

TERNATIONAL MONETARY CO-OPERATION CTIVE MANPOWER POLICY IN BOOM AND ECESSION. ADAPTING SMALL FIRMS TO BERALISATION OF TRADE. THE ROLE TRADE WITH DEVELOPING COUNTRIES OLICIES PROMOTING ECONOMIC GROWTH



Che CLO CBSERVER

Nº 11

AUGUST 1964

Published bi-monthly in English and French by THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

EDITORIAL OFFICES

OECD Information Service, Château de la Muette, Paris 16e.

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Annual Subscription Rates: F 10.00, FS 10.00, DM 8.30, 15 s., \$ 2.50.

Single copies: F 2.00, FS 2.00, DM 1.70, 3 s., \$ 0.50.

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PHOTOS: cover: Almasy; page 14: S.M. Trevizaki, Athens Pictorial News; page 16: International Research and Development Company Ltd., United Kingdom; pages 19 and 24: Almasy; page 36: L. Jouan, OECD; page 38: Lucien Chauffard; page 39: (left) Almasy - (right) NATO Photo: page 40: Almasy; page 41: Collection Air France.

GRAPHIC ILLUSTRATIONS by the OECD Drawing Office.

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INTERNATIONAL MONETARY CO-OPERATION

Among the broad and complex objectives of economic policy in free economies, one of them, that of maintaining a rough equilibrium in each country's balance of external payments, and in the international monetary system generally, has proved particularly troublesome in recent years.

With all countries aiming at a high rate of growth and with demand tending to be at a high level in most countries, there is much greater danger of sudden strong increases in inflationary pressures which, in turn, can set off large swings in the balance of payments. In these conditions, the national authorities' task of maintaining the internal and external equilibrium of each country is often complicated by pressures originating in other countries, which cause payments swings both on current and on capital account.

Moreover, since the introduction of external convertibility in most countries in 1958, the flows of private capital between countries have become much larger in volume and much more sensitive to slight differences in economic conditions. At the same time, the markets for both long- and short-term credit have been increasingly "internationalised".

In these conditions, the traditional instruments of monetary control have become less effective and there is much less scope for the national monetary authorities to pursue an independent domestic economic policy, particularly credit policy. Consequently, they have been co-operating closely in order to take account of both the national and the international repercussions of their policies and to devise new instruments of control. At the same time, the use of gold and foreign exchange reserves for the purposes of international settlements and liquidity has been supplemented by a range of other forms of monetary transaction, some of them newly devised — notably quickly mobilisable facilities for mutual support between central banks.

The appropriateness of the present international monetary system, particularly the new forms of monetary transactions, and of the general level of international liquidity, has been questioned; and a thorough study has been carried out since September 1963 by a group of leading industrial countries (1), of the functioning of this system and of its probable future needs for liquidity. At the same time the International Monetary Fund (IMF) has been carrying out a study of the same questions. These studies have been made in liaison with the staffs of OECD, the International Monetary Fund and the Bank for International Settlements. Their results will probably be made known shortly before the annual meeting of the International Monetary Fund in Tokyo in September 1964.

International monetary co-operation and the stability of the international monetary system have been a major part of the Organisation's work for many years. The Intra-European Payments Agreements of 1948-50, and the European Payments Union of 1950-58, paved the way for the introduction of general external convertibility at the end of 1958. The European Monetary Agreement, which has been in force since then, helped to ensure the smooth transition to convertibility and has been a focal point for monetary co-operation and consultation. Since the change from OEEC to OECD, the Economic Policy Committee, and in particular its Working Party no 3 on balance of payments questions, has made a very important contribution towards the co-ordination of economic policies, particularly those designed to achieve better balance of payments equilibrium, and, more broadly, towards finding solutions to the problems encountered in the pursuance of the general economic objectives of the OECD Member countries.

A comprehensive survey of international monetary developments and of the payments situation of individual Member countries is made in the annual reports of the Board of Management of the European Monetary Agreement. The latest of these reports, published in July, covers the year 1963 and the early months of 1964, and some of the information in it is summarised overleaf.

⁽¹⁾ These countries are the so-called "Group of Ten" together with Switzerland. The "Group of Ten" consists of the parties to the IMF's "General Arrangements to Borrow", namely Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States.

MONETARY RESERVES AND RELATED MONETARY TRANSACTIONS

A country's monetary reserves position is no longer measured solely by the level of its "monetary reserves" in the strict sense of the official holdings of gold and foreign exchange, though changes in these primary reserves are still generally regarded as the main indicators of the trend of that position. Monetary authorities can increase or and drawings of \$ 200 million in sterling on IMF. The United States' reserves fell by \$350 million, less than half the loss of \$ 910 million in 1962. Canada's reserves increased by \$ 60 million, but this was chiefly due to drawings from and repayments to IMF. Japan's reserves also increased by a far smaller amount in 1963 (\$ 40 million) than in 1962 (\$ 360 million).

• The "Gold Pool"

An important new development was the institution in October 1961 of the "gold pool" to counteract speculative increases in the price of gold; its members are the Federal

CHANGES IN MONETARY RESERVES AND THE NET MOVEMENTS OF CERTAIN RELATED TRANSACTIONS, 1963 (millions of US dollars)

	p 19976	RELATED TRANSACTIONS (1)						
COUNTRY	Increase (+) or reduction (-) in MONETARY RESERVES	IMF		Swap drawings	Non-marketable	Commercial banks		
		Drawings & repay- ments by country concerned	Other (2)	Between central banks (and with BIS)	United States Treasury Bonds (3)	net foreign position		
1	2	3	4	5	6	7		
BELGIUM/LUXEMBOURG France. Germany Italy Netherlands	+ 180 + 847 + 655 - 434 + 156		- 7 -12 -35 -23	+ 9 + 60 - + 70	30 275 13 	+ 266 + 202 + 172 + 651 - 11		
TOTAL EEC	+1,404		-77	+139	-305	+1,280		
AUSTRIA DENMARK NORWAY SWEDEN SWITZERLAND UNITED KINGDOM	+ 136 + 218 + 50 - 47 + 204 - 149	-	-11 - - - 5 - + 13 + 29	- 50 - - - + 112 (4) - + 203 (4)	- 13 - 50 - 25 - 106 - + 624	- 44 - 30 - 2 - 20 not available + 297 (5) + 70 (6) + 507 (5) + 929 (6)		
CANADA	+ 57 + 36	- 80	_	=	-125 -	+ 142		

(1) The signs are in the same sense as those in colum 2, i.e. as for "above the line" items in the balance of payments — capital inflow (+) and capital outflow (—) (2) Mainly drawnings (+) or repayments (—), in the currency of the country concerned, by other countries (3) Including those denominated in US dollars as well as thos denominated in the currency of the holder. For Switzerland the figures include 3-8 months Certificates (4) Including swaps with the BIS (5) UK: Sterling liabilities (net) to central monetary institutions. US: Dollar liabilities to foreign central banks and governments (6) UK: Sterling liabilities (net) to private holders. US: Dollar liabilities to private holders.

delay a fall in these primary reserves through a variety of monetary transactions, of which some of the most important in 1963 were: drawings on or repayments to the IMF; mutual support operations between central banks; and the net movements in the foreign assets and liabilities of private commercial banks.

Gold and foreign exchange reserves

Changes in Member countries' monetary reserves are shown above. The monetary reserves of the European Member countries increased by \$2,000 million in 1963, following increases of \$4,400 million in 1960, \$2,300 million in 1961 and \$800 million in 1962. The United Kingdom's reserves fell by \$150 million in 1963. In the previous year there had been a fall of \$500 million but this was more than accounted for by the repayment of \$860 million to IMF

Reserve Bank of New York (acting for the US Treasury) and the central banks of Belgium, France, Germany, Italy, the Netherlands, Switzerland and the United Kingdom. The Bank of England acts in the London gold market as agent for all the members of the pool.

In the early stages the pool tended to sell gold. In 1962, however, there was a change in the trend of the gold market and the Bank of England's interventions were usually in order to purchase gold. From October 1961 to the end of 1962, purchases and sales of the pool were roughly in balance. But in 1963, the pool purchased gold for a net amount of about \$ 600 million, which was distributed among the participants in agreed proportions. These accruals to monetary reserves and the general effect of the gold pool in preventing excessive fluctuations in the price of gold have helped to maintain public confidence in the existing international monetary structure.

• Support operations between central banks

These operations have provided a valuable reinforcement of countries' secondary reserve positions and have demonstrated the ability of the monetary authorities to moderate and contain excessive fluctuations in short-term capital flows. The technique usually used is for two central banks to carry out a "swap", i.e. to exchange their currencies at an agreed rate of exchange on the understanding that at the end of an agreed period, say three months, the transaction will be reversed in full again at a previously agreed rate.

These operations have fallen into two categories:

- Concerted bilateral arrangements between European central banks (which are subject to the procedure of notification to the Board of Management of the European Monetary Agreement, through the intermediary of the Bank for International Settlements).
- Swap drawings under the bilateral arrangements concluded, on a stand-by basis, between the Federal Reserve Bank of New York and the central banks of nine European countries and Canada, Japan and the Bank for International Settlements (BIS).

Concerted operations of the first type have been carried out twice since their use to support sterling in 1961. In February-March 1963, the Bank of England received support totalling \$ 250 million from certain European central banks, which was repaid in June 1963. In March 1964, when the capital flight from Italy accelerated rapidly following very heavy losses of reserves in the preceding months, the Italian authorities quickly negotiated short- and medium- term assistance totalling about \$1,000 million, including about \$550 million of short-term facilities with the United States Treasury and certain European central banks. At the same time, Italy drew the whole of its IMF gold tranche of \$225 million.

The operations of the *second type* are swaps made under the stand-by arrangements between the Federal Reserve and other central banks and BIS. The ceilings to these arrangements were raised from a total of \$ 900 million at the end of 1962 to a total of \$ 2,050 million at the end of 1963.

Actual drawings under these stand-by arrangements have (in the two years from March 1962 to March 1964) usually remained in the range of \$ 150 million to \$ 500 million; at the end of most months, outstanding drawings were less than \$ 300 million. It has been the policy of the Federal Reserve to limit the renewal of these swaps in order to ensure that every drawing is liquidated within a year at the most. In 1963 foreign exchange drawn through these swaps was used to moderate temporary swings in the payments and reserve positions of the major industrial countries. The Federal Reserve used such funds extensively in defence of the United States dollar. The bulk of the Federal's operations was conducted directly with foreign central banks and was designed to absorb dollars accumulated by those banks. On occasions, however, the Federal intervened through foreign central banks in their own markets and also directly in the New York foreign exchange market (e.g. after President Kennedy's assassination in November).

• Placing of non-marketable US Treasury bonds

These bonds, placed by the US Treasury with foreign central banks, are a new form of international credit facility which can be used to finance payment swings of a slightly longer duration than those for which swap drawings are appropriate. In most cases even if formally non-convertible, they can be mobilised by the holder at short notice; and a number of countries include these bonds in their "first line" monetary reserves.

• Net foreign position of the commercial banks

The net movement of the foreign position of the commercial banks of a number of OECD countries has been very

COMMERCIAL BANKS' FOREIGN ASSETS AND LIABILITIES (millions of US dollars)

COUNTRIES	1	963	CHANG	E 1959/63		OUNT ING END 1963
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
TOTAL 10 CONTINENTAL COUNTRIES (1)	+ 190	+ 1,310	+ 3,000	+ 4,900	5,500	7,000
UNITED KINGDOM (2)	+ 650	+ 750	+ 2,800	+3,700	3,200	5,700
CANADA (3)	+ 360	+ 260	+ 2,100	+ 2,100	4,200	4,200
UNITED STATES (4)	+ 740	+ 930	+ 3,400	+ 2,900	5,900	8,800
JAPAN	+ 430	+ 570	+ 1,300	+ 2,200	1,500	2.400

(1) Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Sweden (2) British overseas and Foreign banks in London and British Accepting Houses, excluding "other foreign banks" (Bank of England Quarterly Bulletin) (3) In millions of Canadian dollars (4) Liabilities do not include those to official institutions.

substantial in 1963. The banks in the Common Market countries increased their net foreign liabilities by as much as \$ 1,200 million in 1963 (half of which was accounted for by Italy) compared with an increase of \$ 400 million in 1962.

These transactions can in effect be an alternative to use of the monetary reserves and may have an important bearing on the development of the reserves. Insofar as the commercial banks increase their foreign assets instead of exchanging them for local currency with their central bank, the central reserves are lower; and insofar as the commercial banks borrow from abroad or use their foreign assets, instead of making settlements with foreign exchange obtained from their own central bank, the central reserves are higher.

Such effects can be considered as monetary transactions if they are induced by the policy of the authorities, as has happened in Italy, where the authorities decided to compensate decreasing domestic liquidity by allowing the banks to borrow net from abroad. The Italian banks increased their net foreign liabilities by \$ 1,260 million between October 1962 and August 1963. Their net foreign borrowing in 1962 was \$ 650 million; and, without this, the loss of reserves would have been over \$ 1,000 million.

PRIVATE SHORT-TERM CAPITAL MOVEMENTS

The changes in the commercial banks' foreign position can also be regarded as one of the main elements in the private short-term capital account of the balance of payments. An indication of the potential size of these changes is given on page 5, showing the very high level to which the commercial banks' foreign assets and liabilities have risen in recent years.

For the eleven European countries shown on page 4, the commercial banks' foreign assets at the end of 1963 were \$8,700 million and their foreign liabilities \$12,700 million—while the monetary reserves of these countries were about \$24,000 million.

Despite increases in net foreign liabilities of commercial banks in some countries (particularly Italy), net movements of private short-term funds in general were, on the whole, much smaller in 1963 than in recent years. This was in large part due to co-operation between the monetary authorities in maintaining the confidence of the international money and credit markets — in particular, through interest rate policy, through the use of inter-central bank support facilities to smooth out excessive or speculative fluctuations in the foreign exchange markets and through co-operation in the gold market. In some cases, however, the short-term capital flows added to disequilibria caused by other items in the balance of payments and produced excess liquidity in the receiving countries, and the national authorities took energetic counter-measures.

Table 3 compares private short-term inflows and outflows with the balance of payments on current and long-term capital account in the case of three countries for which good

statistics are available — Germany, the United Kingdom and the United States.

BALANCE ON CURRENT ACCOUNT

The current balance of OECD Member countries as a whole with the rest of the world continued during 1963 the deterioration of the previous year, despite a recovery in exports amounting to over 6% for the whole year, and nearly 13% for the last quarter. Imports increased by 8.3% for the whole year and nearly 10% in the last quarter, mainly owing to increased petroleum imports and a rise in the prices of some food products and primary commodities.

The new increase in the trade deficit of the Member countries as a whole which emerged in 1963 is entirely attributable to the European countries. There was a distinct improvement in the trade balance of the North American Member countries with non-Member countries, their imports increasing by only 6 % while their exports increased by 10 % over the year and by 24 % in the last quarter. The balance of payments situation of the United States, after worsening during the first half of the year, showed a remarkable recovery during the second half.

In contrast with the period 1959-1962, the countries of

RECORDED PRIVATE SHORT-TERM CAPITAL FLOWS PLUS THE RESIDUAL ITEM IN THE BALANCE OF PAYMENTS COMPARED WITH THE «BASIC BALANCE»

(i.e. the current balance plus ordinary long-term capital movements)

Millions of US dollars

1st figure = basic surplus (+) or deficit (-) 2nd figure = net short-term inflow (+) or outflow (-)	1960	1961	1962	1963
	+ 1,200	+ 400	- 500	+ 800
GERMANY	+ 1,100	+ 200	+ 200	- 30
UNITED	- 1,200	- 500	+ 40	- 70
KINGDOM	+1,400	- 1,100	+ 500	- 700
UNITED	- 1,500	- 900	-2,100	- 2,300
STATES	- 2,200	- 1,600	- 1,700	- 300

Western Europe in 1963 no longer experienced broadly similar influences on their foreign trade and international capital movements: a sizeable deficit emerged in Italy, a large

increase appeared in the German surplus and an appreciable decline in that of France. In future it seems likely that the equilibrium between European countries and the rest of the world — especially the United States — will be influenced more than in the past by developments in individual European countries.

LONG-TERM CAPITAL MOVEMENTS

The Member countries of OECD are almost all net exporters of official capital in the form of grants or loans to the developing countries. Whereas official capital exports increased rapidly up to 1961, they hardly increased at all in 1962 and according to preliminary assessments declined slightly in 1963.

On the whole, movements of *private* long-term capital were greater in 1963 than in the preceding years and contributed to quite a large extent to the disequilibrium of the balance of payments of some of them: to the large US deficit, the reappearance of a German surplus, and the emergence of a serious deficit in Italy.

INTERNATIONAL LOAN ISSUES

With the aim of widening the market for international borrowing in Europe, international bankers' consortia have since 1957, and more particularly since 1961, been arranging loan issues denominated not in the currency of the country in which they are made but in "units of account", US dollars or Swiss francs. These are attractive to some investors, who feel that they provide an exchange guarantee in relation to their own currency, but they may tend to make it more difficult for the national authorities to control the capital markets and, thereby, the economy as a whole. Such issues increased considerably in 1963, following the virtual stand-still of foreign issues on the American market and because of the availability of substantial funds on the capital markets of Europe. International consultation has recently begun to find ways of overcoming the most serious disadvantages of these new forms of international issues so as to allow them to continue to tap savings in European countries, while safeguarding the legitimate interests of the countries concerned.

The balance of payments of individual OECD Member countries in 1963 is summarised below.

TREND OF THE BALANCE OF PAYMENTS OF THE OECD MEMBER COUNTRIES IN 1963 (In U.S. \$ million)

COUNTRY	CURRENT BALANCE	ORDINARY Long-Term Capital Movements (1)	BASIC BALANCE	EXTRAORDINARY CAPITAL MOVEMENTS	TRANSACTIONS WITH EUROPEAN FUND	TRANSACTIONS WITH IMF	BALANCE OF CURRENT, LONG-TERM, EUROPEAN FUND AND I M F TRANSACTIONS	CHANGE IN RESERVES (2)	RESIDUAL ITEM (SHORT-TERM CAPITAL, ERRORS AND OMISSIONS, ETC)
	a	b	c = a+b	d	е	f	g = c+d+e+f	h	i = h-g
AUSTRIA	+ 21	+ 86	+ 107	-	*	- 11	+ 96	+ 136	+ 40
B.L.E.U	- 28	+ 26	- 2	4	<u> </u>	- 6	- 8	+ 180	+ 188 (3)
DENMARK	+ 15	n.a.	n.a.	=	2	-	n.a.	+ 218	+ 203 (3)
FRANCE (metropolitan).	+ 426	+ 386	+ 792	- 281 ⁽⁶⁾	-	- 12	+ 499	+ 847	+ 348
GERMANY	+ 1.015	- 193	+ 822	-	2	- 35	+ 787	+ 656	- 131
GREECE	- 91	+ 142	+ 51	=	2	-	+ 51	+ 8	- 43
ICELAND	- 5	n.a.	n.a.	-	-	- 3	n.a.	0	+ 8 (3)
IRELAND	- 56	n.a.	n.a.	-	-	- 2	n.a.	+ 45	+ 103 (3)
ITALY	- 609	- 390	- 999			- 23	- 1,022	- 434	+ 588
NETHERLANDS	+ 77	- 10	+ 67	— 70 (5)	5		- 3	+ 156	+ 159
NORWAY	- 186	+ 223	+ 37	-	-	-	+ 37	+ 50	+ 13
PORTUGAL (Escu. ar.) (4)	- 31	+ 31	+ 1	-	-	-	+ 1	- 24	- 25
SPAIN	- 178	+ 216	+ 38		-	- 16	+ 22	+ 86	+ 64
SWEDEN	- 38	- 31	- 69	;=);	-	- 5	- 14	- 47	+ 27
SWITZERLAND	- 390	n.a.	n.a.	n.a.	+ 15 (7)	+ 4 (8)	n.a.	+ 200	+ 590 (3)
TURKEY	- 279	+ 263	- 16	-	-	-	+ 3	- 12	- 15
UNITED KINGDOM	+ 709	- 782	- 73	- 2		+ 13	- 60	- 148	- 88
CANADA	- 425	+ 484	+ 59	-	-	- 80	- 21	+ 57	+ 78
UNITED STATES	+ 4.673	- 6,936	- 2.263	+ 325 (9)	2	+ 30	- 1.908	- 348	+ 1,560

(1) Including government grants and repayments of debts or claims arising from liquidation of EPU. (2) For EMA countries: gross official gold and foreigh exchange reserves, after deducting EPU claims. For Canada and the United States: official gold and convertible foreign exchange reserves. (3) Including long-term capital. (4) First half only. (5) Prepayment to United States.

		\$ million		\$ million
(6)	Prepayments to Eximbank	- 162 - 119	(8) Drawing on IMF	+ 21 - 17
		- 281		+ 4
(7)	Credit drawn on European Fund	+ 50 - 35 + 15	(9) Prepayment by Netherlands. Prepayments to Eximbank : by France by other countries	+ 70 + 162 (+ 93) + 325

-ANACTIVE MANINGOM BOOM AND

The Council of the OECD has formally recommended to all Member countries that they - in the near future and as part of their activities for promotion of economic growth - re-examination manpower policies with a view to increasing their ability to solve employment problem created by technical and economic change. Governments are to report to the Organisation by 30th June 1965 on action taken to carry out this recommandation.

The OECD Council's adoption of this recommendation can be regarded as a gentlemen agreement on the part of Member countries to take steps to improve their capacity for counter

Different types of measures should be predominant depending on whether the period is one of inflationary pressures or one in which employment is tending to fall as a result of business recession or restrictive policies for maintaining the balance of payments and price stability. But in any case manpower policy should be made an important part of economic policy, and not only a set of palliatives which give a little help in acute cases of need. This is the spirit of the Committee's

report, when it sets out to explain the increasing need for such an active manpower policy:

"The diversification of production, the increasing volume of technical research and innovation, the efforts to liberalise and expand international trade and the appearance of a number of new countries as producers in the world market for industrial products tend to increase the multiplicity of economic changes, perhaps also their severity. There is a risk that they will give rise to economic contractions if the neces-

sary adjustments do not take place rapidly. If the adjustments are not carried out in forms acceptable at those who are most immediate affected, protective and restrictive reactions can be expected "Countries sometimes accept the burden of large direct or indirect subsidies or measures of protectic to maintain employment in declining and less productive sectors. Publication money could often be better used a facilitate and stimulate workers' moving and retraining for better jobs of the establishment of industries with

• A central policy body or adequate co-ordination between different existing agencies.

It is essential for the efficiency of manpower policy that there be some authority which has the particular responsibility for ensuring that the manpower aspects of economic policy are fully taken into account by all relevant sectors of central and local government and that the employment objectives are given the high priority they deserve. Only a centralised or well co-ordinated administration can formulate overall policy, determine general directives, identify strategic activities in the light of changing needs and initiate and develop new programmes and services.

This seems to be a fair generalisation from the experience of Member countries with various degrees of ambition and success with regard to efficient and stable utilisation of their manpower resources.

• A more comprehensive employment service which can be utilised by employees and employers of all categories.

All too often government employment services are regarded as a social institution, only for the use of unskilled and casual labour and for filling the awkward task of making sure that those who receive unemployment benefits are really out of work. Some countries have succeeded in changing the image of the employment service are given it a more attractive character. A public employment service which represents a full cross-section of the labour force is in a unique position to help the labour mark function smoothly and efficiently with a minimum of labour shortages and unemployment. The creation of this sort of efficient institution presents a challenge to any government.

To acquire the confidence of both employers and er ployees, the employment service must be given adequa resources, including qualified personnel and attractive premises as well as modern technical equipment. should be able to administer special programmes design to increase geographic and occupational mobility as social adjustment.

Improvements of the employment service are in pr gress or under preparation in several countries. As result of recent legislation in the United States, the fun tions of the Employment Service have been broaden to include the determination of current and long-ran training needs, work with training agencies for screenin and selecting trainees, etc. In Sweden the special sectio for white-collar workers have been radically enlarged response to demands from the organisations of employe in these fields. In Norway the employment offices, earlier local government service, have been taken over by the centre government as part of an action to increase efficience

POWER POLICY-RESSION

acting employment disturbances in a progressive way rather than by applying restrictive and brotective measures through which they try to foist their employment difficulties on to one another. The policy recommended is described in a report by the Manpower and Social Affairs Committee, also approved by the Council as a guideline for the re-examination. It is an active manpower bolicy, one which helps labour and management adjust to technical and economic change, thereby attempting to employ the labour force in the most productive ways.

mositive prospects in areas facing employment difficulties. Expendiures... for the improvement of numan resources and their readjustment should not be regarded as a sost to society but rather as a sound investment in adaptation'. At the ame time, it promotes important ocial values by increasing the indivdual's freedom in the choice of an occupation or workplace and his ecurity against loss of income."

"By promoting the mutual adjustnent of manpower needs and reources, an active manpower policy has the special advantage of being expansionist with regard to employment and production, but anti-inflationary with regard to costs and prices."

The report is based on the experiences of OECD countries as made evident in their annual reports to OECD and in studies by the Manpower and Social Affairs Committee, discussions in the Committee and in trade union and management seminars, etc. It contains a series of specific recommendations, which are summarised

below and at the same time illustrated here — without any attempt being made to carry out a full survey — by examples of recent progress and innovation in the various fields (1).

(1) The examples are given to indicate *recent* trends; countries where the reforms in question were made long ago may therefore not be mentioned.

Substantial enlargement of adult training facilities nd reforms in the general education and training ystem to meet the rapidly changing needs of modrn technology.

Even if most training opportunities are given by private mployers, public authorities must make it their business a see that the total training capacity is adequate to the eeds of the economy as a whole. As technology proresses, it is likely that more and more people will have a change occupation during their lifetimes. It follows hat there is need for a broad expansion of training of dults; and arrangements should be made for maintenance f an adequate portion of these workers' incomes during eriods of retraining. At the same time it should be recogised that the best preparation for occupational shifts is a ood basic education attuned to modern technology.

The question of how to modernise the systems of vocaonal training for young people is being discussed with nore or less intensity in most OECD countries. In the Inited Kingdom the Industrial Training Act of 1964 onstitutes a departure from the tradition that training hould be left largely to the individual employer; tripartite ndustrial Training Boards will reorganise and reinforce raining activities and finance them by a levy on all firms. t is hoped that in this way the shortage of skilled manower can be eased and the divisions between crafts made

less rigid. In Canada, the central government has recently taken over a considerable portion of the cost of training and has embarked on an expansion programme. With regard to the expansion of adult training, Sweden has entered upon a very ambitious programme, which within seven years has increased the number of trainees under government-sponsored schemes from a few hundred (mostly handicapped people) to nearly one per cent of the labour force a year - in courses of several months' duration. The French programme of accelerated training for adults is being doubled within a year or two, and the National Employment Fund, voted by Parliament last year, has considerably improved the maintenance of income for trainees. A similar expansion of adult traning is taking place in Belgium in accordance with a 1961 law. Generally, adult trainees in these countries receive from fifty to ninety per cent of their normal income. The US Manpower Development and Training Act envisages a rapid expansion of training for unemployed workers; a recent amendment to the law established the new principle that trainees are to be given compensation over and above the unemployment benefits. In 1962 the Federal Republic of Germany started a scheme for providing support to workers who wish to take training for further advancement. Programmes for extension of adult training with government support are under development or discussion in other countries as well. (continued on page 10)

• The introduction or reinforcement of specific means for encouraging desirable geographical mobility.

Travel and resettlement allowances are needed to offset obstacles to mobility. Special efforts to solve housing problems in areas of expansion will often be appropriate. Measures should be taken to facilitate the social adjustment and integration of people settling in a new area, particularly if they come from very different environments — if they move from one country to another, for example, or leave

rural areas to take up jobs in urban industries.

A great variety of aids to geographical mobility are provided in many OECD countries — reimbursement of travel and transportation costs; allowances for temporary maintenance of two households and for home visits; grants or loans to help solve the housing problems of the workers concerned. In Sweden and Norway a lump sum on top of reimbursement of direct expeditures for moving is given to workers who are willing to leave areas of labour surplus and take up jobs in expanding areas. Recently, the use of this type of allowance has been enlarged and the amounts substantially increased; in some cases in Sweden it now comes to \$ 400. Under the new National Employment Fund, the French authorities will be able to make grants of a similar order of magnitude. In other countries the government payments are generally smaller.

• More systematic support of industrial expansion in backward or depressed areas with development possibilities.

Programmes for regional expansion should give due weight to sound principles of economic development; they should not simply subsidise obsolete industries but should lay the groundwork for viable economic activity in areas chosen for development. This approach often implies concentration on growth centres in areas with economic difficulties.

For many years the United Kingdom, France, the Netherlands, Belgium and Norway have had particularly efficient programmes for promoting development in depressed or backward areas. During recent years these programmes have generally been improved. The Italian government's efforts to develop the Mezzogiorno as well as other problem areas are being intensified. Similar programmes are under way in most of the Mediterranean countries where the problem of underemployment in certain areas is particularly acute. The Irish and Swedish governments are preparing new and important steps in this field. In 1962, the United States passed its Area Redevelopment Act, which is based on systematic cooperation between local planning services and the Federal Government.

• The intensification of measures to make it easier for *marginal groups* to take up and keep gainful occupation.

Many groups now employed only intermittently or not at all can be helped to participate in useful employment through rehabilitation, retraining, and special job arrangements. The older workers who, for demographic reasons, are becoming a more important element in the work force, may need special help in adapting to technica change.

Several countries, notably the United States, Canada Belgium, Sweden, Norway, the Federal Republic of Germany, Spain and Portugal, have been making specia efforts to promote the employment of older and handicapped workers, mainly through giving increased resources to the public employment services to help in placement

The Manpower Committee's report underlines that desirable progress in the spirit of an activation manpower policy will take different forms according to the level of economic development in the country concerned. Countries in the process of development have special problems: they have to cope with the problem of extensive underemployment which cannot be eliminated without afundamental process of economic expansion. But any development plan for these countries musicontain an analysis of the manpower problems involved and should particularly take into account the need for co-operation between manpower and education authorities.

The report also stresses the fact that government co-operation with management and labour organisations is of primordial importance for the success of any manpower programme. Such co-operation is desirable whether the problem is one of readjustment and human-resource-development at the level of the individual firm or branch of industry or whether it concerns

the country as a whole.

The Council of the OECD specifically recommends that any consultations undertaken by-Member countries in the course of their re-examinations of manpower policy should include management and labour organisations.

The specific examples of progress and innovation given in the foregoing seem to indicate a general trend towards reform of labour market institutions and policies and towards new way of thinking about manpower problems. In connection with the creation of the European Coal and Steel Community and the European Economic Community, special provisions were made to facilitate the ensuing adjustments of economic structure. Thus, schemes for supporting the retraining

out also through other means such as improving rehabiliation and training arrangements for persons with reduced capacities, establishment of sheltered employment, improvng pension rules so as to create greater economic adaptability for persons near retirement age. A number of countries, in particular those which have reached a state of full employment, are making efforts to provide various services to encourage employment for women with family responsibilities, by providing special transport and training acilities, encouraging adjustment of working hours and redesign of machinery.

An increased degree of preparedness for prerentive or remedial action against employment disturbances.

Manpower authorities need to know as much as possible about what is likely to happen to employment and then be able to act quickly on the basis of that knowledge. The need for knowledge implies that the manpower authorties have contacts with employers and keep in touch with their specific employment plans; and that they continually reassess economic trends. Creation of jobs at the local level as a first remedy for employment disurbances requires considerable advance planning.

Several countries have — and are further developing — ystems of "advance warning", under which employers notify the labour market authorities if they foresee a ay-off. A broad scheme of this sort was recently adopted

n the United States.

Public works have long been used as a device for ighting unemployment, but with modern techniques of production they are becoming very expensive and their iming difficult. Experience — even in countries which have kept a panel of public works projects in readiness — has shown that such projects must be planned in great

detail and blueprints systematically kept up to date if they are to be used effectively in a recession.

Accurate timing is also essential for selective measures to influence private investment in a way that will combat unemployment in particular areas and periods. Seasonal unemployment in the building industry has been progressively reduced in the Scandinavian countries, mainly by administrative controls on the timing of building starts. The Federal Republic of Germany has introduced a system of subsidies for winter building, with rather spectacular results during the first years of application. The Canadian Government, too, has found it economically rational to pay such subsidies rather than accept the cost to the economy of winter unemployment.

• The development of income-security programmes such as unemployment and redundancy compensation and special adjustment allowances.

A certain degree of liberality in providing adequate income during periods of readjustment is necessary in order to promote acceptance of economic change by those most directly affected and to ensure that the changes made will be rational. Individuals should be helped to make an adjustment that is dictated not by the pressure of poverty but by the consideration of where they can be most efficient.

Along with the various social insurance schemes and the special arrangements to encourage geographical and occupational mobility, there is in some countries a drive to establish redundancy schemes which maintain workers' incomes during lay-offs or grant severance pay in case of permanent discharge. Such a development — either through recent legislation or collective bargaining — can at present be registered at least in Belgium, Canada, the United States and Sweden.

nd resettlement of workers and re-organisation of industries were established. Contributions rom the European Social Fund now stimulate the development of these policies of EEC countries n a general way. Recent legislation in the United States - the Manpower Development and Training Act, the Area Redevelopment Act and the manpower clauses of the Trade Expansion Act - are another expression of the trend towards an active manpower policy, a concept that is oming increasigly to the fore in discussions of the employment problems in that country. The reation of the French National Employment Fund, based on a similar philosophy, is another

ase in point.

The studies for the planning of education recently undertaken in the Mediterranean countries initiated by OECD - are drawing the attention of planners and policy-makers to manpower olicy tasks in these countries. Included in the terms of reference of the newly-formed Italian lanning agency is the need for creation of more efficient means with which to influence the abour market. In Austria, negotiations are being held between the Government and epresentatives of management and labour, envisaging the introduction of a more active policy or manpower, very much on the lines indicated by OECD. Progress of this kind is also under reparation in Ireland. Portugal is preparing for the establishment of a public employment revice. The measures recently taken in Canada, some of which have been mentioned above, dd up to a comprehensive reform. This year's legislation on vocational training in the United Lingdom represents a rather important break with outmoded traditions. Successful experience with the relatively advanced manpower policy instruments in Sweden and Norway has led the uthorities in these countries to plan and undertake further development in the same direction. The OECD recommendation seeks to accelerate this trend, which is already perceptible in the world of political realities.

AN EXERCISE IN VOLUNTARY REPATRIATION IN GREECE

by George V. HANIOTIS

Consultant to the Directorate of Scientific Affairs of OECD

Twenty-four per cent of all higher-level Greek students were studying abroad in 1961. Many of them may be tempted to remain abroad in hope of wider opportunities and better conditions. The OECD Directorate for Scientific Affairs is co-operating with the Greek authorities in a pilot repatriation scheme, designed to persuade a limited number of Greek scientists and technologists, now working abroad, to return under a two-year contract to participate in the nation's development efforts.

o a growing number of Greeks and foreigners 'Greece' means 'growth', for — as
a result of private and public endeavours and various
kinds of foreign assistance during the past fifteen years
or so — Greece has successfully managed to leap from
the head of the Middle East to the tail of Europe; a far
greater step than is readily apparent from a glance at
the map since it encompasses progress in many areas,
some of which cannot be statistically charted. Nevertheless, the economic progress of Greece may be sufficiently illustrated for the present purposes by stating
that, between 1951 and 1961, the Gross National Product increased at about 6 per cent a year while trends in
locally-produced goods are toward greater variety and
higher quality.

To achieve a rapid and sustained rate of economic growth in a developing country like Greece requires, in addition to capital needs, a highly sophisticated entrepreneurial and managerial class and highly qualified scientific and technical personnel if modern economic units of production are to function effectively. An inadequate supply of such skills in a developing economy and the inelasticity of their supply in the short-run will impede any attempts by government to increase production in the vital sectors of economic activity and will discourage entrepreneurs from expanding or creating new productive capacity. In the past foreign experts have often been made available to fill gaps in the supply of scientific and technical personnel which is a pre-

requisite to economic development, but it would be unrealistic to suppose that to continue this as a general practice indefinitely would be possible or even desirable.

ctually, the shortage of the supply of specialised manpower in developing nations is a threefold dilemma which may be described briefly as follows:

First, the shortage of highly-specialised scientific and technological skills, which occurs naturally at a certain stage of economic development, pushes salaries for such personnel upward relative to those for other professions and thereby induces increasing numbers of aspirants to attempt to enter the higher educational institutions in fields relating to the sciences, technology, business administration, etc.

Secondly, the lack of adequate educational facilities — teaching and research personnel, equipment and physical facilities, scholarships and professional grants, and so forth (which is apt to be felt concurrently) — sharply limits the number of candidates which can be accepted by existing domestic institutions, while outdated or insufficient curricula discourage many students, and especially the most outstanding, from pursuing studies at home.

A large number of students, therefore, particularly those studying those fields vital to national economic interests, will attempt to obtain their higher education in universities of the advanced Western nations.

Even the most optimistic forecasts estimate that the Greek demand for scientific and technical personnel will still exceed the supply in the 1970's. For example, data collected by the Ministry of Coordination indicate that a discrepancy of 1,370 civil engineers and 1,360 mechanical and electrical engineers will exist in 1974 on the basis of comparisons between domestic output and domestic demand, provided that domestic output in 1974 remains steady at the 1961 level.

Both OECD and the Greek authorities recognise that the long-run solution for meeting this continuing demand lies in enlarging the facilities for domestic output of such personnel and in qualitative and quantitative improvements to faculties and curricula. To these ends co-operative efforts have been launched, through the Mediterranean Regional Project of OECD's Directorate for Scientific Affairs and through other joint projects and Greek governmental programmes, including plans for a third Greek university (which, it is hoped, may also serve to alleviate the needs of students from African, Asian and Middle Eastern nations), a modern institution for high-level training in public administration, and so forth.

third university and to bring new life and vigour to the existing institutions for higher education. This remedy, jointly sponsored by OECD and the Greek Government, is the new pilot programme for repatriating, on a temporary basis, a limited number of Greek scientists at present working abroad who, at the completion of a contractual engagement with the Greek Government, would then be free to remain in Greece or to return to their foreign employment.

The fact is that Greece has a reservoir of such highly-qualified personnel if it can but be tapped, and that this reservoir is an extremely large one with rich and varied resources of talent. From the figures presented in Tables below, it is noted that 8,800 students, or approximately 24 per cent of *all* higher-level Greek students, were studying abroad in 1961, and that 58.8 per cent of these were pursuing studies in scientific and technical fields. Experience shows that many of these students remain past the period of their educational requirements to gain experience in research, teaching, industry and/or administration.

This calls up a highly optimistic picture when the progressive impact of their accumulated knowledge and experience on the development of the nation's whole economy is considered. But do they return?

here is also, however, a short-run remedy which aims both to satisfy the immediate demands for scientific and technical personnel at the highest levels and to provide for the increases in high-calibre teaching faculty necessary to man the projected

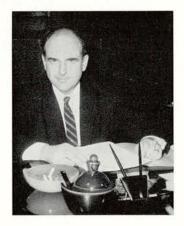
any do return and do make decisive contributions, finding or forging the necessary conditions for personal and professional satisfactions at home or putting up with such local frustrations as cannot be altered; but, since shortages of manpower do exist in these fields, this is not enough. Many others return only to re-apply for visas within a year or

NUMBER OF GREEK STUDENTS IN HIGHER EDUCATIONAL INSTITUTIONS ABROAD BY COUNTRY AND BY AREA OF STUDY IN 1961

COUNTRY	Number of Students	% Pursuing Studies in Science and Technology	% Pursuing Studies in Huma nities and Social Sciences
AUSTRIA	2.450	70.9	29,1
GERMANY	2.138	60.9	39.1
ITALY	1.428	63.9	36.4
UNITED STATES	1.200	48.4	51.6
FRANCE	680	25.8	74.2
SWITZERLAND	500	43.1	57.9
OTHERS	508	51.0	49.0
TOTAL	8.800	58.8	41.2

Source: Economic Planning Division, Ministry of Coordination

so, usually to the countries in which their studies were completed and/or their experience gained. Some simply stay abroad, contributing to the total of emigrant remittances, but not their acquired skills. Others, domesti-









Above (left): Andreas G. Papandreou, former professor and Chairman of the Department of Economics, University of California, now Minister of the Ministry to the Prime Minister, has a deep and personal interest in the repatriation programme — (right): Adam Pepelassis, formerly professor of economics at the University of California, has returned to become Deputy Governor of the Agricultural Bank of Greece.

Below (left): Catherine Lemonias, Ph. D., formerly Research Assistant at Amherst College, Massachusetts, has returned to Greece to continue her research activities in biochemistry — (right): George Coutmaris, previously a staff member of the University of Chicago and economic adviser to the Government of Venezuela; now Director of the Centre of Economic Research in Athens.

cally trained, are thus encouraged to emigrate also; and so a large part of the cream of the national intellectual resources is lost. This new generation of emigrants engages here in rocket and missile research, there in contributions to the natural and social sciences, and elsewhere in developing designs which are patented abroad.

No reliable figures are available as to exactly how many Greek scientists are lost in this way, but in fairness to them and in order to justify the repatriation programme which aims at salvaging at least a part of this outflow, some of the reasons why so many highlyspecialised persons choose to work abroad must be examined.

First, a certain number marry abroad, establishing

social and family lives which are difficult to uproot. Nevertheless, professional and economic considerations are probably the primary incentives to persons of this calibre. It is quite understandable that a scientist highly qualified in training and experience, engaging in remunerative work under good conditions, perhaps having achieved university tenure or some other sort of security, and certain to increase both his income and prestige in his present employment in one of the advanced countries, will be reluctant to return to Greece; there he may face employment at a level inferior to his capabilities or no employment, employment at a lesser salary or without assurance of permanency and increasing rewards and responsibilities, employment in closelyheld firms which precludes advancement to upper echelons of the hierarchy, employment in an atmosphere of intellectual stagnation, or under conditions degrading to one of his professional standing, or devoid of essential equipment and simple efficiency. Such an individual may also anticipate the possibility of being forced to the humiliation of having to seek 'connections' to obtain a position rather than basing his claims to opportunities for hiring and promotion on professional criteria and past achievements. In a fairly large number of cases the main deterrent seems to be that, having reached an age or a stage in professional or family circumstances where the fulfilment of an uncompleted military obligation in Greece would be of no benefit to the individual nor he to it, the rather uncompromising laws concerning compulsory military service outweigh any other considerations.

Il of these problems — and others — have indeed been current in Greece, and some, to varying extents, are still. More significant, however, is the extent to which they have been progressively eliminated and the opportunities which arise daily to challenge leaders in government and public service, industry,

NUMBER OF GREEK STUDENTS ABROAD AS PERCENTAGE OF TOTAL GREEK STUDENTS IN HIGHER EDUCATION BY TYPE OF STUDIES, 1961

Type of Studies	% Studying Abroad
Scientific and Technological Fields	33.2
Humanities and the Social Sciences	17.0
Percentage of all Greek Students	24.0

education, and independent business enterprises to greater and more rewarding efforts.

All political elements in Greece are in accord on the need for an enlarged, revitalised and modernised educational system which can effectively serve and keep pace with the growing national economy as a whole as well as with the increasing demands of the public. Such recent developments as the association linking Greece to the Common Market have also given a realisation that this problem is an urgent one, since the structural changes which the economy must undergo in order to assume full member status must be accomplished within time limits which do not allow for procrastination in any vital sector.

Business and industry are also alert to every opportunity offered in the direction of progress and are increasingly able to afford modern technology and scientific research together with the personnel this modernisation demands. Public service, in the early post-war years so notoriously inefficient as to discourage all but the hardiest or most calloused individuals, today can boast many dedicated public servants of exceptional ability and initiative.

In short, both the private and public sectors have heavily increased their demands for specialised manpower trained abroad, and growing numbers of highlevel positions carrying both prestige and opportunities for real achievements are available with financial remuneration ranging from acceptable to, in some cases, exceptional.

he Directorate for Scientific Affairs of OECD, having assisted its Mediterranean Member countries in assessing their future needs for scientific and technological personnel in relation to their economic development objectives, is now co-operating with them to devise possible ways and means by which such needs can be satisfied. The Greek repatriation scheme is one pilot effort in this direction.

The purpose of this initial programme is not to induce repatriation on a wholesale basis in the beginning, but rather to persuade a limited number of Greek scientists and technologists now working abroad to return under a two-year contract to participate in the nation's development efforts. During this first effort the experience and facilities of the OECD will be at hand to assist in all phases of the programming; for example, in the initial contracts with applicants for repatriation; in planning to ensure the most constructive utilisation of their individual capabilities; to encourage the further use of such persons by government, education and industry; to stimulate increased research co-operation between industry and scholars, and so forth.

The difficulties involved in such an effort are numerous, but on the basis of experience gleaned from repatriation efforts elsewhere (e.g. in India) and the interest shown in the scheme to date, the pilot programme is expected to show positive results. Responses to date from 'feelers' indicate a fairly high degree of interest, and it appears that the initial group can be selected from applicants of extremely high calibre. Whether the Greek Government will be successful in utilising the various abilities of these individuals for a lasting contribution to the development effort, in providing them with real inducements to remain in Greece, and in continuing to attract others to return in future programmes, of course, remains to be seen.

What does the programme offer the individual scientist, that he should be tempted to leave his padded, adjustable-contour desk-chair for the uncertainties of such a pioneer programme?

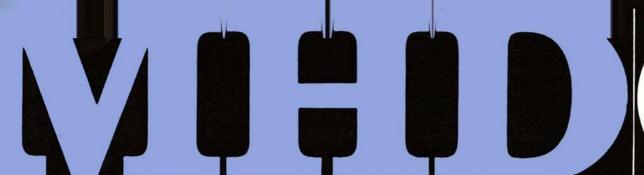
large number of those Greeks working abroad are eager to return permanently and will do so readily under the security of the trial basis which this scheme provides, its paid expenses and guaranteed two-year income, since no obligations exist beyond the period of the contract.

Others may feel permanently settled in their adopted countries and yet be tempted to consider the two-year programme from such considerations as the opportunity to renew family ties, to introduce foreign-born wives and children to Greece and Greek culture, the stimulation of professional contacts with European colleagues, the proximity to other capitals of Europe, the opportunity to study the effects of change in Greece at first-hand, the beneficial effects of climate, etc.

Some other benefits which, it is hoped, will prove tempting are the relativey higher living standards available in Athens at the salary levels provided by these contracts, the entertainment and social facilities which may have been lacking to those coming from small university communities where such advantages are often both limited and expensive, the opportunity to educate children in Greek-, English-, French-, or Germanlanguage schools, and the lower cost of medical and dental care and other services.

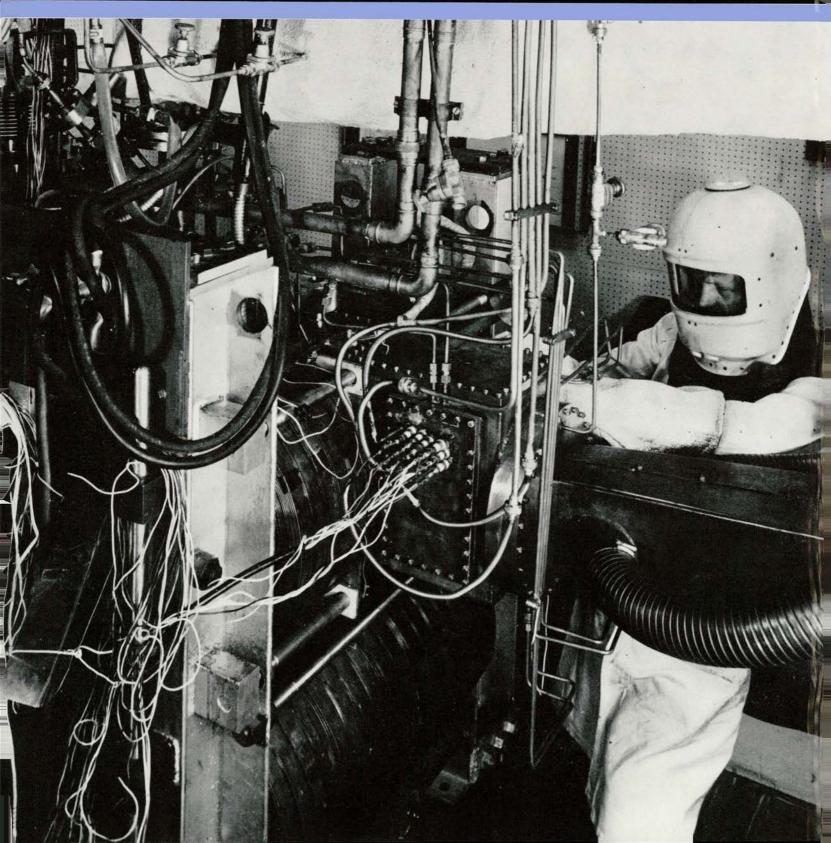
Not the least of the rewards to which an individual may look forward under this scheme will be the satisfaction of contributing something of lasting value and the pride of being one of a chosen few rather than one of an accepted many.

If the pilot programme for repatriation of scientific and technological personnel in Greece is as successful as it is hoped it will be, valuable experience will be gained which will be of service to other nations facing similar manpower shortages and having similar supplies of manpower abroad. OECD will again be prepared to disseminate the knowledge it accumulates in helping the less-developed countries as their problems of underdevelopment give way in turn to problems of development.



by
Henri B. SMETS
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ENEA

A NEW METHOD OF GENERATING ELECTRICAL POWER



HE development of the economic potential of nations — the essential counterpart of rising populations, higher standards of living, and the increasing pace of industrialisation in many countries - cannot be achieved without increased supplies of electrical power. Since such power is derived largely from the combustion of coal, lignite or oil, or from the fission of uranium, the maximum possible use must be made of these resources which exist only in limited amounts. A great effort is therefore being made to improve existing techniques and so increase the efficiency of fuel-consuming power stations. For example, the efficiency of power stations in the United Kingdom has been improved by an average of some 0.5 per cent per year over the last twenty years - thus reducing the British fuel bill by £5 million a year.

Among the new and as yet little explored possibilities for obtaining a better overall efficiency in the conversion of heat into electricity is the magnetohydrodynamic (MHD) method which, since 1958 in the United States and 1960 in Europe, has been the

subject of numerous research projects.

In view of the great potential importance of this new method, the OECD European Nuclear Energy Agency (ENEA) has, since 1961, included in its programme of work the promotion of international co-operation in the MHD field. In 1962 it became clear that the most effective first action in this particular case would be to organise a major international scientific conference, which could serve as a forum for describing and comparing the laboratory work being carried out by nuclear research establishments, universities, electricity supply under-

takings and industry.

This International Symposium on Magnetohydrodynamic Electrical Power Generation, organised by ENEA and the French Institut National des Sciences et Techniques Nucléaires, was held in Paris from 6th to 11th July 1964 under the Chairmanship of Professor F. Perrin, France's High Commissioner for Atomic Energy. It was the largest international meeting yet held in this field, in terms both of the number of communications (113 papers from 12 countries) and of the number of participants (400 people from 29 countries and international organisations). Although most current work on MHD is being done in the industrialised countries of OECD, eleven papers at the Symposium were by research workers from non-member countries such as Australia, Hungary, Poland and the USSR.

Power generation by the MHD method

The MHD method is of great interest for power generation because it should enable the efficiency of conventional power stations to be improved by almost 10 per cent, and this by the use of a system without any moving parts.

In MHD generators it is possible to use high temperatures because the mechanical stresses are reduced to a minimum, and by the laws of thermodynamics this leads to high conversion efficiencies for heat into electricity.

Principle of MHD generators

An MHD generator is a system in which a gas that has been made conducting at high temperatures converts its energy directly into electricity when it passes through a magnetic field. It consists basically of a heat-resistant duct which is located between the poles of a powerful electromagnet and has two electrodes in its walls. The electrical energy, which appears in the form of a potential difference between the electrodes, is produced by the interaction of the gas and the magnetic field.

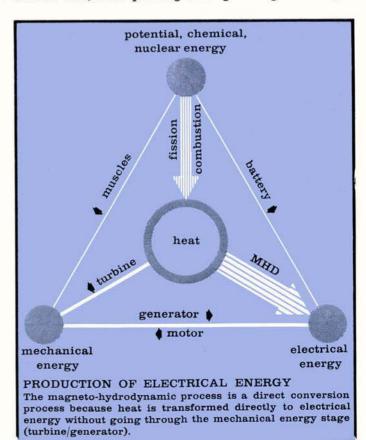
With an alternator or a dynamo the electrical energy is generated by causing an electrical conductor (the windings) to move in a circular path in the machine's magnetic field, but in an MHD generator the electrical energy comes from a conductive gas travelling at high velocity through a magnetic field. Thus an MHD generator has no moving mechanical parts, and the behaviour of the materials at high

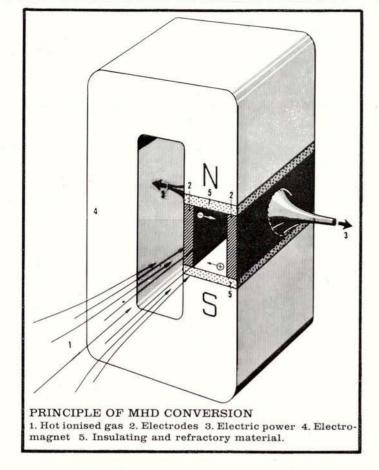
temperatures presents fewer problems.

MHD generators operate only at high temperatures (above 1,200°C) and the working gas used is air, oxygen-enriched air, argon or helium containing a small quantity of atoms of alkali metals. The generator walls and electrodes are therefore exposed to both corrosion and erosion by a very hot medium.

The intense magnetic fields employed are produced by powerful electromagnets constructed of special materials which are sometimes cooled down to the temperature of liquid nitrogen (— 200°C) or liquid helium (— 270°C).

On account of heat losses through their walls MHD generators must have a capacity of 100 MW(e) or above if they are to be economic. They may be of the open-cycle type, in which the working gas together with the combustion products is discharged to atmosphere, or of the closed-cycle type in which the gas (argon or helium) is heated from an external source and, after passing through the generator, is





subsequently cooled before recycling through the system.

The role of an MHD generator is similar to that of a turbine operating at very high temperature and driving an alternator. It does not dispense with the need for conventional steam-driven plant since the very hot gases from the MHD generator possess a large amount of energy, and for the sake of overall efficiency this must be recovered in a conventional power station.

Existing experimental units

Experimental work in the MHD field is very recent. Nevertheless, over twenty MHD test rigs have already been constructed in at least 6 countries, in order to develop the necessary techniques for building future generators. The world-wide research effort, mainly in the United States, the United Kingdom and France, is costing some \$40 million a year and involves over a thousand research workers. In view of the very encouraging results obtained in the last five years, investment in MHD research is rapidly increasing. MHD test rigs have already generated 1.5 MW of electricity during repeated 10-second runs, and 8 kW during repeated 15-minute runs.

The future of MHD

Many problems must still be resolved before it will be possible to build an MHD generator producing some hundred MW (e) and capable of operating for at least a year between overhauls. In particular, it will be necessary to develop materials capable of withstanding high temperatures for long periods. It has been proposed to construct the first prototype MHD generator towards 1973, and the first power station with MHD generators towards 1978; it is therefore essential to press ahead with a research and

development programme and to ensure satisfactory co-operation between the different research groups.

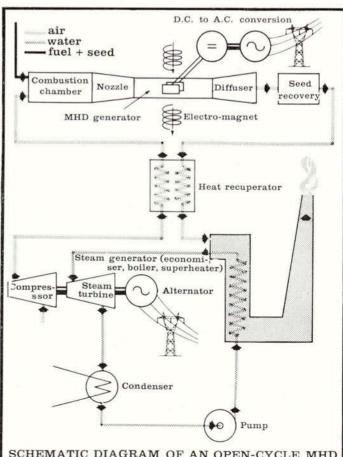
In the United States an advisory committee on new methods of power generation, set up by the Federal Power Commission, considers that by about 1980 between 2 and 5 % of installed capacity in that country, or some 17,500 MW, will be of the MHD type. A market of this magnitude justifies a considerable investment in MHD research from now onwards.

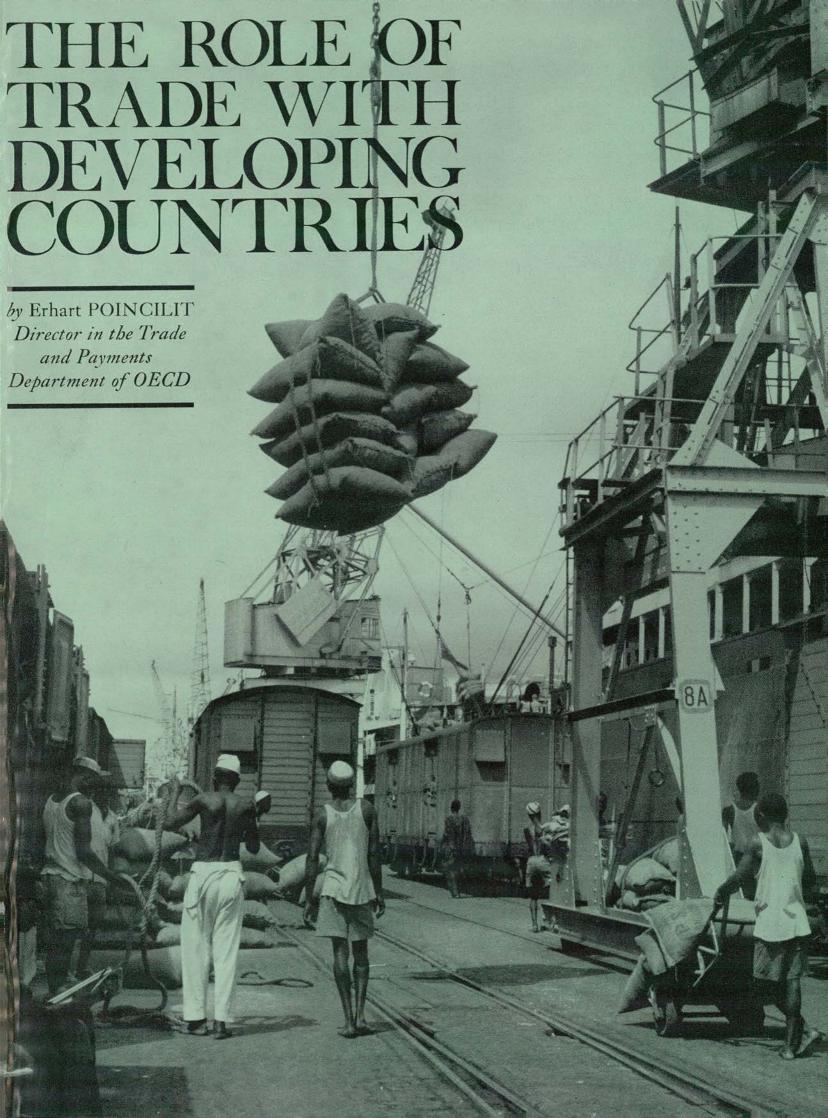
In the short term, it is probable that MHD generators will be of the open-cycle type using liquid or gaseous fuels. These will enable the efficiencies of power stations with installed capacities between 500 and 1,000 MW(e) to be increased by 5 to 15 %. In the longer term, there will be closed-cycle MHD generators which may be associated with the high-temperature nuclear reactors now being designed or in experimental operation. For example, the maximum temperature of the helium used for cooling the 20 MW OECD High-Temperature Reactor "Dragon" is 750°C, but in later versions now being studied this temperature may be as high as 1,500°C. The American 3-MW UHTREX reactor is already expected to produce gas at over 300°C in 1964.

From the information gathered during the International Symposium on Magnetohydrodynamic Electrical Power Generation, it is clear that great progress has recently been made in this research and development work, and that MHD generators hold

great promise for the future.

The existing experimental units, which do not yet produce any sizeable amounts of electricity, are only small-scale laboratory models. As soon as the remaining technological difficulties have been overcome, it will be possible to proceed with the construction of prototype MHD generators for power stations.





THE ROLE OF TRADE WITH DEVELOPING COUNTRIES

All through the spring of 1964 the representatives of 119 countries, together with 1,500 experts and hundreds of national and international civil servants, have been meeting in Geneva under United Nations auspices to consider the needs of developing countries in the matter of trade and aid, and to seek ways and means of satisfying them. Why this immense effort?

What is the importance of trade expansion for the developing countries?

Why are these problems vital to OECD and its Members?

The present article aims to give a short answer to these questions.

T has become increasingly evident in recent years that the speeding up of development is one of the imperative needs of our time, and an aim which all countries, whether developed or not, must combine to achieve. In proclaiming the 'sixties as a "Development Decade", the United Nations set a specific target for the developing countries, namely

a growth rate of 5 per cent per annum.

If they are to reach this target, most of the developing countries will have to progress much faster than they have done in the past. Within a very short time they will have to make up much of their lag behind the industrial countries. They have urgent and massive needs for the capital equipment which they cannot produce themselves and for the food which will free their populations from hunger. They cannot satisfy this combination of agricultural and industrial needs from their own resources, which can only yield an exceedingly slow increase in income per head, in view of the very rapid growth of the population. They are therefore bound to import far more goods from the industrialised countries.

There are two ways of increasing the resources of the less-developed countries so that they can pay for the additional imports they need for their development plans: their balance-of-payments deficit can be covered by greater financial aid, or it can be reduced by increasing their export earnings, in other words, by offering them wider markets. It is evident that both these methods should be used in conjunction and at the same time, since there are limits to the possible increase in financial assistance, and in any event such an increase has certain disadvantages.

The problems arising out of increased financial

assistance have already been discussed in the *OECD Observer* (No. 6, August 1963). The difficulties in the way of any substantial and lasting increase in the export earnings of developing countries are less familiar. They merit closer examination.

First, the developing countries as a whole have had little share in the expansion of world trade since the War. Thus, from 1950 to 1962, while gross world exports increased by 129 per cent, exports from the developing countries rose by 50 per cent only, and instead of being nearly one-third of gross world exports, as in 1950, they are now only one-fifth.

The expansion in world trade has mainly been accounted for by the industrialised countries, and is chiefly concentrated in their trade with each other. It is true that purchases by the industrial countries from the developing countries have not fallen off; on the contrary, they have gone up steadily, although more slowly than total imports, which means that the industrial countries are becoming less and less dependent on their traditional sources of raw material

and food imports.

To understand these trends, it must be borne in mind that, at least until now, the developing countries have been mainly producers and exporters of raw materials, and that most of them depend for their export earnings on the sale of one, two or three primary commodities. A few examples will show how specialised exports are: 76 per cent of Malayan exports consist of rubber and tin; 86 per cent of Senegal's exports consist of oil-seeds; coffee, cocoa and timber account for 93 per cent of exports from the Ivory Coast; tea and rubber for 82 per cent of exports from Ceylon; tin, lead and silver for 77 per cent of exports from Bolivia.

For various reasons, the demand for raw materials and other primary commodities expands less fast in the industrial countries than the demand for manufactures and other goods. It is therefore clear that an improvement in the export earnings of the developing countries must be sought along two lines: first, by extending the markets open to their manufactured and semi-finished products, which seem to hold the best long-term prospects of considerable expansion; secondly, by improving the market for raw materials, which still represent 90 per cent of the developing countries' exports to the world at large.

EXPORTS OF PRIMARY COMMODITIES

Exports of primary commodities are increasing comparatively slowly, both in volume and value. Thus, taking 1950 = 100, the index of the volume of exports from the less-developed countries was 156 in 1962, whereas the corresponding figure for the developed market economy countries was 212.

There are two factors which account for the relatively small expansion in the volume of exports of primary commodities; namely, technical progress, which has cut down the amount of raw materials needed to make a given product as well as increasing the use of synthetic substitutes; and the low elasticity of demand for agricultural and food products in relation to incomes, once the income level is as high as it is in the developed countries.

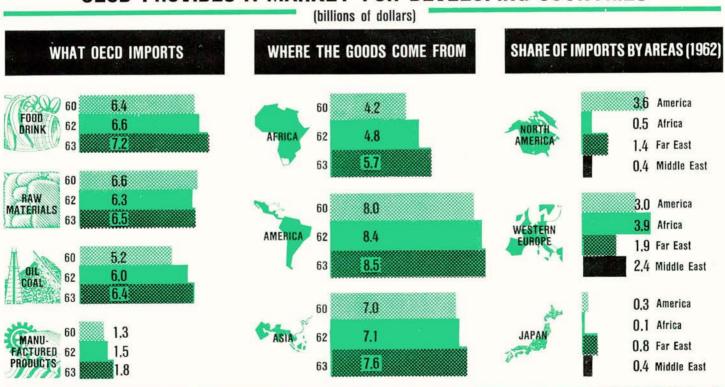
This quantitative trend coincided with an adverse movement in the prices of raw materials exported by the less-developed countries. Generally speaking, those prices have fallen steadily since the end of the Korean war, and they stood at index 94 in 1962, taking 1950 = 100. The trend appears still worse if we compare the price movement of exports from the less-developed countries with the price movement for their imports, that is, if we look at the terms of trade. From index 100 in 1950, the terms of trade in the less-developed countries declined almost without a break to index 86 in 1962. Meanwhile, the terms of trade in the developed market economy countries rose to 110. Finally, the instability of raw material prices within this general trend causes sometimes pronounced fluctuations in export earnings from year These fluctuations have an undeniably adverse effect, not only immediate, but on a longer view, since they prevent any rational planning of development.

The falling trend of prices and their instability have been aggravated by the unfortunate reactions of the producing countries to the rigidity of demand in importing countries. They have generally tried to compensate for the drop in prices by increasing the volume of production and sales, but this policy has too often had the effect of precipitating the collapse of prices. For example, Ghana just managed to stabilise its cocoa export earnings from 1954 to 1961, while the volume of its cocoa exports rose by three-

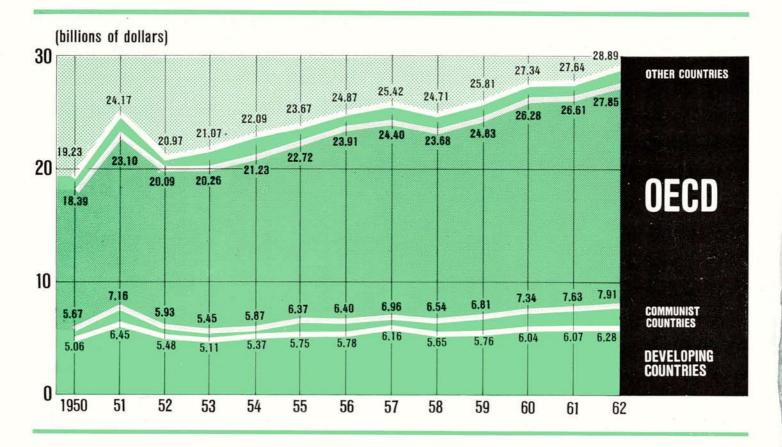
quarters

The possible remedies now being considered, especially in such international forums as the United Nations Conference on Trade and Development and

OECD PROVIDES A MARKET FOR DEVELOPING COUNTRIES



EXPORTS OF DEVELOPING COUNTRIES



the GATT, involve attacking the problem from the volume aspect, from the price aspect, or from both at once.

To enable them to increase the volume of their exports of primary commodities to the industrial countries, the less-developed countries ask, in the first place, for the elimination of all hindrances to imports (quotas and Customs duties) or to consumption (excise duties). In actual fact, there are few such obstacles in the industrial countries. Moreover, in most cases they are designed not to restrict the volume of imports but to give preference to certain suppliers (as in the case of the existing preference arrangements between the Commonwealth countries or between the Common Market and its associated African countries).

It may be wondered whether, with a few exceptions, the elimination of these obstacles would have any marked effect on the total volume of exports from the less-developed countries. At all events, any consequent increase in the earnings of the less-developed exporting countries would be wholly incommensurate with their needs.

It has also been suggested that the industrial countries might assist the expansion of exports from the developing countries by discouraging the production of substitute products and synthetics. But a policy of this kind would militate against technical progress, and is economically unjustifiable.

Some additional action would thus seem to be required, at least in the eyes of the developing countries. Such action should, in their view, be directed towards the stabilisation of primary commodity prices at a more remunerative level for the exporting countries. While the industrialised countries agree that price stabilisation would be to the general advantage, opinion is more divided about the advisability of raising the average price level above certain limits. There is some reason to fear that a policy aimed at the systematic upward revision of primary commodity prices might, on the one hand, encourage production to expand faster than consumption, and thus create surpluses which would upset the market balance, and on the other hand, might tend to reduce consumption by stimulating the use of substitute or synthetic To attenuate this risk, most observers agree that solutions should be worked out product by product, in order to adapt them as faithfully as possible to the peculiarities of each market.

One method of securing stable, remunerative prices, which has already been tried out for certain commodities with encouraging results, is the International Commodity Agreement (e.g. on coffee, sugar, cereals, tin).

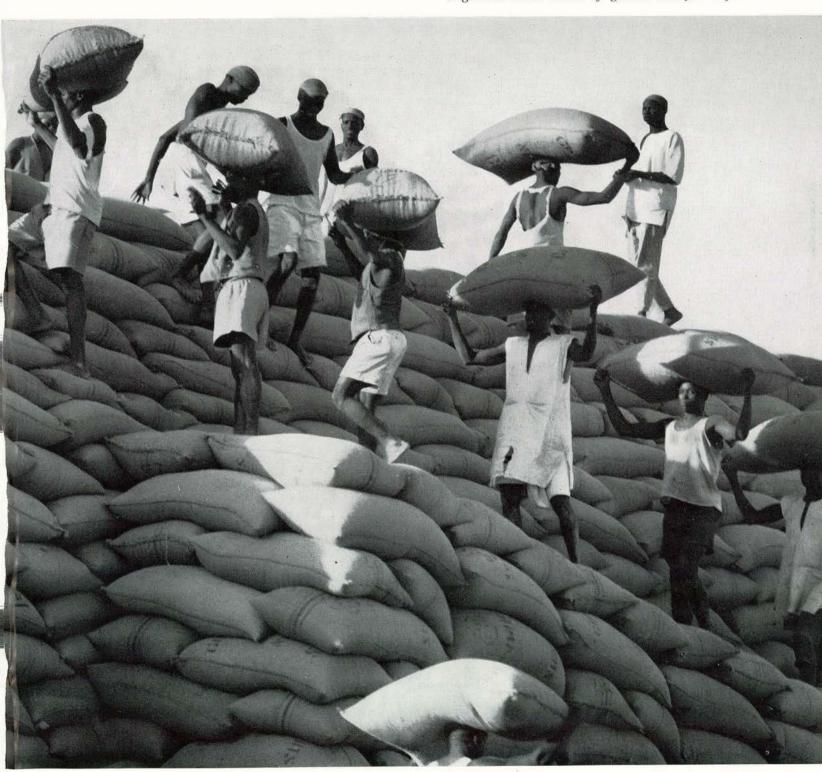
This method, with certain improvements, has many supporters and it has been suggested that it should be extended to the largest possible range of commodities.

France, however, advocates another method which is not in conflict with the first, but could, in certain cases, supplement or replace it. The method advocated is a variable import levy charged by the industrial countries, equal to the difference between the actual market price and a price agreed to afford a fair profit. The proceeds would be refunded to the less-developed exporting countries, but not to the producers themselves. By this means, the prices of primary commodities exported by the developing countries would be raised at the expense of consumers

in the wealthier countries. The gap between the inadequate actual prices and the agreed prices might also be closed by other methods at the expense of the taxpayer.

The partisans of genuine free trade are shocked by the price manipulation involved in both these methods. In any event, it is very difficult to negotiate a price level, as account has to be taken of the interests of producers and consumers, as well as of the risks of over-production and substitution. Some people think that these difficulties would consid-

Nigerians stack sacks of ground-nuts for export



erably limit the number of commodities for which commodity agreements might be negotiable.

It has also been suggested that import targets might be set in the developed countries, both the Western countries with a market economy and the countries of the Sino-Soviet group with a planned economy. At the same time, the developed countries would undertake to apply policies consistent with the targets set. While such a method may appear compatible with current procedures in the countries of the Soviet bloc (subject to their agreement to orientate their planning accordingly), it seems harder to reconcile with the habits and principles of the developed countries in the Western group, which can only indirectly influence the pattern of consumption and importers' decisions, and are not, therefore, able to make firm commitments to import a specific quantity or value of any given primary commodity.

EXPANSION OF EXPORTS OF SEMI-FINISHED AND MANUFACTURED PRODUCTS FROM DEVELOPING COUNTRIES

The economic structure of the less-developed countries has made them traditional customers for manufactured products. The latter still represent only 10 per cent of their exports, or 14 per cent if base metals are included. OECD Member countries absorb roughly the same proportion of these manufactured goods as of the exports of primary commodities — over 60 per cent. It may be noted in passing that this level of imports amounts to only 1 per cent of the output of manufactured goods in Member countries.

It being agreed that in the long run the expansion of exports from developing countries will depend far more on their sales of industrial products than on their sales of raw materials, the first problem is to develop their industrial production capacity, either by creating new industries, or by developing existing industries, in the light of export prospects and the need to reach a satisfactory competitive standard; the second problem, which is linked with the first, is to create conditions in which export markets can be found for these products. The home market in any less-developed country is generally too small to support any rational economic industrial structure.

The markets should be explored in other developing countries (to introduce some rational division of labour, especially on regional lines), as well as in the developed countries, which have and long will have the biggest capacity for absorbing industrial, manufactured or semi-finished goods.

The first thing that the developing countries ask is that the Western countries should lift the remaining quantitative and tariff restrictions on imports of industrial products that they might export. Evoking the present low trade figures, they point out that a substantial increase in OECD imports of

manufactured goods would still represent only a minute percentage of the consumption of such goods in the OECD area, and could not, therefore, disrupt the market in those countries, while it would afford a very welcome addition to the income of the exporting countries.

The lifting of import restrictions would, however, mean certain difficulties for the industrialised countries, while probably being of somewhat illusory advantage to the less-developed countries as a whole. The problem is, in fact, a complicated one, mainly for two reasons.

First, because competitive power varies with the country and the product. For some specific product, an under-developed country may be in a very strong competitive position. By allowing unrestricted imports of this product, an industrialised country may harm one of its own industries, or even its trading partners' industries, without any real advantage for the less-developed countries as a whole. Herein lies the risk of market disruption.

Secondly, under the most-favoured-nation clause, the lifting of restrictions would be extended to all trading partners, and thus to the other industrial countries, so that, insofar as they were more competitive, they would be the real ones to benefit from liberalisation. Nevertheless, this demand for the lifting of restrictions is fully in line with the aim of trade liberalisation (especially through abatement of Customs duties) adopted by the industrial countries, the Kennedy Round being the latest example. It was decided at the outset of the GATT negotiations that the interests of the less-developed countries should be borne in mind, and that they should not be asked to grant full reciprocity. Because, however, the less-developed countries can only look for relatively small advantages from a general abatement of duties, other suggestions have been advanced for solving the problem of exports of manufactured goods.

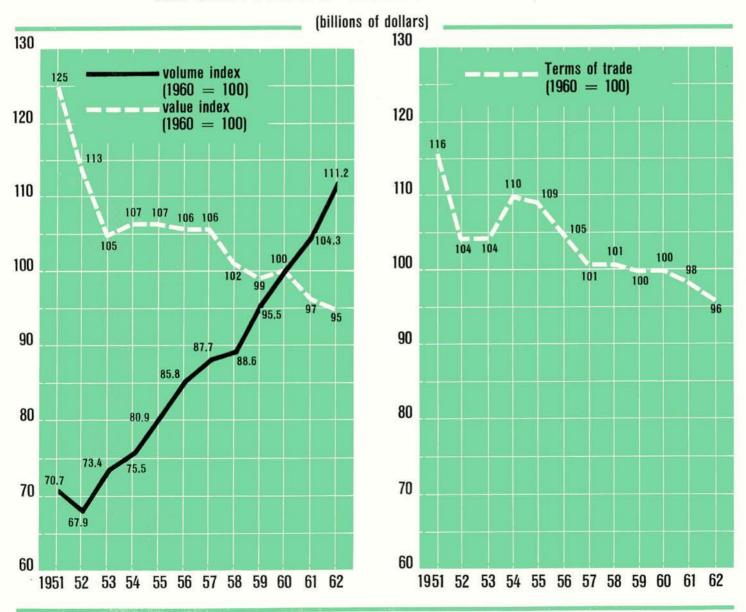
One of the ideas most frequently put forward is that the industrialised countries should grant preferential arrangements for imports of manufactured goods from less-developed countries: in other words, lower Customs duties would be applied to such countries than to industrialised countries. This would give exporters from the less-developed countries a temporary advantage, which would enable them to withstand competition from the more advanced countries in Western markets during the difficult take-off phase. There are various possibilities, ranging from the total abolition of duties in respect of certain countries to tariff quotas (duty-free or at a lower rate), and preferential tariff cuts. The preference scheme does not meet with unanimous approval. Certain countries dislike the idea of any such infringement of the most-favoured-nation principle. Meanwhile, two possible forms of preferential system are under discussion. Should it be "multilateral and automatic", that is, a system in which all industrial countries would grant preference for the same products to all less developed countries? should it, as advocated by M. Brasseur, Belgian Minister of Foreign Trade, be a more selective system, providing for the whole gamut of preferences that vary with the products, the conceding countries and the benefiting countries?

The first system would encroach less on the mostfavoured-nation clause, but as it would make no allowance for differences of situation, it may be wondered whether it might not prove less effective for the less-competitive developing countries. It might, in addition, aggravate the risk of market disruption, as certain less-developed countries which are already highly competitive in some branches of industry would benefit like the rest. However, the developing countries themselves are, on the whole, in favour of a general, uniform preference scheme, under which they would all benefit from the same preference for exports to all industrial countries. The question is further complicated by the preference schemes already existing: the developing countries affected might agree to incorporate them in a more general scheme, provided that they received adequate compensation for the loss of advantages they now enjoy.

OECD AND THE FOREIGN TRADE OF DEVELOPING COUNTRIES

OECD has a preponderant share in both the import and export trade of the less-developed countries. Whereas the planned economy countries, led by the USSR, absorb less than 6 per cent of exports from developing countries — a reflection of the policy of self-sufficiency so far generally followed by that group — the OECD countries buy over ten times as much, and thus represent more than two-thirds of the less-developed countries' foreign market (69 per cent in 1962). In the other direction, about 70 per cent of the developing countries' imports come from the OECD countries. The less-developed countries' trade with each other represents less than a quarter

EXPORTS F.O.B. OF DEVELOPING COUNTRIES



of their total exports. The proportion has not increased for ten years or so, and has even fallen

slightly.

While not underestimating the possibilities of expansion of the less-developed countries' trade with each other and with the Soviet bloc, the fact remains that the OECD area is the most important trading (and financial) partner for the developing countries. Any substantial rise in the export earnings of developing countries will have to come from a corresponding increase in imports into the OECD area. The Member countries will therefore bear a major responsibility for the success or failure of any efforts made to improve the trading position of the developing countries.

From 1950 to 1962, the value of exports from the less-developed countries to the OECD area rose by 56 per cent, from \$ 12.7 to \$ 19.9 billion. In the same period, however, the OECD countries' total imports rose by 135 per cent. The largest increase occurred in the Western countries' trade with each other, which nearly trebled during the period.

The contrast between the speedy growth of trade between the industrial countries and the relatively slow increase in their imports from less-developed countries reflects what seems to be an irreversible trend: trade in manufactured goods is steadily gaining over trade in raw materials and foodstuffs. Trade increased faster in the first group than in the others, both in volume and in unit value.

The same trend is found in the OECD Member countries' imports from developing countries: their purchases of industrial goods rose much faster than their other purchases. Thus, during the period 1953-1961, for which detailed statistics are available, while all imports rose by 28 per cent, there was an increase of 130 per cent for manufactured goods, compared with only 24 per cent for primary commodities. Yet the first group is still less than one-tenth the size of the second. The less-developed countries which have so far achieved the biggest expansion in sales of industrial products to the OECD area are such Asiatic countries as India, Pakistan and Hong Kong.

In the case of basic commodities, the relatively small increase in sales to OECD countries in recent years is the net result of trends that vary widely

with the products.

For instance, the OECD countries' imports in the food, tea, coffee and cocoa group, while fluctuating considerably from year to year, showed an increase of no more than 7 per cent between 1953 and 1961. This slight rise in value is not commensurate with the increase of more than 25 per cent in volume during the same period, which clearly indicates the price fall that occurred in this group, especially for such products as coffee, cocoa and sugar.

Again, OECD imports of vegetable and animal raw materials have risen by only a negligible amount over the last ten years, the higher purchases of rubber and timber being offset by reduced demand

for textile fibres, oils and oilseeds.

On the other hand, imports of mineral raw materials, such as fertilisers and ores, have risen fairly steadily, as have imports of base metals. Fuel purchases, with oil preponderating, are an exception.

They more than doubled between 1953 and 1961, while their prices remained fairly stable. Oil exports have therefore proved a highly profitable source of income for the few less-developed countries in a position to benefit, although, in view of the structure of the oil industry, the accounting revenue drawn from exports is not always exclusively used for the development of the producing countries.



OECD, as an Organisation, cannot remain indifferent to the formidable trade policy problems confronting its Members, individually and collectively, in their relations with the developing countries. Those problems are, admittedly, being discussed in other quarters. Reference has already been made to the recent United Nations Conference on Trade and Development, and the Kennedy Round of negotiations in GATT. In Organisations of this type, which include both the industrial and less-developed countries, negotiations can be successfully concluded, and final decisions taken. But as the Geneva Trade Conference has shown, much further study and analysis is needed before practical solutions can be found for the difficulties of the developing countries, and the balanced expansion of world trade.

In this preparatory phase, OECD can and must play a leading part, as it has already done for more than a year past. In November 1962, the Council of the Organisation adopted an important Resolution on the co-ordination of trade and aid policy. It recommended that Member countries, "by cooperation in the Organisation, seek to formulate concerted policies which are designed to further the economic development of the less-developed countries, and which take full account of the interdependence of trade and aid". This Resolution was the springboard for vigorous action by the Trade Committee and other OECD bodies. During the past year, they have helped Member countries to prepare for the Geneva Conference by analysing the matters for discussion, comparing the solutions proposed in different quarters to meet the needs of the lessdeveloped countries, and trying to clarify and reconcile the views of Member countries on the most important problems; study and discussion have centred on such subjects as the stabilisation and improvement of the markets for primary commodities, the elimination of obstacles to imports, and the form and effects of any preference to be granted to less-developed countries.

The Geneva Conference in turn provided a better understanding of the trade and aid policy problems facing the Western countries. By drawing the attention of the world to the urgency of practical action to second the efforts of the developing countries, it strengthened the necessity of positive, concerted action by the OECD countries. The Organisation will continue to initiate and co-ordinate such action with redoubled energy, to avert the twofold danger, political and economic, of tardy decisions and of action out of keeping with the common aims of

Member countries.

THE SHIPPING CONFERENCE

he advantage to the liner companies of avoiding cut-throat competition by standardising their rates of freight is obvious. But the system is equally advantageous to all regular exporters and importers, who need frequency and reliability of shipping services and stability of rates in order to be able to plan production and deliveries. Today there are well over 200 liner conferences. No important general cargo seaborne trade between any two countries of the world is not served by a liner conference.



SYSTEM under international discussion

Questions arising from the operations and freight rates of "shipping conferences" - voluntary associations of cargo-liner companies operating in a particular trade or trades - are at this time the subject of international discussions, both outside and within OECD, in which Member governments hold very divergent positions. The OECD Observer has asked a well-known shipping expert, Mr Robin Brown, to give an impartial exposé of the questions at issue. His paper does not in any way commit the OECD.

Whilst there is thus a rate-setting agreement between the member lines of each conference, there is on the other hand very keen competition between the individual lines within each conference to offer the most attractive and efficient service. The agreement on rates however leads to many complaints from shippers against conference members, for example when some shipowner who is not a member of the conference concerned quotes a "cut" rate for a particular voyage which it suits him to perform; but these occasional "opportunities" are no substitute for the security and continuity offered by the conference system. Another source of complaint is when shippers feel that the freight rate is pricing their particular export or import out of world markets. Still another complaint is that conferences are monopolistic and unduly restrictive in their attitude to fresh applications for membership.

In spite of problems of this nature, all the governments concerned in the present negociations support the conference system generally. Several special commissions on both sides of the Atlantic have from time to time investigated the system and its activities (there have been five such investigations in the last 50 years by the Government of the United States alone); and whilst it can be described as a cartel system, it has invariably been approved by these commissions, as performing a service which could not be achieved in any other way. For example, conferences are exempted from the anti-monopoly legislation in the United States, where they receive special treatment, and in the United Kingdom. The conference system is also supported by the vast majority of the principal exporters and importers in all the countries concerned.

Whilst however the policy of the other maritime country Members of OECD has always been that conferences, being purely commercial organisations, performing a service entirely international in character, can best operate in conditions of freedom from governmental interference (with certain reservations on the part of the Greek Government), the shipping legislation of the United States has always required the maintenance of a degree of control and general supervision over the operations of conferences. Conference agreements in United States trades are always subject to approval by the United States Government. Until recent years, this control has not been too onerous.

One of the ways in which liner conferences ensure

continuity of service is by what is known as the "contract" or "dual-rate" system. This offers a lower rate (usually about 10 %) to those clients who agree to confine their shipments to vessels belonging to the conference lines. This again has always been accepted as reasonable on both sides of the Atlantic.

However, in 1958, a United States shipping company (outside the conferences) obtained a ruling of the United States Supreme Court which had the effect of making the "dual-rate" system illegal. The impasse thus created was covered by interim legislation passed by Congress authorising the continuance of the system pending a detailed enquiry

into its general working.

After long investigation by several Congressional Committees, a Bill was introduced into the United States Congress in 1961, (known as the Bonner Bill, after its proposer), the purpose of which was to legalise the "dual-rate" system. This was however conditioned by the requirement of considerably stricter control by the responsible United States Government agency (the Federal Maritime Commission) than had hitherto been demanded — extending in certain circumstances to the eventual possibility of interference with the day-to-day operations of the conferences, including rate control. The object was to ensure that the foreign trade of the United States was not being hampered or prejudiced by conference practices.

Following the passing of the Bonner Bill (now Public Law 87/346), the Federal Maritime Commission instituted intensive enquiries into the workings of the liner conferences serving US ports. In the

course of these they found that :

certain malpractices existed in connection with the operations of some members of a few confer-

rates for the same commodities in a number of outbound US trades were higher than in the inbound trades.

The Federal Maritime Commission consider that the Bonner Act requires them not only to make full investigations into these matters, but also to maintain a closer and stricter control over the operations of the conferences generally, in the interest of the foreign trade of the United States, as well as to ensure protection of the interests of shippers.

Apart from action in the particular cases where malpractices had specifically been discovered, the proposals of the Federal Maritime Commission (FMC) have fallen into three main channels:

In the first place conferences are required to institute systems of self-policing against malpractices, and these systems are subject to detailed supervision and approval by the FMC.

 Secondly, the FMC are asking for details of ratesetting by conferences and rates for certain cargoes; and this might involve production of many documents

located outside the United States.

 Thirdly, the FMC have evolved a standard form of contract which must be substituted by all conference members for existing contracts with their clients. This includes contracts between shipowners and shippers outside the United States, in cases where trade is to or from the United States.

Only on the basis of this standard form of contract will dual rates be approved by the FMC. The reason for this is that the FMC consider that shippers' interests are not adequately secured by many of the existing forms of contracts between conferences and shippers. The new FMC form endeavours to give shippers a much greater degree of protection.

The attitude of the Fourteen OECD countries chiefly involved to the FMC's proposals is as follows:

On the subject of malpractices they maintain that self-policing arrangements by the conferences should be left entirely to the conferences themselves, without any interference or attempt at control by governments or governmental agencies. Shippers' Councils (representing the importers and exporters) already



A TYPICAL SHIPPING CONFERENCE

The Outward Continental North Pacific Freight Conference covers freight traffic from Scandinavian, Baltic, German, Dutch, Belgian and French Atlantic ports to U.S. and Canadian Pacific Coast ports, and to Hawaii, with transhipment at Los Angeles or San Francisco.

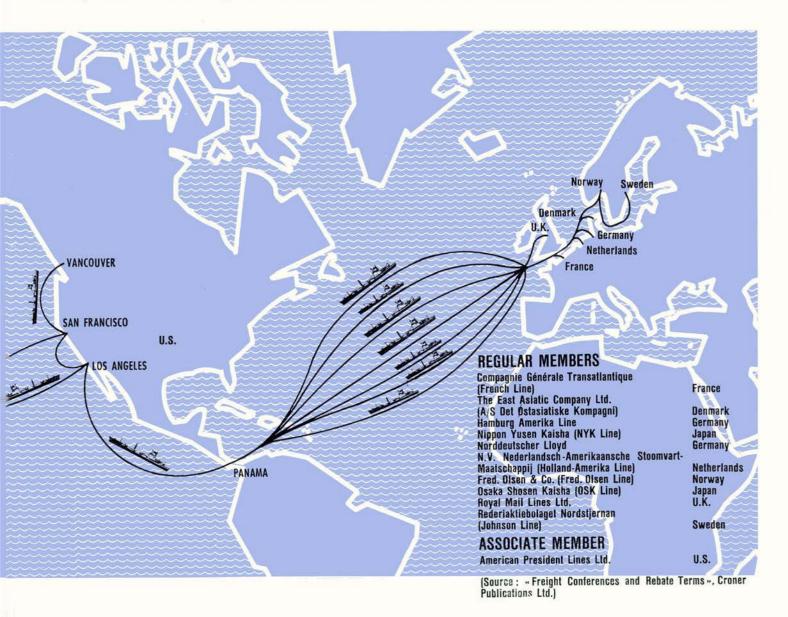
exist in a number of European countries, and others are being instituted. These negotiate, with the full authority of their members, with the shipping conferences. This is regarded by the Fourteen as the best way of dealing with malpractices and also with complaints about freight rates, which are purely commercial matters and best handled through commercial channels. The Fourteen advocate the extension of the system of shippers' councils to all other parts of the world. The recent FMC action has certainly stimulated conferences' self-policing proposals; but shippers' councils are apparently incompatible with the anti-trust laws in the United States.

The Fourteen maintain that the FMC's demand, in connection with their enquiry into rates, for documents located in other countries is contrary to international law and international comity; and that if other states adopted the same unilateral approach to a problem of this kind, the result could only be chaos. Secondly the Fourteen maintain that there is no substance in the contention that rate differentials in the US export and import trades are actually harmful to US exports. In most of the

exported from the United States. Nevertheless, in the view of the writer, conferences have not proved their point by cancelling the quotations in the cases where they are said to be merely "paper" rates.

Thirdly, the Fourteen maintain that the FMC order that conference members should accept their standard form of contract is again an attempt to dictate unilaterally to the nationals of other countries and to prescribe the form of contract to be adopted between shippers and shipowners of those countries acting freely in the conduct of their business.

In addition to diplomatic representations which have been and are continuing to be made in Washington by the representatives of these principal maritime



cases where there is a substantial difference in the rates for the same commodities, it is contended that this is because in one of the two directions the rate is a "nominal" or "paper" rate, i.e., a rate quoted for particular types of cargo which in fact are seldom or never carried in the particular trade. It stands to reason that there are not many commodities which are both imported into the United States and

country Members of OECD, the Organisation has been asked by these Members to use its good offices in connection with certain of the FMC proposals dealing with freight rates. Discussions with the representatives of the FMC have already taken place in Paris and are continuing. Some progress has been made, and it is hoped that eventually a satisfactory solution will be arrived at.

ADAPTATION OF SMALL AND MEDIUM-SIZED FIRMS TO THE LIBERALISATION OF TRADE

n export marketing group consists of two or more manufacturers who, to a varying extent, voluntarily pool their export activities in order to strengthen their market positions abroad. The firms thus acting together remain financially and legally independent, but the export functions, previously performed individually, are combined and centralised. Such cooperation facilitates the marketing endeavours at lower cost, with more highly qualified personnel, on a wider basis and with more success.

The marketing group method leaves room for extensive variation, and may be used by manufacturers belonging to widely dissimilar sectors of industry. Marketing groups have operated successfully for several years on behalf of manufacturers of motor cycles, bicycles and bicycle parts in France, industrial art products in the Netherlands, glass and jewellery in Austria and textile furnishings in Denmark, to name but a few.

Apart from this diversity, experience has shown the general lines on which marketing groups should be run to ensure success. Many attempts have in fact failed, mainly owing to lack of proper co-operation, inadequate organisation and planning, and defects in the structure and composition of the groups.

On the other hand, information obtained from the managers of a number of such groups shows which methods are the best to apply. Thus, the most appropriate form of organisation seems to be often the limited co-operative society; the highest standard of efficiency is obtained by groups comprising 10 to 20 companies; the products of the associated firms should be of approxim-

ately equivalent quality; the articles and rules of the association should specify the scope and financial terms of co-operation and clearly define the rights and obligations of individual members; the withdrawal of an associate should be subject to reasonable notice; in determining the duration of the association, allowance should be made for the relatively long initial period yielding no return on the investment.

Before it begins to operate, the export group should make an exhaustive market survey. This type of work can be delegated, as is done by the Danish textile furnishings group, to a trade association possessing the necessary facilities. At the same time, several group managers claim that each member of a group must keep in contact with the export market for his products, as he then acquires a better understanding of the fluctuations and marketing difficulties associated with export sales. According to these managers, information should primarily be based on material derived from close co-operation between the group's head-quarters and its marketing organisation abroad.

Communication of any relevant information to all members of a group by the foreign distributor should assist them in adapting their products and changing the group's export policy. Products sometimes have to be * * *

One of the consequences of the present general movement towards the liberalisation of international trade and the widening of markets is the necessity for producers to sell their products in foreign markets. The degree of adjustment required creates particularly heavy problems for small and medium-sized firms. To help them, OECD has recently published a booklet which, instead of offering a theoretical solution, provides a practical method that has already been applied successfully in several countries. The booklet is entitled Export marketing groups for small and medium-sized firms and was compiled by a team of experts of the Research Institute for Foreign Trade at the Copenhagen School of Economics and Business Administration.



specially adjusted to individual markets, and it may occasionally pay to sell only part of the group's line in a particular market.

An export group can obtain information on markets of interest from many other sources, but such information will have to be adapted if its purpose is to assess the marketing possibilities of the group's special line of products. OECD publications such as Market Research Methods in Europe, Exploration of New Markets by Small and Medium-Sized Firms and The Role of Trade Associations in the Study of Markets give some indication of how such studies are planned and carried out.

he marketing strategy of an export group is devised from a set of data which include the range of products to be selected for export, quality, prices, the group's collective trade name and advertising, as well as order booking, shipping and debt collection, and the organisation of export activities.

Financing an export group requires careful handling. The planning of investment, which is largely confined to working capital, is very important and experience shows that marketing groups have frequently come to grief through having overestimated the funds available or underestimated the capital needed for the amount of work intended. The manager of the Belgian group

points out that a group should not create for itself a heavy financial burden so long as results, in terms of export orders, are below a satisfactory level.

Experience has shown that the financial contribution of each member of the group should not be too small, even when there are good prospects of raising funds from outside sources. Only by making fairly substantial contributions will members feel actively committed to the co-operative venture and so participate with the necessary eagerness in solving joint problems. Another advantage of substantial contributions is that firms who are not prepared to make the financial sacrifice required in order to build up an export trade are discouraged from entering the group.

There remains the question of apportioning contributions. In most cases the participating firms differ so widely that an equal apportionment of payments is impracticable. A possible solution would of course be to use estimated future sales by individual members through the group as a basis, but it will usually prove difficult to agree on such estimates. Hence in practice largely different methods of apportionment have been used, for example, by reference to the number of persons employed (the system used by the Belgian and Danish groups), the amount of wages and salaries paid (the method of a Danish group exporting footwear), or by special technical criteria such as the number of embroidery machines, looms or spindles (a scheme often resorted to by export groups in the textiles industry), sales up to the time the group was set up, or a combination of these or similar (Continued on page 32) factors.

Continued from page 3

Example of Adjustment of Members' Capital Contributions (in dollars)

A 10 2 B 35 7 C 80 16 D 50 10 E 5 1 F 20 4	Initial capital f			Expor	t group's	sales over 5	5 years		Final contribution of capital
B 35 7 C 80 16 D 50 10 E 5 1 F 20 4	(\$ 200 per employee)	er	1st year	2nd year	3rd year	4th year	5th year	Total	(2.5% of 5 years sales)
C 80 16 D 50 10 E 5 1 F 20 4	2,000		0	15,000	18,000	25,000	35,000	93,000	2,325
D 50 10 E 5 1 F 20 4	7,000		20,000	15,000	12,000	20,000	30,000	97,000	2,425
E 5 1 F 20 4	16,000		20,000	35,000	60,000	120,000	200,000	435,000	10,875
F 20 4	10,000		7,000	45,000	110,000	130,000	170,000	462,000	11,550
	1,000		35,000	45,000	45,000	50,000	60,000	235,000	5,875
G 100 20	4,000		60,000	80,000	120,000	90,000	70,000	420,000	10,500
	20,000		28,000	75,000	125,000	220,000	210,000	658,000	16,450
OTAL 300 60	60,000	L	170,000	310,000	490,000	655,000	775,000	2,400,000	60,000

f for practical reasons the apportionment of capital contributions was initially based on the number of persons employed or some other production figure, it may be more closely aligned with export sales by increasing the fee on exports for a transitional period. The attached table gives an example of how this might be done. The original amount (\$60,000 in this case) contributed on the basis of numbers of persons employed can be adjusted over a five-year period by means of a special 2.5 % export commission. The initial contributions may be repaid successively to members at the end of each accounting year, the amount being distributed among members in proportion to their original contributions (no allowance has been made in this example for interest on the capital contributed).

In an export marketing group, the capital contribution will often determine the extent of a member's influence on group policy; experiences hows that it is more reasonable to differentiate on the basis of exports effected through the group. If the group consists exclusively of small and medium-sized firms, it is often expedient to grant each group member only one vote at general meetings. Such principles are easier to apply if interest is payable on the capital contributions.

The main difficulty in financing is in fact the tendency of member firms to regard their financial contributions during the first period of the group's existence not as a long-term investment but as costs for which they expect a quick pay-off from export returns.

Yet they should realise that the launching of such a venture amounts to founding an entirely new business. Investment for market research, travel abroad, setting up an office, building up goodwill and opening up new markets is a down-payment towards success, and can only yield returns in the long-term. It is the price which small and medium-sized firms must pay today in order, ultimately, to keep going — just as any other business enterprise has to invest in the future.

STANDARDISATION AS A HELP TO INTERNATIONAL TRADE

nternational trade has a great deal to gain from the standardisation of products. An importer is encouraged to increase his purchases if he is certain of receiving goods of known quality which exactly meet his customers' needs and which have been thoroughly inspected before despatch. OECD has taken the initiative in this connection, particularly in the case of fruit and vegetables, seed, livestock and meat and agricultural tractors. The European Economic Commission (EEC) in Brussels is very interested in this subject of standards and in this connection very close co-operation has been established between the Secretariats of OECD and EEC. Similar co-operation exists with FAO who are also interested in international standards.

An existing international agreement grouping thirteen Member countries of OECD and Israel covers nine species of fruit and eleven species of vegetables. In exporting such produce to other Member countries, these countries in joining the scheme have undertaken to observe standards defining the nature and quality of the goods, so that the purchaser has no unpleasant surprises. This agreement is known as the "OECD Scheme for the Application of International Standards for Fruit and Vegetables". It provides for inspection in the exporting country under government control.

The Scheme was introduced in February 1962 with a view to the rational organisation of a market where the products are of a highly perishable nature and problems of delivery and marketing arise every day.

In 1954 the Economic Commission for Europe, a United Nations regional agency of which both Western and Eastern European countries are members, promulgated a Protocol laying down principles for the international standardisation of fruit and vegetables. This Commission may now be regarded as the legislative body for standards, the OECD Scheme being the executive body for Member countries, charged with the harmonised application of the standards by the official inspection authorities and by the trade.

The authorities responsible for standardisation and its control in the countries concerned meet every year and report to the OECD Committee for Agriculture. If joint measures seem necessary the Committee for Agriculture makes any recommendations it thinks fit to the Council of the Organisation, which takes the corresponding Decisions. An advisory group set up at the annual meeting is responsible for advising the Secretariat on the execution of the Scheme and for preparing the annual meetings of representatives of the respon-

sible authorities at the national level. Finally, provision is made for calling in the help of experts on various practical activities.

The Scheme is now being extended. In addition to the standardisation of new products, other fresh developments are contemplated such as interpreting existing standards by means of brochures determining the exact characteristics of produce for inclusion in each category under the standards (appearance, faults, ripeness, size, presentation, etc.); experiments, research, studies and consultation aimed at supplementing the product standards by packaging standards: possible improvements to existing standards; studying and testing new standards for produce consumed fresh or frozen.

Another set of standards initiated by OECD is the "Scheme for the Varietal Certification of Herbage Seed moving in International Trade". This Scheme ensures the increasingly high quality of consignments. Tonnages of certified seed are increasing from year to year (20.2 per cent from 1961 to 1962). Other cultivars (varieties) of herbage seed are to be included in the Scheme and similar schemes are being prepared for other types of seed (cereals and sugar beet).

The "OEEC Standard Code and Test Bulletin for Agricultural Tractors" was introduced in 1959 and is now applied in all the European Member countries. Forty-five models of tractors have so far been tested under this Code.

In the case of livestock and meat products, the Organisation aims to arrive at a Charter defining a set of minimum sanitary regulations enabling international trade in these products to flow more freely, and to prepare an "International System for the Identification of Beef, Veal and Pork Carcasses".

Two meetings of experts were held in Paris in 1963 to discuss sanitary guarantees against epizootic, enzootic and parasitic diseases of slaughter animals and sanitary guarantees in international trade of fresh meat in OECD countries. Meetings of experts on this question will be held in 1964 before an international working conference of those responsible at the national level is called to agree to appropriate conventions for OECD.

A meeting of experts was held in Paris in 1963 to discuss proposals for an international system for the identification of beef, veal and pork carcasses and certain questions connected with the application of some of the criteria proposed. It is contemplated that other meetings of experts should be held before final proposals are put forward to the OECD Council for a scheme of this kind.

PROGRESS OF THE SCHEMES 20th February 1962: Council Decision establishing ar OECD Scheme for the Applica tion of International Standards for Fruit and Vegetables. Objec tive: common interpretation o standards and harmonisation o control. 31st July 1962 : Council Decision providing fo the extension of the Scheme to non-member countries. 30th May 1958 : Council Decision establishing ar OEEC Scheme for the Varieta Certification of Herbage Seed moving in International Trade Objective: to establish minimun requirements for varietal purity of herbage seed (clover and grass) moving in internationa trade. 30th January 1962 : Council Decision amending the original Decision to allow the admission into the Scheme o those non-member countries o OECD which are members of the Food and Agriculture Organisa tion. 21st April 1959 : Council Decision establishing ar OEEC Standard Code and Tes Bulletin for Agricultural Tractors moving in International Trade Objective: to test tractors in alcountries participating in the Code according to an internationally agreed procedure.

COUNTRIES ARTICIPATING	PRODUCE CONCERNED	RESULTS	WORK IN PROGRESS		
egmber countries: -lgium, Denmark, ance, Germany, eece, Italy, xembourg, therlands, Portugal, itzerland, Spain, rkey, United Kingdom. n-member country ael (Council Resolun of 30th July 1963). servers: stria, Canada, land, United States.	Council Decision of 20th February 1962: Apples and pears Tomatoes Cauliflowers Onions Lettuces, curled-leaved endives and broad-leaved (batavian) endives Peaches, apricots and plums Council Decision of 17th September 1963: Citrus fruit Artichokes Cherries Strawberries Witloof chicory Spinach Table grapes Shelling peas Beans	Interpretation of standards 1962: Explanatory booklet no 47, standards for apples and pears. 1963: Explanatory booklet no 54, standards for tomatoes, cauliflowers, salad and peaches. 1964: Explanatory booklet no 64, standards for table grapes, apricots, plums and onions (in the press); in preparation, explanatory booklet for citrus fruit and cherries. Harmonisation of control 1963: Council Decision of 30th July establishing with effect from 1st September 1963, a control certificate applicable to trade in the products covered by the Scheme.	Standardisation of packaging: there will be a supplement to brochure no 47 in the form of recommendations concerning types of packaging to be used for apples and pears. Preparation of new standards (in liaison with the Economic Commission for Europe in Geneva and the European Economic Community in Brussels) for: Early and food potatoes Carrots Asparagus Headed cabbages		
twenty countries: untry with special tus: goslavia. n-member untries: public of South ica, Republic of prus.	542 varieties of leguminous seed (including lucerne, purple clover and white clover) and grass seed (including dactylis, English ryegrass and Italian ryegrass).	Certified seed Herbage seed (legumes and grasses) certified under the Scheme amounted to 9,458,097 kg in 1962. The area of crops eligible for certification increased by 32 per cent from 1962 to 1963 (from 72,392 to 95,747 ha). Eligible cultivars (varieties) Documentation in Food and Agriculture n° 59 listing the cultivars (varieties) eligible for certification under the OECD Herbage Seed Scheme.	Preparation of certification schemes for cereal and sugar beet seed. Preliminary work on the preparation of certification schemes for forest tree seed and plants moving in international trade.		
countries; canada de the United States cepted. untry with special tus; goslavia. ember countries ticipating as servers; nada and the United stees.	Agricultural tractors	Publication of the results obtained for 45 types of tractors tested under the Code.	Preparation of standardised testing procedures for combine-harvesters and fertiliser distributors. Preliminary work on the preparation of internationally agreed testing procedures for selected machinery used in commercial horticulture.		



ECONOMIC GROWTH: the role of policy

Interview with Angus MADDISON, OECD Development Centre

A new book has recently been published which analyses the post war growth of the industrial countries of OECD and the impact of policy on growth. Entitled Economic Growth in the West (1), it is a Twentieth Century Fund Study by Angus Maddison. Mr. Maddison has held a number of senior posts with OECD and its predecessor, OEEC, since 1953: Head of the

Economics Division, Director in the Development Department and, latterly, Fellow of the OECD Development Centre. He was given leave of absence by the Organisation to prepare the study which he discusses here with the OECD Observer.

(1) Published in the UK by George Allen & Unwin, 242 pages, 30/-, and in the US by the Twentieth Century Fund, \$4,50.

The major conclusion of your study is that the rapid growth of Western Europe in the nineteen-fifties was largely attributable to effective economic policy. What are the policies that lead to fast growth?

Growth policy has three main components. In the first place governments must ensure that the total level of demand is adequate to keep existing resources fully employed. Secondly, government must deal with problems of external payments in a way which fosters growth. Thirdly, governments should nurture the supply potential of the economy by stimulating investment, technological innovation, and training of human skills.

Did European governments do all of these things in the 'fifties?

There were few cases where governments pursued a fullyfledged growth policy, but they have steadily increased their understanding of what is needed due to a substantial extent to a process of mutual education within OECD.

The first element of growth policy has been pursued pretty consistently in most European OECD countries. In nearly all European countries there is tremendous political pressure on governments if unemployment rises, and they have been very active in using both fiscal and monetary policies to maintain high demand. The result is that the typical level of European unemployment is well below the 3 % which Lord Beveridge once set as a target for a healthy economy. In the nineteen-fifties, unemployment was higher than this in Germany and Italy, but this was due to structural problems and not to lack of demand - in both of these countries unemployment declined very rapidly in the 'fifties and is now similar to that elsewhere in Europe. As a result of active government intervention, the business cycle in the classical sense has virtually disappeared in Europe. In the US it still remains, and acceptance of its existence is still a fundamental characteristic of US thinking in spite of the fact that American fiscal policy is no longer apathetic as it was in the 'fifties.

What are your opinions on the role of the pressure of demand?

The pressure of demand on the economy is important not only because it pulls unemployed resources into productive activity—this is a once-for-all effect. But it has also produced a very favourable impact on investment, to an extent which could not have been imagined in the immediate postwar years. This increase in investment has, of course, a continuing effect in raising growth rates.

The pressure of demand affects the decisions of businessmen. When they see that their plant is being fully used, that orders are piling up, that labour is hard to get and has rapidly-rising wages, they will obviously be more willing to invest than when there is slack capacity and workers are queueing for jobs.

Apart from the impact of high demand, there is also a favourable effect because of the steadiness of demand. The fact that European countries have not had any significant recessions means that business risks are substantially reduced. When a business makes an investment, it expects to make most of the profit in the early years of its life. After three years or so, it expects competition and obsolescence to cut the rate of profit. Therefore it is very important to business if it can virtually rule out

	Rate of P
	1870-1913
BELGIUM	2.0
DENMARK	2.6
FRANCE	1.8
GERMANY	2.1 (a)
ITALY	1.2
NETHERLANDS	1.1 (b)
NORWAY	1.8 ^(a)
SWEDEN	2.7
SWITZERLAND	1.6 (c)
UNITED KINGDOM	1.5
CANADA	2.1
UNITED STATES	2.4(a)
AVERAGE	1.9
(a) 1871-1913 (b) 1900-1913	(c) 1890-1913

the risk of recession in those first three years. This has been the case in continental Europe, but not in the UK and the US. Hence the high and steady level of demand have greatly reduced the risks of investment, and increasing awareness of this has led European business to increase its rate of investment steadily throughout the postwar period. The typical level of investment is now about 20 % of GNP, whereas from 1870 to 1950 it probably averaged 12 %. Even in the UK, which has lagged behind, the rate of domestic investment has been around 15 %, instead of the longterm average of 8 %.

And the second component of growth policy — the maintenance of a healthy external balance?

Success in this field was far from perfect in the nineteen-fifties, but there were some major achievements.

In the first place, the commercial policies pursued were expansionary. Quantitative restrictions were removed through mutual pressure in OEEC, tariffs have been reduced within the Common Market and EFTA. This has had a very healthy effect on productivity by allowing production to be concentrated in places where producers are most efficient, and the rapid expansion of export markets has also been a major factor in stimulating new investment. Sec-

etivit	y Growth	1960 Level of Producti- vity US = 100	
13-1950	1950-1960		
1.4	2.5	54	
1.5	2.9	48	
1.6	3.9	50	
0.9	6.0	50	
1.9	4.1	40	
1.1	3.7	49	
2.4	3.9	58	
2.0	3.5	56	
1.9	4.2	48	
1.7	2.0	47	
2.1	2.5	82	
2.4	2.4	100	
1.7	3.5		

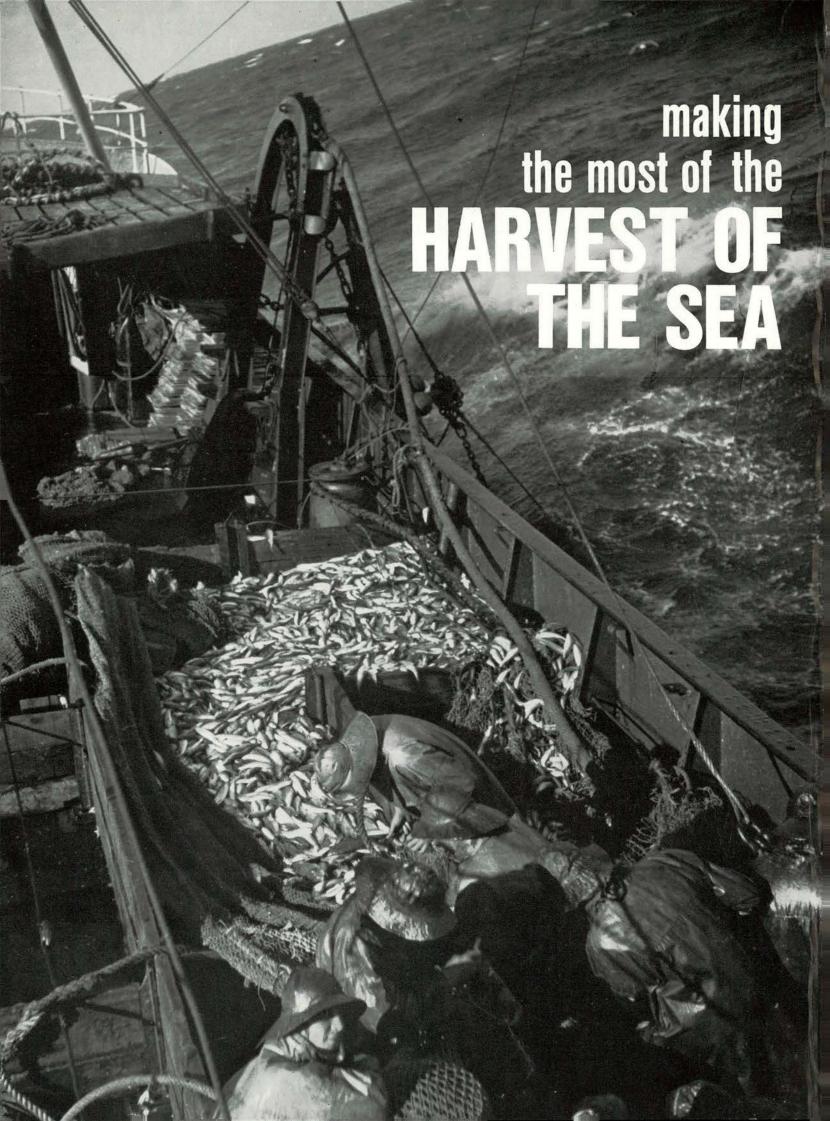
ondly, governments have given large-scale credits to each other in time of payments difficulty. Apart from the UK, none of the industrial countries has been forced to take deflationary action through shortage of liquidity. The mode by which funds were made available has varied over time, first through Marshall Aid, then the European Payments Union, through the IMF and through less formal arrangements between major debtors and creditors. However, in all of these credit operations OECD has played a major role as a forum where international policy decisions were made. In fact this process of consultation in OECD on the appropriate remedies to international economic problems deserves to be considered in its own right as a major factor in maintaining healthy relations between countries, and in avoiding the beggar-your-neighbour remedies of the nineteen-thirties. In the past three years the process of consultation has been greatly intensified in the monetary sphere, and co-operation between the major financial centres has been very successful in cutting down the impact of speculative short-term capital movements which were earlier a major problem, particularly for the UK and the US.

In spite of these achievements, governments have been less successful in controlling the basic causes of payments disequilibrium. The major problem has been that prices in some countries rose faster than in others, and governments had substantial difficulty both in analysing the causes of this correctly and in finding appropriate policy instruments. I think they now know what should be done, but the problem of incomes policy is really one of political persuasion and education and will undoubtedly take time to achieve. Nevertheless, it seems reasonable to hope that it will be a more potent factor for growth in the future than it was in the 'fifties. There is also reason to hope for further progress in persuading surplus countries that they too have an obligation to take corrective policy measures in times of serious payments difficulty. In the 'fifties they did less to ease payments problems than they should have done. I have suggested in my book a number of ways in which policy might be strengthened to deal with payments problems, but I think that this aspect of growth policy will remain difficult, and will require even closer international co-operation in future than in the past — particularly because we will have to pay greater attention to the impact of our policies on less-developed countries.

And the third element of policy — the direct fostering of production potential?

The major factor in the enhanced supply potential of Europe has been the very high rate of investment. To a large extent this was induced as an unexpected by-product of policies to sustain high demand, but it was also helped by policy. In Germany there were massive tax incentives to savings and investments in the early 'fifties which helped to push Germany into a high-growth momentum. In France, investment in state enterprise played a substantial part in this process, and in several other countries the government allocated large resources to investment. Governments can also help investment decisions a good deal in both the private and public sector by long-term analysis of market prospects and investment requirements, as was done in France. This type of "planning" exercise can give business a clearer idea of the long-term potential of the economy and can provide government itself with a better perspective when making policy adjustments in response to shortterm difficulties.

In the nineteen-fifties most governments did not worry a great deal about education or planning the education of the labour force with a view to economic growth needs. I therefore did not discuss this factor much in my book as I did not think it accounted for the difference of growth performance between Western countries. However, the Russians tripled their stock of engineers in the 'fifties, and I think this had a lot to do with high growth rates there. Partly because of Russian successes, Western countries are now giving much greater stress to training and research, and I think that this can be a significant factor in future growth policies.



NE hundred and fifty fish technologists from research centres and industry will take part in an OECD-organised meeting at Scheveningen in the Netherlands on 14th-17th September to exchange views on techniques of storage, handling, processing and distributing.

Fish being the most perishable foodstuff, it is a prerequisite for the profitability of the industry and for the sake of the consumer to use the best possible techniques in order to preserve the quality. Furthermore the development in production and the longer trips made by many vessels are raising the problem of preserving the catches during longer periods.

On the consumption side, there is a development of the demand for prepared products (fish fillets, deep frozen products, consumers' packs) which require new techniques to be used.

No such international meeting of fish technologists has taken place since 1956 and there is much experience, scientific as well as practical, which will have to be exchanged, discussed and compared.

It is in this framework of a thorough review of the most recent developments that the topics for discussion have been selected.

The biochemical and engineering aspects of the storage of fish in chilled sea water should arouse much interest, as it is a technique which has been tried out in only a limited number of countries.

The pre-packaging of fresh, frozen, smoked and other products for retail sale presents a number of problems concerning health regulations and materials employed. For instance, the influence of the packing of material on the product has to be completely studied in order to preserve the quality and taste of the end product.

More and more mechanised tools are used on board the vessels and on shore to handle the catches. The variety of the needs of different fisheries makes it a complicated problem to find and select the best solution for each case.

A final subject for discussion will be problems of freezing, cold storage and thawing, which are becoming increasingly important with a view to the developing market for deep-frozen foodstuffs.

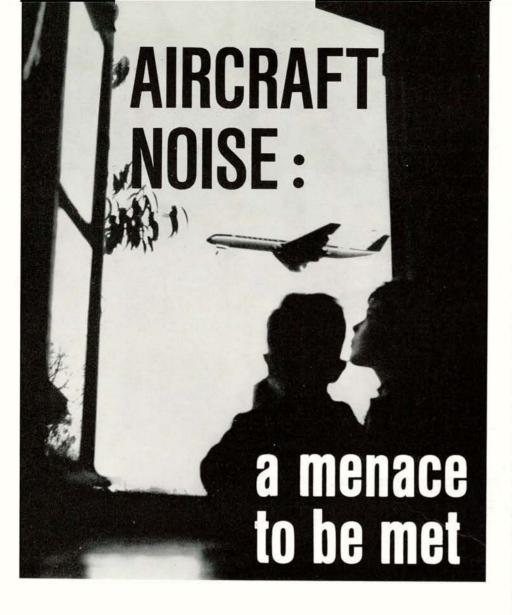
The opportunity to exchange the latest experience and views at Scheveningen will enable the fish technologists to take a further step forward in the popularisation of fish as a staple human food.



Fish treated on the quayside as they are brought ashore.



A modern pre-packaging plant.



roblems of aircraft noise are becoming increasingly acute and occur in a number of different forms. There is on the one hand the concern felt for the health of people living near airports which is being increasingly threatened by noise from the aircraft using them. On the other are the serious economic implications of genuine steps to combat such noise. Thus, the most effective solution is to limit the weight of aircraft at take-off: but this involves reducing the quantity of fuel carried, thereby increasing the nimber of stops, with a consequent rise in operating costs. The use of "silencers" is another solution, but it is equally costly and less effective : one British airline, for instance, has calculated that the use of such devices on its Boeing 707's involves an additional annual cost of £16,500 per aircraft. The same company has installed at one airport a system of protection from the

noise of engines being tested on the ground; this necessitated an outlay of £407,000.

Since air transport is one of the most rapidly developing forms of activity (between 1950 and 1962, the number of passenger-kilometres for the ICAO companies rose by 467 per cent, that of tonkilometres by 383 per cent), noise is becoming ever more intensified. The question is whether it is possible to keep within reasonable limits and even to reduce aircraft noise that threatens the health of people living near airports. Since sleep is vital to health, night takeoffs and landings constitute the main problem. It would, however, be extremely difficult to limit them. Not only does the high cost of aircraft oblige airline companies to use their planes as much as possible, but the adjustment of timetables so as to eliminate night take-offs and landings would sometimes confront airlines with insoluble problems, since a take-off by day often

involves a night landing and conversely a landing by day necessitates a night take-off.

If a local authority were to impose excessively strict regulations against noise on an airport with international traffic, it is conceivable that the airlines might consider reducing the number of stops made by their planes at this spot in favour of an airport in another country; this would harm both the nation's commerce and its tourist trade.

The future will bring new problems when commercial supersonic aircraft are put into service. An aircraft weighing 180 tons flying at an altitude of 23,000 metres and at a speed between two and three times that of sound (around 1,100 km.p.h. at this altitude) will produce on the ground a sonic bang over a strip with an area of nearly 160 km. At the centre of this strip the pressure will reach 7.5 kg/m²; 40 km from the centre it will still be approximately 5 kg/m2. Although the exact effects of the sonic bang are not really known (chiefly because of the ban on supersonic military aircraft flying over populated areas), these figures show without any doubt that an appreciable effect will be felt over wide "strips" of territory along the whole length of the aircraft's journey, instead of being localised, like the noise of today's aircraft, in the vicinity of airports.

Assessing the danger

The problems raised by aircraft noise are thus becoming increasingly acute. The OECD has accordingly for some time been making a close investigation of the subject. Two groups of experts were set up for this purpose by the Committee for Scientific Research. Their task was to determine the basic research necessary in order to conduct an effective campaign of aircraft noise abatement on an international scale.

First on the list of questions considered by the first group of experts were the methods of assessing the subjective effect of aircraft noise from its physical characteristics. After making their study of this question, the experts recommended that for the time being the subjective effect of aircraft noise should

always be expressed in terms of "perceived noise level". The need for a direct reading instrument, which could for instance measure acoustic pressure, was also recognised.

The duration of the noise caused by passing aircraft and the frequency of occurance of the noise should also be measured. The methods of assessment used in various countries were compared and reliable data extracted. The group of experts also prepared a set of draft rules for practical field measurements of aircraft noise. Their purpose is to provide a system of measurements enabling aircraft engineers and airline companies to assess the sound level of an aircraft before it becomes operational.

As regards studies on the measurement of aircraft noise, the experts considered that it was not necessary to continue their activities in this field, in view of the fact that the International Organisation for Standardisation (ISO) has recently begun work on standardising techniques for measuring the intensity of such noise together with methods for linking the physical parameters of aircraft noise to its perception by human beings. In this field, the ISO might turn to good account the results of the work carried out by the Organisation.

Vibrations, noise and ultrasounds

Biologists, doctors, psychologists and sociologists made up the second group of experts which, for its part, considered the main medical and psychological aspects of the problem. It was thus, for instance, able to establish that the ultra-sounds (above 20,000 cycles per second) emitted by the turbo-jet engines of aircraft currently in service will probably have no harmful effects on persons at a distance of more than 30 m from the aircraft. Similarly, it has concluded that the effects of vibrations (below 200 cycles per second) produced by aircraft cannot cause organic lesions either to the hearing system or to other organs of the body among populations living in the vicinity of airports but may cause fear and annoyance.

Concerning the effects of audible frequencies, it has been possible to conclude

that aircraft noise could not at present constitute a risk of deafness for people living near airports. However, experiments, particularly those conducted in the laboratories of the Max Planck Institute at Dortmund, have shown that the effects of noise may extend to the autonomous nervous system, thus causing functional modifications.

Studies have also been made in order to ascertain the effects of noise on sleep. The sensitivity of subjects to noises liable to awaken them varies considerably from one person to another, some people being awakened by a noise of 30 phons whereas others continue to sleep through a noise of 70 phons; but the percentage of persons living in the vicinity of an airport who are awakened by aircraft noise is in any case considerable.

Psycho-social effects

The psycho-social effects of noise, that is to say all the sensations of uneasiness and discomfort, disturbed rest as well as any kind of interference with work and with private life are the more pronounced, the more intense, frequent high-pitched or unexpected the noise. The hampering effect of aircraft noise on work requiring a high degree of

concentration or a free flow of conversation should, in the opinion of the group of experts, be regarded as of extreme importance and can only be studied by the methods of investigation used in modern sociology. A sub-group of experts has drawn up, on the basis of the results of previous research, a standard questionnaire upon which sociologists carrying out surveys in Member countries may draw in order to add to the information assembled to date. The problem is one of defining the unpleasant sensations in terms of the physical parameters of aircraft noise, the effects of this noise — on speech, on personal activities, and on migration, among other things - and the influence of social position on sensitivity to the

It has been recognised that the regulations concerning international air service need to be based on uniform principles in all countries. Sociological research to date shows that among the factors which should be taken into consideration are not only the intensity and the spectrum of the noise, but above all the number of take-offs and landings and the duration of the troublesome noises, the moment at which they occur and the nature of the residential areas subjected to them (hospitals, schools, etc.). Both groups of experts have suggested active encouragement of sociological research and study of the possible effects of the sonic bang produced by supersonic aircraft.

Bertin silencer for Caravelle aircraft.



ADULT EDUCATION:

a factor in economic progress

nder its programme of technical assistance to developing Member countries, OECD has undertaken to support the efforts made by these countries to accelerate their economic and social development. One of these efforts is to eliminate illiteracy and semi-literacy, and to raise the educational level of the population as a whole. Greece has tackled this problem with the help of Unesco by setting up the Epimorphossis Department, which the Research Centre on Adult Education is attached: some three hundred Centres have also been established in various rural

In Epirus, and more especially in the "Trial and Demonstration Area" (Konitsa-Zagori-Paracalamos), a particularly successful and productive relationship has been established between the adult education programme sponsored by Unesco and the regional economic development programme sponsored by OECD - incidentally, an example of co-operation between two important international organisations worthy of note.

Pierre Fourré, who took an active part in this movement for four years as Unesco expert in close co-operation with the OEEC/OECD "Epirus Project", and Constantin Theodossopoulos, As-

sistant at the Research Centre on Adult Education, have published their main conclusions in a study entitled "Adult Education Techniques in Developing Countries", which has been issued by OECD in the "Problems of Development" series.

The Adult Centres are located outside the towns ("People's Universities" will subsequently be established in the towns and especially adapted to the needs of town dwellers). Their purpose is to promote village development and raise the standard of living and educational level of the village community. Their administration and general atmosphere are the responsibility of the local school teacher. The efficient operation of the Centres depends primarily on the teacher, but other conditions must also be fulfilled, such as appropriate premises adequately laid out, arranged and equipped, a timetable suited to requirements and possibilities, assistance for the teacher by a small committee of six to eight people, a minimum amount of administrative work, etc. The syllabuses must also be carefully chosen, and experience has proved that it is useful to relate them as far as possible to some local fact or event, particularly to economic development efforts in the area concerned.

Pierre Fourré stresses the necessity of using teaching techniques to stimulate the active participation of those attending the classes. Thus, side by side with the traditional class-talk method, emphasis will be put on questioning, experiments, visits and discussion groups. The person in charge of a Centre can also take advantage of such audio-visual aids as models, graphs, tables, film strips or moving films, and especially radio. Wide experience has confirmed the value of these media.



Ή μητέρα διαβάζει τὸ γράμμα

Ή μητέρα πῆρε γράμμα.
Πῆρε γράμμα άπό τὸ παιδί της.
Καὶ διαβάζει τὸ γράμμα.
Διαβάζει τὸ γράμμα μόνη της.
Ή μητέρα ἔχει χαρά.
Έχει μεγάλη χαρά σήμερα.
Έχει χαρά, γιατί πῆρε γράμμα άπὸ τὸ παιδί της.
Έχει χαρά, γιατί διάβασε τὸ γράμμα μόνη της.
Έμαθε νὰ διαβάζη καὶ νὰ γράφη.

Specimen page of the Adult Reading Primer — Part II.

Adult education is distinguished by its entirely voluntary aspect; instruction should be sufficiently attractive for the "pupils" to want to carry on with it, otherwise they will simply not come back. Pierre Fourré hence concludes that a purely scholastic approach must be avoided. He attributes the success of the Centres, which has been proved by the steady attendance figures, to the fact that instruction has not been restricted to the syllabus but has been made a part of the vast movement to modernise the country, which requires the willing assistance and arouses the eager interest of the public as a whole.

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Queen's Printer - Imprimeur de la Reine, OTTAWA. Prepayment of all orders required.

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