of the present slump are due essentially to two factors:

- Increasing exchange rate risks and uncertainty with regard to inflation have led Norwegian shipowners in recent years to be more chary of signing long-term contracts; the result—a shorter-term average contract—has exposed a much larger proportion of the fleet than in previous recessions to the unforeseeable vagaries of the voyage charter market.

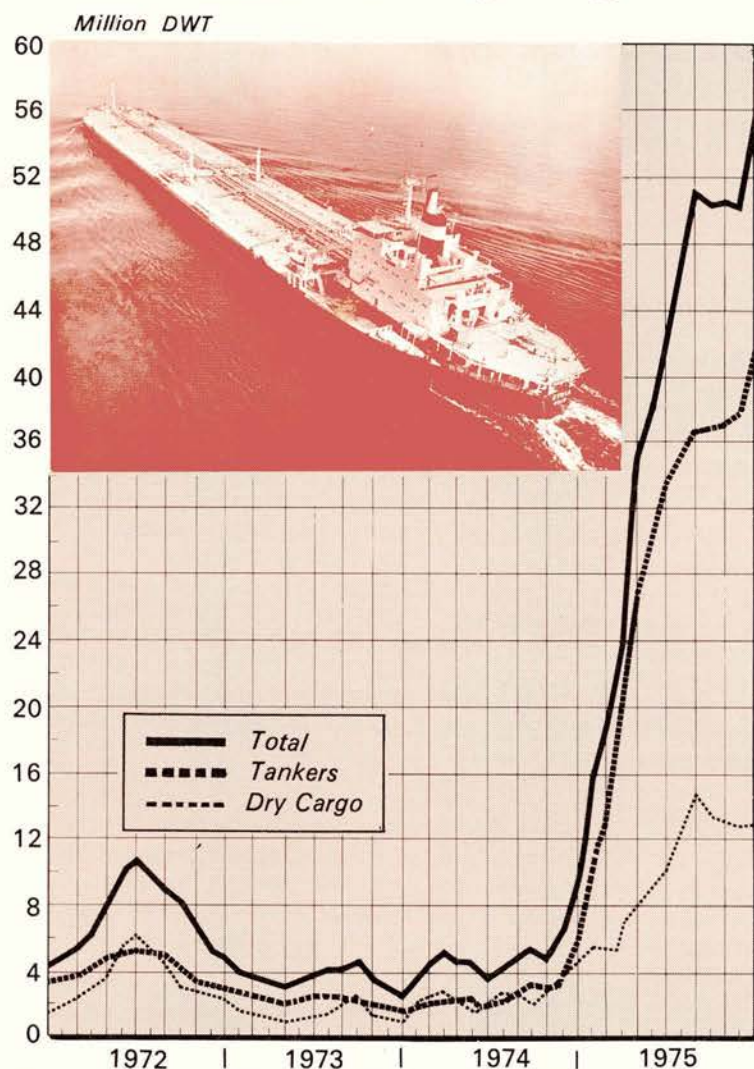
- The crisis has been felt most severely in the tanker charter market and in particular by that part of the fleet—two-thirds—which is not operated by the oil companies. And the Norwegian tanker fleet falls almost entirely within this "independent" sector, which has borne the full brunt of the recession.

The Norwegian fiscal system enables shipowners to place a large part of their taxable income in tax-free reserve funds for reinvestment in new vessels. The high profit levels during the boom conditions of 1972 and 1973 and low taxes on profits and very liberal amortisation provisions encouraged Norwegian shipowners to invest heavily in new ships (particularly tankers and combination carriers of the largest sizes) for delivery during 1975 and 1976, in many cases with no associated time charters as guarantees.

Owing to higher interest payments and increased deliveries of new vessels, the shipping sector's liquidity was severely strained in 1975, and this encouraged exports of second-hand vessels, but the prices fetched by the latter were often so low that they did not even cover the mortgages on them. →

(1) This article is based on the Annual Survey of Norway for 1975-1976 carried out by the OECD Secretariat under the aegis of the Economic and Development Review Committee.

Total Inactive Tonnage - Tankers and Dry Cargo



Source : "Shipping Statistics and Economics" (H.P. Drewry Shipping Consultants Ltd. London)

In order to prevent vessels from being sold at prices below their real long-term value and to ease the credit conditions for the shipping sector, the Norwegian Government, in cooperation with the shipowners and financial institutions, set up a temporary credit guarantee scheme in December 1975 which was intended to last three years. This scheme will be managed by an organisation able to guarantee loans for ships and drilling rigs delivered before 31st July, or in some cases 31st December, 1976. The loans may be used to finance interest payments, purchase of new vessels, penalties for cancelling contracts, and laying-up expenses.

While the guarantee scheme should alleviate the worst effects of the present crisis, the medium-term outlook suggests that the earnings of Norway's shipping sector will probably be depressed for several more years.

The Medium-Term Outlook for Tankers

According to some estimates, there was already an excess world supply of tanker tonnage by the end of 1974 equal to some 15 per cent of available capacity. Even assuming mass cancellations of orders, large-scale transfer of combination carriers to the dry cargo market and extensive scrappings, the

OECD Secretariat's estimates suggest that by 1980 the world tanker fleet will show a further increase of at least 15 per cent, while on less optimistic assumptions it might even increase by 50 per cent over its 1974 level.

The margin of uncertainty as regards future world demand for oil carriage by sea is even wider, since it is wholly dependent on the future price of oil, the overall level of world economic activity, and the extent to which consumer countries succeed in their policies of increasing indigenous production of oil and developing other sources of energy. Nevertheless, bearing in mind the probable reduction in the present preponderant share of Middle East crude oil (and hence a fall in the average distance the oil is transported) and taking into account the future development of the Suez Canal (which by 1978 is to be able to take 150,000 d.w.t. tankers laden and 300,000 tonners in ballast), as well as the new pipelines to be brought into operation in the Near East, it is not easy to see how demand for tonnage in 1980 can exceed the 1973 level by more than 15 per cent, and it may well be significantly below that. As a result, unless measures of a wholly exceptional nature are taken, the tanker surplus will continue until well into the Eighties.

As most combination carriers are likely to be used for the carriage of dry bulk commodities and since many cancelled orders for tankers will be replaced by orders for bulk carriers, the tonnage available for shipping dry cargoes in bulk will also increase faster than total demand. Nevertheless, the prospects for the bulk carrier market look much less unfavourable than for the tanker market. Orders for bulk carriers are not at present as extensive as for tankers, and the demand for dry bulk shipping space can be expected to rise faster than the demand for charter tankers. Thus, even if world trade revives only gradually, and in spite of the fact that combination carriers are switching to dry cargo (especially ore and coal), equilibrium may be restored much sooner for dry cargo than for oil.

.... And in Norway

Certain changes in the structure of demand and supply may aggravate rather than ease the 'over-capacity' problem for Norway's merchant fleet. Thus the construction of refineries in oil-producing countries could severely affect demand for large tankers although it might lead to a greater need for ships carrying oil products. Moreover, growing merchant fleets in developing countries, and especially in oil-producing countries, could further reduce the demand for the tankers, bulk carriers and general cargo ships of traditional shipping countries.

Nor is it inconceivable that multilateral or unilateral government intervention to reduce the present tanker glut or official action to support the shipbuilding industry would have some adverse effects for Norway. Since its fleet has a low average age and a large number of modern and efficient ships, Norway would seem to be in a relatively favourable position to benefit from a general upturn in demand for freight services. But the structure of the Norwegian fleet—half the tonnage is made up of tankers, 45 per cent of ships larger than 100,000 g.r.t., and the entire fleet belongs to independent shipowners—makes Norway particularly vulnerable to the present crisis and to changes in the structure of demand and supply. The Norwegian authorities forecast that even by 1980 net freight earnings, from oil and dry cargo together, will be some 8 per cent below their 1974 level. This would have very serious implications not only for shipowners but also for the shipbuilding industry and for financial institutions concerned with shipping.

The Recent Boom in Issues of Eurobonds

A noteworthy development in world financial markets in 1975 was the resurgence of the Eurobond market to unprecedented levels of activity which have continued into 1976. OECD's Committee on Financial Markets has a special responsibility to follow trends in this market (1) as part of its overall concern with promoting the efficiency of financial markets as vehicles for the collection and redistribution of capital at national and international levels. At regular intervals, therefore, the Committee discusses developments and prospects on these markets with the help of a Secretariat analysis on financial market trends; the following is a brief summary of the most recent OECD analysis of the Eurobond sector of the international market.

After a two year period of stagnation, new Eurobond offerings expanded spectacularly in 1975, reaching an all-time high of nearly \$9 billion — two and a half times the volume recorded the previous year and about one-third more than the record level of 1972. (See Chart A). In January 1976, such issues were running at an annual rate of more than \$18 billion.

The revival of the Eurobond market was first prompted in late 1974 by the fall of short-term Euromarket rates. Because of tight anti-inflationary monetary policies such rates had reached record levels in mid-1973, rising above the yield on long-term bonds and staying there for more than a year until relaxation of credit policies brought them down once more. (See Chart B).

The Supply of Funds

A high degree of sensitivity to interest rate differentials was evident on the part of investors who quickly responded to the fall in short-term rates by switching to bonds where yields were higher as long-term interest rates fell much less than short-term ones.

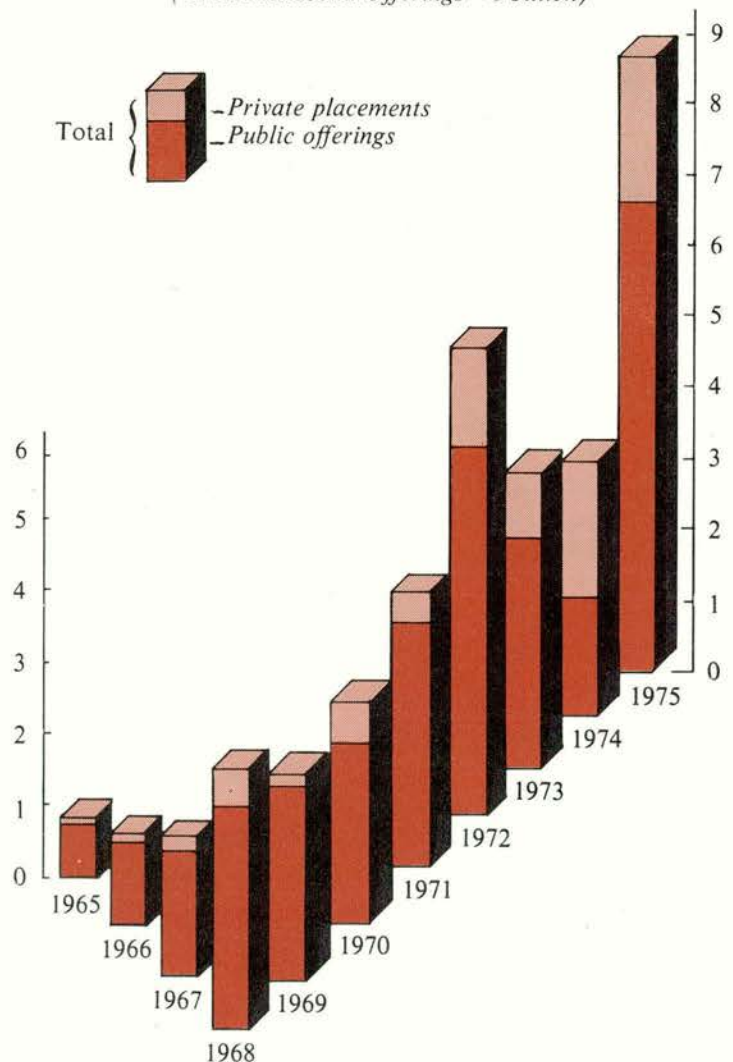
Although comprehensive information on the market's capital supply structure is lacking, it would appear that this change in interest rate differentials led to a sharp increase in the demand

for securities on the part of banks in early 1975 followed, later in the year, by strong demand on the part of institutional investors. The latter had suffered large capital losses in 1973 when interest

(1) In accordance with an OECD Council Recommendation on International Security Issues adopted in 1972. (See "The Market for International Issues" OECD Paris, 1972; and "International Issues of Bonds" OECD Paris, 1975).

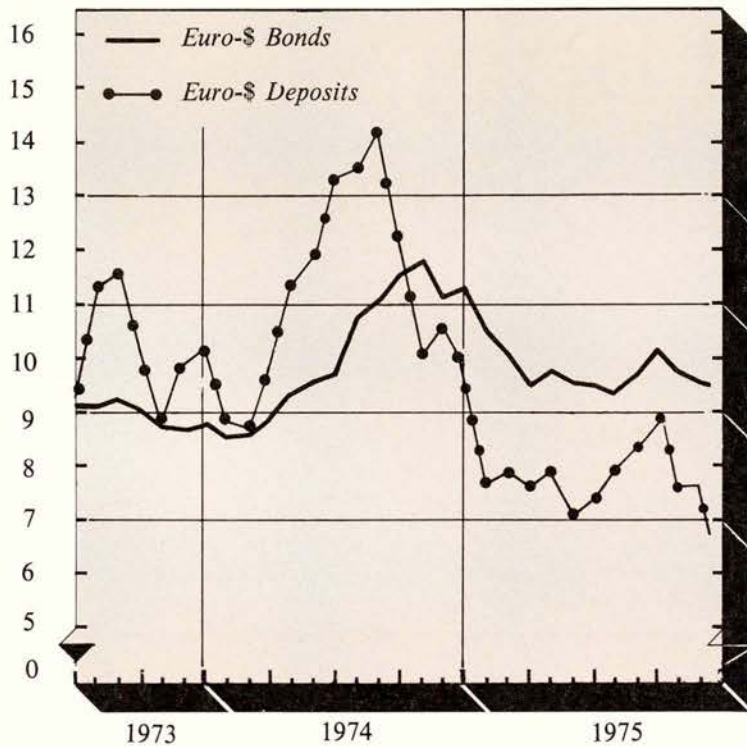
A. Eurobond Issues

(Gross Eurobond Offerings - \$ billion)



Source: OECD Financial Statistics

B. Short-Term Interest Rates vs Eurobond Yields (percentage)



Source : OECD Financial Statistics.

rates rose and had virtually neglected the Eurobond market for almost two years.

An additional source of support for the Eurobond market came from financial institutions in some countries, members of OPEC, especially in the Middle East, which increasingly participated in underwriting syndicates and selling groups. Although the importance of this source of funds was not as decisive as predicted two years ago, the contribution of OPEC issuing houses to the rapid growth of the Eurobond market has by no means been negligible.

The high level and steady supply of capital to the Eurobond market was the more striking in that it came at a time when both the international credit market and some major domestic bond markets were hurt by news concerning financial difficulties encountered by large-scale borrowers. It can to a great extent be explained by the fact that only borrowers with very high credit standing were able to enter the Eurobond market.

The Competition for Funds

On the demand side, public entities in a number of countries, pushed by the need to meet balance of payments and budget deficits, raised more than \$4½ billion (53 per cent of total issues). Private firms, which for the last several years had been forced to rely heavily on short-term funds because of lack of demand for bonds on the part of investors (private firms raised less than \$1 billion in Eurobonds in 1974), stepped up their Eurobond borrowing to \$3½ billion (40 per cent of the total). Such long-term borrowing enabled firms to consolidate their balance sheet structures which had become overloaded with short-term debt, and obtain funds which, because of competition from public bodies, were

increasingly difficult to obtain on domestic markets. Moreover, Eurobond coupon rates appeared low in comparison with domestic bank lending rates which were sticky by comparison with both long- and short- term rates.

Other Characteristics

The upsurge of activity in the Eurobond market was accompanied by greater diversification in currency used (See Chart C), a noticeable improvement in the functioning of the secondary market and relative stability of issue conditions, though maturities shortened markedly averaging 7½ years as compared with fifteen in the early Seventies.

Prospects

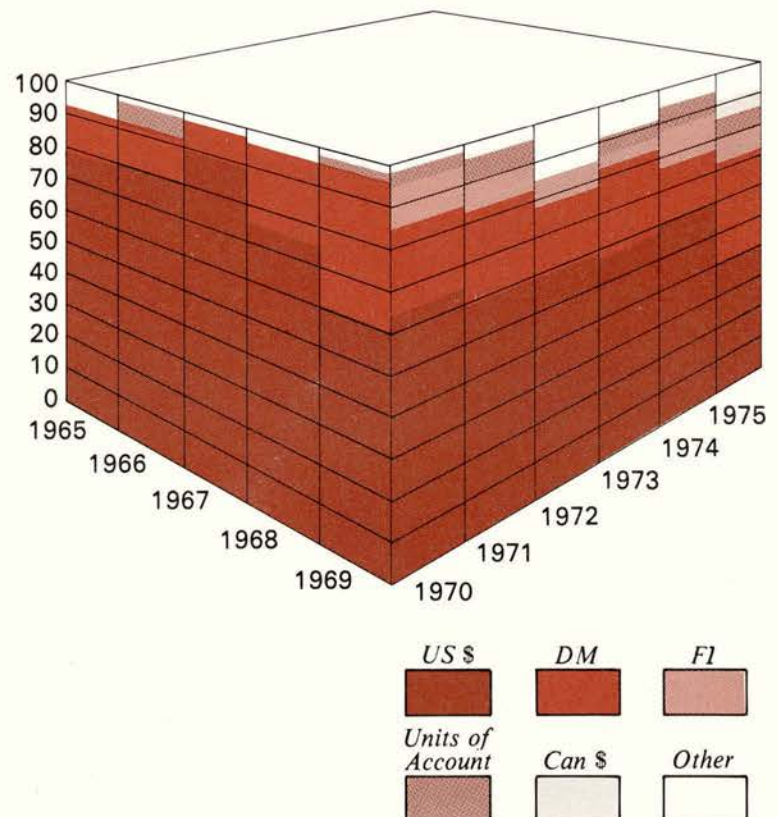
January 1976 was a month of hectic activity on the Eurobond market, and prevailing conditions make it seem likely that a high level of activity will continue in the coming months. Demand by public bodies both in OECD and other countries is likely to remain strong reflecting heavy borrowing requirements to meet large expected balance of payments deficits and, in some instances, domestic budget deficits.

Private corporations are at present still anxious to lengthen their debt maturities and hence to issue bonds, but some decrease in corporate issues may occur later on in the year should bank lending rates be reduced as a result of easy monetary conditions in major financial centres.

On the supply side, much will depend — as in the past — on

C. Eurobond Offerings: Currency Distribution

(Percentage Distribution in 1965-1975)



New Issue
February 20, 1978

This advertisement appears as a matter of record only.

MUNICIPALITY OF MALMÖ
(Malmö Kommun)
Sweden

DM 50,000,000
8 1/8% Deutsche Mark Bonds of 1976/1983

Issue Price: 100 1/2%

WESTDEUTSCHE LANDESBANK
GIROZENTRALE

SKANDINAVISKA ENSKILDA BANKEN

\$15,837,000

City of Jersey City, New Jersey

OFFERING SCALE
Dated October 1, 1975
Due Each

10 3/8% Bonds

GABONESE REPUBLIC



15,000,000 U.S. \$ 10 1/4% BONDS DUE 1980

SOCIETE GENERALE



Mitsui O.S.K. Lines, Ltd.
Mitsui O.S.K. Kaisha, Ltd.
Osaka Shosen Kaisha, Ltd.
Notes due 1980

This announcement appears as a matter of record only.



RENFE

Red Nacional de los Ferrocarriles Españoles

US \$60,000,000

Multicurrency Loan

Medium Term Facility

Authorized and Guaranteed by
The Spanish State

These Notes were offered and sold outside the United States of America.
This announcement appears as a matter of record only.

PAKHOED HOLDING N.V.

\$25,000,000

Due 1982

All these securities have been sold. This announcement appears as a matter of record only.

New Issue

\$200,000,000

ARCO Pipe Line Company

8% Guaranteed Notes Due 1984

Payment of Principal and Interest Under

Atlantic

This announcement appears as a matter of record only.

New Issue

Alusuisse International N.V.
Curaçao

DM 100,000,000

8 1/8% Bonds of 1975/1983

These securities have been placed privately outside the Netherlands.
This announcement appears as a matter of record only.

These securities have been placed privately outside the Netherlands.
This announcement appears as a matter of record only.

THE KINGDOM OF NORWAY

Dfls 100,000,000

Notes 1975 due 1980

Deutsche Bank
Aktienabteilung

Kreditbank S.A. Luxembourg

July 27, 1975

These securities have been placed privately outside the Netherlands.
This announcement appears as a matter of record only.

NEW ZEALAND

Dfls 75,000,000

8 1/4% bearer Notes due November 15, 1981

NEW ISSUES

All these Bonds have been sold. This announcement appears as a matter of record only.

Amsterdam Bank N.V.
Nederland N.V.
Amsterdam NV
& Pierson N.V.

Com

ELECTRICITE DE FRANCE



SDR 50,000,000

9% 1975-1983 Guaranteed Bonds

Unconditionally guaranteed by the
FRENCH REPUBLIC

the pattern of differentials between short-term interest rates on major domestic and international markets and Eurobond yields. If the upswing in economic activity continues to develop at rather a moderate pace in major countries, short-term rates may well fall further. Given the already large differential in favour of Eurobond yields, this should ensure ample availability of funds on both issue and secondary markets for the same reasons as in 1975. The future of coupon rates and maturities on Eurobond markets is difficult to assess, for they depend not only on the level of activity and the market climate but also — perhaps most of all —

on expectations about how much inflation there will be in the next phase of the business cycle. Eurobond yields have declined somewhat in 1975 and may be expected to continue to do so but to a moderate extent. If the supply of capital continues to expand as it has very recently, this will contribute to a further easing of coupon rates. Some stretching out of maturities would be desirable. However the strong preference of investors for short-term paper may well continue unless there are clear signs that the expected recovery in economic activity will not be accompanied by a rekindling of inflation.

IEA Adopts a Long-Term Energy Cooperation Programme

The Governing Board of OECD's International Energy Agency has decided on a Long-Term Energy Cooperation Programme, and the Participating Countries have agreed to establish medium and long-term objectives for the reduction of the dependence of the group on imported oil and periodically to review progress towards these objectives.

The principal elements of the Long-Term Programme are:

- An obligation from Participating Countries to strengthen their

efforts in the conservation of energy.

- An agreement by Participating Countries to work towards removal of obstacles which might impede the accelerated development of indigenous energy resources.

- Measures to stimulate investment in energy development among which: a project-by-project approach, a Minimum Safeguard Price of US \$7 per barrel for imported oil, and a strategy for research and development.

Oil Supply and Demand in OECD Area 1973-1975

a. FOR AREA AS A WHOLE

	1973		1974		1975*	
	million tons	% change over 1972	million tons	% change over 1973	million tons	% change over 1974
Net Imports	1,200	+ 12.6	1,180	- 1.7	1,090	- 7
+ Domestic Production	660	0	620	- 6.4	590	- 5
- Stock Changes	20	-	40	-	0	-
= Consumption	1,840	+ 6.4	1,760	- 4.3	1,680	- 3.6

For Reference : WORLD OIL PRODUCTION

World	2,850	+ 9	2,870	+ 1	2,700	- 6.0
OPEC	1,520	+ 13.7	1,510	- 1	1,340	- 11.1

b. NET OIL IMPORTS COUNTRY-BY-COUNTRY (average yearly changes in %)

	1960-72	1973	1974	1975*		1960-72	1973	1974	1975*
Austria	+ 14	+ 22	- 9	- 4	Sweden	+ 7	+ 3	- 3	+ 5
Belgium	+ 12	+ 15	- 15	- 15	Switzerland	+ 11	+ 5	- 6	- 7
Denmark	+ 12	n.a.	- 11	0	Turkey	+ 17	+ 20	+ 6	+ 2
Finland	+ 14	+ 4	+ 1	+ 1	U.K.	+ 7	+ 7	- 1	- 19
France	+ 17	+ 13	- 2	- 18	Canada	(1)	(1)	0	(1)
Germany (F.R.)	+ 14	+ 9	- 9	- 7	U.S.	+ 10	+ 26	0	+ 1
Greece	+ 12	+ 25	+ 2	- 17	Australia	+ 1	- 9	- 10	- 3
Iceland	n.a.	+ 24	- 10	+ 2	Japan	+ 18	+ 17	- 2	- 11
Ireland	+ 12	+ 16	- 2	- 8	New Zealand	n.a.	+ 7	- 4	n.a.
Italy	+ 13	+ 6	- 2	- 15	OECD	+ 11	+ 13	- 1	- 7
Luxembourg	+ 17	+ 13	- 12	- 2	IEA	+ 11	+ 13	- 1	- 6
Netherlands	+ 9	+ 4	- 7	- 17					
Norway	+ 5	+ 14	- 28	(1)					
Portugal	+ 11	+ 8	+ 6	+ 4					
Spain	+ 17	+ 11	+ 14	- 2					

* Estimate.
(1) Negative net imports.

Is There Enough Uranium ?

The adequacy of world uranium resources has been the focus of growing attention over the past two years. New research following the increase in the price of oil has confirmed that, apart from coal, uranium is the only energy source likely to be available in sufficient quantity to meet the increase in energy demand in the foreseeable future. OECD's Nuclear Energy Agency and the International Atomic Energy Agency have just completed a joint study on the availability of uranium in face of likely world demand. It is to be published shortly under the title "Uranium Resources, Production and Demand". Following is a summary of some of the main points in the study.

While it appears that known low-cost uranium resources are adequate to support planned and projected nuclear reactor programmes for the next ten to fifteen years, a tight supply situation could develop at the turn of the decade due to possible limitations in their practical exploitation. In the longer term, more severe and fundamental supply problems could arise because the nuclear option has prevailed in practically all electric power programmes of the industrialised countries. It is therefore necessary continuously to monitor forecasts of the growth of nuclear power and measure them against known uranium resources and the production they can support.

The Current Situation in Resources

Current low-cost (up to \$15/lb of uranium oxide) reserves amount to about 1 million tonnes compared to 866,000 tonnes in 1973. This increase corresponds to an addition to reserves of some 126,000 tonnes per year taking into account production during 1973 and 1974, and is, to some extent, due to the inclusion, in what is now considered the "low-cost" range, of some already known material which was previously classified as "higher cost". Very little of the increase is attributable to new discoveries, but additional information on earlier discoveries (notably in Australia) is important as is the reassessment by several other countries of their reserve position.

Availability of Reserves

Could all known uranium reserves in fact be made available at a rate which would correspond to the rise in demand? The answer is no — for several reasons:

- the physical nature of ore bodies. For example, the very large Elliot Lake deposits in Canada, cannot be worked above certain

production rates because access is difficult; this means that their exploitation cannot be completed until well into the next century

- in some places uranium is a by-product (e.g. of gold production in South Africa) and hence its production rates depend on the output of the main product
- all mines are characterised by an economic production rate which corresponds to the size and nature of the reserves

In addition to these physical limitations, policy considerations such as the desire for national energy autonomy and export needs can influence the availability of uranium outside the country of origin. In this context it may be mentioned that recently adopted Canadian guidelines for uranium export are specifically designed to maintain adequate reserves and production capacity for domestic consumption. To give a further example, the Australian Government is presently reassessing its policy on development of uranium resources, which is bound to affect future production rates.

Recent Price Trends in the Uranium Market

During the early period of uranium exploration, discovery rates were stimulated by attractive prices. Indeed, during the 1950s, when the nucleus of world uranium reserves was being developed, prices of uranium oxide were about \$11/lb of uranium oxide. Demand for uranium for commercial purposes did not develop until the mid-1960s at which time prices had stabilised in the \$6 to \$8/lb oxide range. Although the commercial demand for uranium became more and more evident towards the end of the 1960s, consumers were generally slow to recognise the need to contract for their long-term requirements. Moreover, by the early 1970s many producers, in addition to having excess production capacity, had built up sizeable inventories of unsold uranium; as a result of this over-supply situation, by 1972 prices had fallen below \$5/lb oxide thus providing little incentive to the mining industry to develop the huge exploration programmes that would be required to meet the demands of the 1980s.

It was not until the oil crisis of the winter of 1973/74 that many consumers moved to acquire their longer-term uranium supplies. Prices adjusted quickly to levels of \$12-13/lb oxide and then gradually rose to about \$20/lb by mid-1975 as surplus inventories and excess capacities became fully committed. Should this trend continue, prices may exceed \$30/lb (in present values) in the relatively near future.

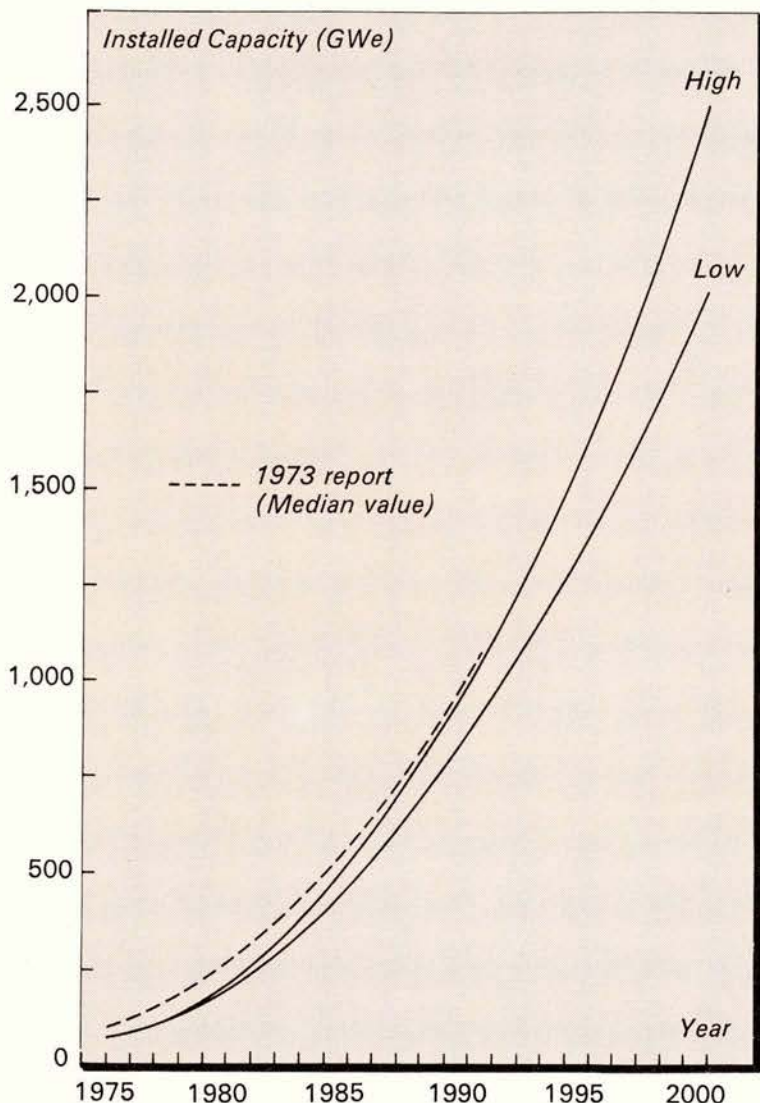
Production and Inventories

World uranium production has remained stable for the past two years, at 20,000 tonnes uranium in 1973 and 19,000 tonnes in 1974. Estimated production figures for 1975 indicate an

increase of some 1,700 tonnes, mainly due to higher production in Canada.

Estimates of planned, projected and attainable uranium production capacities are indicated in Table 1. World uranium production capacity amounted to some 26,000 tonnes in 1975 and is expected to increase to about 44,000 tonnes in 1978. Possible further developments could raise world annual produc-

A. World Nuclear Power Growth



It can be assumed that, in making their forecasts, countries have already taken into account the influence of conservation measures resulting from the oil crisis and improved efficiency of energy use and have made some allowance for substitution of other forms of energy by electricity. Short-term forecasts are based on current nuclear programmes, possibly with some allowance for delays. In the longer term, it is assumed that nuclear plants will maintain an economic advantage over other types of power station and consequently account for the largest portion of new construction. Despite the present trend in many countries' energy programmes to move towards nuclear power, estimates indicate a downward revision of previous figures, especially in the shorter term. This can be explained to a large extent by the worldwide depressed economic situation; the trend could very well be reversed in the longer term since nuclear power, following the oil crisis, has increasingly come to be seen as a substantial and necessary contributor to future energy needs.

Current OECD forecasts of the growth of nuclear power (Chart A) are essentially based on replies to an enquiry carried out by the Organisation's Nuclear Energy Agency within its Member countries in spring of 1975. These have been supplemented by estimates of the International Atomic Energy Agency (IAEA) for non-OECD countries. The expression "world" in Charts A and B does not include the USSR, Eastern Europe or China.

1. Uranium Production Capacities (in tonnes uranium/year)

Countries	Existing 1974	Planned 1975	Planned 1978	Pro-jected* 1980	Attainable* 1985
Argentina	46	60	120	600	720
Australia	—	—	760	3,260	5,000**
Canada	4,600	6,500	8,500	10,000	11,500
Denmark	—	—	—	—	1,000-1,500
France	1,800	1,800	2,200	3,000	3,000-3,500
Gabon	800	800	1,200	1,200	1,200
Germany	250	250	250	250	250
Italy	—	—	—	120	120
Japan	30	30	30	30	30
Mexico	—	—	210	320	1,000
Niger	1,200	1,200	2,200	4,000	6,000
Portugal	90	115	130	130	300
South Africa	2,700	2,700	9,200	11,250	13,800
Spain	60	144	340	680	680
Sweden	—	—	—	—	1,300
United States	13,500	12,000	19,000	25,000	40,000
Yugoslavia	—	—	—	120	180
Total (rounded)	25,100	25,600	44,100	60,000	87,000

* Market conditions permitting.

** Production could be further expanded depending on the future growth of the uranium market.

tion capability to 60,000 tonnes in 1980 and the production capability by 1985 — on the basis of presently known reserves — is estimated at 87,000 tonnes of uranium. This level could probably be maintained for a few years, after which it would decline due to depletion of some deposits and the need to mine lower grade material. In order to maintain or increase this capacity beyond the 1980s, substantial additional reserves would have to be identified.

The Long-Term Resources Situation

In addition to the million tonnes of low-cost uranium reserves currently available at under \$15/lb oxide, the new NEA/IAEA report estimates about the same quantity again as "surmised to occur in unexplored extensions of known deposits or in undiscovered deposits in known uranium districts, and which is expected to be discoverable in the given cost range", together with a further million tonnes or so in the higher cost range of \$15-30/lb oxide. Even assuming, however, that all this additional material is in fact confirmed and can be exploited within the defined cost ranges, the total would still be inadequate to meet the long-term uranium requirement which has been estimated at up to four million tonnes by the year 2000, possibly reaching 10 million tonnes uranium by the year 2025.

In discussing the world uranium potential and the problems involved in the future discovery of adequate uranium to meet requirements, three principal constraint factors are considered:

- physical: the existence of deposits
- economic: the availability of adequate exploration, development and capital investment funds (this includes funds for research into and development of new methods and techniques)
- political: the availability of search areas and production and export possibilities.

Low-Cost Uranium Ores

● Physical Availability

The type of material considered in this category is equivalent to that now being examined in the United States under the National Uranium Resources Evaluation programme of the ERDA (1) and referred to as "possible" and "speculative" potential resources. These would be either in postulated deposits, which are in formations or geological settings that have not previously been productive but are known to be within productive areas, or in new deposits in geological areas that have not previously been productive.

Programmes providing for detailed examination of geological areas, using recognised uranium favourability criteria, have been initiated in the U.S. and Canada, but little is being done elsewhere in the world. Very large areas remain to be explored and the probability is that much more uranium remains to be discovered in the uppermost part of the earth's crust. However, any attempt to make a quantitative appraisal of the ultimate size of the world's uranium resources based on existing information must remain extremely speculative, and in any case the uranium will become more and more difficult to find. As the evidence so far obtained by the U.S. does not encourage complacency, the need for worldwide appraisal is urgent.

At the present time there is no consensus of opinion as to whether sufficient low-cost uranium to meet the 10 million tonnes estimated demand for the year 2025 actually physically exists in the uppermost part of the earth's crust from which it is most economically produced. The wisest course therefore would be to expand exploration and the technology of exploration as rapidly as possible and to continue to interpret and extrapolate from the geological data obtained. If this is done, it is reasonable to expect that enough successful discoveries will be made to provide the required tonnage. However in view of the risk of an eventual uranium shortage, development of the fast reactor and thermal reactors with low uranium requirements should be encouraged (2), the report concludes.

● Economic Factors

One of the biggest challenges of the future will be the financing of the required exploration, development and construction effort, particularly against the background of a frequently unpredictable relationship between sources of finance and potential producer countries at all stages of development.

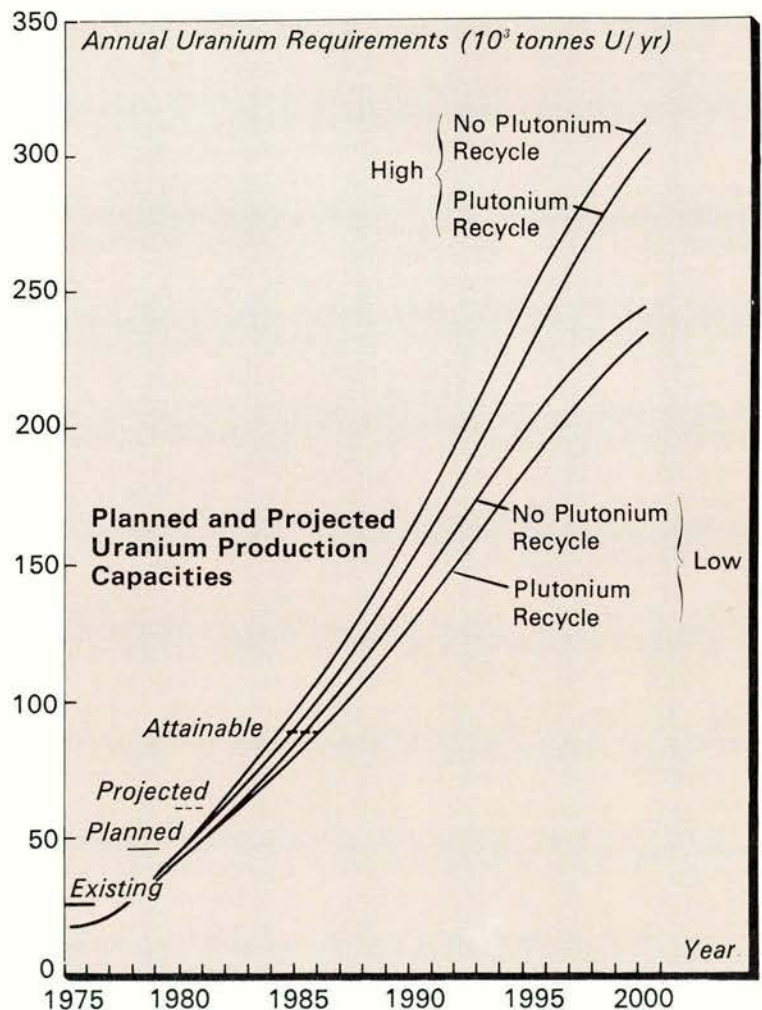
Financing requirements are very large. Taking into account a ten year forward-reserve requirement (normal in the mining industry), about 20 billion 1975 dollars are likely to be needed to cover exploration costs up to the year 2000, while the finance necessary for mine and mill construction would be of the same order of magnitude.

The fact that the uranium industry has already experienced a period of decline has not helped to build the confidence which

is necessary if mining companies and utilities are to make the required large scale investments in uranium exploration and development; strong reassurance about the future of the industry will be needed. Furthermore, the report concludes, most utilities are not constituted to undertake this type of risk financing. Until recently, power producers have not had to search for their uranium supplies, but in future utilities might have to become increasingly involved in the financing of exploration and development; and there may have to be closer collaboration in the nuclear industry at all stages from initial uranium exploration to nuclear power production.

(1) Energy Research and Development Administration.
 (2) Current reactor types used for power production consume only a very small percentage of their uranium fuel. Fast "breeder" reactors are many times more efficient in this sense.

B. World Annual Uranium Requirements



Based on the nuclear power growth estimates in Chart A, world uranium requirements have been calculated on two different assumptions, i.e. no recycling of plutonium, and plutonium recycling in thermal reactors beginning in 1981. The degree of confidence in these forecasts is considerably higher for the years between 1975 and 1985 than for the remainder of the period considered. However as the possible longer term trends are of interest to the nuclear industry, the forecast period has been extended to the year 2000.

Given an appropriate economic climate (i.e. adequate financing, labour, equipment and sales contracts), it would appear that sufficient uranium production capacity, also shown on the chart, could be made available to meet demand until 1982. Thereafter, depending on the assumptions, additional capacity would be required, based to a large extent on new discoveries.



Mining uranium at Radium Hill in Australia

At international level, countries which are primarily consumers and those which are primarily producers (only in a few cases are they the same) will have to work out arrangements so that their mutual interests are adequately balanced and catered for.

The degree of confidence which can be built up in forecasts of uranium demand and forward price levels for uranium which will be sufficiently attractive to stimulate the necessary provision of exploration and development finance over the next two or three decades will, however, be the most important factors influencing the future supply of uranium.

● Political Factors

Politico-economic, social and environmental constraints will limit the availability of areas in which the search for uranium can be carried out and will act as a constraint on the free development, production and export of uranium. Even in the main uranium reserve countries, governments are currently re-assessing their uranium exploration, development, export and import policies, some of which are, or have been, restrictive to a greater or lesser degree. While fully understandable from a national viewpoint, this restrictiveness has in some cases tended to limit recent exploration and development of uranium resources.

For the governments of the less developed countries, the problem can be equally complex, and many governments have been unwilling or unable to initiate uranium exploration on a major scale because of the many problems involved: uncertainty as to whether or not there will eventually be a national requirement for uranium; to what extent there should be national control of uranium exploration and development; how to identify possible sources of finance.

If adequate uranium supplies are to be assured, problems such as these may constitute one of the greatest challenges for the future. Therefore the dialogue between producer and consumer nations will become more and more important.

The principal factors to be taken into account by governments of both advanced and developing countries when formulating their future uranium policies are listed in OECD's report.

- Present "sure" uranium reserves are only about one million tonnes.
- By the year 2,000 there will be a requirement of up to four million tonnes and by the year 2,025 about ten million tonnes.
- The major demand for uranium may be limited to the next 40 to 60 years, and requirements thereafter may decrease.
- The lead time between initial exploration in a new area (particularly a developing country) and initial production may be as much as 15 years.
- Financing on the scale required for major exploration and development programmes is likely to be available only from commercial or national organisations of the advanced countries or from international development funds.
- The price structure and rewards over the next decades are likely to be attractive.

Higher Cost, Lower Grade Ores

Since there is a risk that lower-cost uranium supplies may be insufficient, the availability and the need for uranium at costs higher — even much higher — than \$30/lb oxide must be considered.

At present it is not clear how intensive the search should be for low grade resources over the next fifty years. To a great extent this will depend on the intensity and success of the exploration effort for lower cost uranium.

Due to the rise in oil prices, uranium which costs much more than \$30/lb oxide could be competitive in nuclear power generation. Thus it would seem prudent to examine more closely higher cost uranium resources, few of which have been quantified as yet.

Past exploration has generally been directed either to deposits with average grades greater than 0.1 per cent oxide or at the other extreme, to very high cost material. Between these two extremes however, there is a considerable gap in knowledge. Much future exploratory effort will need to be directed towards sources of uranium in the in-between range, that is to say between 0.1 - 0.01 per cent oxide.

It is well-known that enormous quantities of uranium, greater than envisaged for nuclear power requirements, exist in marine black shales, marine phosphates, granites, sea water and other unconventional sources. The problem is how much of this material can be made available at a cost acceptable to the nuclear power industry within a useful time. The time scale required for the development of techniques to exploit such deposits is so great that uranium requirements may be diminishing before substantial tonnages can be produced. Time and price are not the only limiting factors on utilisation of low grade material of this nature. There are also environmental constraints (huge ore tonnages must be mined in order to recover the required uranium quantities) and technological ones. It is therefore unlikely that very low grade material (under 0.01 per cent oxide) can provide any substantial part of presently envisaged requirements.

* * *

To sum up the conclusion of the new NEA/IAEA report, low-cost uranium reserves at present definitely identified will be adequate for some fifteen years. Thereafter costs could rise considerably but there is no reason to believe that adequate supplies will not be available. However the search for further supplies should not be delayed.

Population Exposure to Ionising Radiation

An assessment of the total doses of ionising radiation which a population may expect to receive from all sources, natural and artificial has been prepared for OECD's Nuclear Energy Agency by Sir Edward E. Pochin, MD, FRCP (1). The study covers various conditions but focusses on those resulting from the production of nuclear power.

In most developed countries, electricity consumption from all sources is currently of the order of 1 kW per head of population (2). Dr. Pochin has based his estimates of the effects of nuclear power on the assumption that this entire amount will be produced in fission reactors whereas at present more than 90 per cent has a non-nuclear origin. Such an assumption leads to the conclusion that "normal exposure permanently received by the population from natural sources" (of radiation) would be increased "by an average of about 6 per cent. This compares", continues the report, "with average increases in the region of 35 per cent from radiological procedures, 6 per cent to the present generation from the fallout from nuclear tests, and about 0.6 per cent from other artificial sources".

A detailed estimate of the possible health and genetic effects of this additional exposure to radiation is made by the author who concludes that there would be a risk of about one fatal induced malignancy per year per million of population. There would in addition be about the same number of malignancies fully treatable by operation, and, after many generations, about the same number of inherited defects of greater or less severity per year.

The report also examines (though in less detail) the equivalent risks related to supplying the same amount of electricity (1 kW per head) from other sources, notably coal, oil and natural gas. The hazards appear to be considerably greater in the case of coal, somewhat greater

for oil, and possibly somewhat less for natural gas.

The report does not draw any conclusions as to the desirability or otherwise of nuclear vis-à-vis other forms of power. It does however stress — and indeed the figures cited make it abundantly clear — that all forms of power production carry measurable risks which must be weighed against the benefits resulting from the power being available. Conversely, the complete elimination of these risks, possible only if the power sources were not used, needs to be

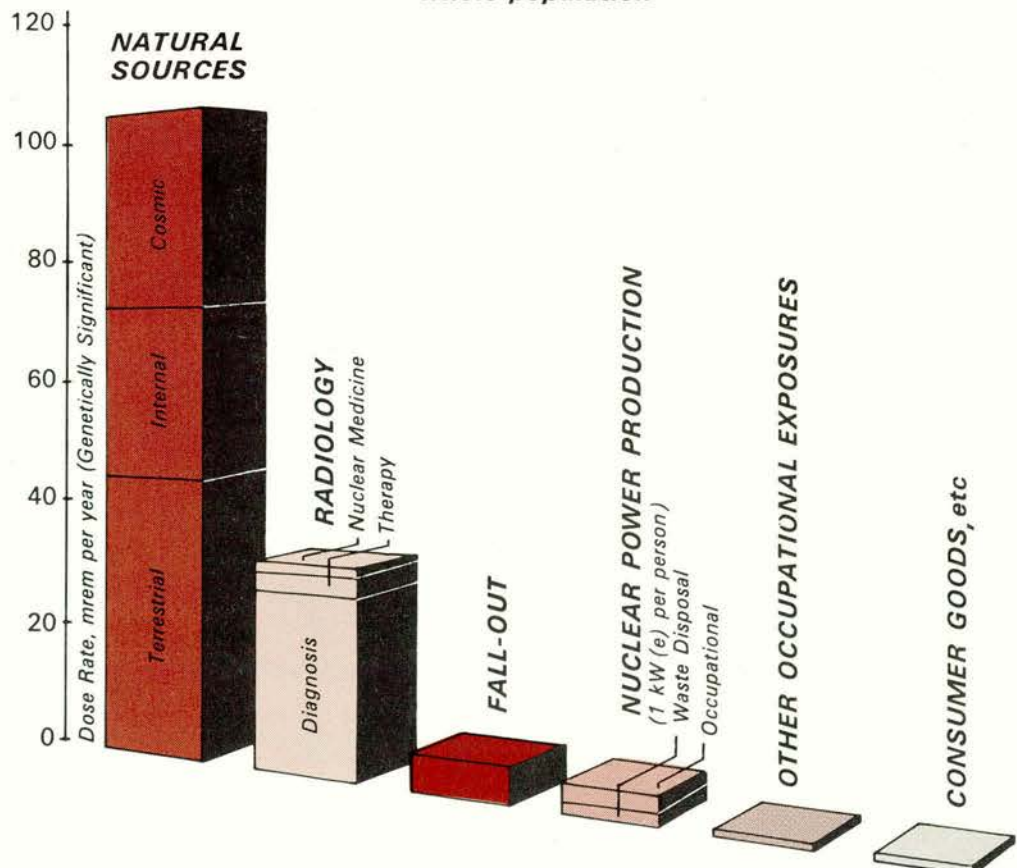
weighed against the consequent disadvantages of having no power.

(1) Sir Edward Pochin, a former Director of the (British) Medical Research Council's Department of Clinical Research, was Chairman of the International Commission on Radiological Protection (ICRP) from 1962 to 1969. In 1956 he was UK representative on the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). He is currently a member of the British National Radiological Protection Board (NRPB).

(2) A few exceptions, notably Norway and other countries with substantial hydro-electric resources, have considerably greater consumption per head.

RADIATION EXPOSURE

Annual genetically significant dose rate, as averaged through whole population





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(1) *The Atlantic Institute for International Affairs, 120, rue de Longchamp, 75116 Paris; Council on Foreign Relations, 58 East 68 Street, New York, New York 10021.*



An address given by Ambassador William C. Turner, United States Representative to OECD, on January 8th 1976 to the U.S. Council of the International Chamber of Commerce in New York City, is available from the Public Affairs Office, U.S. Delegation to OECD, 19, rue Franqueville, 75016 Paris. Although written from a United States point of view, the picture it presents is a well rounded one covering OECD's work on economic policy, the McCracken Group, trade policy, investment policy, multinational enterprises, the Trade Pledge, Financial Support Fund, International Energy Agency and the North-South Dialogue.

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