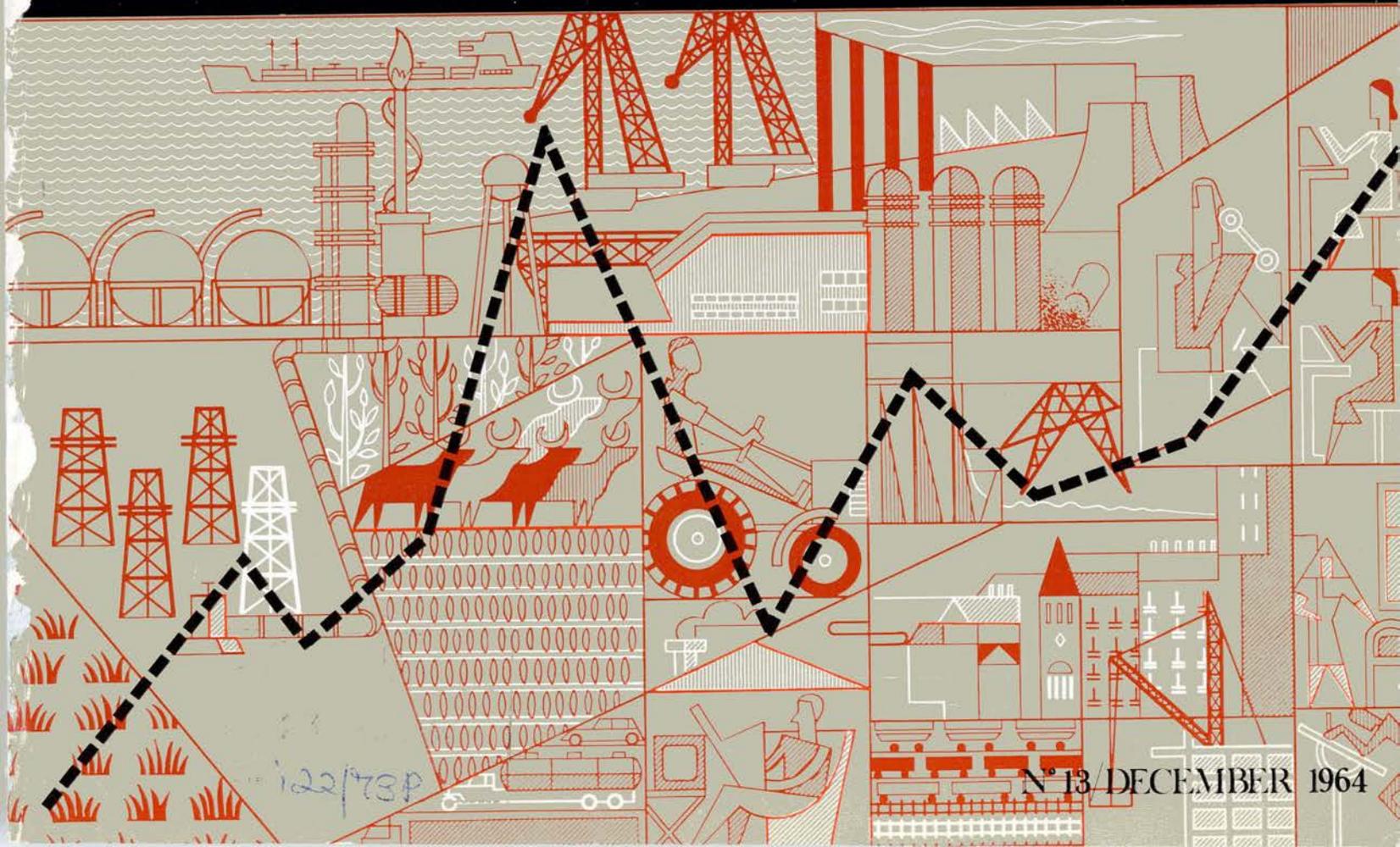


the OECD OBSERVER

THE OECD COUNTRIES: A STATISTICAL
FRAMEWORK. **HOW TO INCREASE THE
PRODUCTIVITY OF OLDER WORKERS.** A
PRACTICAL APPROACH TO PROBLEMS OF
REGIONAL PLANNING. **INDUSTRIALISED
NATIONS AND DEVELOPING COUNTRIES.**



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THE WESTERN INDUSTRIALISED NATIONS AND DEVELOPING COUNTRIES

by
Thorkil KRISTENSEN
Secretary-General of the OECD

**MEETING
OF THE
OECD COUNCIL
AT
MINISTERIAL
LEVEL**

*
2nd-3rd December 1964
*

Statement on pages 40-41

The greatest social problem facing the world today is no longer — at least in the Western industrialised countries — an internal problem within individual countries. It is becoming more and more a social problem in a geographical sense : between the rich countries of the northern part of the world and the southern part, the tropical zones. It is significant that almost all developing countries are tropical and nearly all tropical countries are developing countries. The Polar zone might be added, but it is of course very thinly populated.

It is significant too that by and large the history of civilisation has been the history of the temperate zones — first the warmer temperate zones and then to a growing degree, colder temperate zones. Here production, art and science developed rapidly, while the sparsely populated polar regions and the often densely populated tropical zones suffered from economic, and as result cultural, stagnation.

Therefore it is not by chance that some countries are developed, are industrialised, while others are not. It results from differences in natural conditions. It might be expressed in this way : modern technology and science have been able to develop our economy more rapidly than that of the tropical zones, because working conditions have been better in the temperate than in the tropical climate; and what makes our epoch historic is the fact that progress in science has now reached a stage which enables us to deal seriously with the problems of the tropical zones, including their plant, animal and human diseases, the dangers of erosion, etc. The task facing us is to transfer the results of science and technology to the tropical zones.

We know that this is a tremendous task, perhaps even greater than most people imagine. I shall try to illustrate this by a hypothetical numerical example. Let us assume that from now on we succeed (which we shall not) in bringing about a more rapid economic growth in the developing countries than our own countries. Let us, for example, suppose that we succeed in having a per capita increase in production of 3 % a year in the developing countries, while the rate of increase in industrialised countries is 2 %. This would mean an ever greater difference in growth of total production, because the population rises about twice as fast in developing countries. The per

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capita increase of 3 % a year in these countries would therefore mean an overall growth of between five and six per cent, while a 2 % per capital growth in the industrialised countries would only mean an overall growth of 3 %. This would be an enormous difference in growth rates in favour of the developing countries, and it is certain that we shall not see it in the near future. But if we got it from now on, it would still take a little more than 200 years for the two average income levels to be the same.

It is true that many things which we cannot foresee may happen in 200 years, but I have given this example in order to emphasise how great the problem is and how long-range. It would be a delusion to think that if we helped the developing countries for a couple of decades the problem would be solved — it is a problem of a completely different order of magnitude.

I should like to stress that economic growth in the developing countries when it really comes will be different in character from the type of growth we have experienced in the sense that economic growth in our countries developed inside our societies; in the popular expression, it was home-made. Economic growth in the developing countries will to a large extent be something imported from outside. It will be grafted on, as gardeners say. It will be imported from the western countries, a fact which in itself raises a series of problems. It will be fairly easy to import some western technology, but in other cases a much longer period of time will be required. The result will become a phase with many disharmonies, because western technology adopted in certain parts of the economy will create pockets with western

methods and ways of life as well as wages, while other and more extensive parts of the economy will have quite different conditions of life. There will therefore be a period during which these countries will be exposed to disharmonies because they will consist of developed and under-developed sectors. As has often occurred, this will lead to political instability, which is in itself one of the difficulties in further development.

Three requirements will have to be met if the developing countries are to approach the standard of living of the industrialised countries. They must have more knowledge; they must have more capital; and they must have wider markets for their products.

I have put knowledge in the first place, because I consider this point the most important. The fundamental difference between the industrialised nations and the poor countries is to be found in the fact that we have at our disposal the results of modern science and education; the developing countries have not. Only when they have acquired this knowledge to about the same extent as we have will they be able to meet the requirements of industrial development.

In economic theory much is said about the “third factor”, which is much more difficult to measure than the two normal factors of production, labour and invested capital. Many studies have been carried out to elucidate this problem. It seems that the third factor is responsible for about as much economic growth as labour and capital together.

And what then is this third factor? The third factor, is, first and foremost, improved technological methods by means of which more and better work will be carried out by the same input of manpower and capital. But it is not just a question of technology in the narrow sense. Better marketing methods must be included, a better public administration, a better financial system, modern bank and credit facilities, political stability and so on. All this is comprised in the third factor.

But the pivotal point in the third factor is *knowledge*, in the widest meaning of the word. Knowledge in this sense means technical skill, commercial, agricultural and industrial experience and craftsmanship, accumulated through centuries in our economic life. It means a well-established order in society, a stable political leadership and an experienced administration used to dealing with people from the various trades, and it means that a certain discipline prevails, that customs and working methods are ingrained in society and deep-rooted in its members.

It is difficult in economic science to appreciate all these things in a numerical analysis, as can be done with labour measured out in hours or capital measured by dollars or any other currency. I shall however try to give certain illustrations which may indicate the crux of the matter and at any rate come closer to the quantitative way of describing

the main features of the third factor : knowledge. I would say that the store of knowledge should be extended in height, in breadth and in depth. By saying "in height" I am thinking of all levels from the elementary school to the universities and scientific institutions. In the past knowledge first gained ground at the elementary school level, but now a growing part of the population acquires a higher education at grammar schools, technical schools, at colleges and universities, and often by further studies when the normal period of education is over. We thus see the pyramid of knowledge : broad at the base, comprising all those who have an elementary education, and becoming ever narrower the closer we approach the top, because at each stage fewer and fewer are able to follow.

Thus the fund of knowledge will broaden and grow higher. It will also have to broaden in the under-developed countries, because there often only a small number of children go to school while a still smaller number of grownups *have gone* to school. The fund of knowledge will have to grow so as to include everyone and to include in its scope all forms of knowledge — traditional school subjects, handicrafts, agriculture and the professions.

Now we come to the third dimension, which is the most difficult to describe : the one I call depth. I admit that the expression is inadequate. By depth I mean that the knowledge man has acquired shall be really part of him, that it shall be like an injection into the social machinery which will only have performed its function completely when it has penetrated all parts of that machinery and left on it the mark of the substance brought from outside.

I have, for example, this in mind. In a country where there exists a tradition of handicrafts which is several centuries old, where methods of working are passed down from father to son, there will also be a certain discipline and certain rules for what can and cannot be done. These rules do not exist in a community where regular work is something new and unusual. There is in most of our countries a relative degree of political stability — although it could sometimes be greater than it is. This tradition is related to the knowledge which infuses our society that political stability is a valuable thing. In most modern countries, there is after all a feeling among the people that, although it is natural to have political contests, and that although it is tempting to try to defeat an adversary, the most important thing is however that the country be led as it should be and that those who have the responsibility of governing, or those who hope to win it in the next election, will all try to think further ahead. It is one of the signs of a greater fund of knowledge in depth that the realisation has entered man's consciousness and ways of life that he has an inherited treasure of knowledge about what may be done and what may not, about what is constructive in a society and what is destructive.

I have mentioned these three dimensions because it takes a long time to build up the fund of knowledge in all three directions. The fact that I put knowledge ahead of the other two factors is not only because it is in itself an important element of growth. Knowledge has also a central position, as far as the developing countries are concerned, for another reason. So far as I can judge, it is indirectly a precondition for fulfilling the other two condi-

tions of growth. I think that if the fund of knowledge in the developing countries were enlarged in the three dimensions I have mentioned to the point that it is in industrialised countries, the other two problems would in large measure solve themselves. Capital would flow from numerous western industrialised countries to the developing countries where there are two strong motives to invest. One is that their natural resources are not exploited to the same extent as in our countries; there are natural resources which could, if capital were invested, be further developed with relative ease. The other motive is that, because of these countries' poverty, wages are very low, so if the workers' skills — a matter of knowledge — were the same as in our countries, and if the conditions of society, harmony and stability — again a matter of knowledge — were the same, then the low wages would attract capital, as it would be possible to produce the same thing at much lower cost in the developing countries than in our own.

It would, moreover, be profitable for western industrialised firms to build a substantial part of their plant in the developing countries and then to export the goods to industrial countries where wages are higher. This is already happening to some extent, and it explains why American capital has been invested in Europe where wages are lower than in the US. All of this would to a great extent come about of its own accord if certain conditions were met tending to increase the skill of workers, foremen, engineers, commercial leaders, bankers and public administrators, and if there were the desired political stability and security. All of this is in reality an expression of knowledge.

The third condition, finding the necessary markets, is also related to knowledge. If the latter were more developed, the developing countries' production would naturally be better adjusted to the markets actually existing than they are now. It is therefore very important that knowledge should expand, but this raises very great problems. I shall mention a few of them. In many developing countries the number of children attending primary school must be increased by 200 to 300 per cent or even more. The number of those attending secondary school, technical schools and agricultural schools must be increased even more. Gradually, the number of those attending university and undertaking more advanced studies must be augmented by several thousand per cent. This in itself is a colossal task, but it implies still other demands : it implies a need for buildings, for institutes, for schools, for universities. But first and foremost it implies a need for teachers at many levels : primary school teachers, secondary school teachers, professors for universities and the professional schools; and to teach these teachers there must be other teachers of a higher order, so to speak.

This means that the need for teachers is the crucial problem. Teachers are rare in developing lands, and their income level is therefore very high compared with that of the average person.

In the US, the income of a primary school teacher is 1 1/2 times higher than the average level of income. In Nigeria, it is 7 times higher. Secondary school teachers in the US receive twice as much as the average person; in Nigeria 30 times as much. I assume that the discrepancy is even greater in the case of university teachers. It follows

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that in the US it takes 0.8 per cent of the national income to provide primary schooling for everyone; in Nigeria it would cost 4 per cent. 0.8 per cent of the national income of a rich country is a relatively light burden, but 4 per cent of the national income in a poor country is a heavy one; and the difference will, of course, be even greater if secondary schools and universities are taken into consideration. Add to this the fact that it is impossible to devote all the country's efforts to increasing the number of teachers on all the various levels (leaving aside the fact that it takes many years to train these teachers) because for the time being many of the most gifted and best trained people are needed for other purposes — as agronomists, technical advisers, administrators, bankers, etc. In a way these things are even more urgent because persons having technical, commercial and administrative skills are absolutely necessary to the building up of a modern productive system. Several African lands have realistically appraised the situation and come to the conclusion that the building up of a system of universal schooling must wait — perhaps 20 or 30 years.

If 20 or 30 years elapse before all seven-year-olds can go to school, then it will be another 10 years before all seventeen-year-olds have completed an average course of schooling. This means that it will be 30 or 40 years before everyone who enters the labour market has a primary school education. We can anticipate that in a number of developing lands this entire century and part of the next will go by before there is universal primary education. To reach the level of our present system of ad-

vanced education, it will take the developing countries another generation or two. And in the course of the two or three generations, our educational level will be further improved. It will, therefore, probably be a matter of between one and two centuries before the fund of knowledge of developing countries reaches a level that is comparable with ours, as far as we can judge today. And this raises two problems.

The first has to do with planning this growth in the fund of knowledge. We have undertaken in OECD — in cooperation with the countries concerned — analysis and planning of educational development in six Mediterranean countries for the next 15 years. Using methods that have been developed in the course of the work, we are in the process of undertaking the same experiment in other countries, some more highly developed, some less developed than the Mediterranean countries.

It will be a hard task to plan the development of the educational system so that things are done in the right sequence. It would be poor economics to concentrate our efforts solely on getting all children into primary school as soon as possible while neglecting higher education and professional training.

The other problem is this : how can developing countries' other problems be solved in the long period during which their fund or knowledge is insufficient compared with ours and in which, therefore, capital fails to flow in of its own accord and production cannot adjust itself automatically to existing markets? This leads me to the tasks that directly confront us.

Let us first look at capital. It is naturally desirable that as much private capital as possible should be invested in the developing countries. We are at the moment discussing in OECD various measures which might be adopted to facilitate the export of private capital and especially to overcome the obstacles created by elements of insecurity.

But in the meantime it will naturally be necessary — and to a growing extent — to give public financial help to the developing countries. All examinations indicate that this must be done to an increasing extent. The nations which already have programmes of aid for developing countries must, therefore, expect that, at least for the coming decade and perhaps longer, there will be a need for increasing financial help. Sometimes we will be forced into it because we have done the easy things first. There has been a tendency in certain developing countries, when they could not get the necessary long-term capital, to make do with short-term credits; and there has been a tendency in the western industrialised countries to grant these short-term credits because we all like to increase our exports. Thus export credits are tempting both for the western industrialised countries which export capital and for the developing nations which receive it. But such capital is as a rule very costly and must be paid back quickly, and a group of developing countries now use one-third of their export income for interest on and repayment of loans already made. The move in this direction clearly cannot continue. It will become necessary to replace much of this short-term commercial credit with long-term funds.

Now I come to the third condition for development — the question of markets. How can we create better market conditions for the exports of developing countries?

I shall not go into detail on the subject of market problems, of which there are many, but will mention two.

The first is the export of primary products, i.e., raw materials and tropical agricultural products such as coffee, tea, cocoa and bananas. The demand for primary products is not growing very fast but it may be possible to organise the markets for these products better. On all markets there is a tendency towards a degree of control. Those who have something to sell want enough control so as not to be exposed to all contingencies as regards prices. For this reason there are price and other agreements in industry, in trade, in shipping and in many other areas. We have it on the labour market and we have it in agriculture (to a large extent). Because there are so many farmers, the market must as a rule be organised with the help of the state.

Sooner or later this tendency to organise markets so as to have control over price movements will extend to the export products of developing nations, and we can help them achieve it. As a rule controls should be based on agreements in which both exporting and importing nations participate.

The other marketing problem concerns industrial goods. It sounds strange to talk of developing countries exporting industrial goods to industrialised nations. But, because of their low wages, these countries will be well able to compete when they have built up their knowledge, in the wide sense of the word in which I have used it.

Opening our markets to industrial exports from the poor lands will present serious problems for trade policy in the future. I should not be surprised, if as far as Asia is concerned (and Asia, in contrast to Africa and Latin America, is densely populated) a pattern of trade emerged in which there were sharply increasing exports of industrial goods from Asia to rich countries and increasing imports into Asia of food-stuffs, chiefly from North America and Australia. Such a pattern is already developing. It seems strange, at first, to think that the world's largest industrialised country would export agricultural products to Asian nations, which are basically agricultural countries, and that the latter should export industrial goods in the other direction. But in and of itself, this is not an unnatural thing, for the US and Canada have agricultural areas that are immense relative to the size of their populations in comparison with Asia. On the other hand, Asia has a much lower level of wages than North America. (For this reason I think that trade policy will be one of the greatest problems of the next few years).

In the longer run, however, technical assistance — our contribution to growth in the fund of knowledge — will be our most constructive contribution to the developing countries. This means helping these countries to analyse their own problems and to plan their own development.

It will be a big task for western research to delve into the problems of developing countries. What kind of problems are they? Which problems are the most pressing? How can the lack of harmony about which I have spoken be minimised so as to encourage the most harmonious kind

of development? Economists from western nations, working as planners and researchers, have already contributed to the solution of such problems.

Next we must send an increasing number of technical experts, advisers in the fields of agriculture, fishing and forestry, industrial consultants, etc.

Our contribution to the building up of education is more complex. I have mentioned how complicated is the process of building up education in height and breadth. We can contribute to the planning of educational development. We can also contribute to the development itself, and this in two ways: first, by receiving for training in our countries young people and technicians from the developing countries; second, by sending to them teachers at all levels to man their universities and other teaching institutions. We shall very likely do both. Which is the best in any given case is the object of research in international organisations. Each country and city where there are institutes and universities should seek contact with these international organisations to find out how their contribution can best be organised.

Finally a few words about the outlook. I have mentioned difficulties and problems, but this does not mean that I think the task is hopeless. On the contrary, I think that in the natural course of things there will be a tendency towards a levelling out of the differences in income between rich and poor countries such as we have seen in our own communities. Capital will increasingly seek an outlet where wages are low; and this will help to bring wages up in these countries. Gradually the developing countries will come to have the same technology as we have, not only because of the flow of capital but also because knowledge will grow and this too will contribute to bringing income levels closer together.

It is unthinkable that the knowledge which is mankind's heritage from many generations should be the privilege of only a small segment of the human race. On the contrary what spread through the western countries during these centuries must now be spread throughout the world. And this will be one of the greatest revolutions in world history. A French historian has said that real world history is only now beginning. Earlier there was the history of Egypt, of Mesopotamia, of Greece, of Rome, of Europe. But now science is bringing all parts of the world together into a single community. This means that increasingly historical progress will be one for all countries of the world.

That is why I believe in the diffusion of knowledge, of techniques and of the fruits of modern science and economics, that is, in a levelling out of differences in income. But we are about to pass through one or two very dangerous centuries in which there will be discord because knowledge takes hold in some places and not in others. It will be a dangerous period because when there is discord, there is always the danger of political conflict. Economic, scientific and political sagacity and foresight are necessary in this dangerous period of world history. It is up to the western industrialised nations to provide the leadership and to help the poorer countries on their way.

(Excerpts from a lecture given at the Chr. Michelsens Institutt, Norway)



The London Stock Exchange

BUYING AND SELLING FOREIGN SECURITIES

One of the areas in which restrictions imposed before or during World War II have been most difficult to remove is that of capital movements. Governments have feared that freedom to invest abroad would lead to balance-of-payments difficulties. Even today a number of restrictions persist for this and other reasons. The authorities

may feel that free capital flows, inward as well as outward, interfere with their ability to pursue an independent monetary policy; they may wish to retain control over access to national resources or to channel investments in accordance with a national plan.

Nevertheless, there has been a consider-

able degree of liberalisation in regulations covering some types of capital transactions, and their volume has increased in the last few years. The most recent step in this direction is the acceptance by OECD Member governments of amendments to a Code of Capital Movements, the object of which is to expand those capital movements which contribute to economic integration, at the same time giving recognition to special situations and the differing economic philosophies of Member governments in this domain.

An important type of capital transaction covered by the Code is the purchase by one country's residents of another country's shares and bonds. The following article describes the degree to which such transactions are possible between residents of OECD Member countries and how they are carried out.



To many investors, buying the stock of a foreign company or the bond of another government seems a mysterious business surrounded by complications and red tape. But as a result of recent liberalisation in the regulations of a number of OECD countries, there exists today an international network which permits residents of a large number of countries to weigh the advantages and disadvantages of buying a foreign security much as they would those of a domestic issue.

If an investor in Austria, Canada, France, Italy, Germany, Switzerland or the United States, for example, wants to buy a foreign security, he can buy the exchange on the official market at the official rate and invest in stocks or bonds in any country whose government will permit it.

Perhaps the stock to be purchased will have to be one that is listed on a recognised stock exchange abroad; it may have to be held through an officially authorised agent which reports all transactions to the authorities. Certain kinds of trading such as "forward dealings" may

be forbidden; in the US the investor will have to pay to his own government a tax of up to 15 per cent of the value of the purchase (1). But there are, in these countries, no restrictions on purchase of either the security or the exchange with which to buy the security.

The degree of interest shown in foreign securities is by no means equal in all the countries mentioned above. In some, securities, whether foreign or domestic, have never been a popular form of savings. The wealthier people in Austria, for example, have always owned shares, but the great bulk of those who have a little money to invest, though they may occasionally buy bonds or shares, generally prefer to start a savings account. In Italy ownership of securities is not very widespread, and the public is generally unfamiliar with the workings of the stock market. Most small savings are left in savings banks or similar institutions.

French investors are more accustomed to securities as a form of investment; institutional and large private investors include foreign issues in their portfolios, and certain investment companies specialise in them, but the wider investing public no longer shows the same interest in foreign securities as they did at the beginning of the century, in part no doubt because of unfortunate past experience (with Russian and other foreign bonds during and after World War I, for example).

German interest in foreign securities has been growing since restrictions were removed, and in the United States and Switzerland holding of foreign stocks and bonds is relatively widespread.

Belgium, Luxembourg and the Netherlands freely permit purchase of foreign securities, but the exchange required for the transaction must be bought on a special market in which rates fluctuate somewhat in response to changes in supply and demand. As a result, the investor may stand to gain or lose on the exchange transaction as well as on the security itself.

The United Kingdom also requires that exchange to be used for security purchases be bought on a special market, but it can only be obtained from residents of the United Kingdom or other sterling area countries. The unit of exchange traded by residents in this open market is called a "security dollar" or "investment dollar" regardless of the foreign currency involved. The supply is limited to the proceeds of foreign securities (and certain other foreign assets) sold by British residents. Demand for these proceeds is ordinarily high enough to push their price up above the official exchange rate. Currently the premium is running at about 12 per cent; it has been as high as 18 per cent.

Despite the premium, there is an active trade among United Kingdom residents in security exchange. British investors have for many years taken an interest in overseas securities. It has been unofficially estimated that

(1) Unless it is a new issue of Canada or an underdeveloped nation.

they own some £ 1,200 to £ 1,500 million worth of stocks and bonds issued outside the sterling area. The London *Financial Times* lists the daily quotations of over 500 foreign issues.

Foreign security purchases of Scandinavian residents are severely restricted. Holdings are essentially limited to those bought before controls were imposed, and although an investor can change one foreign stock for another, he cannot add to his holdings unless he finds some other resident who is willing to sell.

Foreign securities were popular in Sweden before World War II, but now there is little interest, and despite the limited supply the prices of these securities have only rarely mounted above the prices prevailing abroad. In Denmark interest is limited to a very small circle of investors. Daily newspapers give only rough indications of developments on foreign stock exchanges, and even the financial daily *Boersen* quotes regularly only 16 foreign issues.

Greece, Iceland, Spain and Turkey also severely restrict their residents' purchases of foreign securities. Ireland's regulations are similar to those of the UK. Portuguese investors may buy foreign securities with certain specified funds which they hold abroad.

What foreign securities will an investor choose? To some extent this depends on availability, and the highly developed state of the capital markets in New York and London explains in large measure the demand for their issues. Tradition also plays a role. But regulations have also made their mark.

It is the practice of some countries to restrict purchase of their stocks and bonds by non-residents. Regulations may be imposed for a number of reasons: the authorities may wish to control money and capital markets in order to pursue an independent monetary policy; they may wish to avoid abrupt changes in foreign exchange reserves and consider securities a potential vehicle for hot money movements.

Among the countries which impose such restrictions on foreign purchases are Denmark, Switzerland and Sweden. The investor who wants to buy a Swedish share, for example, may not, with certain exceptions, buy it on the Stockholm Stock Exchange. He must buy it abroad from the limited fund of Swedish securities already held abroad by non-residents. (Any one investor can exchange one Swedish stock for another.) Despite this restriction, the demand for Swedish shares is such that they are actively traded in Amsterdam, Frankfurt, Geneva, London, New York and Paris. Because of their limited availability, they have at times sold at a premium above the price in Stockholm.

The United Kingdom has no prohibitions against non-resident buying of UK securities. But when it comes to selling his security, an investor finds that the proceeds of the sale are blocked (1): he cannot convert them back

into his own currency on the official market but only through sale to another non-resident. Demand for UK and other sterling-area securities on the part of outside investors is so great, however, that normally this blocked sterling or "security sterling" sells at a price that is very close to the official rate.

The closed-circuit market between non-residents in "security sterling" is not to be found in London, but in Amsterdam, Zurich and Paris. It is the counterpart of the London "security dollar" market for residents of the UK, but there are no links between the two.

Belgian, Dutch and Luxembourg securities may be purchased freely. Investors ordinarily buy the francs and guilders required on the special security money market where it sells at a discount, which, however, is usually negligible. This market is the same one in which residents buy and sell foreign exchange.

The securities of Austria, Canada, France, Germany, Italy, Spain (2) and the United States may be bought and sold freely and the required exchange bought in the official market at the official rate.

Foreign holdings of American stocks and bonds abroad are naturally large. In recent years, however, there has also been a growing international interest in the securities of the other countries. At the end of 1961 non-resident holdings of Italian shares, for example, were valued at about £ 2,700 million, up 128 per cent from 1959. In Austria interest began to develop just after purchases by non-residents were liberalised in 1959. In 1960 activity was such that regular telephone dealing in Austrian securities on a number of European stock exchanges was established on the initiative of the big Viennese banks. More than 50 French securities are listed on foreign exchanges.

One of OECD's objectives has been to foster the liberalisation of regulations on such transactions to the extent that they promote sound economic integration. In order to provide a framework for liberalisation of these transactions and other capital movements, a Capital Movements Code has been drawn up and agreed to by all Member countries with the exception of Canada (3). This Code, first drawn up in 1959, has been progressively amended, and in the process Member countries have had the opportunity to discuss their problems and views within OECD's Invisible Transactions Committee.

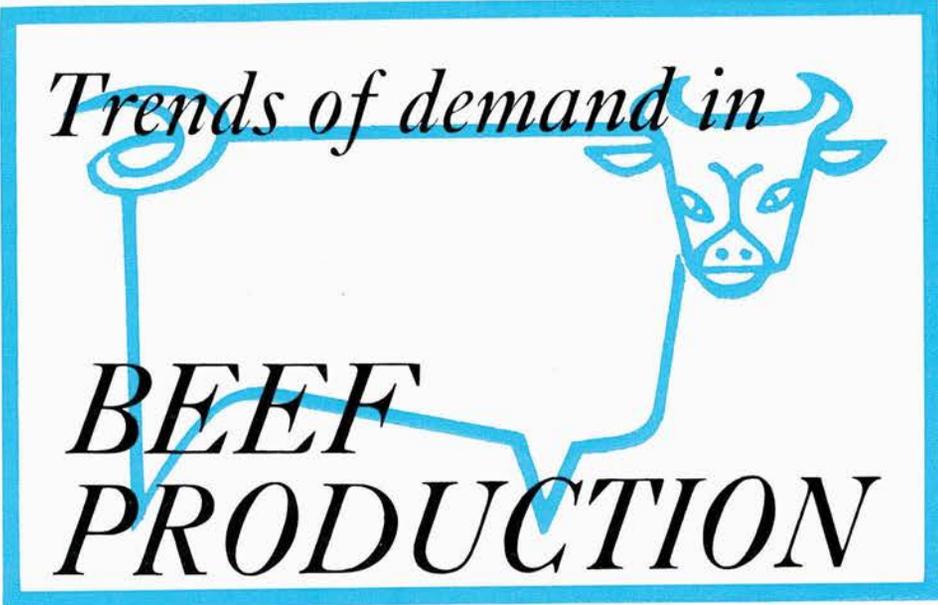
(1) This does not hold for residents of Scandinavian countries.

(2) In aviation, shipping and mining, participation in excess of 25 per cent must be authorised by the Council of Ministers; and in banking and insurance, foreign participation is unrestricted up to 50 per cent of total share capital.

(3) Because of particularly acute balance-of-payments problems, Greece, Iceland and Turkey are permitted to enjoy the benefits of the Code without applying it to their own regulations. In addition a number of countries have lodged reservations to certain of the Code's provisions.

Trends of demand in

BEEF PRODUCTION



Previous articles in the OECD Observer have dealt with the Organisation's policy of ensuring that agriculture makes its full contribution to economic growth while at the same time improving the lot of those engaged in agriculture. One of the essential aspects of this work is the provision of a continuous flow of information concerning production, commercial availabilities and market openings for agricultural produce.

This is particularly necessary in the beef sector, where for some time demand has risen far faster than production. In order to provide guide-lines for governments, producers and consumers, OECD has begun the collection of data concerning future trends, and the examination of factors which may influence beef production in the coming years.

The growth in prosperity and consumer spending that for several years has been taking place in OECD Member countries has been accompanied by remarkable changes in the traditional diet of very large sectors of the population. In early post-war years the main improvement, particularly in Europe, consisted essentially in increasing the volume of food intake.

In more recent years, as consumers became more selective, it has been the quality of the diet that has registered the most noticeable improvement. A greater variety of food is now consumed by the average citizen in all Member countries and a better balance has been established among the components of the daily diet. In general terms, less starchy food is being consumed, while the demand for protein-rich food has expanded strongly.

Meat in particular, which not very long ago was still given a somewhat secondary place in the average daily diet, has come to represent a principal ingredient in the meals of most citizens. This trend of consumers' behaviour obviously has given a powerful stimulus to demand for beef and veal.

Average consumption per head of beef and veal is clearly on the uptrend in the OECD area, especially in Western Europe, where levels of consumption were previously relatively low and where deeper economic and social changes have occurred in the last two decades. (See graphic illustrations.)

It is estimated that OECD Member countries account for approximately 60 per cent of world consumption of beef and veal, though consumption of these types of meat makes up only about half the total meat consumption in the OECD area. In this connec-

tion it should be noted that beef and veal are proportionately much more important in the American and the Canadian diet than in the European. Noteworthy is the fact that in 1962 the United States consumed 32 per cent of the estimated supplies of beef and veal available for consumption in the entire world.

The level of per capita consumption of beef and veal is lower in Europe than in North America, but consumption of pork, lamb and mutton is considerably larger in some European countries.

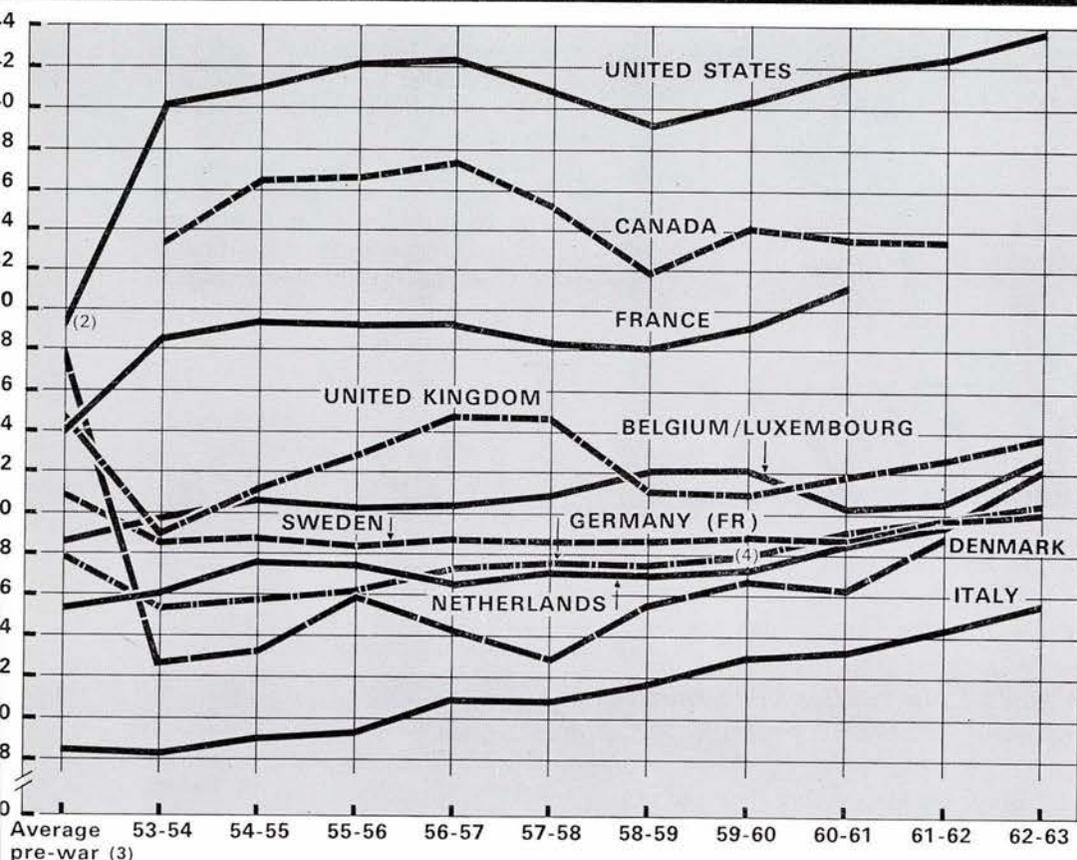
In response to the stronger demand, production of beef and veal has increased on the whole quite appreciably in OECD Member countries. Some of them have succeeded in keeping supplies abreast of the rising level of domestic consumption and a few have even managed to generate substantial availabilities for export. In several Member countries, however, demand has outstripped local supplies, often limited by unfavourable natural conditions. This situation, appearing at a time of easier access to foreign markets, has given rise to an expanding volume of international trade.

The supply of beef and veal over the long run is a function of both the level of slaughtering and the size of the cattle and dairy herds. A suitable ratio between feed and meat prices and between milk and meat prices is among the main economic prerequisites for the expansion of herds and consequently for the long-term adequate availability of meat. Another element in cattle production that cannot be ignored because it imposes rigid limitations on the rate of growth is the biologic aspect of reproduction.

It is evident that the supply of meat cannot be adjusted to a changing level of demand as easily and swiftly as is the case for most industrial goods. This is particularly true for cattle, for which a fairly long period of gestation and rearing is required. These built-in rigidities are at the root of cyclical fluctuations in the beef and veal supply, from which changes in prices as well as in the direction and size of international trade have mostly stemmed, up till now.

Taking a broad view of present supply conditions in Member countries, a clear

PER CAPITA CONSUMPTION OF BEEF AND VEAL⁽¹⁾ IN SOME OECD COUNTRIES (kg/year)



Sources : OECD : Food consumption in the OECD countries (Nov. 60 and Nov. 63); United States Department of Agriculture.

Note : The figures represent the average quantities available for the consumer per capita and per year. They do not reflect exactly the amounts actually consumed.
(1) excluding canned meat; (2) 1940-41; (3) in general 1934-38; (4) Saarland included from 1st July 1959.

distinction must be drawn among three geographic areas : North America, Europe and Japan. In North America production from local cattle is on the whole sufficient to satisfy the high level of local demand for quality beef and also to provide a sizeable margin for export. Imports of lower quality beef, mostly boneless meat for processing, have expanded rapidly in recent years both in absolute terms and as a percentage of American production.

There are good indications, however, that the volume of these imports has passed its peak and in 1964 they are expected to be down appreciably in comparison with the previous year. In Europe, despite the larger output, resources are inadequate to keep pace with the rising demand. The situation is not identical in all European Member countries, and some, as shown in Tables 2 and 3, have reached a cattle population of such a size that it allows them to export considerable quantities. However, European Member countries as a whole represent a deficit

area and form the main commercial outlet for beef and veal exports.

Japan is in a situation materially different from that prevailing in North America or in Western Europe. Beef and veal, and for that matter meat in general, are still relatively small ingredients in the Japanese diet, which provides protein nutrients through more traditional types of food. It follows that Japan, although definitely a small producer of meat in relation to the size of her population, has also been a small importer up to now.

The supply-demand relationship for beef and veal that has emerged in recent years in most Member countries has caused international trade to move upwards clearly though irregularly.

At the same time the geographic pattern of the meat trade has undergone notable changes. Latin America, traditionally the main source of beef exports, has gradually lost some of her former importance, as competitors strengthened their position in the world market and as a growing share of Latin American beef was consumed

locally. The severe drought of recent years in Argentina and Uruguay was an important factor in causing larger slaughterings so that the overall size of the herd appears now to have declined. Australia and New Zealand, on the other hand, have strengthened their position as exporters. Intra-European trade expanded rapidly, but in 1963 began to give signs of dwindling on account of the local shortage of supply. The United States, where cattle numbers are now at a record high level, has shown recently a greater interest in expanding exports and appreciable sales of beef and veal have been made to European countries.

On the imports side, Western Europe remains the principal outlet, with the United Kingdom heading the list of importing countries. Italy, however, under the pressure of a fast-rising domestic demand, has massively expanded her imports of beef and veal, to the point that in 1964 the volume of Italian imports should show a result not far different from that of the United Kingdom. The supply situation in most of Western Europe is such that a larger volume of net imports in 1964-1965 seems a very strong probability. The major beneficiaries of the increased import demand are expected to be those few countries with sizeable exportable supplies, namely Australia, New Zealand, the United States and possibly Ireland and Denmark.

The tightness of supply in most of Western Europe is accentuating the uplifting effect that the general increase in the cost of living is having on beef and veal prices. Although price increases have been more pronounced at the retail level than at the farm level, it is likely that they will gradually encourage European farmers to build up larger cattle herds, thus making it possible to narrow the gap now existing between supply and demand. That this development will materialise is, however, uncertain. If consumption continues to rise as fast as in the past few years, it is rather doubtful whether European production will be able to catch up with it.

To sum up, it is likely that in the near future European Member countries, as a whole, will need to maintain a high level of beef and veal imports. This may allow the North American countries to play a bigger role than heretofore as suppliers.

2 - CATTLE NUMBERS IN SELECTED COUNTRIES ('000 head)

Country		Month of Census	1961	1962	1963	% Change from 1962/1963	1964 (Prov)
EEC	Belgium	Jan.	2,531	2,639	2,687	+ 2	2,473
	France	Oct.	20,583	20,265	20,147	- 1	20,000
	Germany, FR	Dec.	12,867	13,355	13,014	- 2	13,100
	Italy	Jan.	9,827	9,526	9,150	- 4	9,380
	Netherlands	May	3,623	3,817	3,695	- 3	3,571
EFTA	Austria	Dec.	2,457	2,437	2,311	- 5	2,300
	Denmark	July	3,358	3,504	3,343	- 5	3,278
	Norway	June	1,180	1,159	1,122	- 3	1,096
	Sweden	June	2,491	2,576	2,450	- 5	2,360
	Switzerland	Apr.	1,761	1,782	1,716	- 4	1,698
United Kingdom	June	11,936	11,859	11,716	- 1	11,600	
OTHERS	Finland	June	2,057	2,152	2,175	+ 1	2,146
	Ireland	Jan.	4,291	4,179	4,860	+ 16	4,936
	Spain		3,640	(3,660)	3,683	+ 1	..
	Turkey		12,097	12,662	11,900	- 6	12,600
	Yugoslavia	Jan.	5,709	5,870	5,344	- 9	..
TOTAL WESTERN EUROPE			88,311	89,702	99,654	+ 11	
NON-EUROPEAN	Canada	June	11,900	12,100	12,305	+ 2	12,817
	United States	Jan.	97,300	100,002	103,736	+ 4	106,480
	Argentina	June	45,000	..	..	..	..
	Australia	Mar.	17,332	18,033	18,507	+ 3	..
	New Zealand	Jan.	6,446	6,598	..	..	..
Uruguay	May	8,700	..	..	..	..

.. not available

Source : National Statistics and Commonwealth Economic Committee.

3 - PRODUCTION OF BEEF AND VEAL FROM ALL ANIMALS OF INDIGENOUS ORIGIN ('000 M.T.)

Country		1955/1959 Average	1960	1961	1962	1963	1964 (Forecast)
EEC	Belgium	185	204	201	204	274	221
	France	1,308 (1)	1,485	1,626	1,676	1,661	1,625
	Germany, FR	829	935	981	1,078	1,126	1,106
	Italy	425	456	570	621	491	462
	Netherlands	201	231	228	265	313	240
		2,948	3,311	3,606	3,844	3,865	3,654
EFTA	Austria	134	128	133	158	171	..
	Denmark (incl. exports)	233	254	251	272	294	250
	Norway	51	70	77	82	79	78
	Portugal	35	40	44	47	48	46
	Sweden	132	129	130	156	166	160
	Switzerland	92	99	105	117	110	105
United Kingdom (2)	806	821	905	918	926	887	
	1,483	1,541	1,645	1,750	1,794		
OTHERS	Finland	67	72	68	81	88	95
	Greece	17	24	30	28	..	..
	Ireland	241	253	330	268	280	300
	Spain	137	148	178	165	163	212
	Turkey (3)	73	74	86	93	95	88
	Yugoslavia	144	156	182	190	..	..
	679	727	874	825			
TOTAL WESTERN EUROPE		5,110	5,579	6,125	6,419		
NON-EUROPEAN	Canada (4)	453 (5)	477	505	504	545	600
	United States	6,909 (1)	7,182	7,412	7,382	7,868	8,630
	Argentina	2,355 (1)	1,913	2,112	2,216	2,500	..
	Australia	829 (1)	643	800	884	946	..
	New Zealand	262 (1)	240	240	292	289	..
Uruguay	246 (1)	263	..	200	..	..

Source : ECE Geneva; Commonwealth Economic Committee and National Statistics.

Notes : Data refer to production from indigenous animals only including, where applicable, the meat equivalent of exported live animals.
 (1) Average 1956-1959. (2) UK figures relate to home-killed animals and therefore include cattle fattened in the Irish Republic and slaughtered in the UK, but exclude UK exports of live animals. (3) Meat production in municipal slaughter houses including buffalo meat. This represents about 50 % of the production for domestic consumption and does not include the meat equivalent of exported live cattle. (4) Figures for Canada concern inspected slaughter only.
 (5) Average 1957-1959.

A PRACTICAL APPROACH TO SOLVING REGIONAL PROBLEMS

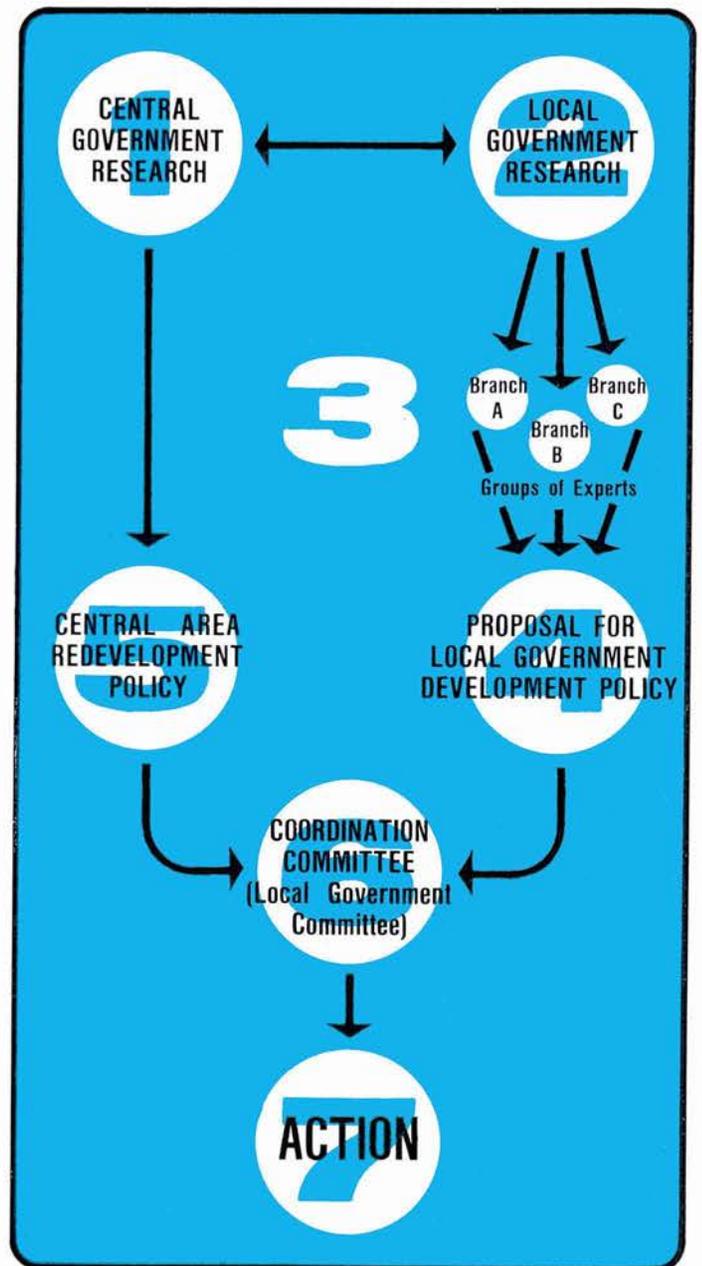


A number of governments in OECD Member countries are faced with the same problem: pockets of distress tend to develop even as average per capita income for the nation as a whole continues to grow. One district may be threatened by the appearance on the market of cheaper and better foreign goods; another by a new invention which makes the area's chief industry obsolete, and so on. If no action is taken, the decline of such areas may be difficult or impossible to reverse.

With the object of helping regions ward off such adverse situations and keeping their per capita income levels on a par with more prosperous areas, the OECD Manpower and Social Affairs Committee commissioned Professor Leo H. Klaasen, Director of the Netherlands Economic Institute, to write a guide on regional development and redevelopment for local policy makers and central government officials concerned with the economic vitality of the various regions that make up the nation. The report, entitled Guidelines for Programmes for Area Economic and Social Redevelopment, is also intended as a framework for future study.



Preventing the economic decline of a region requires a threefold programme of research, planning and action in which both local and central government participate. The report illustrates schematically how such a programme can be organised with the following diagram.



Research
at two levels

Research must be carried out by both central and local governments. The research conducted by the central government (1. in the diagram) should reveal the position of each area in relation to others in the nation and unearth the general growth forces at work.

Econometric analysis can be used here despite deficiencies in data (for example, import-export statistics are not ordinarily available for a region) which make problematic the use of some techniques (e.g. input-output analysis). Some relatively simple models are presented in the report; an example of the type of insights they can give is shown in Table 1.

At the local level (2. in the diagram) research should be conducted by a group, composed of economists, sociologists, psychologists and engineers, which acts as a continuous economic monitoring agency for the area. The findings of research conducted at the local level should be communicated to the central government and vice versa. A local research unit will, for example, know whether its area is classified as one of prosperity or distress, whether the central government considers its prospects to be of growth or decline. An inventory should be made — and kept up to date — of the area's economic and social resources and deficiencies. It should include such information as the size, rate of growth and age structure of the population, managerial skills available, the nature of labour-management relations, the infrastructure, and so on.

In addition to this general inventory, the local unit will conduct studies intended to determine what attractions the area may have for specific industries. For this purpose a variety of techniques may be used. In the US and the Netherlands, for example, what is called the minimum-requirement method is widely employed. In Liège, Belgium, in a research project published in 1963, three types of investigations were carried out: a poll of local industrialists with regard to production potential, a study of the available import statistics for Belgium, and a study of Common Market import statistics. When it was found that a market existed within the EEC and in Belgium and that local industrialists thought production both possible and desirable, the industry was indentified as a potentially promising one for the area. Such special studies will ordinarily be carried out in co-operation with local industry, and will be integrated into the general economic and social study.

Ideally local research should result in a priority list of projects that could be carried out in the area, beginning with the most profitable and ending with those that could just manage to function without



Rural areas are sometimes suited to modern industrial development.

loss. Included will be an estimate of what needs to be done in the area to attract these industries. This list can serve as a starting point for policy formation.



The role of the experts



It is at this point that local communities will feel the need for people with more specialised knowledge of specific branches of industry (3. in the diagram), both those already established in the area and those which might locate there. These experts have two major responsibilities : the first is to critique the research and its results, the second to make additional recommendations for measures required to attract specific industries. The report suggests that for the group to have an intimate knowledge of the area and yet not be bound by vested interests, experts should be recruited from both within and outside the area. The discussions between the research unit and the experts can produce proposals as to what local government development policy should be (4. in diagram).



Central government policy



The policy recommendations formed locally may be submitted to the central government in the form of a regional development plan. Under the Area Redevelopment Administration in the US such a plan (commonly called an OEDP, for "Overall Economic Development Plan") is a prerequisite for federal financing of specific development projects.

For purposes of central government assistance, the regional plans must be co-ordinated with each other and with the national plan, if one exists. In any case what is done on the regional level will be influenced by central government policy (5. in diagram) working largely through the various forms of financial aid granted by the latter to influence the mobility of labour and capital. (See table 2 for a list of the tools accessible to various OECD Member country governments.)

An examination of the criteria used by OECD central governments in deciding which areas shall be chosen for development shows that they are predominantly negative : "exceptionally high unemployment", "low income per capita", "structural unemployment", and so on (1). This is not surprising in view of the obstacles to a policy of investing in areas which would contribute most to the national economy : a central government may wish to pre-

serve a certain local culture; inhabitants may be reluctant to move, and regional leaders may be unwilling to see the size of their constituencies diminish. Nevertheless, the report to the Manpower and Social Affairs Committee urges that decisions be as rational as possible from an economic point of view. "Regional policy should preclude wasting investments in areas of minimal development potential."

Central government area development policy may also influence the location of projects within an area. The Netherlands, the Federal Republic of Germany, France and Italy, for example, all follow policies of developing growth points or nuclei within a given region. It is felt that a city of reasonable size, in addition to providing economies of scale in production and transportation, will exert an attractive force of its own as a result of its social and cultural environment and the industrial "atmosphere" it creates. (For example, firms can communicate easily with companies engaged in other stages of manufacturing the same product). The other side of the coin to a policy of developing nuclei in underdeveloped regions is action to decongest the largest cities.

A coordination committee at the local level (6. in diagram) will reconcile differences between the local consensus of what to do and the requirements of central government policy, and will pave the way for action (7). On the part of local authorities action means not only improving local facilities but also, among other things, promotion of the area as an industrial site. This requires specialised promoters who will concentrate their attention on rapidly growing industries. The report gives guidance on the kind of information that should be prepared for the potential industrial candidates, what sort of brochures, maps and site specifications should be utilised, and how to create a favourable atmosphere for industrial representatives coming into the area. (When Lebanon, Pa., launched a "bootstrap" operation a few years ago, its first move was to raise \$ 750,000 from local investors to build an 80-room air-conditioned inn.)



Policy problems



The report discusses a number of the problems that arise in the process of carrying out a programme of regional planning and development. Among those mentioned are the following :

- Policy instruments are often less effective on a

(1) Ireland seems to be an exception; the first economic plan notes that "The problem of redevelopment can best be formulated as the problem of ensuring that a total fund available for investment shall be optimally distributed among the areas of a country; this to be accomplished through a suitable system of financial supports, due regard being given to the area's development potential expressed in terms of natural resources, human capital, etc."

1. The deviation of provincial income from the national income

PROVINCE	(1) Actual deviation of income from Belgian average, 1959	(2) Influence of population growth	(3) Influence of industrial growth	(4) Deviation resulting from factors in Columns 2 and 3
ANTWERP	+ 11	- 4.9	+ 14.1	+ 9.2
BRABANT	+ 35	+ 7.1	+ 20.7	+ 27.8
WEST FLANDERS	- 10	- 4.9	+ 4.3	- 0.6
EAST FLANDERS	- 14	+ 1.4	- 0.5	+ 0.9
HAINAUT	+ 3	+ 10.7	- 17.5	- 6.8
LIEGE	+ 20	+ 12.1	- 5.7	+ 6.4
LIMBURG	- 20	- 27.5	- 2.7	- 30.4
LUXEMBOURG	- 21	+ 1.1	- 11.4	- 10.3
NAMUR	- 4	+ 5.8	- 1.8	+ 4.0

The table shows the kind of insight that can be gained from even a very simple kind of regional econometric analysis.

First Column : the extent to which income in each province differs from the national average.

Second Column : to what extent the deviation can be explained by the influence of natural population growth and migration, roughly calculated.

Third Column : the deviation due to the pattern of industrial growth — whether industry in each region is expanding, contracting or remaining static.

Fourth Column : the effects of both population and industrial growth on the income level of each province as compared with the national average.

Although it is clear from the differences between columns 1 and 4 that population and industrial trends alone cannot account for the actual divergence of income, there is a parallel movement which permits Professor Klaasen to make the following observations :

- 1) The fact that Antwerp's income is above the average is due to a very favourable economic structure which dominates the negative influence of population increase.
- 2) Brabant's high income is due to a very low population growth combined with a very favourable industrial structure.
- 3) The income of Hainaut is about average. The very unfavourable structure is, to a large extent, compensated by a very low natural population growth.
- 4) In Limburg the unfavourable economic structure and the very high natural increase in population both contribute to the very low income level.
- 5) In the province of Luxembourg, the negative influence of the unfavourable structure is the cause of the low income.
- 6) The case of Liege is particularly interesting. In spite of a rather unfavourable economic structure, this province, by virtue of its extremely low natural population growth, enjoys a relatively high level of income.

regional than on a national scale. Because a region is ordinarily a more open economy than a nation, a given government expenditure (or cut in taxes) will bring about a more modest increase in regional income than would a corresponding expenditure in national income. The effects of a given expenditure are also more difficult to predict.

- A region that forms an economic entity rarely coincides with existing administrative boundaries; co-operation between several local governments, although necessary for the development of a mean-

ingful development plan, is not always easy to obtain in practice.

- With a decentralised taxation system, richer communities can often offer incentives to industry that poorer regions cannot match even with central government help.
- It is becoming increasingly difficult to measure the locational needs of industry in terms of known factors such as wage levels and building costs. This is particularly true for white-collar industries such as banking, research and insurance.

(Continued on page 18)

Hidden potentialities

Formal analysis of the type recommended will ordinarily deal with fairly broad categories of industry and, even when supplemented by the judgement of branch experts, may overlook very important possibilities. Hidden potentialities may take the

form of undiscovered resources like the natural gas that has entirely transformed economic prospects for Groningen and the island of Ameland in the Netherlands; markets may be found for products already being produced or new uses for waste products. "A few ideas might change the whole future of an area" the Manpower Committee report notes. "For this reason local authorities would do well to make whatever resources are available — a local research unit, a group of experts — accessible to the entire community. In this way the most can be made of intelligent ideas put forward by members of the community."

2. Central government measures in some Western European countries

General	Industry	Labour	Type of Measure	Belgium	FR Germany	UK	France	Italy	Netherlands
A B C D E F G			Regional funds, societies for regional development	* (1)	*	*	*	*	
			Improvement of regional infrastructure : roads, etc.	*	*	*	*	*	*
			Accompanying social measures						*
			Decentralisation of public institutions				*		
			Decentralisation into new towns			*			
			Government orders		*			*	
			Establishment licence or prohibition			*			
	H J K L M N O P		Subsidies on land and/or buildings	*	*	*	*	*	*
			Subsidies on industrial equipment	*	* (2)	*	*	*	*
			Loans, if necessary, at a low rate of interest	*	*	*	*	*	*
			State guarantees	*	*		*	*	*
			State participation				*	*	
			Reduction of transport rates			* (3)			*
			Tax facilities	*	* (3)		*	*	*
		Exemption from import duty						*	
		Q R	Subsidies on the cost of training or retraining	*	*	*	*	*	*
			Subsidies on the cost of moving	*	*	*	*	*	*

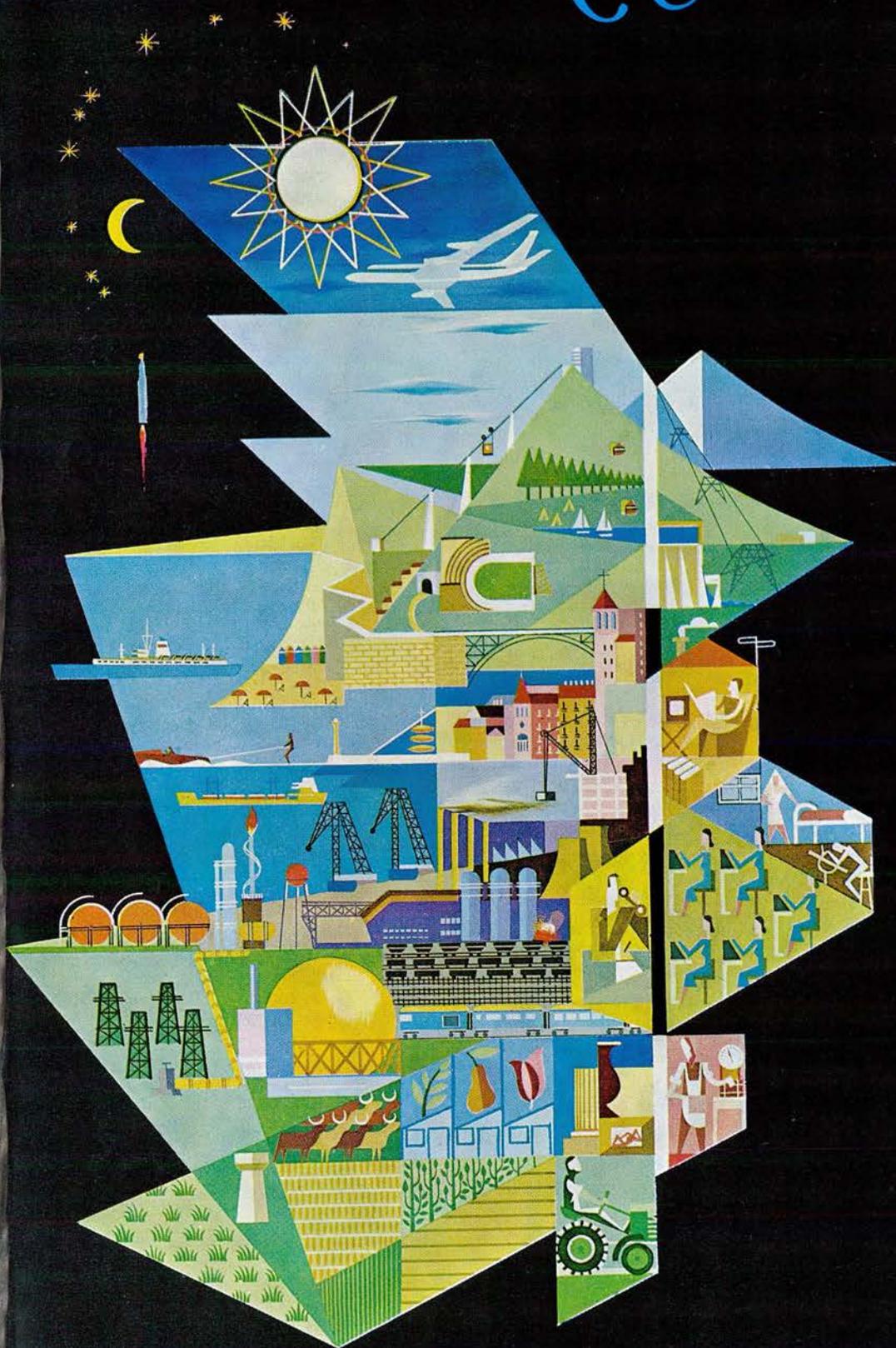
Source : F.J.J.H.M. van Os : "Methods of influencing the distribution and the provision of industry and other economic activities", p. 81.

(1) Not yet effective.

(2) In the form of interest-subsidies in eastern frontier zones.

(3) Only in eastern frontier zones.

THE OECD MEMBER COUNTRIES



The OECD OBSERVER is publishing in this issue a set of figures giving a general idea of the diversity of the economies of its Member countries and hence of the problems with which they have to cope. These tables do not claim to provide all the comparative data needed for an understanding of the economic situation of each country in relation to the OECD group as a whole. They are intended to provide certain basic facts about the twenty-one Members of the Organisation which illustrate the economic position of each of them.

Employment, national product, the volume of trade, government revenue and expenditure, and the standard of living provide, for example, valuable pointers to the specific features of each of the economies concerned. The Organisation's constant endeavour to reconcile the statistical data relating to its Members, i.e. to make such data as comparable as possible, finds further justification in this respect.

Most of the figures contained in these tables have been supplied by the Statistics and National Accounts Branch of OECD. Some of them have already been published in the General Statistical Bulletin, the Main Economic Indicators, the Statistical Bulletin on Foreign Trade, Manpower Statistics or the National Accounts Statistics.

SYMBOLS EMPLOYED : () Secretariat estimate; — Nil; ●● Figure not available. Unless otherwise stated, all the figures are for 1962.

	AREA (1,000 sq. km)	AGRICUL- TURAL AREA (1,000 sq. km) 1956-57/1959-60	TILLAGE and temporary grassland (1,000 sq. km) 1956-57/1959-60	POPULATION IN 1963 (thousands)	INHABITANT PER SQ. KM
AUSTRIA	83.8	40.7	17.7	7,172	86
BELGIUM	30.5	17.2	9.9	9,290	305
CANADA	9,976.2	. .	. .	18,928	2
DENMARK	43.0	31.3	27.6	4,684	109
FRANCE	551.2	389.0	212.7	47,853	87
GERMANY (FR)	248.5	143.4	86.7	55,430	223
GREECE	130.9	88.5	36.1	8,480	65
ICELAND	103.0	21.3	. .	186	2
IRELAND	70.3	47.2	14.0	2,841	40
ITALY	301.2	209.7	158.2	50,457	168
JAPAN	369.7	. .	60.7 (1960)	95,830	259
LUXEMBOURG	2.6	1.4	0.8	325	125
NETHERLANDS	33.6	23.1	10.4	11,967	356
NORWAY	323.9	10.3	8.4	3,668	11
PORTUGAL	91.5	(49.4)	(41.3)	9,037	99
SPAIN	504.7	408.6	206.8	31,077	62
SWEDEN	449.8	42.8	36.0	7,606	17
SWITZERLAND	41.3	21.7	4.4	5,810	141
TURKEY	780.6	538.8	245.6	30,256	39
UNITED KINGDOM	244.0	195.0	71.2	53,812	221
UNITED STATES	9,363.4	5,455.1	1,582.3	189,375	20

NATURAL INCREASE IN POPULATION Percentage (annual average 1950-1962)	NET IMMIGRATION (+) OR NET EMIGRATION (-) thousands (annual average 1958-1962)	TOTAL EMPLOYMENT (civilian occupied manpower) (thousands)	of which :		
			AGRICULTURE (%)	INDUSTRY (%)	OTHER ACTIVITIES %
+ 0.2	- 5	3,372 (1961)	22.7	42.8	34.5
+ 0.5	+ 5	3,525 (1963)	6.5	46.7	46.8
+ 2.6	+ 36	6,217 (1962)	12.1	34.7	53.2
+ 0.7	-	2,220 (1963)	18.5	39.8	41.7
+ 1.0	+ 290	18,715 (1962)	20.7	40.1	39.2
+ 1.1	+ 300	25,680 (1962)	13.5	49.0	37.5
+ 0.9	- 27	3,424 (1961)	56.0	18.5	25.5
+ 2.0	-	73 (1960)	24.6	38.4	37.0
- 0.4	- 34	1,044 (1963)	34.5	26.2	39.3
+ 0.6	- 162	19,297 (1963)	27.0	41.2	31.8
+ 1.0	- 22	46,130 (1963)	28.1	31.5	40.4
+ 0.7	+ 2	149 (1960)	21.0	45.2	33.8
+ 1.3	+ 1	4,289 (1961)	9.9	42.1	48.0
+ 0.9	- 1	1,461 (1962)	21.6	36.3	42.1
+ 0.6	- 58	3,272 (1960)	44.2	29.3	26.5
+ 0.8	- 132	11,354 (1960)	41.9	31.6	26.5
+ 0.6	+ 9	3,757 (1963)	12.9	41.4	45.7
+ 1.5	+ 70	2,512 (1960)	11.1	49.3	39.6
+ 2.8	. .	12,993 (1960)	74.9	9.8	15.3
+ 0.5	+ 72	24,638 (1962)	4.0	48.0	48.0
+ 1.7	+ 336	68,109 (1963)	8.2	32.8	59.0

All figures in this page refer to the year 1963

Notes :

- a) including electricity
- b) Net Domestic Product
- c) Gross Domestic Product at market prices

		AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
GROSS NATIONAL PRODUCT	at market prices									
	at current prices and exchange rates (million US \$)	7,716	13,931	42,831	7,962	79,963	94,528	(1962) 3,921	(1962) 262	(1962) 2,133
	at 1958 prices and exchange rates (million US \$)	6,502	12,715	40,824	6,520	75,050	77,362	(1962) 3,704	(1962) 509	(1962) 1,963
	per capita at current prices and exchange rates (US \$)	1,076	1,500	2,263	1,700	1,671	1,641	(1962) 464	(1962) 1,440	(1962) 757
STRUCTURE OF GROSS DOMESTIC PRODUCT (%) at current prices	agriculture, forestry, fishing	10.7	7.0	14.0	14.1	c) 8.7	5.2	(1962) 28.6	. .	(1962) 23.3
	mining and quarrying, manufacturing industry, construction	48.1	39.2	34.9	41.8	c) 45.8	a) 52.6	(1962) 25.6	. .	(1962) 32.3
	other activities	41.2	53.8	51.1	44.1	c) 45.5	42.2	(1962) 45.8	. .	a) (1962) 44.4
GROSS FIXED ASSET FORMATION	percentage of GNP at current prices	22.8	19.6	21.6	19.0	19.8	25.1	(1962) 22.0	(1962) 25.1	(1962) 15.6
	US \$ per capita at current prices and exchange rates	245	294	489	322	331	411	(1962) 102	(1962) 363	(1962) 118
CONSUMPTION EXPENSES	percentage of GNP at current prices	62.4	68.2	63.4	65.5	65.4	57.0	(1962) 72.7	(1962) 64.4	(1962) 74.4
	US \$ per capita at current prices and exchange rates	671	1,023	1,435	1,114	1,093	936	(1962) 337	(1962) 929	(1962) 563
CURRENT GOVERNMENT EXPENDITURE AND REVENUE (% of GNP)	current expenditure	28.4	27.6	27.6	25.2	33.8	30.2	(1962) 20.7	(1961) 19.9	(1962) 24.4
	current revenue	34.8	28.6	29.5	29.4	37.1	37.5	(1962) 23.6	(1961) 28.0	(1962) 24.4
OFFICIAL HOLDINGS of gold and foreign exchange 31st December 1963 (million US \$)		1,143	BLEU 1,807	2,595	437	4,457	7,102	283	33	384
OFFICIAL DISCOUNT RATE 30th November 1964 (with date of last change)		4.50 26.6.63	4.75 3.7.64	4.25 24.11.64	6.50 11.6.64	4.00 14.11.63	3.00 5.5.61	5.50 17.1.63	9.00 29.12.60	4.9 30.10

ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
5,351	59,441	525	14,487	5,636	(1962) 2,749	(1960) 6,834	15,552	11,676	6,973	84,183	585,149
7,906	49,982	. .	11,981	5,054	(1962) 2,631	. .	13,190	9,847	7,205	76,090	546,900
899	620	1,606	1,212	1,537	(1962) 304	(1960) 220	2,045	2,010	230	1,564	3,090
15.5	11.8	(1961) 7.5	8.8	8.7	(1962) 24.2	. .	. .	. .	b) 40.7	(1962) 3.9	3.4
41.9	33.9	(1961) 55.7	41.4	31.1	(1962) 37.4	. .	. .	. .	a) b) 22.6	(1962) 44.8	31.7
42.6	54.3	(1961) 36.8	49.8	56.2	(1962) 38.4	. .	. .	. .	b) 36.7	(1962) 51.3	64.9
23.2	33.0	28.2	24.0	30.5	(1962) 17.3	(1960) 16.2	23.4	28.5	(1962) 14.7	16.1	16.2
208	205	453	291	469	(1962) 53	(1960) 36	478	573	(1962) 31	252	499
62.2	53.2	61.0	59.0	57.7	(1962) 70.9	(1960) 72.1	58.3	59.7	. .	65.2	62.8
559	330	979	715	886	(1962) 215	(1960) 158	1,192	1,200	. .	1,021	1,942
29.2	14.6	(1961) 25.3	30.3	31.2	(1962) 20.1	. .	31.5	(1962) 19.9	. .	(1962) 31.1	26.9
32.9	22.6	(1961) 33.8	34.7	37.7	(1962) 21.0	. .	40.7	(1962) 25.4	. .	(1962) 33.1	29.0
3,057	1,878	BLEU 1,807	1,906	329	801	1,093	721	3,072	229	2,657	15,808
3.50 6.7.58	6.57 18.3.64	4.75 3.7.64	4.50 4.6.64	3.50 14.11.55	2.00 31.12.44	5.00 9.6.61	5.00 7.11.64	2.50 3.7.64	7.50 1.7.61	7.00 23.11.64	4.00 23.11.64

All figures in this page refer to the year 1963

BLEU = Belgium-Luxembourg Economic Union

AUSTRIA

BELGIUM

CANADA

DENMARK

FRANCE

GERMANY (FR)

GREECE

ICELAND

IRELAND

CURRENCY

monetary unit

Schilling

Belgian Franc

Canadian Dollar

Krone

French Franc

Deutsche Mark

Drachma

Krona

Pound

currency units per US \$
15th November 1964

26.00

50.00

1.081

6.907

4.937

4.00

30.00

43.00

0.35

IMPORTS

total (CIF)
(million US \$)

1,675

5,113
(BLEU)

FOB
6,081

2,115

8,730

13,019

804

110

858

from other OECD
countries
(million US \$)

1,323

4,006
(BLEU)

5,177

1,832

5,354

9,370

598

84

695

from rest of world
(million US \$)
(excl. unspecified)

352

1,104
(BLEU)

905

283

3,376

3,630

206

26

136

total imports
as percentage of GNP
at current prices
(annual average)

24.3

36.1
(BLEU)

22.4

32.6

13.9

18.4

21.2

44.2

40.3

increase in volume of
total imports from 1953
to 1963
(percentage per year)

15.80
over 9 years

8.55
(BLEU)

2.75

8.30

9.45

14.20

11.35

6.05
over 9 years

4.1

EXPORTS

total (FOB)
(million US \$)

1,325

4,851
(BLEU)

6,472

1,865

8,085

14,617

290

94

548

to other OECD countries
(million US \$)

972

4,223
(BLEU)

5,482

1,578

5,269

11,361

198

69

494

to rest of world
(million US \$)
(excl. unspecified)

353

597
(BLEU)

989

287

2,814

3,209

92

25

19

total exports
as percentage of GNP
at current prices
(annual average)

24.6

36.3
(BLEU)

20.3

29.4

14.5

19.4

13.3

46.8

36.9

increase in volume
of total exports
from 1953 to 1963
(percentage per year)

10.45
over 9 years

8.50
(BLEU)

4.30

7.25

8.35

11.70

6.00

6.85
over 9 years

5.0

TOURISM

number of nights
(thousands)

37,983

4,574

• •

• •

36,327

11,692

6,135

• •

16,5

percentage of increase
over 1962

+ 5.6

+ 9.7

• •

• •

+ 5.7

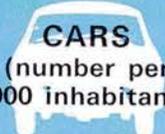
+ 4.4

+ 24.6

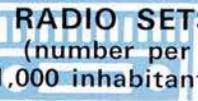
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ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
Lira	Yen	Luxem- bourger Franc	Guilder	Krone	Escudo	Peseta	Krona	Swiss Franc	Lira	Pound £	Dollar
25.00	362.40	50.00	3.62	7.143	28.75	60.00	5.173	4.315	9.00	0.357	1.00
7,581	6,738	5,113 (BLEU)	5,967	1,822	651	1,955	3,386	3,238	691	13,497	17,014 FOB
5,033	3,069	4,006 (BLEU)	4,690	1,569	457	1,383	2,736	2,900	543	6,867	9,915
2,540	3,670	1,104 (BLEU)	1,276	253	194	572	650	338	147	6,629	7,093
17.8	13.0	36.1 (BLEU)	50.2	44.4	• •	• •	25.7	32.3	• •	21.7	4.4
13.90	12.35	8.55 (BLEU)	10.60	7.15	• •	13.80	8.25	• •	• •	4.00	4.90
5,075	5,448	4,851 (BLEU)	4,962	1,074	417	736	3,199	2,417	368	11,855	22,922
3,528	2,352	4,223 (BLEU)	4,071	874	256	568	2,497	1,832	295	6,411	12,309
1,447	3,094	597 (BLEU)	827	200	160	149	702	584	74	5,444	8,430
17.8	11.0	36.3 (BLEU)	51.9	40.0	• •	• •	25.7	30.5	• •	22.5	5.3
14.55	18.50	8.50 (BLEU)	8.45	7.05	• •	4.50	7.40	• •	• •	3.30	2.90
36,216	arrivals 240,000	751	4,095	1,615	1,845	arrivals 8,795	• •	17,308	1,440	74,500	arrivals 6,083
+ 1.2	+ 11.4	+ 2.6	+ 6.7	+ 0.1	+ 35.9	+ 23.0	• •	- 1.7	+ 4.2	+ 6.4	+ 4.3

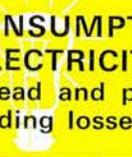
 CARS (number per 1,000 inhabitants)			AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
			76	101	247	117	117	119	7	103	74
ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
60	7	140	62	88	21	14	188	111	(2)	126	351

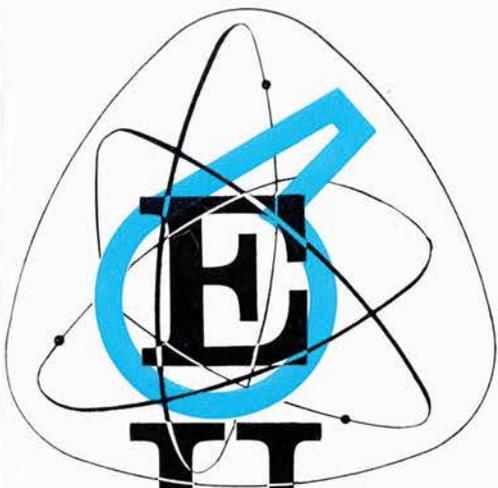
TELEPHONES (number per 1,000 inhabitants)			AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
			114	118	340	254	107	124	36	(1961) 234	65
ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
81	75	196	159	221	51	68	385	329	(1961) 9	167	430

 RADIO SETS (number per 1,000 inhabitants)			AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
			290	313	(450)	359	290	(300)	106	277	182
ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
182	. .	318	258	288	113	(1961) 103	388	268	56	291	(950)

 TELEVISION SETS (number per 1,000 inhabitants)			AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
			53	110	(240)	182	72	131	—	—	(53)
ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
69	. .	40	107	56	10	12	214	49	—	229	(300)

 HOUSING UNITS COMPLETED IN 1962 (number per 1,000 inhabitants)			AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
			5.4	4.9	. .	7.2	6.6	10.1	(1961) 8.0	. .	2.4
ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
7.2	begun in 62 6.8	. .	6.7	7.6	4.3	5.3	9.9	10.5	. .	6.0	(8.1)

 NET CONSUMPTION OF ELECTRICITY kWh per head and per year (excluding losses)			AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
			1,819	1,633	5,742	1,268	1,600	2,180	287	2,811	793
ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
1,122	1,280	4,813	1,437	9,070	371	588	4,542	3,090	106	2,583	4,670



EUROCHEMIC

EUROPEAN COMPANY FOR THE CHEMICAL REPROCESSING OF IRRADIATED FUELS

The Eurochemic Company was constituted on 27th July 1959 under an international Convention signed some 18 months previously by 12 Member countries of OEEC, forerunner of OECD (1). This Convention, together with the creation of the European Nuclear Energy Agency (ENEA), was one of the first major results of the work of OEEC in the nuclear energy field.

The founders of Eurochemic had a dual objective : first, to build and operate jointly a pilot industrial plant for the chemical processing of the various types of fuel coming from the first European atomic reactors; and secondly, to acquire from the operation of this plant the technical and economic experience necessary for the design and construction of the larger plants which would later be required to handle used fuels resulting from an expanding European nuclear power programme.

The Eurochemic installations which are now nearing completion at Mol in Belgium are the practical outcome of these objectives. They also provide a concrete demonstration that European co-operation in an advanced technological field can be no less effective than in the more traditional political and economic spheres.

why Eurochemic ?

When fissile nuclear fuel (usually uranium 235) is "burnt" in a reactor, the resulting products of the reaction tend to impede the continuation of the fission process. As a result of the intense radiation exposure in the reactor, mechanical distortion of the fuel elements also occurs and the combination of these two effects makes it necessary to replace the elements long before all the fissile uranium in them has been used up. It is therefore desirable to separate this unburnt fuel from the fission products so that it can be incorporated into new fuel elements.

An additional reason for such a separation process is that it can also be used to recover plutonium, another fissile material, which is formed from the uranium isotope U238 during fission in natural uranium fuels. The plutonium so recovered can itself then be burnt in reactors specially designed for the purpose.

It is thus clear that reprocessing can be an important factor in the overall efficiency with which nuclear fuel is used in a reactor or a series of reactors, and hence an important factor in the economics of nuclear energy production. The development of reprocessing techniques is therefore of interest to all countries which expect to make use of nuclear power to any great extent.

However, to develop these techniques calls for very heavy investments both in terms of money and of qualified scientists and engineers,

(1) The twelve original Signatories of the Eurochemic Convention were Austria, Belgium, Denmark, France, the German Federal Republic, Italy, the Netherlands, Norway, Portugal, Sweden, Switzerland and Turkey. These countries were later joined by a thirteenth, Spain, following her accession to OEEC and to ENEA.

and for such work to be attempted on a national scale would impose a heavy burden on many of the smaller countries. In addition, in Europe the quantities of used fuel at present being produced are too small to make reprocessing commercially interesting. This is why the thirteen countries now participating in Eurochemic decided to work together, sharing the costs and the staff requirements, and pooling the knowledge, experience and services resulting from the enterprise.

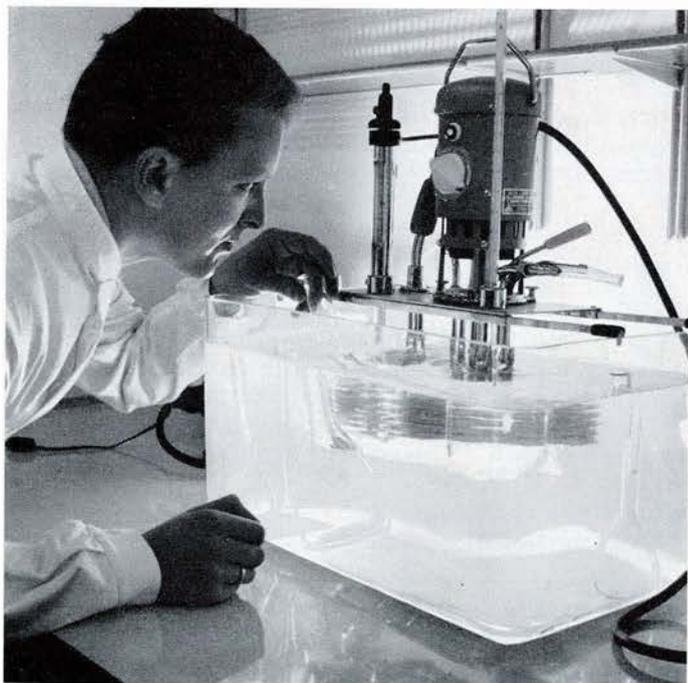
what is Eurochemic ?

Eurochemic is a mixed investment company in which shares are held by governments, public or semi-public institutions or private industry in the participating countries. The capital is divided into 712 shares of a nominal value of \$ 50,000 per share and six shares of nominal value \$ 25,000 per share. At present about 10 % of this capital is held by private undertakings.

As in any joint stock company, control of Eurochemic is in the hands of a General Assembly of shareholders and a Board of Directors. The rights of the public and private shareholders in these bodies are proportionate to the number of shares they hold.

Eurochemic differs, however, in two main respects from most other companies. In the first place, being established under an international Convention, it has a special legal position in relation to its members and in particular to the host country, Belgium. Although its day-to-day operations are in fact governed by private law rather than international law, it has an independent international legal status and the law of the host country applies only where the Eurochemic Convention is silent. This gives the Company certain privileges and immunities similar to those enjoyed by other international organisations.

Work in a Eurochemic laboratory.



The second difference between Eurochemic and most other companies is that its activities are not primarily directed towards financial gain, but rather to serving the interests of the participating countries by providing services and facilities. The governments of these countries should therefore perhaps be regarded as promoters rather than shareholders, and for this reason they have reserved certain rights and duties in regard to their joint undertaking.

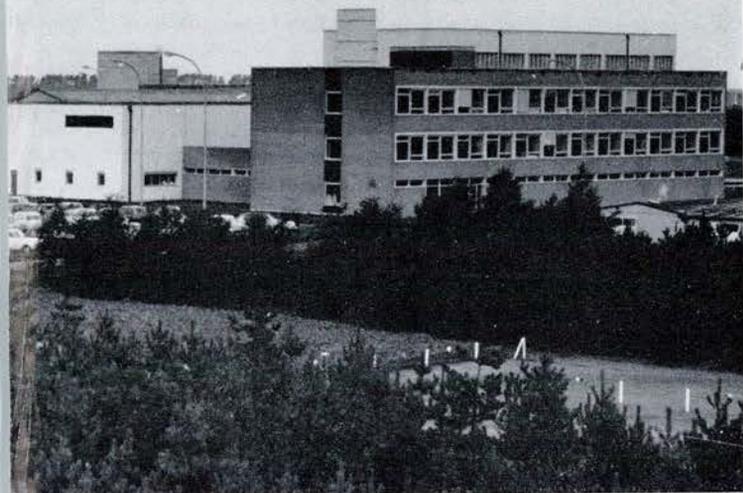
In particular, they exercise a right of supervision over the Company, some of whose major decisions are subject to their approval. They have also agreed to help the Company to overcome any operational difficulties which may arise, and in practice this government assistance has proved essential, particularly during the Company's adolescent years.

Government action is exercised through the European Nuclear Energy Agency, whose Steering Committee has established a special group with competence to deal with the problems of Eurochemic.

a multi-purpose reprocessing plant

The Eurochemic plant is designed to handle fuel from a wide range of reactors in the participating countries, including both nuclear power stations and research reactors. The reactors now operating or under construction are very diverse and use a variety of fuels made into elements of many designs. The nature of Eurochemic has made it necessary to accept all such varieties and designs, resulting in a multi-purpose plant which is the only one of its type in existence.

The Eurochemic plant has been designed to provide a reprocessing capacity of some 350 kg per day of natural uranium or slightly enriched uranium fuels



containing less than 5 % U235, or some 10 kg per day of highly enriched uranium fuels. The technical characteristics adopted for the plant are suitable for many types of fuels varying widely in size, composition and cladding.

The Eurochemic installations are not however intended solely to reprocess spent fuels and supply the fissile materials obtained to users in the various countries. They are also intended to provide shareholders with economic experience of reprocessing, and to act as a training centre not only for the Company's own engineers but also for trainees sent for shorter periods.

what has Eurochemic achieved ?

As a completely new venture, Eurochemic had to start by training a team of technologists recruited from the participating countries. It then took about two years to finalise its construction plans. The building of the research laboratory and the reprocessing plant began in December 1961.

The present position is as follows : the research laboratory has been in service since the middle of 1963; the ancillary buildings (offices, electronic and engineering shops, power plant, compressed air and water treatment plants, etc.) are also completed. In the main plant itself, the reception and storage units are complete while installation of the processing units is well advanced. The first trial reprocessing runs will be carried out in 1965 and the plant will be completely operational in 1966.

The actual construction work at Mol has itself been in the nature of an experiment, having been organised in such a way as to associate European industry

on a wide scale. A dozen design and planning offices have co-operated in working out the detailed projects and organising the work as architect-engineers. The labour and supply contracts, numbering some 500 for the whole plant, were shared among firms in the participating countries after tenders had been invited on an international basis.

In parallel with the plant construction work, Eurochemic has carried out a considerable research programme on the scientific and technological problems of reprocessing. The techniques to be used have been developed and tested experimentally in the laboratory. Several items of pilot equipment, in particular dissolving and extraction units, have been built in full size to try out the performance of the main equipment of the plant. At a later stage research will be devoted to operational problems and the permanent storage of radioactive waste.

Research work has moreover not been confined to the requirements of the plant itself, but has also supplemented the programmes of the national nuclear research centres in participating countries. All the results of this work are circulated to the shareholders and are thus available to research organisations and industry in the participating countries.

the future

When the preliminary design of the Eurochemic plant was under discussion, it was expected that some 100 tons of fuel per year from reactors in the participating countries would need reprocessing as from the early 1960's. In fact, the need has proved considerably less and only now, towards the end of 1964, are the first requirements for reprocessing arising.

This is perhaps fortunate, since it means that the demand for Eurochemic's services is beginning to appear at about the same time as the services are becoming available. Thus, as the installation work at Mol nears completion, experts of the Company are already working out an operating schedule for the start-up period and the first years of operation. A standard form of reprocessing contract has been drawn up, and negotiations are now under way with a number of reactor operators who intend to send used fuel to Eurochemic for treatment. The first contracts are expected to be signed before the end of the year.

At the same time research and development work for the improvement of the Eurochemic process, or for its adaptation for the treatment of an even wider variety of types and compositions of fuels than originally planned, is continuing in the Company's laboratories. Among the new processes already resulting from this work is one which promises to be of great value for the final purification of extracted plutonium.

It is now five years since Eurochemic came into being and the main work of these five years has been to prepare the tools for the tasks ahead. As these preparations near completion, the Company is ready to get on with the job.

CURRENT PROBLEMS

An understanding of the economic problems of one country may provide valuable insights into those of another, despite differences in the surrounding circumstances and even in the nature of the problem itself. The solutions found may also be highly relevant. OECD's Economic and Development Review Committee bears this

THE PROBLEM

Can a country sustain over a long period of time a development programme in which investment exceeds domestic savings? Under what conditions is it reasonable to do so?

BACKGROUND

The Norwegian Government has encouraged a very high level of investment in post-war years. During the 1950's 30 per cent of GNP on the average was devoted to investment as against 20 per cent for European OECD Member countries. The investment has in large measure been directed towards replacing some of Norway's traditional export industries (whaling, fisheries and forestry) whose growth is handicapped by the limited supply of natural resources on which they depend.

Two kinds of industry have received particular attention: shipping on the one hand and, on the other, energy-intensive industries which can profit from Norway's vast resources of hydroelectric power (electro-chemicals, aluminium, steel, nickel and copper). These are capital-intensive industries as well.

For the funds required, the Government has as a deliberate policy relied on capital imports to supplement domestic savings. During the 1950's, capital imports represented some 10 per cent of fixed capital formation; in the early 1960's the ratio rose to 20 per cent. The private sector has been encouraged to seek long-term financing abroad, and the authorities have raised loans from the International Bank for Reconstruction and Development as well as in foreign capital markets.

THE RISKS

Is there a danger that continued borrowing abroad may become difficult in future and that the structural dependence on this source of investment may be hard to reverse?

The current account of the balance of payments has shown a persistent deficit which in recent years has run to as high as 3 per cent of GNP. This deficit has been more than covered by the capital imports, but is there a danger that continued borrowing abroad will lead to debt repayment and interest charges so large as to endanger the overall balance of payments equilibrium?

COMMENTS OF THE COMMITTEE

Whether or not Norwegian policy should be based on continuing capital imports raises questions about the needs of the domestic economy, the servicing of the foreign debt, and the possibilities of raising external finance on reasonable terms.

It might be argued that Norway, an industrialised country with a high level of per capita income, should finance investment by her own savings. But, given the special structure of the economy, particularly the large shipping sector and the capital-intensive nature of its industrial expansion, this would clearly be unrealistic.

If domestic savings, although relatively high, are unlikely to be sufficient to achieve a further rapid development of the country's national resources, it

MS AND POLICIES

fact in mind in making its annual surveys of each Member country's economy. In this column will be summarised from time to time the Committee's analysis of particular economic situations in individual Member countries. The following is based upon the Country Survey of Norway for 1964.

would seem appropriate to maintain some borrowing abroad. The resulting increase in the foreign debt should not be a matter of concern if the corresponding investment projects are sufficiently profitable to service the debt incurred without placing an additional burden upon the rest of the economy. But it is important that the capital imports should be kept at a level which does not generate inflationary pressures in the domestic economy; while a capital inflow clearly enlarges the basis for an expansion of demand without endangering the foreign balance, it also serves to strengthen the pressure on domestic resources, notably the labour market, rendering more difficult the stabilisation of costs and prices.

In most post-war years net imports of ships have more than accounted for the current deficit, and about two-thirds of the net foreign debt concerns shipping. The deficit on current account and the large debt being incurred abroad are in a sense two sides of the same coin, for the ships purchased abroad are usually paid for with loans raised abroad by the shipowners themselves. (Tankers must, under Norwegian foreign exchange regulations, be totally financed by foreign capital for a period of five years.) Moreover, the payment of principal and interest are directly geared to the foreign earnings of the ships. Upon delivery to Norwegian owners, these ships are generally put under long-term contracts which secure their amortisation within 8 to 10 years.

In this sector, therefore, neither the raising of the foreign exchange needed to finance imports of ships nor the foreign exchange required for the servicing of the resulting foreign debt represent a burden on the rest of the economy or present a problem for economic policy. With the rise in the foreign debt of the shipping sector so directly related to the increase in invisible earnings from abroad, the increase in debt servicing obligations should not be a matter of concern.

The main problem for economic policy concerns the borrowing needs which are not covered by net shipping credits. Such needs have recently averaged about \$ 100 million a year. This would not seem to be a large amount in relation to the domestic

economy; it represents about 1.5 per cent of GNP, 4.5 per cent of current foreign exchange earnings and about 20 per cent of the foreign exchange reserves. Nor would it seem to be excessive in relation to Norway's borrowing capacity abroad.

But the capital inflow of the last few years has to a great extent consisted of short-term banking funds. There are no statistics available showing a breakdown of the total capital inflow with regard to short- and long-term funds, but in 1961 and 1962, taken together, the commercial banks' borrowing abroad, which very largely consists of short-term capital, amounted to more than \$ 100 million, about half the total capital inflow (excluding shipping credits). Although it is likely that, normally, an important part of these short-term loans can be renewed, it would seem desirable from the point of view of the liquidity position to seek long-term financing to a greater extent than in recent years. This has been acknowledged by the authorities, and a much more restrictive policy has been pursued during the last two years with respect to short-term borrowing by the banks.

The possibilities for obtaining a greater amount of long-term financing than in the past are difficult to assess. The borrowing needs of the Norwegian economy are clearly negligible in relation to the international flows of long-term capital. Part of the inflow required can no doubt be covered by direct foreign investment; although existing statistics on capital imports are incomplete, available data suggest that there has been a fairly steady inflow of this type of capital in the past, mainly connected with the development of energy-intensive industries. And in the longer run it would also seem reasonable to assume that it will be possible to raise growing amounts of fixed interest rate capital abroad. But in the years immediately ahead the prospects may be more uncertain, given existing trends and restrictions both in the United States and in European capital markets. With these uncertainties, it would seem unwise to base economic policy on an increase in the long-term capital inflow; it would probably be prudent to aim at some decline in the structural need for foreign capital.

Increasing the productivity of



Older workers : job re-design

Older workers represent a growing proportion of the total active population. Through their knowledge and experience, they make a valuable contribution to production and therefore to the achievement of the growth target of OECD Member countries.

One of the purposes of an active manpower policy is to ensure that these workers are used to the best advantage, both in their own interests and in those of the various national communities. The OECD Manpower and Social Affairs Committee has been working on this problem for a number of years now.

The Committee's activities have taken various forms. The London Conference of September 1964, organised by OECD, pointed to the need for two series of studies, one on methods of training older workers and the other on the re-design of jobs, as a step towards sustained productivity of workers throughout their working life. A report on the latter question has recently been published by Stephen Griew, of the Department of Psychology, University of Bristol, and now Professor at the University of Otago (New Zealand) and OECD Consultant, under the title "Job Re-design".

Many older workers, who remain in jobs until their ultimate retirement, remain as productive as young workers on these jobs. But this is not the case for all, and the latent sources of stress which affect older workers very frequently lead to quite a considerable fall in productivity. Remedies for this problem do exist, and job re-design is one of the first of those which the OECD Manpower and Social Affairs Committee recommends should be put into practice.

Some modifications and their results

With very slight modifications, it is in fact possible to obtain surprising results. For example, one firm bolted all its smaller centre lathes to the walls of the machine-shop, instead of to the floor, thereby turning them through an angle of 90°. Older machinists immediately felt a difference, and the incidence among older machinists of backache was dramatically reduced, and the previous labour turnover virtually disappeared.

In one radio and television factory, the performance of a group of elderly inspectors of printed circuits was improved simply by providing them with an opaque stencil in which a small number of holes had been punched; when placed on top of the circuit to be inspected, this stencil prevented inspectors from being distracted by the mass of irrelevant detail that was present, and helped them to concentrate their attention upon the vital elements to be checked.

In a chemical works, older storeroom employees had difficulty in lifting carboys weighing up to 50 pounds from their shelves, prior to pouring out the required amount of chemicals into other recipients. This difficulty was presumably due to both the decreasing physical ability of the older workers to cope with short bursts of heavy muscular activity, and to their lessening agility. This problem was solved quite simply by placing the carboys in rockers and by attaching siphoning devices to them.

In another company, where a small group of women aged 50 to 60, who could not maintain the speed of work necessary for economical plant productivity were creating a bottleneck, the work, which involved filling tins with beans, was re-arranged so that these women could fill the tins without having to stoop to pick up the beans.

This extremely simple modification "completely removed the bottleneck, and at the same time made work much easier for these women. In fact, it so reduced the amount of fatigue caused by the work that we were able to switch four women from this job to others in the plant without making the job any harder for those who remained", said the plant manager.

One food manufacturer explained that job engineering in his factory was geared not only to older workers but also to the overall problem of cutting down fatigue, reducing required reaction time, and the high visual acuity required of the worker, and all the other factors affecting efficiency.

But whilst it is true that all workers benefit from such improvements, the older ones benefit most. The management of this particular firm made a special point of providing the workers with adjustable seating, foot-rests and

adequate lighting. In this way the "fatigue factor" was reduced to a minimum. In addition, the speed of the conveyor belt was carefully controlled and adjusted to suit the workers it served, and it was decided to use separate conveyor belts, running at different speeds, for younger and older workers.

The group and its problems

By observing ergonomic principles, that is, by attempting to fit the job to the man and, in this case, by allowing for the biological changes which occur with advancing age, manufacturers can dramatically improve the productivity and job adjustment of older workers. There are at least two reasons why the implications of this question may be thought to be far-reaching.

In the first place, the populations of most industrialised countries include a very high proportion of people who, because they are over 45 years of age, are generally regarded as "older people", and there is a great deal of evidence that it is at about that age that important biological changes start making themselves felt.

Secondly, the direction of technological change is, in

a sense, away from the activities which appear to favour older workers. It would seem reasonable to assume that increased mechanisation and automation would be to the advantage of older workers, but this is not always the case. Although such technical developments certainly release workers from the drudgery of heavy physical work, they can sometimes create for older workers more problems than they solve.

For instance, strenuous physical work is often replaced by work of a predominantly perceptual nature; hand-tools are often replaced by new and complex machine-tools, and the speed of work is less often determined by the operator himself than by the equipment he controls.

Re-allocation and re-design

The many studies carried out on output in relation to age, on absenteeism, on labour turnover and on accidents, have confirmed that industrial productivity can be influenced considerably by advancing age. But the extent to which productivity is reduced very largely depends on the nature of the task performed by the older worker.

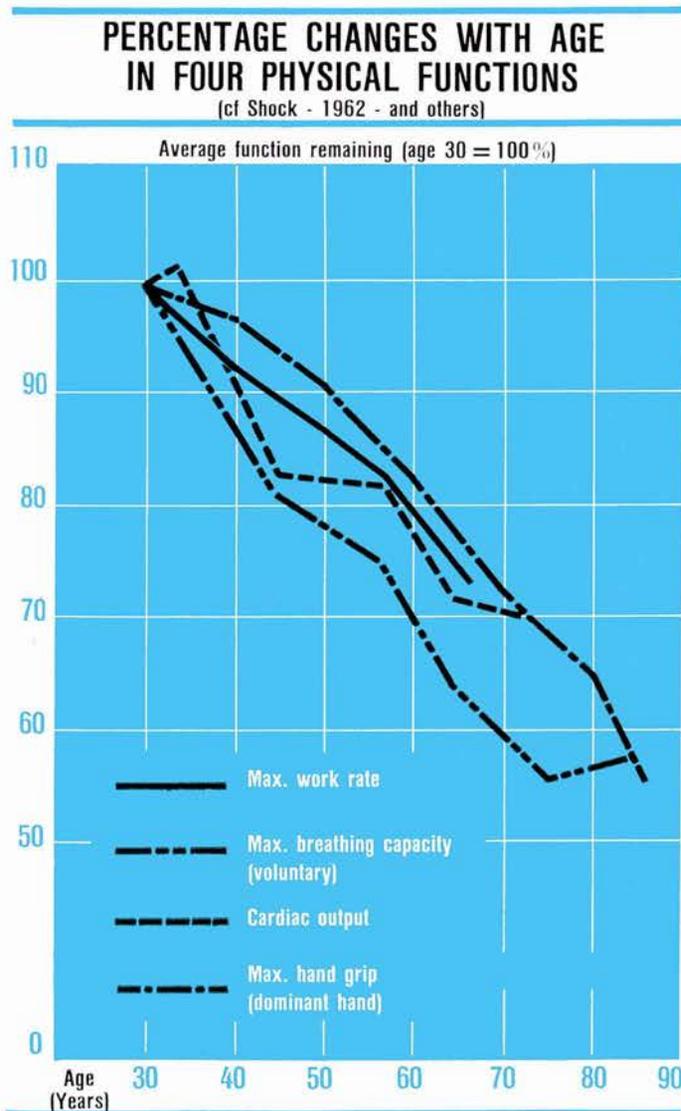
In some jobs, there is no drop in productivity, whereas there is likely to be a considerable drop in jobs which place demands upon older workers that are beyond their physical and mental capabilities. There are two ways in which the load on older workers can be reduced: to transfer them to less demanding jobs or to modify their work in such a way as to remove the causes of excessive fatigue.

The re-allocation of workers to less demanding jobs is at present the solution most commonly adopted in industry, as it seems the simpler of the two and is in fact an effective way of prolonging the employment of ageing workers. It presents substantial disadvantages, however, first for the workers themselves, who in most cases suffer a deterioration in their material situation and an impression of having been "demoted", and, secondly, for the firm, as productivity cannot fail to be adversely affected by this feeling of frustration. The firm may even have difficulty later in filling the resulting vacancies in the more difficult jobs, where the skill and experience of an older worker are often necessary, but can only be used if these jobs are made less demanding.

Job re-design, however, does not raise such problems. But the ability to "re-design" a job so that the older worker will be capable of meeting its demands presupposes two sets of information.

In the first place it is essential to know how ageing affects working capacity and performance. Secondly, one must know how to recognise in a job a feature which is likely to militate against the performance of the older worker. With these two sets of information at one's disposal, there are very few jobs which will resist attempts at modification to suit older workers.

The jobs which will nevertheless prove difficult to re-design will be those which oblige a man to work for long periods at or near the limit of his capacity or even beyond that limit for very short periods. This situation, which is common in the field of sport, is in fact extremely rare in industry. It may be noted that those who practise competitive sports are soon regarded as old, because they make maximum use of their strength at an early age and have no further reserves to call on.



Job analysis

Individual differences play a major part in the phenomenon of ageing : new individual differences, due to the degree to which each individual is affected by age, are superimposed upon initial individual differences (in ability, attainment and personality). Any decision should take account of individual differences and also of age changes in " working capacity ".

But one of the essential conditions for the appropriate re-design of a job is the appreciation of its particular difficulties.

There are all kinds of systems for analysing jobs, ranging from simple adaptations of methods-study practices designed to describe the actual movements which operators are called upon to make, to elaborate schemes for describing in great detail the sensory and perceptual loads, and the environmental stresses, under which the operator has to work.

Many of the methods commonly used demand a level of knowledge, training and, frequently, equipment, which most firms will not have at their disposal. Other systems make possible a less detailed but nevertheless valid analysis of tasks. One system concentrates attention on the job itself, either by defining all the abilities, traits, skills and attainments necessary, or by examining only the physical demands of jobs. A second system, on the other hand, derives information about jobs from the make-up of workers employed on them either by making a critical comparison between workers who succeed in a job and those who do not, or by using the " Critical Incident Technique " to identify crucial job demands which have led to accidents in certain jobs.

Reducing the strain of work

Stephen Griew advocates an essentially " therapeutic " approach to job re-design : when an older worker complains of difficulty, or when his output falls below an

acceptable level, his job should be re-designed so as to remove those features of it which may be making demands which he cannot meet.

However, the preventive possibilities of job re-design are equally compelling. It is by considering the fitness of jobs for older workers before difficulties arise that these difficulties may most effectively be prevented. This preventive approach benefits not only the older worker, but undoubtedly the young worker too, and also his employer.

Re-designing all jobs to suit the older workers will inevitably tend to reduce the strain on all workers, and though the effect is unlikely to be as great as in the case of the older workers, the efficiency of younger workers may be expected to improve as well.

The benefits obtained should not be evaluated in terms of output only. Reducing the strain of work by re-designing jobs will often produce benefits of a less tangible and less direct nature. For instance, one might expect labour turnover among older workers to fall, accidents to become less common, and absence due to sickness to become less frequent.

In addition, it is probable that workers will become more contented and will be convinced that their interests are being considered ; it may not be possible to measure the advantages of such a state of affairs, but they are certainly considerable.

On a broader social note, adapting jobs to the capacities of workers, by lessening strain and fatigue, goes some way towards improving health, and although industrialists cannot be expected to regard the achievement of this goal as their primary function, they may be expected to welcome this indirect consequence of their efforts to increase efficiency.

Firms which have already engaged in job re-design for older workers, either as part of a general programme or as individual efforts, could contribute to the advancement of knowledge by asking ergonomists, psychologists and research workers to publish the results of their experiments in the specialised technical press, and so widen the scope of studies of this kind.

JOB FEATURES LIKELY TO BE SELECTED FOR JOB RE-DESIGN FOR OLDER WORKERS

A. THE WORKING ENVIRONMENT

1. Excessive heat or humidity.
2. Atmospheric pollution.
3. Inadequate lighting; source of glare.
4. Excessive noise.

*

B. THE DESIGN AND LAYOUT OF EQUIPMENT AND THE WORK-PLACE

1. Design features causing prolonged stooping, bending, stretching, etc.
2. Weight of tool or part of body supported by operator without aid.

3. Close visual, or intense auditory activity.

4. Fine discriminatory activity.
5. Complex, ambiguous or "unnatural" informational displays.
6. Narrow tolerances of accuracy.
7. Hazards likely to cause tripping, stumbling, etc.

*

C. THE ORGANISATION OF WORK

1. Speed of work not under operator's own control (pacing).
2. Short-term memory requirement.
3. Short bursts of extremely heavy work.
4. Continuous heavy work.
5. Low distribution of rest-pauses.

D. COMBINATIONS OF FEATURES WHICH APPEAR TO CALL FOR RE-DESIGN

1. Continuous heavy work in hot environments.
2. Close visual work or work requiring fine discriminations in badly-lighted work places or in presence of glare.
3. Continuous heavy work of a paced variety.
4. Complex informational displays which have to be read at speeds outside operator's own control.
5. High levels of accuracy which have to be maintained during paced work.
6. Responding to auditory instructions or signals in excessively noisy conditions.

SCIENTIFIC RESEARCH IN YUGOSLAVIA

by Dr. Ivica MARINIĆ

Secretary-General of the Federal Council for the Coordination of
Scientific Research in the Socialist Federal Republic of Yugoslavia

Until 1957 there was no federal body in Yugoslavia responsible for controlling and organising scientific research on a large scale. It was then decided to set up a Federal Science Council, closely followed by the establishment of Councils in the different republics (the SFRY consists of six Socialist Republics). The scientific research legislation under which these Councils were instituted and the organisation it brought into force were however rapidly out-distanced by the pace of progress in scientific research.

The new Yugoslav Constitution promulgated at the beginning of 1964 accordingly set up a Federal Council for the Co-ordination of Scientific Research. As its name indicates the Council is responsible for co-ordinating scientific research throughout the Federation, and for supervising and stimulating research organisations. The structure of the Council has been devised to match such responsibilities. It consists of a number of specialised advisory bodies or committees dealing with the social sciences, fundamental research, electrical, mechanical and communications engineering, industrial chemistry and metallurgy, geology and mining, water power and civil engineering, medical research, agricultural and forestry research and international scientific co-operation.

The Council's 27 members are appointed by the Government, and consist of a Chairman, who is a member of the inner cabinet of the Government and the Chairman of the Federal Nuclear Energy Commission, a Secretary-General, six representatives from the Socialist Republics, twelve eminent scientists, and seven representatives of the federal forums and institutions responsible for research at federal level (see the diagram on opposite page of the structure of the Council).

The Council holds working sessions, studies proposals put forward by the advisory bodies in the various science sectors, submits suggestions to the Government to promote the efficient conduct of scientific research on the federal scale, and co-ordinates research with the Socialist Republics and the federal bodies responsible for specific research assignments. Scientific research in the various Socialist Republics is carried out by the Councils of the Republics, or else by similar bodies organised along lines determined by the state of development and particular character of each Republic, whereas the Councils of the Republics are administered according to a standard pattern.

Origin and development of research

Scientific research has thus received fresh impetus consistent with the country's requirements, which are considerable. Unlike a number of economically developed countries in Europe, Yugoslavia has no long tradition of scientific research. Up to the second World War research conducted by the universities, learned societies and a handful of ill-equipped, obscure and mainly agricultural institutes, had no repercussions on the national economy as a whole and even less on the under-developed industry of pre-war Yugoslavia.

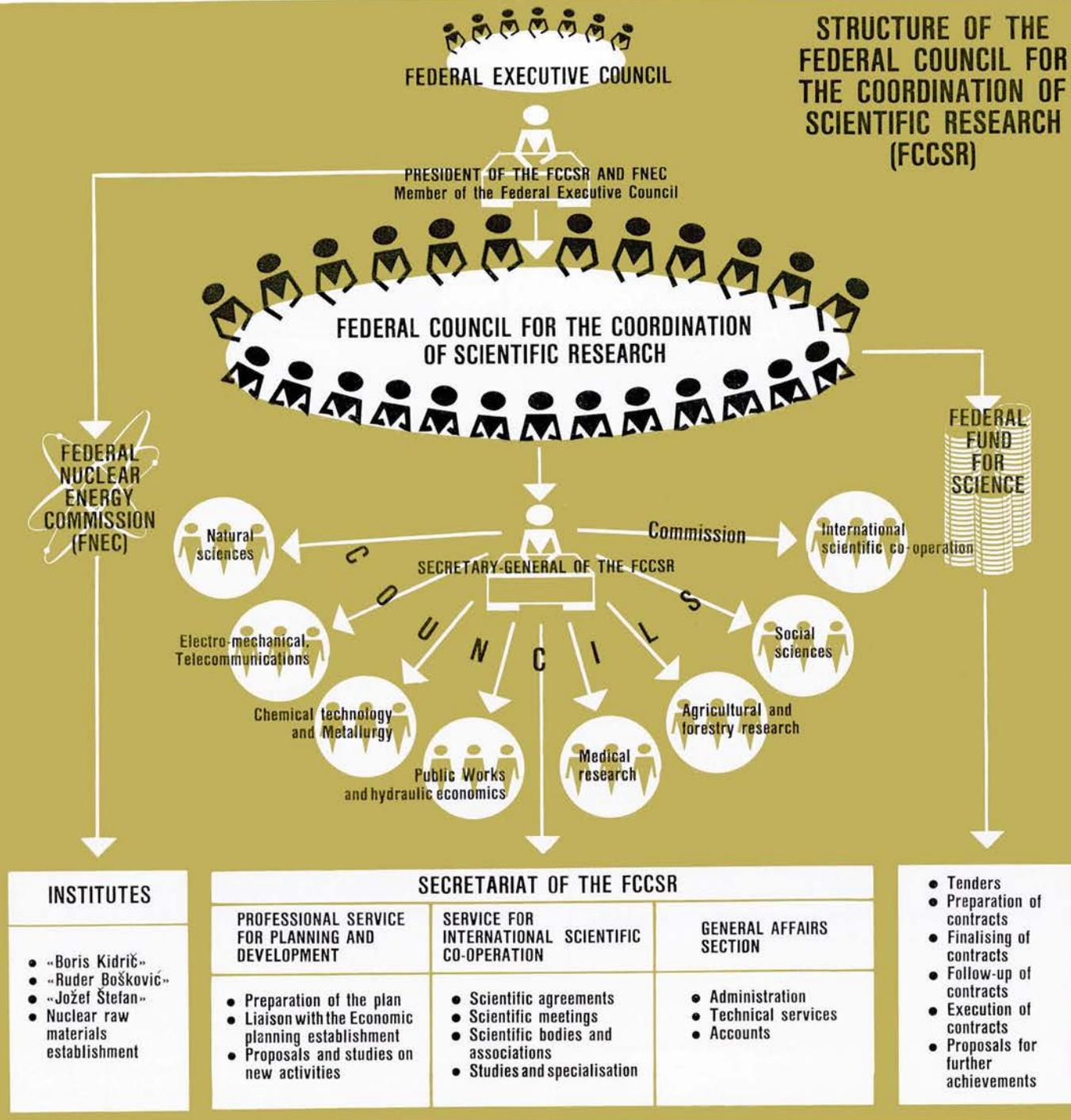
In the post-war years Yugoslavia's economic development forged ahead. It was found necessary to broaden the institutional basis of research and prepare the ground for research planning. In this respect the Federal Nuclear Energy Commission, founded in 1955, was of outstanding importance. The establishment of nuclear institutes (Boris Kidric at Vinca, Rudjet Boskovic at Zagreb and Jozef Stefan at Ljubljana) laid the foundations of scientific research. These well-equipped institutes have played an important part in the training of responsible research personnel.

At the present time there are three types of research establishments in Yugoslavia which engage in either independent or economic research, or again may consist of university institutes. In addition to their permanent research staff, the institutes and other research bodies use the services of university teachers and other scientific workers who are engaged as outside consultants or scientific advisors, particularly in economic research.

The sudden widening of the institutional basis of scientific research has led to a number of difficulties, such as a plethora of institutions, lack of equipment and trained senior staff, and inadequate contacts with industry, particularly in the case of the university institutes. These are the problems which the FCCSR is now in the process of solving.

The funds originally available for research were negligible and their use was never systematically supervised except in the case of nucleonics. The economy made no provision for research. In 1960 the Federal Funds were set up, followed by the scientific research funds

STRUCTURE OF THE FEDERAL COUNCIL FOR THE COORDINATION OF SCIENTIFIC RESEARCH (FCCSR)



of the various Republics. The purpose of these funds was to allocate resources to research of prime importance to the country's development. The financial programmes are drawn up under the supervision of the FCCSR. At first funds were almost exclusively earmarked for industrial research and investigations by institutes dealing with economic questions, and the country's economic assets were thus considerably improved. Henceforth, only research projects of federal stature and such fundamental research as does not directly concern economic planning or the country's other institutions will be financed from the social funds. The feasibility of an automatic allocation or research grants in ratio to the country's level of economic development is under study.

Yugoslav scientists take an active part in international scientific conferences and are organising such

conferences in their country. Yugoslavia belongs to a large number of international bodies dealing with science and scientific research. Exchanges of scientists with other countries, particularly those which have reached a higher degree of development than Yugoslavia, are of vital importance, in view of the advantages to be derived from the experience accumulated by these countries and their technological and scientific achievements. But an effort is also being made in all branches of scientific research to assist countries which are at a lower stage of development than Yugoslavia. Further evidence of Yugoslavia's widespread activity is its participation in various OECD Committees, particularly the Committee for Scientific Research and the Committee for Scientific and Technical Personnel, which have rendered valuable and effective assistance to Yugoslavia in many aspects of scientific research.

RESEARCH ON UTILISATION OF AGRICULTURAL PRODUCTS:

*a step towards
the solution of
the economic problem
of surpluses*

For the past twenty-five years Canada and the United States have had to deal with enormous surpluses of agricultural products. Today some countries in Europe are faced with the same serious economic problem. In both areas there is a danger that the continued increase in agricultural production will aggravate the present situation and make it more widespread. To help dispose of these surpluses new uses must be found for agricultural products. Research proceeds in two directions: the discovery of industrial uses for agricultural products, and the development of new foodstuffs for human beings or animals and new forms for existing products. The OECD Committee for Agriculture is concerned with both these aspects.

To turn wheat into rubber, sugar-cane into insulating board, animal fat into detergents, potatoes into textiles, these, among many others, are operations which are technically possible and which have been tried out. The aim of the research workers who carried them out was to find new uses for agricultural products, surpluses of which are building up day after day in an increasing number of developed countries. The OECD consultant responsible for studying the whole question of utilisation research, Dr G. E. Hilbert, Director of the Foreign Research and Technical Programmes Division of the Agricultural Research Service in the United States Department of Agriculture, explains in the report on his studies that the accumulation of these surpluses first led to suggestions that research should be conducted on the development of industrial uses for them. It was argued that as the human stomach was inelastic, the only market that could consume surplus foods or agricultural products was

the continuously expanding industrial market. This view-point was encouraged by the spectacular success of the chemical and petroleum industry in developing from fossil fuels new products and synthetic substitutes for products made traditionally from agricultural raw materials. The question was raised, if these products could be made from coal and petroleum, why not give more consideration to their production from agricultural commodities?

FOUR LARGE AMERICAN LABORATORIES

This suggestion led to the initiation of major programmes of research in Canada and the United States on industrial uses for agricultural products. These programmes were started about twenty-five years ago. Research has been conducted on a wide variety of agricultural commodities. In the United States much attention has been devoted to wheat, soya beans, cotton seed, dairy products, animal fats, poultry products, fruit and vegetables, alfalfa, and agricultural residues, such as wheat straw and maize cobs. Further research has been conducted on meat, hides and skins, wool, flax-seed and castor bean, tung nuts, peanuts, tobacco, sugar cane, sugar beets, honey, maple syrup and forage crops.

These studies are carried out by the four *Utilisation Research Divisions* of the United States Department of Agriculture: the *Eastern* (EURD), *Northern* (NURD), *Southern* (SURD), and *Western* (WURD) *Utilisation Research Divisions*. Four large regional research laboratories, generously endowed — the whole programme of utilisation research employs a staff of 1,800 members and costs 24 million dollars annually — are concerned with food uses and feed uses, as well as with industrial uses. In the latter field striking results have been obtained. In its work on fats and oils for instance, the EURD, through research on fatty acids and their conversion to detergents, has helped in the expansion of the market for fatty acids, which are now produced at the rate of about 700 million pounds a year. It has also discovered modified (epoxidised) animal fat and vegetable oil which constitute excellent plasticiser stabilisers for vinyl plastic resins containing chlorine. The NURD has found new outlets for soya bean and linseed oils by developing the production of dibasic acids which are used to heat seal packaging materials, to thicken gel paints, etc. The SURD has developed a new type of product, acetoglycerides, which are used in the cosmetic industry and can be used as food coatings and food container components. It has also developed new types of cotton-processing equipment. The WURD has discovered a method for chemically treating wool which improves the dirt and shrinkage resistance of woollen fabrics.

FOOD MARKET, THE MOST ECONOMIC OUTLET

In an effort to deal with agricultural surplus, research was first directed to finding new industrial uses for agricultural products; this, however, introduces the major question of economic return. Most of the industrial products which can be extracted from foods can be more economically produced

from fossil fuels. Industrial products extracted from farm produce can be made competitive only with the help of State subsidies. In the United States, the grain surplus is so colossal that only one industrial outlet could possibly absorb it — i.e., the motor fuel market. Any programme for the systematic conversion of surplus grain into alcohol for mixing with gasoline would, however, be exceedingly costly, and it is highly unlikely that a solution of this kind would ever be adopted.

The most economic outlet for farm produce traditionally used for food is to be found in the food sector. In the United States, already far in advance in research on the industrial uses of agricultural products, the research was given a different direction as far back as about 1950. Fundamental or applied research was carried out on products primarily intended for food, with the object of finding new and better uses for them in the food sector.

The idea of food preservation is not, of course, new: the North American Indians produced pemmican, and the Norwegians stock-fish, thousands of years ago; but Dr Prescott, who died only in 1962, and Underwood, another American, found the explanation of food spoilage in 1898, when they discovered the part played by bacteria. Things have moved fast since then, and the 1939-1945 war speeded them up still further. Foodstuffs can now be treated in four different ways to secure "unlimited" storage life without altering the appearance or nutritive value: these are dehydration, heat sterilisation, freezing or exposure to ionising rays. The last method has promise but must be regarded as still in the research stage, as unpleasant off-flavours frequently were found to develop during the process, which also failed to eliminate certain causes of deterioration. Clearly, only a fundamental investigation of changes effected in tissues by ionising rays can lead to a solution.

The main philosophy guiding research on development of new and extended uses for perishable crops, such as fruits and vegetables which frequently are in seasonable surplus, is to develop processes for converting them to palatable, permanently storable forms, thus making them available on a year-round basis. Siphoning off the surplus through processing will tend to set a floor on prices during periods of heavy surplus. Research on lowering processing costs is important in reducing the price of end products. Availability of processed seasonable products at reasonable prices encourages consumption during the off-season. Conversion of fruits and vegetables to convenient-to-use, easily reconstituted products reduces labour in the home, and is an incentive to housewives to buy them. This approach has been very successful in the United States. It has led to a technological revolution in the processing of fruit and vegetables, and to increased use of these products in the home. At the same time, a significant contribution to the seasonal surplus problem has been effected.

The various types of utilisation research conducted on fruits and vegetables can be classified in three main categories: chemical composition and physical properties; new and improved food products; and new and improved processing technology.

The kinds of activities which receive attention on chemical and physical properties are flavour components, pigments, enzymic browning, chemistry of sulphur dioxide in dried fruit and potatoes, texture of fruits, ascorbic acid biosynthesis in plants, preservatives for dried fruit, microbial flora in fruits and vegetables, enzymes involved in ripening of fruits and vegetables, citrus essential oils, potato components related to cooking texture, antioxidant activity of polyphenolic compounds; nature and heat-resistance

of spores; composition of dry beans and peas as related to cookability, etc.

Lines of investigations which are being covered in the broad category of new and improved food products are citrus essential oils; foam-mat dried fruit powders; improved date products; dehydrofrozen fruit and vegetables; processing quality of soft fruit and berry varieties; canned concentrated peach and apricot purées; maturity index for harvesting fruit; tomato powder; dehydrated sweet potato flakes; instantised dehydrated potato products; and rapidly reconstitutable dried vegetable and fruit juices.

COORDINATION AND STIMULATION

In Europe a great deal of work, financed either wholly or in part by the State, is being carried out on the utilisation of agricultural products. A good deal of basic or applied research is under way on dairy products, fruit and vegetables, cereals, vegetable oils and animal fats, hides and skins, wool, cotton, flax, etc. The attention given to each of these products varies considerably within a country and from country to country. Two important areas of research are more or less being neglected: fermentation of agricultural products to develop new end-products, and new crops research.

The utilisation research that is now being done is not known as such; it is usually called transformation or processing research. It is carried out in a variety of research institutes, according to the end-use of the commodity or product of a commodity. Administration and organisation of research vary considerably from one country to another. No two countries have the same pattern of administration or research support. Apparently in none of the European OECD countries is a single national official responsible for administering all utilisation research financed by the government. Improved co-ordination would be expected to lead to strengthened utilisation programmes in OECD countries.

A working seminar on "Utilisation Research in Agricultural Products" was held in Paris from 23rd-26th June, 1964 to discuss Dr G. E. Hilbert's report. Participants emphasised the importance of an adequate co-ordination of utilisation research at the national level and also the importance of satisfactory co-operation and exchange of information at the international level. They suggested that countries should be invited to indicate on broad lines to OECD the major sectors of utilisation research to which funds are allocated.

To maintain and strengthen the vitality of the small research institutes it is essential to expand their programmes of activity and to broaden the horizons of their staffs. The Canadian Government has developed a unique and useful method of maintaining vigour and enthusiasm in its research organisations at relatively low cost. Each year post-graduate research fellows are appointed from many different countries, for a non-renewable one- or two-year period. These temporary positions are widely advertised. The fellows have their travelling expenses paid by the institute, and receive a reasonably attractive annual stipend (\$ 4,000 to \$ 5,000). In the opinion of the experts the development of such a system in OECD research institutes would lead to better co-operation between them, the co-ordination of programmes, and the introduction of new ideas and techniques, and would maintain vigour in an ageing organisation.



STATEMENT BY THE OECD MINISTERIAL COUNCIL

The Ministerial Council of the OECD met in Paris on 2nd and 3rd December 1964, under the Chairmanship of the Honourable Joseph Luns, Minister of Foreign Affairs of the Netherlands, and reviewed the economic situation of its Member countries and their economic relations with the rest of the world. Japan participated for the first time as a Member.

For the years 1960-1964, the increase of the gross national product for the OECD countries taken together has been roughly in line with the target of 50 per cent growth for the decade. Though there has been some slowing down in the rate of expansion in various European countries and Japan, the prospects for economic growth in 1965 for the OECD areas as a whole seem to be good. In certain countries such as Italy, encouragement for investment should now be contemplated.

However, inflationary tendencies have made themselves felt in a number of Member countries. Their present policies designed to control these tendencies will have to be continued in order to prevent inflation spreading. Developments during the last year indicate that in working towards the growth target it will be necessary to devote great attention to policies designed to maintain stability.

It is therefore important that monetary incomes

should be kept within the limits that productivity permits. An important condition for this is that demand should not be too high.

The attainment of economic growth without inflation can be facilitated by an active manpower policy that promotes the best utilisation of human resources. Likewise further changes in agricultural policies shifting emphasis from price support to support of structural reforms and regional development would permit gradual transfers of manpower into expanding industries and services while allowing higher incomes to those remaining in agriculture. In this respect, due regard should be given to the social consequences arising out of the transformation process.

Apart from the United Kingdom, the international payments positions of the OECD countries have been brought into better balance. Italy's large deficit has turned into a surplus, while the surpluses of France and Germany have been reduced, as has the deficit of the United States.

Problems remain. The United States must continue to reduce its balance of payments deficit. The large deficit of the United Kingdom, though partly due to temporary factors, gives reason for concern. It calls for economic policies designed to bring about a lasting improvement in the United Kingdom's

external financial position. The situation will be kept under close examination in the Organisation. Ministers noted the series of measures which had already been decided upon. They further noted the temporary character and non-discriminatory form of the import surcharge and that the United Kingdom Government was firmly resolved to reduce it in a non-discriminatory manner and abolish it at the earliest possible moment.

The Ministers noted with satisfaction that the Organisation will undertake a special study of the balance of payments adjustment process and play an active role in the multilateral surveillance of means to finance imbalances, as requested by the ten countries parties to the General Arrangements to Borrow.

The Ministers directed the Organisation to continue its efforts to stimulate activity to improve the capital markets of Member countries of the Organisation. They considered that increased effectiveness of capital markets was especially important for facilitating the financing of economic growth and for contributing to balance of payments equilibrium.

The Ministers reviewed the situation of the two Consortia for aid to Greece and Turkey. Greece has recently submitted a new request for financial assistance and there should now be renewed activity by the Consortium. While the Consortium for Turkey has provided substantial external aid in support of Turkish development, the financing of such development will require increased efforts by the interested Members of the OECD and by the Turkish authorities to strengthen the efficiency of the economy. The Consortium is currently studying new proposals for achieving its goals in the coming years.

The Ministers reviewed the situation after the United Nations Conference on Trade and Development. They instructed the Organisation to continue its work in analysing the trade, financial and other development problems raised during the Conference and co-ordinating Member countries' efforts to formulate constructive policies designed to further the economic expansion of the developing countries.

The Ministers noted a continuing though moderate increase in the development aid provided by Member countries in 1963 and the geographic broadening of aid by donor countries. The total of new commitments, however, has been stagnating in recent years and there is a need for a renewal of the upward trend in this field.

Moreover, too large a part of the financial resources flowing to some less-developed countries has been in the form of short and medium term credits. For this and other reasons, the rapidly growing debt service burden of such countries gives reason for concern.

The Ministers instructed the Organisation to continue, in co-operation with other international organisations, its studies of the debt burden and other financial problems affecting economic development. It should also encourage Member governments to intensify their efforts, within the limits of their capacity, to increase the flow of aid, on better terms, taking into account the need for aid in the light of the ability of developing countries to mobilise and use effectively their own and foreign development resources.

The Ministers also agreed on a decision giving guide-lines to the work of the Organisation in the coming year.

Left : The Chairman, Mr. J.M.A.H. Luns, Minister of Foreign Affairs of the Netherlands. Right : Japanese representatives attend the Ministerial Council for the first time : Mr. Yoshio Sakuranchi, Minister for International Trade and Industry, and Mr. Haruki Mori, Head of the Japanese Delegation.



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POLICIES FOR PRICES, PROFITS AND OTHER NON-WAGE INCOMES

This new work, prepared for the OECD Economic Policy Committee by its Working Party on Costs of Production and Prices, forms a sequel to the report on Policies for Price Stability, published a year ago. It discusses in more detail than the original report the problems associated with influencing profits and other non-wage incomes, as well as price development.

In most OECD Member countries there is a growing body of opinion that governments may need to exercise some direct influence on the impact that profits and other non-wage incomes have on prices. But there is at present no clear view, either within countries or among them, on how this should be done. This report aims more to clarify the issues than to reach firm conclusions. It starts with a brief description of the size and nature of non-wage incomes. It goes on to consider the reasons which have led governments to feel that a more direct policy to influence such incomes may be necessary, and then examines the different approaches which have been adopted in different countries and the difficulties that arise. A further section discusses some general economic and social considerations, and the last section deals with the adequacy of the available information on prices, costs and non-wage incomes.

78 pages (demy 8vo) US \$ 1; 6s.; F 4; SF 4; DM 3.30.

**EUROPEAN MONETARY AGREEMENT
Fifth Annual Report of the Board of Management**

International monetary developments and the monetary reserves situation of individual Member countries of OECD in 1963 and early 1964 are surveyed in the Report of the Board of Management of the European Monetary Agreement (EMA). EMA provides a framework for monetary co-operation between all the European Member countries of OECD. Its Board of Management is a group of eight financial experts drawn mainly from the finance ministries and central banks of Member countries.

Their Report covers fairly comprehensively the many elements which affect each Member country's balance of payments. It gives factual details, both of the movements of the gold and foreign exchange reserves and of the other related monetary transactions, notably : transactions with the IMF; the quickly mobilisable facilities for mutual support between central banks ("swap" arrangements and the placing of non-marketable United States Treasury Bonds with foreign central banks) and the net movements of the foreign assets and liabilities of commercial banks.

It deals with private long-term capital movements which have increased substantially in recent years and which aggravated the disequilibrium of some countries in 1963 : the United States deficit, the new German surplus and the serious deficit of Italy.

There are detailed tables on private short-term capital movements for the Federal Republic of Germany, the United Kingdom and the United States; and graphs showing the movements of the spot and forward quotations for the main currencies in the foreign exchange markets and of short-term interest rates.

Part II of the Report records operations under EMA in 1963 and early 1964, consisting mainly of the granting of credits to Turkey by the European Fund.
116 pages (demy 8vo) US \$ 1.75; 10/6d.; F 7; SF 7; DM 5.80.

JOB RE-DESIGN : the Application of Biological Data on Ageing to the Design of Equipment and the Organization of Work

This forms the first of a series devoted by the OECD Manpower and Social Affairs Committee to the employment problems of older workers (over 40 years of age). It was prepared by Stephen Griew, now at the University of Otago, New Zealand.

The author points out that as the proportion of older people in the population increases, OECD Member countries are devoting more attention to the means of improving employment opportunities for their older workers. One of the methods used to increase the productivity of older workers is that of job re-design, which reduces the strain imposed on them by certain jobs.

The report brings to light methods of removing the stresses and strains where they could be deleterious, in order to extend the employment potential for other people, thereby assuring long work-life span.

86 pages (demy 8vo) US \$ 2.50; 15s.; F 10; SF 10; DM 8.30.

MARITIME TRANSPORT, 1963

This Report, the tenth in the annual series prepared by the OECD Maritime Transport Committee on matters of topical interest concerning shipping and shipbuilding, covers the calendar year 1963. It analyses the general movement of world trade by sea, and deals with developments in the various trades, thus showing the demand for shipping services.

A chapter on the supply of shipping services gives details of the active world merchant fleet and shows developments in national fleets and in the different types of tonnage during the year, together with details of new construction in hand or on order.

A special section has been included on the economic importance of ports; and the various problems existing in the industry — in particular flag discrimination — are discussed, together with the steps being taken by Member countries to deal with these practices.

79 pages (demy 8vo) US \$ 1.50; 9s.; F 6; SF 6; DM 5.

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