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LATEST STATISTICS SHOWING THE ECONOMIC PATTERN OF OECD COUNTRIES HOW REBATE CARTELS HINDER COMPETITION GROUP FARMS: NEW EXPERIMENT IN CO-OPERATION BENEFITS OF CAR-FREE CITY CENTRES JAPAN'S PLAN FOR BALANCED REGIONAL ECONOMIC GROWTH



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AGGREGATED REBATE CARTELS AND HOW THEY RESTRICT COMPETITION

There has been increasing concern among some OECD Member governments about a special type of agreement which is not illegal per se *in most countries but which may, these governments fear, have the effect of unduly restricting competition — aggregated rebate cartels (1). OECD's Committee of Experts on Restrictive Business Practices has therefore examined the problems which arise in connection with aggregated rebate cartels from the standpoint of competition policy.*
Their report, which is the basis of the following article, describes the operation of aggregated rebate cartels, their legal context and their economic effects. One of the aims of the report is to help countries which are now contemplating specific measures or planning to strengthen their laws on aggregated rebate cartels.

(1) The term "cartel" is used here very generally to cover agreements between enterprises, decisions of associations of enterprises or concerted practices, or provisions and arrangements on aggregated rebates contained within more comprehensive agreements.

Data submitted to OECD on aggregated rebate cartels by the governments of Member countries cover 140 such agreements of which roughly a fifth have been abolished following action by the courts or administrative bodies. This cannot be taken as the actual extent of such cartels in these countries since the aggregated rebate is normally only one element in the extensive regulation of production and distribution on the part of the cartels.

These cartels are shown by the survey to have two main characteristics: they usually cover a large proportion of the relevant market; and they have a rela-

An aggregated rebate cartel is an agreement among a group of suppliers to grant rebates to their customers based on the total purchases made over a certain period of time by these customers from all suppliers in the group (or from a broader group of suppliers which includes outsiders as well). Usually the scale of the rebate increases with the size of the purchase, and it is the normal practice for such cartels to grant their customers the highest rate of rebate attained on all their purchases during the reference period. As a result of the progressive rebate rates one of the central facts about such cartels is that the rebate to a given customer may rise rapidly compared to the size of the additional purchase. Thus, for example, a purchase of $ 2,800 may qualify for a rebate of only 3 per cent or $ 84 while a purchase of only $ 200 more qualifies for a rebate of 4 per cent, i.e. $ 120, because the purchaser has moved into a higher rebate class. Thus while the additional purchases are only 7 per cent greater, the rebate is 43 per cent more.

This fact is especially significant if the customer considers placing an order with a firm outside the cartel (and if purchases from outsiders are not included in the rebate calculation). The outsider would have to offer the same customer a reduction on the $ 200 of $36 (i.e. 18 per cent) from his list price in order to be competitive and to attract him away from the cartel.

The rebate is usually paid in the form of a lump sum at the end of the reference period on the basis of the customer's turnover with the cartel during that period, and normally a central accounting agency (often the appropriate trade association) draws up a list of all sales by members to each customer, and then calculates the rebate due. This sum is then collected from each member of the cartel in proportion to his share in the cartel's total sales to each customer. Alternatively, each supplier may remain responsible individually for payment of the rebate, the central agency merely informing members of the amount they owe to each customer. In either case some independent agent is necessary to ensure impartial control of the cartel members' transactions.

tively small number of members. Many such agreements moreover are associated with the construction, equipment, and furnishing of houses and with standardised goods whose price is the main factor determining buyers' decisions.

LEGAL ATTITUDES TOWARDS AGGREGATED REBATE CARTELS

In the legal treatment of aggregated rebate cartels there are several approaches.

- In Canada and the United States legislation prohibits price cartels including aggregated rebate cartels *per se*.
- France, Germany, Japan, Norway, Spain, the EEC, the ECSC and the EFTA prohibit cartels in principle but provide for exemptions.
- Austria and the United Kingdom require notification with subsequent examination.
- Belgium, Denmark, Finland, Ireland, Luxembourg, Sweden and Switzerland apply the principle of control of abuse.

Thus in all but the first case aggregated rebate cartels may be legal under certain conditions or generally.

Measures have been taken against such cartels in only a few countries - Canada, France, Germany, Norway, Sweden, Switzerland and the United Kingdom - while in Austria, Belgium and Denmark the administrative authorities have examined aggregated rebate cartels without finding them harmful.

Among the most interesting of the actions taken against aggregated rebate cartels have been two against German manufacturers of building ceramics. Nine producers of ceramic wall tiles with a market share of over 75 per cent of the total German market, who were in vigorous competition with seven outsiders, changed their aggregated rebate agreement so that purchases from outsiders were no longer included. The German Federal Cartel Office objected to the change, and an appeals court upheld the objection on the basis that if purchases made from the cartel were the only ones included in the calculation, the result would be similar to a loyalty rebate - paying for the exclusive patronage of the cartel - and this type of cartel is illegal in Germany. The court also found that the cartel had harmful effects on the flow of production and trade by causing customers to concentrate all their purchases on the cartel in order to reach a higher rebate bracket. This effect was considered detrimental to outsiders and to potential entrants into the market.

This case was concerned only with German outsiders but another case involving a larger group of manufacturers of ceramic tiles dealt with non-German outsiders. This case was heard by the Commission of the European Communities, the first case involving aggregated rebate agreements to come before the Commission. The manufacturers' agreement was declared illegal under Article 85 (1) of the Treaty of Rome on the basis that the purchases by German customers from foreign suppliers (including manufacturers in other Common Market countries) did not qualify for the rebate. The Commission considered that this system entailed a restriction of competition forbidden by Article 85 (1) since it encouraged German buyers to purchase all their requirements from the association of German manufacturers in order to obtain a maximum rebate. It was thus liable to affect the freedom of German buyers to import rival products made by other Common Market manufacturers and to hamper access by the latter to the German market. It followed that the system was deleterious to the establishment of a common market between EEC countries. The Commission therefore ordered the association and its member firms to terminate the infringement of the provisions of Article 85. The case will constitute an important precedent for all such agreements.

In a case decided in the United Kingdom the Court held that restrictions relating to quantity discounts were "really no more than a sop to the large buyer and an inducement to him to restrict his purchases to members of the association". Its effect was to increase to some extent the normal prices paid by the rest of the purchasers.

In another United Kingdom case the Court held that there was no economic justification for aggregated rebates unless they involved a saving in costs and, since the only effect of aggregated rebates to large users and merchants was to create a privileged class of purchaser, those rebates were unjustifiable and not in the public interest.

ECONOMIC EFFECTS

• *Aggregated rebate cartels and buyers*

Many of the arguments in favour of aggregated rebate cartels concern the alleged benefits accruing to buyers of all classes. It is claimed that an aggregated rebate scheme allows customers to receive equal treatment regardless of the quantity purchased from each individual manufacturer and thereby enables them to make a true choice between a wide range of products which are different in price and quality.

Secondly, it is often claimed that an aggregated rebate system rewards buyers for their efforts to increase sales of the goods through advertising, display and advisory services. Thirdly, it is argued that an aggregated rebate scheme permits the smaller buyer to specialise in selected product lines not distributed by his larger competitors and ensures the continued existence of a wider range of goods in a network of specialised shops.

These arguments have normally been met by the authorities in the following manner. As regards the first of the above arguments, the main economic justification for granting individual rebates is that they reward the buyer for enabling the individual firm to realise cost savings on account of a large order. It is therefore not justifiable in economic terms to destroy the individual firm's capacity to win cost-savings orders. As regards the "choice" argument, it is argued that this

would only apply if the goods covered by the cartel agreement were differentiated products since homogeneous products do not create problems of choice for the customer. Moreover, while circumstances vary from case to case, the facts would seem to demonstrate that aggregated rebate cartels are mostly to be found in industries producing standardised products.

As for the second argument that aggregated rebate cartels compensate customers' efforts to increase sales, it is pointed out that there is no direct connection beween the two since the sole criterion for determining the rate of rebate to each customer is his total purchases from the members of the cartel, not his efforts to increase sales.

Finally, with regard to the alleged beneficial effects on production and distribution flowing from an aggregated rebate cartel, it is usually admitted that under competitive conditions some customers might be compelled to concentrate their orders on important producers and therefore offer their customers a less varied selection of goods. However, the solution to this problem would appear to be for the customers to specialise in the distribution of certain product lines not distributed by their larger competitors as, in fact, producers who are not members of the aggregated rebate cartel would have to do in order to remain competitive.

On this issue the Committee concludes: the fact that the buyer's purchases from all suppliers participating in the aggregated rebate cartel are cumulated for the purpose of determining the rate of rebate to be applied means that it is generally not possible to relate the rebate concession to the economic function performed by the individual buyer or to the cost-savings induced by individual orders. As a result, an aggregated rebate cartel rewards an imaginary service and not the real service which a buyer performs when placing an order with the members of a cartel.

On account of the cumulative system employed in the calculation of the rebate, large customers can, in the final accounting, obtain lower prices than small customers. The aggregated rebate cartel therefore gives the larger customer an absolute competitive advantage over the smaller one.

• *Aggregated rebate cartels and producers*

When justifying the creation of an aggregated rebate cartel, producers have often advanced the argument that the scheme is essential for the survival of smaller producers. It is argued that in the absence of an aggregated rebate cartel the small producers would be forced to manufacture the whole range of products offered by the larger producers in order to remain competitive since they could not match the individual quantity rebates granted by the latter. Therefore an aggregated rebate cartel, so the argument runs, permits the rationalisation and specialisation of production, with each producer manufacturing a smaller range of products than would otherwise be possible.

On the other hand, it may be said that if the aggregated rebate scheme were abolished, the smaller producers might expand their production irrationally in order to remain competitive. But this would not be the effect of abolition if the smaller enterprises specialised in the manufacture of product lines not provided by their larger competitors. This latter situation is frequently found in reality, with the smaller producer concentrating on more specialised products.

Probably the most significant objection to aggregated rebate cartels is the effect they have on competition from outside producers. Many of the cases discussed in the report emphasise that aggregated rebate cartels foreclose competition from outsiders due to the tying effect exerted by the members of the cartel which is caused by the cumulation of customers' individual orders for the purpose of calculating the rebate.

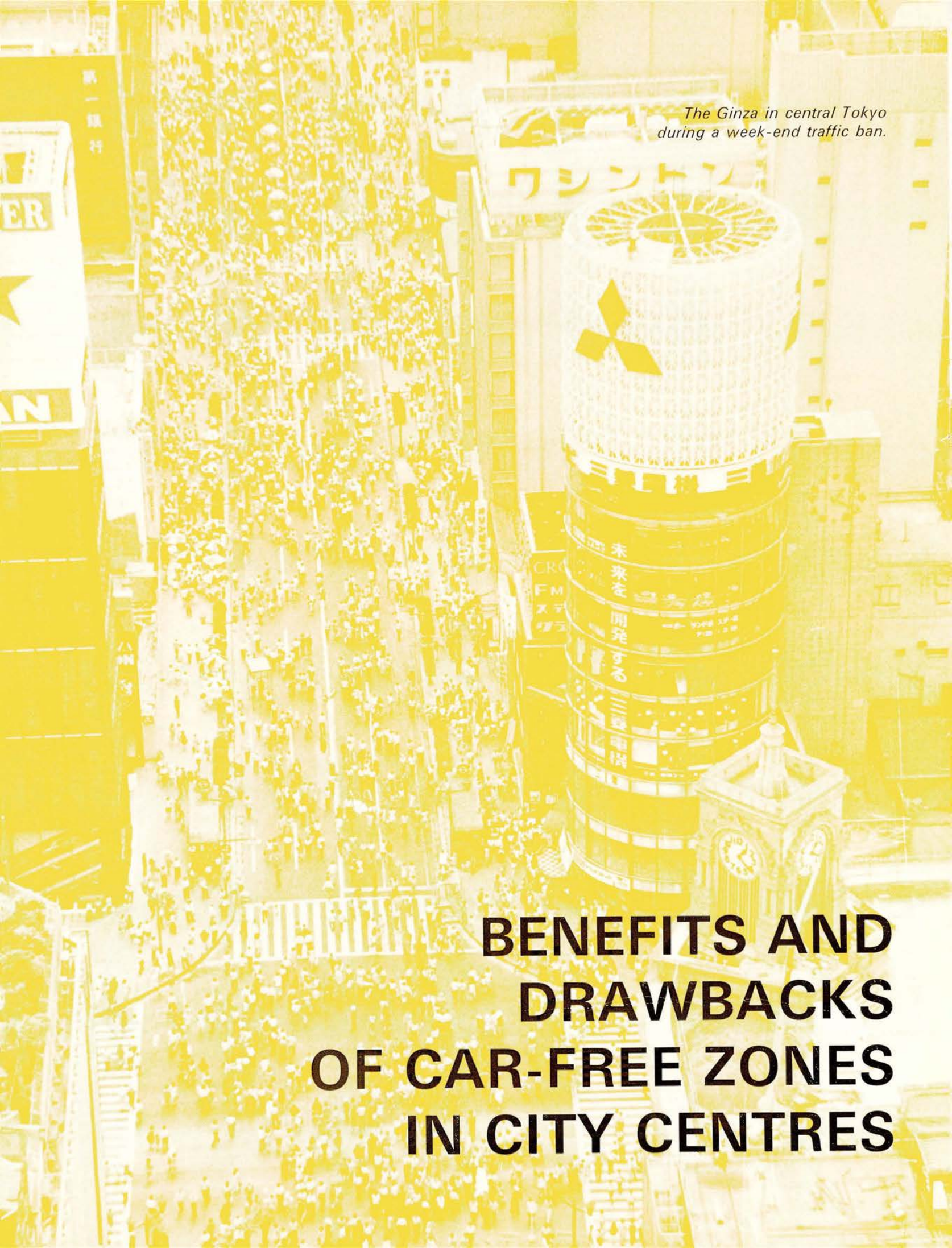
The Committee notes that such a system is a strong incentive to customers to concentrate their orders with the members of the cartel since their aim is to achieve the highest possible rebate, and it is therefore in their own interest to give collective preference to the suppliers participating in the cartel. Aggregated rebate cartels may therefore create barriers to entry into the market, since new suppliers would not usually be able to match the rebate rates of the established suppliers. In order to do so, outside suppliers would have to grant customers price reductions to compensate them for their loss of rebate on all their purchases during the year from the firms operating an aggregated rebate system.

• *Aggregated rebate cartels and international competition*

The Committee points out that aggregated rebate cartels may also raise problems for international competition. If purchases from outsiders are not included in the rebate calculation, as is normally the case in Member countries, domestic and foreign outsiders are both at a competitive disadvantage. If all enterprises in a given sector are members of an aggregated rebate cartel, foreign suppliers constitute the only effective competitors to the cartel members. Since the latter, if they are outsiders, are at a disadvantage in terms of net selling price, aggregated rebate cartels can be considered as a non-tariff barrier to trade aimed at reserving the national market for the members of the cartel.

Finally the Committee concludes with three suggestions:

- Member countries which prohibit horizontal price agreements, exempting aggregated rebate cartels under certain circumstances, might consider abolishing the exemptions;
- Member countries which apply the general provisions of their law to aggregated rebate cartels (because they are considered to have harmful effects contrary to the public interest, for example) might consider applying such provisions more vigorously to such agreements;
- those countries which are planning to introduce legislation might profitably consider dealing with aggregated rebate cartels as they do with horizontal price agreements.



The Ginza in central Tokyo during a week-end traffic ban.

BENEFITS AND DRAWBACKS OF CAR-FREE ZONES IN CITY CENTRES

The problem of car-free zones in city centres is one of those dealt with by the OECD Sector Group on Urban Environment as part of an effort to solve the difficulties arising from ever-denser traffic conditions. The aim of the Group's studies is to provide national and local officials with a better appreciation of the benefits and drawbacks of this particular technique of improving the city centre.

In the following article C. Kenneth Orski of the OECD Environment Directorate discusses some of the issues underlying vehicle exclusion and other forms of traffic restraint.

IN the late 'Sixties the idea of creating a traffic-free environment in central urban areas has gained momentum. During the last few years a growing number of cities have introduced traffic bans on an experimental or permanent basis. In Germany alone 28 cities have introduced traffic restraints and auto-free zones since 1967; pedestrian areas have made their appearance in British, Dutch and other European towns; while New York, Rome and Tokyo have excluded traffic on a part-time experimental basis from portions of busy central areas.

Public concern about the declining quality of the urban environment has played a major role in paving the way for these initiatives. Architects and urban planners have long argued in favour of reducing the conflict between the pedestrian and the motor vehicle, but such plans found little response at a time when the public was freshly discovering the wide range of opportunities that came from owning an automobile.

Today, mounting congestion, coupled with an increased perception of the auto's undesirable effects on the environment, have qualified people's enthusiasm for the car and made the public more receptive toward automobile controls. Concern about urban air pollution has amplified public sentiment in favour of curbing the use of the motorcar in the city.

Effect on Air Pollution Levels

Evidence available indicates that traffic bans are an effective means of lowering the levels of air pollution—at least locally, at street level. In New York City the closure of Madison Avenue to traffic in the Spring of 1971 resulted in a three-fold reduction of carbon monoxide concentration levels. The recently introduced ban on cars in the inner city of Vienna has been reported to have lowered pollution levels by 70 per cent. In Tokyo and Marseilles auto exclusion produced equally impressive results.

Preserving the City Centre

Reinforcing the environmental concern has been the desire to preserve the historic character of the city centre and to maintain its economic pre-eminence within the metropolitan area.

In Europe, in particular, the historic quality of the city is regarded increasingly as being threatened by the invasion of the automobile. In Paris, for example, a partial ban on traffic on the Ile Saint-Louis was introduced primarily to preserve the ancient character and historic ambiance of that area. Steps to exclude cars from historic squares and streets in a number of European cities—Place de Furstenberg and Rue Mouffetard in Paris, Piazza Navona, Piazza Fontana dei Trevi and Piazza Maria di Trastevere in Rome, Getreidegasse in Salzburg, Rue du Gros Horloge in Rouen and the centres of Florence, Perugia and Verona, for example—were also motivated primarily by the desire to preserve the heritage and beauty of the historic city centre.

The predominant motivation for traffic bans, however, has been the wish to enhance the commercial and aesthetic appeal of the inner city and to create a more livable environment for those who live or work there. A traffic-free environment makes walking more pleasant. An area from which the auto has been excluded, therefore, is likely to attract more shoppers and strollers, be able to resist more effectively the competition of outlying shopping centres, and contribute to a healthier, more viable city core.

This has been the rationale behind the creation of car-free zones in the centres of a number of cities and towns: Norwich, Coventry, Leeds and Bolton in the United Kingdom; Bremen, Stuttgart, Cologne, Hannover and Munich in Germany; The Hague and Eindhoven in the Netherlands; Minneapolis and Columbus, Ohio in the United States; Klagenfurt, Zürich and many others. This also appears to be the rationale behind the recently disclosed plans to close off Bond Street in London to traffic and to convert Madison Avenue in New York City into a " pedestrian transitway ".

Available evidence indicates that traffic bans do indeed have a positive effect on retail sales. In Vienna shop owners reported a " 25 per cent to 50 per cent increase " in business in the first week after the traffic ban went into effect. In Norwich, all but two shops in the exclusion area did more business, some experiencing an increase

in sales of 10 per cent or more. In Essen the increase in trade has been reported to be between 15 per cent and 35 per cent, depending on the type of shop; in Rouen, between 10 per cent and 15 per cent. In Tokyo, of 574 shops surveyed, 21 per cent showed an increase in sales, 60 per cent no change and 19 per cent a decrease; 74 per cent of the merchants interviewed pronounced themselves in favour of the scheme.

Whether such impressive results would be experienced everywhere, and how long they are likely to last, is not known. But the evidence is sufficiently consistent to suggest at least one thing: that business is unlikely to be hurt.

The Pitfalls of Small-Scale Projects

The scale of past efforts to create auto-free environments has been modest. In most cases vehicle bans have not gone beyond the closure of one street, usually the main shopping street, in the downtown area. Such has been the case in Copenhagen (Strøget), Amsterdam (Kalverstraat, and more recently Leidsestraat) and Helsinki (Aleksanterinkatu). Sometimes traffic bans go so far as to include several shopping streets (e.g. The Hague, Essen, Cologne, Düsseldorf). In some cities efforts have been made to turn such streets into landscaped malls—e.g. in Minneapolis (Nicollet Avenue), Fresno, Pomona and Riverside in California—or to have them " face-lifted ", as in the case of Rouen's Rue du Gros Horloge or Northumberland Street in Newcastle-upon-Tyne.

Small-scale attempts at pedestrianisation are not without their critics. An isolated pedestrian street or mall, they say, may fail to achieve a significant improvement in the environment of an entire city core; in any case, in order to be truly effective, traffic bans must be combined with a practical programme to solve problems of transportation, parking, traffic access and circulation.

Closing streets to traffic on a larger scale, however, very soon begins to pose a host of transportation-related problems: fringe parking, improved access, goods delivery, traffic re-routing and internal circulation. It is probably no accident that existing pedestrian precincts seldom exceed 400-500 metres in length: this may be the maximum distance which it is felt an average shopper is willing to negotiate on foot. Beyond it some mechanised circulation system may be necessary.

Area-Wide Traffic Bans

Nevertheless, larger-scale projects involving total or partial traffic exclusion have been attempted. The city of Essen, for example, has recently extended its network of pedestrian streets and malls to create a car-free zone nearly 1 km in length and 300 metres in width. The Hague and Düsseldorf both possess traffic-free zones which span a total of 2.4 km and 3.4 km of streets, respectively. Copenhagen's Strøget, a highly successful venture in traffic exclusion is 1,080 metres long; a further extension in 1968 has added 300 metres of adjoining streets to the pedestrianised area. Florence has probably gone further than any other city by banning a 40-block area in the historic centre to automobiles. By far the most ambitious schemes are those planned by the cities of Vienna and New York. The former is contemplating the creation of a large traffic-free " environmental oasis "



Rue du Gros Horloge, in central Rouen, before and after closing the street to all vehicular traffic.



with a diameter of about 1.2 km comprising all of the old historic centre of the city. Inasmuch as the area would be too large to be served exclusively by movements on foot, nonpolluting taxis and mini-buses running on liquid gas would be allowed to circulate within the exclusion area.

New York is seriously contemplating the conversion of a 15-block stretch of Madison Avenue between 42nd and 57th Streets into a permanent pedestrian mall as an initial step in its ambitious long-range programme to improve the quality of the Midtown environment. The proposed Madison Mall would be closed to all traffic except regular buses, smaller public transit vehicles, emergency vehicles and delivery vehicles during limited hours. Extending for a distance of 3 km and including extensive tree plantings, Madison Mall would become the longest pedestrian street and the boldest project of its kind in the world.

Banning private cars completely from even more extended central areas, however, would require vastly improved public transport service and perhaps also the willingness to accept a reduced standard of accessibility. Certainly, no combination of bus and subway service as we know them today is capable of satisfying all of the transport needs of a large inner city area at the levels of accessibility we have been accustomed to. Perhaps some of the new systems of the " people mover " or " personal transit " variety may someday offer this promise. However, real-world implementation of such systems is at best some time away.

While it is probably true that some long-run readjustment in land use patterns is bound to occur as a result of large-scale vehicle exclusion, it does not necessarily follow that such shifts would be undesirable. Most affected by the traffic ban would be large-scale business and commercial activities whose relocation to more outlying places in the metropolitan area could be beneficial in any event. The inner city would gradually resume its original role of fulfilling the needs of people in search of amusement, entertainment and relaxation, and of providing a place where visitors and residents alike can shop, visit museums or simply sit at a sidewalk café watching the world go by. Viewed in this light, automobile bans cease to have the negative connotation that some would ascribe to them and become a positive instrument for desirable urban change.

Partial Traffic Restraints

Nevertheless, banning vehicles completely from a large central area may simply prove to be politically unacceptable. For this reason less drastic schemes—whose objective is not to exclude vehicles but to limit their use—are receiving increasing attention. The cities of Göteborg and Bremen have pioneered in the use of this approach. By dividing the city centre into quadrants and by erecting physical barriers between the quadrants, through-traffic within the centre has been made impossible. Each quadrant has in effect become a self-contained precinct with only local circulation allowed. All other traffic must use a circumferential road, leaving and entering each quadrant at designated locations. Göteborg's experience has shown that this traffic management approach can reduce internal circulation by as much as 50 per cent. Although the scheme has been in operation only since August 1970, it has already had a number of beneficial environmental effects: there has been a reduction of 10 per cent in accidents; mean concentrations of carbon monoxide in the central business district have been lowered from 30 to less than 5 parts per million; noise levels went down from 75 to 72 decibels.

Long-Range Effects of Traffic Restraints

The city of Bremen is of particular interest because a similar traffic restraint scheme has been in existence there for over ten years. In 1960 the historic central area, approximately 1 km in length and 600 metres wide, was divided into four " cells ", and traffic between them was banned. Part of each precinct was turned into a pedestrian area and the remaining streets were made one-way. A full decade after the introduction of the scheme, the central district remains the city's principal centre of activity. Business and commerce have not only not declined—they have grown and prospered. Whether this has happened because of or in spite of the traffic measures is hard to assess. The fact remains, however, that severe vehicle restrictions have failed *over a long run* to affect adversely the centre city's development or to promote its decentralisation. Whether this is due to the peculiar character of the city or whether the experience of Bremen has a degree of universal validity remains to be seen as other cities introduce similar measures.

Merits of a Traffic Ban

With the current emphasis on a purer environment and the " quality of urban life ", we are likely to see growing public pressure for curbing traffic in central urban areas.

Available experience shows that traffic bans are operationally feasible and commercially successful. The degree to which they can be implemented will vary widely in different cities depending on such critical factors as the geography and climate of the city; the size, character and function of the central area; the availability of public transport; the shape of the urban road network; the urgency of the local air pollution problem; and—not least—on people's propensity to walk. It will also depend on the local attitudes and the goals which the given city hopes to achieve: one which actively seeks to preserve the inner city as a centre of attraction is likely to favour excluding cars more than one which tolerates or wishes to encourage the dispersal of activities to the suburbs.

Total vehicle exclusion is likely to find the widest scope for application in the central districts of small and medium-sized towns, especially ones of an historic character, with streets largely devoted to retail commerce. However, even in larger and newer, more automobile-oriented cities whose central districts contain a mix of business, commercial and service activities, there may be considerable room for trade-offs between accessibility and environmental quality.

Perhaps the most striking merit of the traffic ban is its effectiveness in improving air quality and lowering noise at street level. In countries where the number of cities with serious atmospheric inversion conditions and area-wide pollution problems is too small to justify a stringent nation-wide automotive emission control programme, vehicle exclusion and partial traffic restraints may offer an inexpensive and effective way for coping with high pollutant concentrations in the micro environment of the inner city.

AGRICULTURE IN THE DEVELOPING COUNTRIES AND THE POLICIES OF INDUSTRIALISED NATIONS

What long-term problems will be created by the expansion of agriculture in the less-developed countries? What strategy should be adopted if agriculture is to make its maximum contribution to their economic growth? What policy adjustments should be made by the developed countries with a view to improving the situation in future? At the invitation of the United Nations Food and Agriculture Organisation OECD has compiled a report dealing with these questions from the standpoints of agriculture, trade and aid. FAO has prepared a tentative " Indicative World Plan for Agricultural Development " (1) which covers the developing countries, and wished to ascertain its implications for the OECD countries. A report on " The Policy Implications of the Indicative World Plan for OECD Member Countries " has been approved by the Council of OECD and transmitted to FAO (2).

(1) The Indicative World Plan is intended as an international standard of reference to assist governments in formulating and implementing their agricultural policies. FAO means to supplement it by further research to be carried out in connection with its " Perspective Study on World Agricultural Development ".

(2) The report has been derestricted, and can be obtained from the OECD Agriculture Directorate upon request.

THE OECD Member governments consider that the faster expansion of agricultural production in developing countries is justified for three main reasons. The first is the necessity of *covering the population's food needs more fully*. The forecasts in FAO's Indicative World Plan (IWP) indicate that, by and large, the calorie requirements could be satisfied in the future, but that there would still be a net deficiency of animal protein, with the calorie-protein balance even deteriorating in certain regions. The great inequality in incomes and in social-economic conditions leads to wide differences in the level and pattern of food consumption; there is thus some risk of much vaster areas of malnutrition persisting than the average figures suggest. The OECD countries are paying close attention to food problems and intend to contribute to their solution by adopting appropriate food aid programmes or by stepping up their technical or financial assistance for research and development, education, and so on.

The second vital reason why the OECD countries wish to promote the faster development of agricultural production is the need to *provide employment for a rapidly expanding population*. The studies conducted by the OECD Development Assistance Committee and Development Centre endorse the importance allotted by the IWP to this aspect of the problem. The OECD countries consider the question of employment in agriculture in the developing countries to be fundamental, and are giving it due weight in formulating their policies. Employment considerations warrant the developing countries' needs being covered as far as possible by home production, even if this involves some modification in the trade flows affecting OECD countries. In the long run, the development of other sectors of activity and the slower rate of population growth should gradually relieve agriculture from the burden of excess labour.

The third reason lies in the *importance of agriculture for the developing countries' balance of payments*. The situation is not everywhere the same, but several countries depend heavily on agricultural exports, which are often confined to one or two commodities only. During the 'Sixties, the value of agricultural exports from developing countries rose much more slowly than the value of such exports from developed countries; in addition, the trend of the terms of trade has generally gone against the developing countries. The IWP targets for the developing countries' agricultural trade balance entail the complete reversal of the trends prevailing over the last fifteen years.

Non-agricultural exports from developing countries to the OECD area have gone ahead faster than agricultural exports. During the 'Sixties OECD imports of industrial and manufactured goods from these sources increased at a rate of about 16 per cent per year. The value of such imports is still lower

than that of agricultural products and foodstuffs, but they offer the developing countries the best chance of raising their export earnings. The demand for manufactured goods is steadily expanding in the developed countries; the tariff preference system should facilitate access to their markets; and the general price trend in international trade runs more in favour of industrial goods than of primary products.

ADJUSTMENT OF THE DEVELOPED COUNTRIES' AGRICULTURAL AND TRADE POLICIES

The first need is to secure real progress in agricultural production in the developing countries. The means and basis of international action to improve output in those countries are under consideration in OECD; but the attainment of the agreed targets may partly depend on the agricultural and trade policies followed in the developed countries. The ways and means of such a policy adjustment, and the effects it is really likely to have, call for careful analysis. It will, indeed, be pointless unless the developing countries really stand to benefit by it. Care will also be needed to ensure that such an adjustment furthers the effective use of resources in the world as a whole.

The developing countries have tended to become increasingly self-sufficient during the last few years. The first result has been to restrict the developed countries' market for agricultural exports in those parts of the world (see Table 1). This export flow has dwindled both in relation to total OECD exports to the developing countries and as a proportion of OECD's total agricultural and food exports.

The main traditional OECD exporters, especially the North American countries, which were able to satisfy the urgent food needs of certain developing countries in the middle 'Sixties, have had to revise their production and export policies to suit the new world market conditions and avoid interfering with the developing countries' efforts to increase their own production. This policy shift has raised some difficult problems for certain exporting countries and compelled them to cut down on cereal growing and diversify their agriculture. If the tendency for markets in the developing countries to dwindle is confirmed, and it coincides with an economically justified increase in their home production, the OECD countries will have to take this into account in formuting their policies.

The Indicative World Plan also implies that the developed countries should increase their agricultural imports from developing countries. Some elementary facts need to be recalled in this connection. First, the demand for agricultural products and foodstuffs rises very slowly in the developed countries; their population growth is slower, and their income elasticity for most of the products concerned is very low. This is the case not only for tropical products, but for products competing with the developed countries' agricultural output. For agricultural commodities which have to compete with industrial substitutes, even more complex problems arise.

1. TREND IN EXPORTS BY OECD COUNTRIES TO DEVELOPING COUNTRIES. AGRICULTURAL PRODUCTS AND FOODSTUFFS (1)

	Value (millions of dollars)	*As % of total exports to developing countries*	*As % of total exports of agricultural products and foodstuffs by OECD countries*
1960	2,532	12.8	25.0
1964	3,247	13.6	22.2
1965	3,159	12.2	20.6
1966	3,587	12.8	21.4
1967	3,571	8.8	21.5
1968	3,561	7.8	20.7
1969	3,569	7.0	19.2

Source : *OECD, Trade Statistics.*

(1) Standard International trade classifications 0 and 1.

Most OECD countries admit a number of agricultural exports from the developing countries on liberal terms. This is often the case for tropical products and for certain processed products included in the system of generalised preferences. For these commodities, the growth of markets in developed countries depends less on policy measures than on the natural trend of demand, but steps might be taken to encourage the consumption of tropical products. The producing countries' export earnings could also be improved if means could be found of reducing the import protection still accorded to certain products and eliminating undue price fluctuations.

As regards products competing with OECD countries' agricultural output, most of their agricultural and trade policies may, indeed, be protective in their effects. The support furnished by most developed countries to their agricultural industries is designed to help the latters' adjustment to economic growth. Means should be found of gradually reducing such support and protection as agriculture becomes better adapted to the conditions of economic development and the world market is less affected by external interference.

In any event, the OECD countries as a whole have considerable agricultural productive capacity: without using their full production potential, they could increase their output far beyond the growth of their own needs for practically every major commodity group except beef and veal. They are therefore constantly on the watch for means of balancing the market and controlling production—often a very difficult matter. Their policies will have to take increasing account of the situations and aims of the developing countries, in the light of economic considerations. Production costs in developing countries may not invariably be lower than in the others, where conditions are often highly favourable (as regards soil quality, ratio of land to labour, high

investment capital, temperate climate, etc.). If the developed countries with high production costs were to restrict their output and leave room for larger imports, the developed countries producing at low cost would be as well placed as the developing countries, perhaps even better placed, to cover the import requirements.

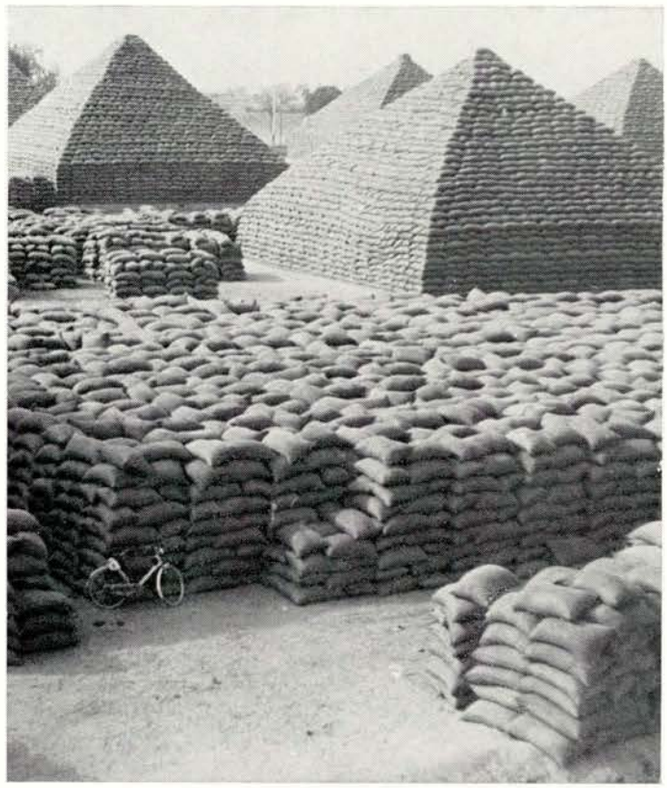
ORIENTATION OF AGRICULTURE IN DEVELOPING COUNTRIES

While the OECD countries are affected by the growth of agriculture in the less developed countries, it is up to the latter to see that it conforms to a suitable pattern. Having regard to the food needs of the population in developing countries, it is doubtful whether surplus supplies of some commodities will be available for export to developed countries; the additional quantities forthcoming might well be absorbed by the growth of home demand. Future consumer behaviour depends on changes in socio-economic structure and on the process of urbanisation.

There is still room in many countries for a new distribution of income, which would have a notable influence on demand. Thus, a policy aimed to concentrate the use of inputs on the most favourable areas would result in improved yields; but this would benefit only a fraction of the rural population—the fraction which is already well fed, and shows a relatively low demand elasticity. The remainder of the population could consume more, but would not be able to buy more.

On the other hand, a broader re-distribution of inputs would probably lead to some drop in production, but also to a substantial rise in demand. India provides a good example: the nine million tons of cereals shown in the IWP as the exportable surplus in 1985 represents only about 5 per cent of India's total cereal production; a slight change in the production/demand ratio would thus greatly affect the volume available for export.

In some countries, the social situation remains a serious obstacle to any increase in effective demand. The reason may be that there is little stimulus for the improvement of agricultural technology. If the social system is such that the over-concentration of wealth leads to substantial exports of capital, that capital will be lost to local development, and effective demand and output will be correspondingly reduced.



Over the last ten years the percentages of food produce in total exports of countries in process of development have diminished, leading to more diversification of their economies: sacks of ground-nuts in Nigeria.

Another vital aspect of agricultural policy planning is the need to step up trade between developing countries. The diversity of technical and economic conditions in these countries should allow some scope for complementary production, both within the agricultural sector and between agriculture and industry.

2. EXPORTS OF FOODSTUFFS, BEVERAGES AND TOBACCO BY DEVELOPING COUNTRIES, IN VALUE (1) AND AS A PERCENTAGE OF TOTAL EXPORTS

Destination	*World*		*Developed areas*		*Developing areas*	
Period	*Value*	%	*Value*	%	*Value*	%
1960	8,110	29.6	6,240	31.5	1,510	24.8
1966	10,450	27.0	7,450	26.5	1,880	23.6
1967	10,560	26.2	7,610	25.9	1,870	23.0
1968	11,020	25.0	7,960	24.4	2,000	22.8

(1) $ million f.o.b.
Source : *UNCTAD, Study on International Trade and Development 1969-70; 10th Session, August, 1970.*

The trade in farm products between developing countries still accounts for only about 7 per cent of the total international trade in those commodities. It is encouraging to note that the proportion of the total trade between developing countries represented by such products has declined slightly, as it points to a growing diversification in their economies (see Table 2). However, the scale of agricultural trade between developing countries in relation to their total agricultural exports, which remained very low throughout the last ten years (from 18 to 19 per cent), might be increased in the future.

IWP's IMPLICATIONS FOR AID POLICY

The achievement of the IWP targets depends, first and foremost, on the means of production and investment resources available to the developing countries for the intensification of agriculture. To what extent will those countries be able to cover their own requirements, and how far will they have to depend on aid from the developed countries? It is at present extremely difficult to provide an answer to this key question.

The OECD Member countries, especially those represented on the Development Assistance Committee, have strongly urged, in recent years, the importance of the food problem in developing countries, and the necessity of helping them to constitute an agricultural potential. The DAC's interest in this sector was first given public expression in a Recommendation on Food Problems of Less Developed Countries adopted by the Committee in 1966. Member countries have lately become increasingly alive to the social importance of agricultural policy and development. The IWP's specific implications for aid policy fall under four main headings, beginning with food aid.

• *Food Aid*

As early as 1962, the OECD countries' Ministers of Agriculture indicated to what extent food aid programmes could contribute to the economic expansion of the developing countries. The food aid possibilities offered by the substantial surplus stocks then existing in developed countries were then urgently needed, but it was considered, as now, that they should be used only if warranted by production difficulties or economic and social needs in the developing countries.

The OECD countries consider that food aid policies should take account of the following principles:

- Food aid should not be allowed to slow down efforts to develop food production in the benefiting countries, impinge on commercial imports, or unduly depress the level of world prices for the commodities concerned;
- Food aid should preferably be focussed on badly needed commodities the supply of which is particularly inelastic in developing countries (high protein products at present come under this heading, and will continue to do so in the foreseeable future);
- If food aid is to achieve its maximum effect, it should be dispensed in such a form that the benefiting countries are able to use it to the best advantage; it should also be closely co-ordinated with other types of aid, especially technical assistance; the emphasis laid by the World Food Programme on project assistance makes it a particularly suitable instrument for this purpose;
- Full co-ordination and harmonisation should be ensured between the various bilateral and multilateral food aid activities.

• *Agricultural Inputs*

The Indicative World Plan allots priority to raising productivity rather than to extending the cultivated area; this approach is the one adopted in many assistance programmes. It involves the necessity of appreciably raising the yields from land already cultivated, which will demand a considerable increase in the various inputs.

These inputs will be largely produced by the countries concerned, but even if they succeed in keeping the proportion of imports required within the IWP estimates ($7 billion at 1962 prices) the amount involved would still represent the equivalent of 5 to 10 per cent of the total value of developing countries' anticipated imports for 1985. It can be assumed that the total assistance granted for the purchase of inputs did not greatly exceed $1 billion in 1969.

• *Investment*

Investment in the domestic production of agricultural inputs and in the capital equipment directly needed to increase agricultural production represents a major aspect of the integrated approach adopted in the Plan. The donor countries have already helped to finance a fair proportion of such investment, mainly under large-scale projects with clearly definable economic benefits. Many of them would have been disposed to increase their aid in this sector if they had not had difficulty in finding suitable projects. This points to the need to pay closer attention to project identification and preparation.

• *Technical assistance and agronomic research*

The Indicative World Plan also has implications for aid policy in the shape of technical assistance and agronomic research. The donor countries realise that as well as appropriate agricultural techniques, the developing countries require a whole network of training and advisory services to enable them to apply those techniques on the farm. Several DAC countries have therefore strengthened their technical assistance programmes in favour of the agricultural sector in recent years, and are now supporting technical assistance projects which are fully integrated with the less developed countries' own efforts in this direction.

The effectiveness of agronomic research as an important factor in programmed agricultural development is now expressly recognised by the donor countries. In connection with the "Green Revolution" in particular, the role of research has been more widely recognised for some time past. No really effective use can be made of physical inputs, of whatever kind, without the backing of large-scale research projects to improve the existing strains and varieties, and determine which are the best methods to be applied, technically and economically speaking.

SCIENCE POLICY IN AUSTRIA

Latest to be published in the series of OECD examinations of science policies in Member countries (1) is that of Austria. The examiners — experts from Canada and the Netherlands — draw special attention in their report to the historical and geographical situation of Austria, and to the necessity for smaller countries to concentrate their efforts as regards science policy if they are to avoid dissipating the available funds.
The following article summarises the experts' findings and conclusions.

(1) " Reviews of National Science Policies " : Austria. The following countries have already been reviewed in this series: Belgium, Canada, France, Germany, Italy, Japan, Norway, Sweden, the United Kingdom and the United States. Science Policy in the USSR has also been reviewed.

THE rapidly increasing impact of science and technology on all sectors of human society today leads to a complexity of problems in all developed countries. Austria is no exception to this rule, but the progress of its history since the Austro-Hungarian empire disintegrated in 1918, leaving the Republic with only about one-eighth of the former population and territory, has given rise to certain circumstances specific to the country as it exists today.

A heritage enhancing a high level of scientific activity —evidenced by the fourteen Austrian Nobel Prize winners—and of progressive social policy, could not compensate for a small home market, an unbalanced industrial structure and a lack of sources of raw materials. It was not until 1955, when Austria resumed its place as a free and independent country, that in principle, a nation-wide policy for industrialisation could be applied.

The results achieved so far cannot, in the opinion of the examiners, be considered unsatisfactory. But they point out that it would be unrealistic, in making recommendations concerning industrial research and development, not to take into account the limitations imposed by the smallness of the home market, the uncertain export prospects and particularly, the lack of capital.

Their report, after describing recent developments and pending problems regarding science policy, lays down the requirements for further expansion of scientific and technical development. These consist of a suitable organisational structure, the organisation of R and D activities, and the creation by government and professional organisations of a favourable climate for research and innovation. A General Report follows, covering the whole range of Austrian R and D effort, economic structure, training, and resources and prospects for government action.

RECENT DEVELOPMENTS AND PENDING PROBLEMS

Political considerations, lack of funds and of coordination, made the process of science policy development in Austria during the period 1955-1965 a slow one. A Council for Scientific Research was set up in 1960, recruited from institutions of higher education and members of the Academy of Sciences, with very modest funds at its disposal. At the same time a private institution—the Ludwig Boltzmann Association for the Promotion of Scientific Research in Austria - was set up with the aims of encouraging scientific research in a wider setting, and particularly of advising public services and private firms.

For political reasons, these two associations disputed over the research grants provided in the Federal Budget,

TOTAL R AND D EXPENDITURE
including social sciences
Million schillings

	1963/64	*1966*
R & D expenditure in natural sciences, from enquiries (1)	603.0	1,448.3
Estimated R & D expenditure in enterprises and institutions not included in the enquiries	27.0	20.0
50 per cent of contributions paid to international R & D institutions	11.5	(15.0)
Research expenditure in social sciences in higher education	40.0	(75.0)
Research expenditure in social sciences in other sectors	(18.5)	(25.0)
Total R & D expenditure	700.0	1,583.3

(1) (Including comprehensive estimates of industrial R & D by the Federal Economic Chamber).
Sources : *1. and 2. Bericht der Bundesregierung an den Nationalrat.*

and it was not until 1967 that the Research Promotion Act created three institutions:

- the Scientific Research Promotion Fund,
- the Industrial Research Promotion Fund,
- the Research Council.

The two Funds are the channels through which the Government supports pure scientific research on the one hand and a major part of R and D work connected with economic ends on the other. They are linked respectively to the Ministry of Education and the Ministry for Trade, Industry and Commerce.

The Council for Scientific Research has been abolished, and the Ludwig Boltzmann Association supports its activities from non-government sources. Specialised research institutions have been set up for high energy physics, molecular biology, behavioural studies, limnology, cartography, mediaeval studies and brain research; others are under consideration. Budgets are low compared with similar institutes in other countries. Co-operative research institutes have been brought together in a single Association.

The question of funding R and D activities is one of the most acute problems facing the makers of science policy in Austria, states the examiners' report. Total expenditure for R and D was hardly more than 0.3 per cent of GNP in 1963, slightly over 0.6 per cent in 1966—the lowest among highly industrialised countries. The intention is to increase the proportion of GNP spent by government and industry on R and D from the present level of less than 1 per cent to 1.5—2 per cent in 1976.

Factors which must be taken into account when judging the low percentage spent on R and D are: virtually no defence research; no large international industrial concerns have their main operations in Austria; GNP per inhabitant is moderate; and research is relatively cheap compared with other countries.

Although Austria does not lack a reservoir of qualified scientific and technical personnel, the examiners criticise the quality of higher education, as regards methods, costs and teaching staff. And in industry, it would appear that there is some lack of understanding of the possibilities of R and D activities, though the report makes favourable mention of the bringing together of Austrian nationalised industries on a trust basis, including the promotion and coordination of research and development.

The availability of domestic or foreign investment for innovation including the industrial application of R and D products is rather limited in Austria; and shortage of risk capital is likely to the be most important single obstacle to a successful science policy.

Labour and management relations are in general smooth, and the report draws attention to the high level of R and D activities in agriculture and forestry. An excellent example of an advanced research centre is the Reactor Centre, Seibersdorf, which has opened new avenues for the production of reactor components and

The advanced research centre at Seibersdorf not only produces reactor components but acts as a centre for higher education and multi-purpose research.



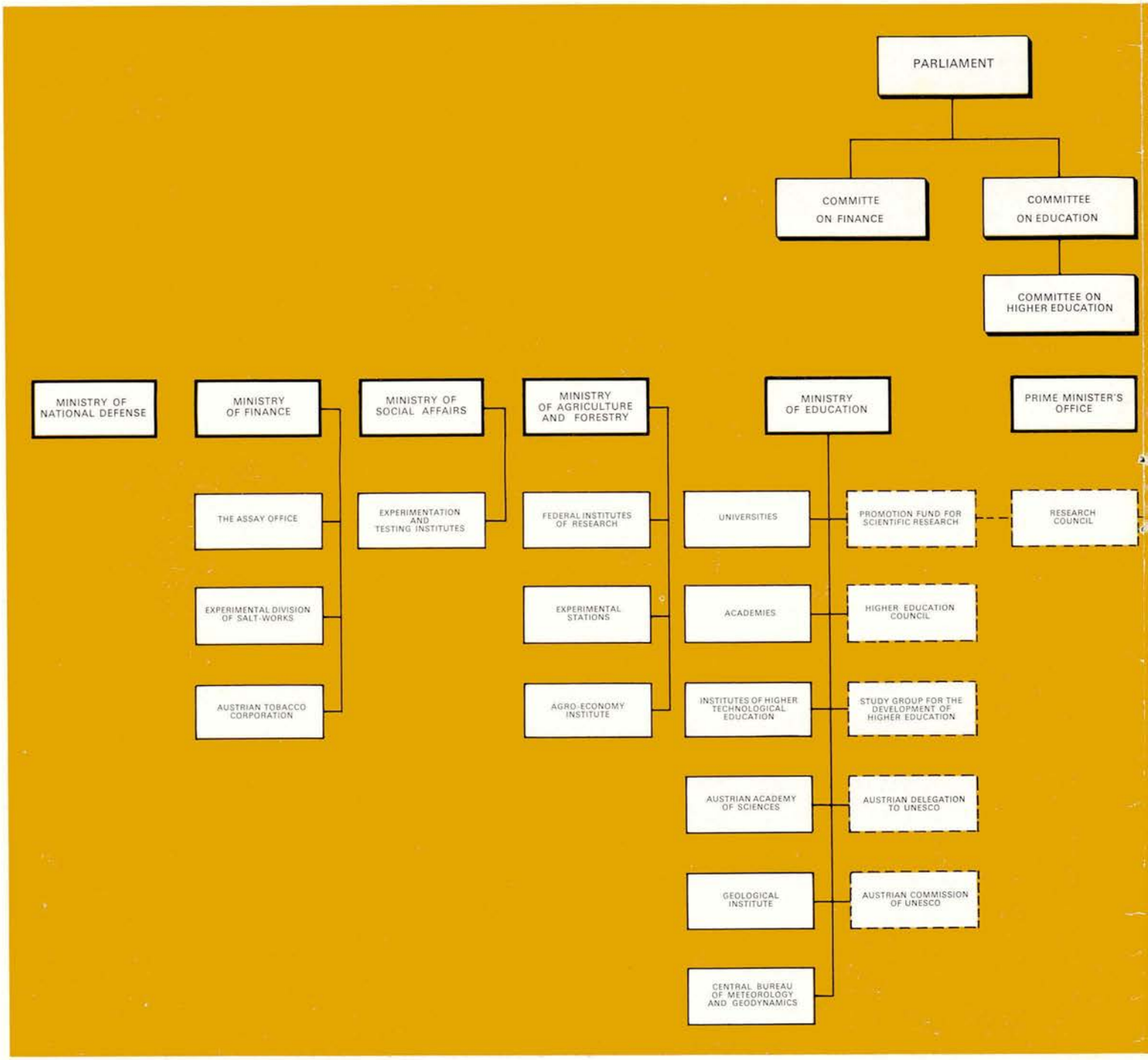
CONFRONTATION MEETING ON THE REVIEW OF SCIENCE POLICY IN AUSTRIA

In accordance with standard OECD procedure, the experts' review of Austrian science policy was discussed at a confrontation meeting. This was held at the Hofburg in Vienna; a second session later took place in conjunction with a meeting of the OECD Science Policy Committee at OECD headquarters in Paris.

The meeting, under the chairmanship of Dr. H. B. Heffner, US Delegate to the Committee, was attended by members of the Committee and by a special Austrian Delegation led by Dr. Hertha Firnberg, Federal Minister of Science and Research, and Prof. Dr. Herbert Rohracher, Chairman of the Austrian Research Council. The Delegation included Members of Parliament and representatives of the Austrian Research Council, university research, industrial research, students' organisations, the Federal Ministry of Science and Research, the Austrian Delegation to OECD, the Federal Chancellor's office, and the Ministries of Finance, Construction and Technology, Agriculture and Forestry, Industry, Trade and Commerce.

The discussion was focused on three major topics: the place of science and technology in government institutions; science policy and the universities; and science policy and the economy.

In summing up, the Federal Minister emphasised that it was the intention of the Austrian Government to try to mobilise the resources of science and technology for defining and achieving its economic and social objectives.



fills an important role as a centre for higher education and a multi-purpose research centre.

FURTHER EXPANSION OF SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

• *Organisational Structure*

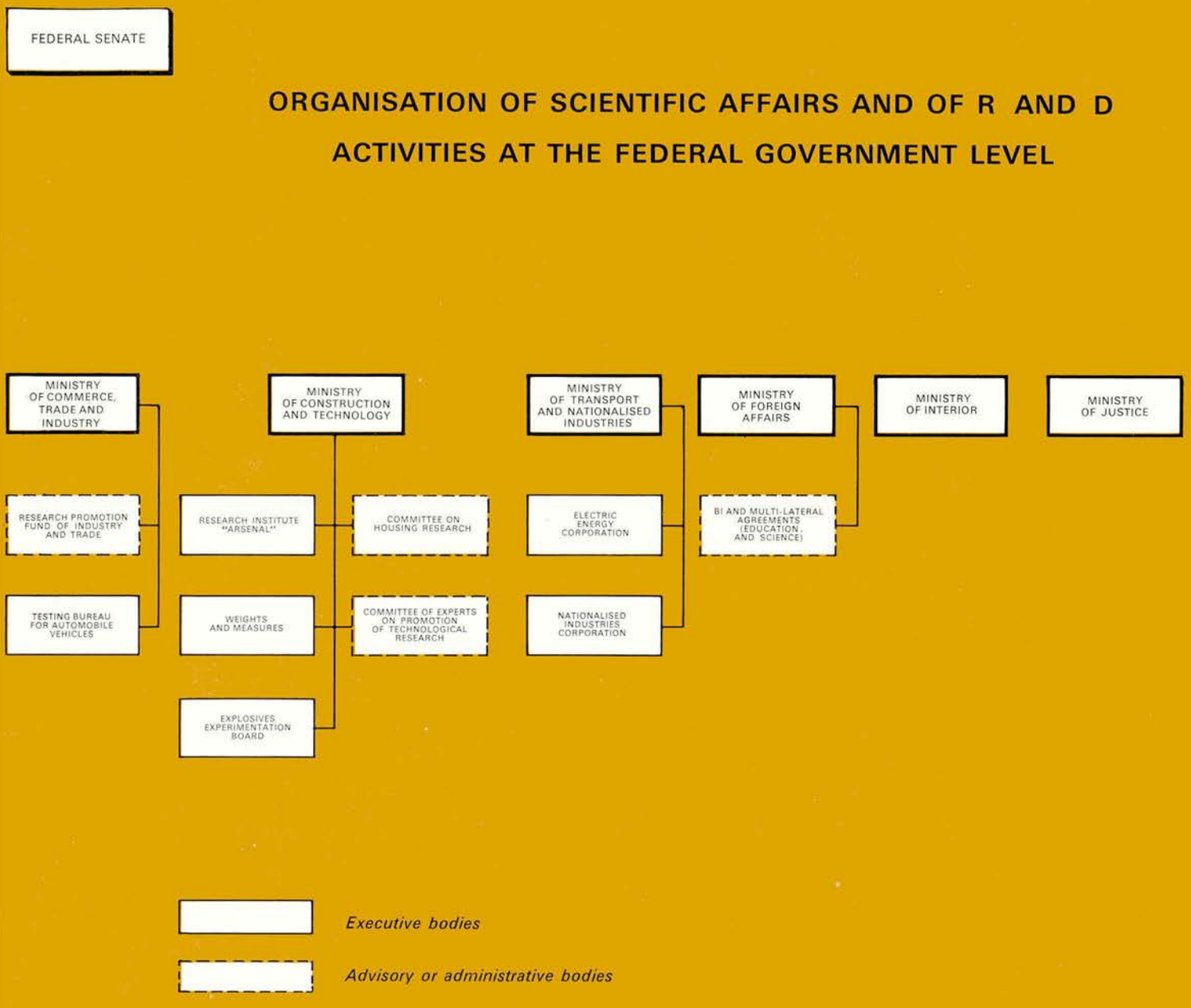
The OECD report "Science and the Policy of Governments"—background paper for the first Ministerial Meeting on Science in 1963—made clear that each country aspiring to have a national science policy would require some central organ for

- formulation of the national science policy
- co-ordination of the various science activities of the country, and
- assistance in the integration of science with general policy.

The Research Promotion Act of 1967, mentioned above, provides an excellent framework within which a national science policy for Austria might be created and implemented.

Coordination within the Government is a matter of political choice, state the examiners, including the decision as to whether a separate minister or a ministerial committee should be charged with such coordination. They strongly recommend in their report that the activities of the Research Council should be extended and deepened so as to make it capable of becoming the central advisory council for science policy, advising the Government on the R and D activities required in relation to national goals and reviewing the overall position of R and D in the universities,

ORGANISATION OF SCIENTIFIC AFFAIRS AND OF R AND D ACTIVITIES AT THE FEDERAL GOVERNMENT LEVEL



government and industry. The Council should also assist the Government in its long-term planning as regards science policy. The Council should be encouraged to :

- formulate R and D objectives deriving from the national aims, and recommend to the Government research efforts directed towards achieving these objectives, and
- advise the Government on the budget for government-financed R and D, including the research coming directly or indirectly under the Ministries of the Federal Government.

Where finance is concerned, increases in 1969 and 1970 give hopeful indications that the importance of the two Funds is recognised. In the case of the Industrial Research Promotion Fund an appropriate balance should be maintained between direct support to industrial R and D and indirect promotion of industrial innovation by support to co-operative and other research institutes. Preference should be given to research aiming at high-quality products or improvement of competition and flexibility in international markets. Financial means put at the disposal of this Fund should therefore be markedly increased.

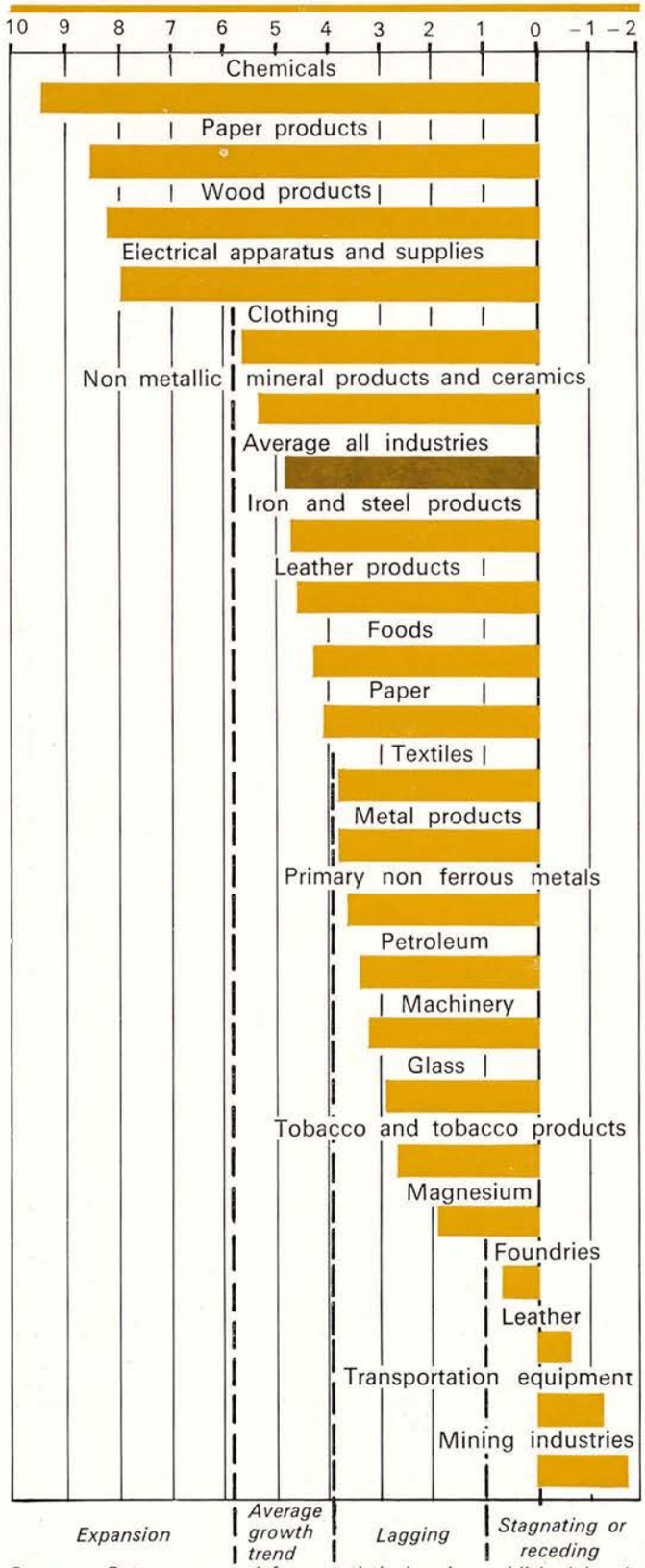
This should also be done in the case of the Industrial Research Promotion Fund, say the examiners, in order to foster fundamental research, partly in co-ordination with applied research and development efforts.

• *Organisation of R and D Activities*

The examiners put forward a number of recommendations on the subject of the new institutional framework based on the Research Council and the two Research Promotion Funds :

GROWTH RATES OF AUSTRIAN MANUFACTURING AND MINING INDUSTRIES

Average annual growth rates (%) 1956-1968



Source : *Rates computed from statistical series published by the Osterreichisches Institut für Wirtschaftsforschung.*

- Research in the universities should be encouraged by direct government support; adaptation in training to an overall coherent and nationally vigorous science policy; training for science students in applied aspects of their fields; better remuneration and advancement conditions for teaching staff; cooperation between university and industry; and, finally a comprehensive information system indicating areas where opportunities lie in the Austrnia economy.
- Coordination of the basic research institutes sponsored by the Academy of Sciences with other research projects of the country.
- Concentration of Co-operative Research Institutes within specific physical locations so as to make possible common technical services, laboratories, libraries, workshops, expensive instruments, etc., so as to avoid duplication of equipment and trained personnel; services for technical information, industrial engineering including work-study and productivity; contracts for international firms.
- Subcontracting to universities by the Arsenal Research Institute—a federal government organisation with a staff of some 200 people and sections for electrotechnology, machinery construction and fundamental research in physics and chemistry — of the basic research they require for their applied work.

• *A favourable Climate for Research and Innovation*

The examiners point out that besides non-oriented basic research, which by definition is not linked to any particular goal, a science policy programme should not be implemented for its own sake but rather to achieve clearly defined economic or social objectives mainly through the development of modern technology. A role for existing bodies in creating an environment that offers challenge and opportunity to the most capable of the country's creative scientists and engineers, entrepreneurs, managers with drive, and financiers might be considered.

The Government has taken the lead in the creation of a desirable climate for research and innovation, modifying tax legislation and considering further modifications so that costs of labour, materials, equipment and building construction for R and D would be largely exempted, as likewise the application and acquisition of patents and patent rights. To encourage selected foreign investments is also a possibility available to the Austrian Government.

All firms in Austria—private, public and foreignare members of the Chamber of Commerce, which passes on to the Government recommendations regarding legislation, taxes and planning. The Chamber operates departments for scientific research problems, statistics, economic promotion and retraining, and also finances research promotion through the co-operative research institutes.

The Chamber of Labour has a vital role to play, not only in communication between management and its members but also in assisting in making R and D applications through liaison with the Industrial Research Promotion Fund.

Within the new institutional framework, the examiners conclude, the possibility now exists for the first time that science policy may find its way to a place among the major national concerns closely interacting with other elements of national policy.

THE OECD MEMBER COUNTRIES (1972 Edition 8th year)



The OECD OBSERVER presents in this issue a set of tables showing the diversity of the economies of the twenty-three Member countries of the Organisation. These tables, which were drawn up at the end of 1971, set forth the final statistics for the year 1970. They are not intended to provide all the comparative data needed for an understanding of each country's economic situation in relation to the OECD group as a whole : they give some idea, however, of the economic pattern in the individual countries.

The figures have been supplied by the Statistics and National Accounts Branch of OECD. For further information, readers are referred to other statistical publications of the Organisation : Main Economic Indicators, Statistical Bulletins of Foreign Trade, Manpower Statistics, and Statistics of National Accounts.

SYMBOLS EMPLOYED:

( ) OECD Secretariat Estimate ;
— Nil ;
. . Not available.

Unless otherwise stated, all the figures are for 1970.

	AREA (1,000 sq. km)	AGRICULTURAL AREA (1,000 sq. km)	TILLAGE and temporary grassland (1,000 sq. km)	POPULATION (thousands)	INHABITANTS per sq. km
AUSTRALIA	7,686.8	4,906.1 1968	445.4 1968	12,552	2
AUSTRIA	83.8	38.9	16.8	7,391	88
BELGIUM	30.5	16.0	8.8	9,676	317
CANADA	9,976.1	643.6 1966	434.0 1966	21,406	2
DENMARK	43.1	29.8	26.8	4,921	114
FINLAND	337.0	28.1	27.2	4,616	14
FRANCE	549.1	331.8	192.8	50,775	92
GERMANY	248.5	135.8	80.7	61,566	248
GREECE	131.9	90.9 1967	39.1	8,793	67
ICELAND	103.0	22.8	—	205	2
IRELAND	70.3	48.2	11.5	2,944	42
ITALY	301.2	201.8	149.3	54,459	181
JAPAN	370.1	67.4	58.0	103,540	280
LUXEMBOURG	2.6	1.4	0.7	340	131
NETHERLANDS	36.6	21.9	8.7	13,032	356
NORWAY	323.9	9.5	8.1	3,879	12
PORTUGAL	91.6	(49.0)	(43.7)	9,701	106
SPAIN	504.8	342.6	204.8	33,646	67
SWEDEN	449.8	34.4	30.5	8,046	18
SWITZERLAND	41.3	21.8	3.8	6,270	152
TURKEY	780.6	523.9	277.4 1969	35,230	45
UNITED KINGDOM	244.0	191.6	72.0	55,812	229
UNITED STATES	9,363.4	4,356.1 1967	1,764.4 1967	204,800	22

TOTAL INCREASE IN POPULATION percentage (annual average 1960-1970)	NET IMMIGRATION (+) OR NET EMIGRATION (—) 1970 (thousands)	TOTAL CIVILIAN EMPLOYMENT (thousands)	of which :		
			AGRICULTURE, FORESTRY AND FISHING (%)	INDUSTRY (%)	OTHER (%)
2.00	+ 123	5,314	8.6	38.9	52.5
0.45	—	3,142	18.3	41.0	40.7
0.55	+ 9	3,747	4.8	44.7	50.5
1.80	+ 88	7,879	7.7	31.4	60.9
0.70	+ 4 1969	2,325	11.4	38.5	50.1
0.40	. .	2,142	22.7	35.5	41.8
1.05	+ 194	20,410	14.0	38.9	47.1
1.05	+ 575	26,705	9.0	50.3	40.7
0.55	— 67 1969	(3,662) 1969	(48.2)	(22.5)	(29.3)
1.55	— 1	79	(19.0)	(36.7)	(44.3)
0.40	— 8	1,058	27.5	30.0	42.5
0.80	— 6	18,774	19.6	43.7	36.7
1.05	— 4	50,940	17.4	35.7	46.9
0.80	+ 1	144	11.1	46.5	42.4
1.25	+ 32	4,567	7.2	41.0	51.8
0.80	+ 1	1,497	13.9	37.3	48.8
0.90	— 11 1969	3,030	33.0	35.8	31.2
1.05	— 16	12,372	29.6	37.4	33.0
0.75	+ 49	3,854	8.1	38.4	53.5
1.60	+ 24 1969	(2,767)	(7.0)	(51.4)	(41.6)
2.50	. .	13,519 1969	(72.1)	(11.6)	(16.3)
0.60	— 46	24,709	2.9	46.5	50.6
1.25	+ 428	78,627	4.4	(32.3)	(63.3)

Notes: a) Gross Domestic Product at market prices.
b) Includes stock appreciation.
c) Net Domestic Product.
d) Electricity, gas and water included in "other activities".

BLEU : Belgium-Luxembourg Economic Union

		AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND	IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
GROSS NATIONAL PRODUCT at market prices	at current prices and exchange rates (million US $)	35,850	14,370	25,880	80,160	15,570	10,220	148,230	187,050	8,400 1969	480	3,490 1969	92,850	167,200 1969	1,000	31,280	11,390	6,250	32,260	32,560	18,880 1969	12,560	121,180	974,220
	at 1963 prices and exchange rates (million US $)	. .	11,300	19,420	60,190	11,210	9,010	124,220	136,080	7,200 1969	410	2,960 1969	71,880	128,050 1969	710	21,760	7,950	4,730	25,010	23,650	14,770 1969	10,800	104,070	774,600
	per capita at current prices and exchange rates (US $)	2,860	1,940	2,670	3,740	3,160	2,210	2,920	3,040	950 1969	2,350	1,190 1969	1,710	1,630 1969	2,950	2,400	2,940	640	960	4,050	3,030 1969	360	2,170	4,760
STRUCTURE OF GROSS DOMESTIC PRODUCT (%) at factor cost	agriculture	9.6 1969-70	6.9	4.5	(a) 4.6 1969	7.9	14.1	(a) 6.0 1969	(a) 3.1	20.3 1969	. .	17.8 1969	10.3	(c) 8.7 1969	4.1	7.0 1969	6.3	17.3	13.3	(a) 3.7	. .	(c) 31.0	(b) 3.1	(a) 3.0
	mining and quarrying manufacturing industry, construction, electricty, gas and water	42.0 1969-70	48.5	42.6	(a) 32.1 1969	40.1	42.4	(a) 48.1 1969	(a) 54.2	28.2 1969	. .	35.2 1969	40.5	(c) (d) 39.1 1969	56.9	41.6 1969	39.9	44.0	35.5	(a) 36.8	. .	(c) 27.0	(b) 44.4	(a) 34.9
	other activities	48.5 1969-70	44.6	53.0	(a) 63.4 1969	52.0	43.5	(a) 45.9 1969	(a) 42.6	51.5 1969	. .	47.0 1969	49.2	(c) (d) 52.2 1969	39.1	51.4 1969	53.7	38.7	51.2	(a) 59.4	. .	(c) 42.0	(b) 52.5	(a) 62.1
GROSS FIXED ASSET FORMATION	percentage of GNP at current prices	26.6	26.8	21.9	21.4	21.9	25.6	25.6	26.5	29.7 1969	24.7	22.5 1969	21.2	35.2 1969	25.8	26.3	27.4	17.2	21.2	21.7	25.3 1969	20.2	17.6	16.5
	US $ per capita at current prices and exchange rates	760	520	590	800	690	570	750	810	280 1969	580	270 1969	360	570 1969	760	630	800	110	200	880	770 1969	70	380	780
PRIVATE CONSUMPTION EXPENDITURE	percentage of GNP at current prices	59.8	56.1	59.9	57.8	62.1	53.1	58.8	54.3	67.1 1969	64.9	69.2 1969	63.9	51.3 1969	56.3	56.7	53.2	74.8	67.8	54.8	57.6 1969	67.9	61.6	63.2
	US $ per capita at current prices and exchange rates	1,710	1,090	1,600	2,160	1,960	1,180	1,720	1,650	640 1969	1,520	830 1969	1,090	840 1969	1,660	1,360	1,560	480	650	2,220	1,750 1969	240	1,340	3,010
CURRENT GOVERNMENT EXPENDITURE AND REVENUE (% of GNP)	current expenditure	22.4	29.9	33.1	31.7	31.4 1969	28.3	33.5 1969	31.6	24.0 1969	25.3 1968	30.1 1969	31.6	14.1 1969	33.2 1968	38.5	38.0	. .	18.3	45.7	23.2 1969	. .	32.8 1969	30.1
	current revenue	29.2	35.9	34.7	35.5	37.5 1969	36.4	38.1 1969	37.6	26.9 1969	33.8 1968	31.4 1969	32.3	21.2 1969	34.8 1968	43.5	44.3	. .	22.5	55.3	28.0 1969	. .	39.0 1969	29.6
OFFICIAL HOLDINGS of gold and foreign exchange 31st October 1971 (million US $)		2,610	2,002	(BLEU) 2,328	4,391	372	480	6,511	15,666	423	61	848	6,052	13,332	(BLEU) 2,328	2,377	999	1,719	2,863	842	5,482	605	4,622	10,466
OFFICIAL DISCOUNT RATE 31st December 1971 (with date of last change)		. .	5.00 22-1-70	5.50 23-9-71	4.75 25-10-71	7.50 15-4-71	7.75 31-12-71	6.50 28-10-71	4.00 23-12-71	6.50 15-9-69	7.00 20-10-71	4.62 31-12-71	4.50 14-10-71	4.75 29-12-71	5.50 23-9-71	5.00 15-9-71	4.50 1-9-69	3.75 1-4-70	5.00 21-10-71	5.00 12-11-71	3.75 15-9-69	9.00 1-9-70	5.00 2-9-71	4.50 17-12-71

BLEU : Belgium Luxembourg Economic Union		AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
CURRENCY	monetary unit	Australian Dollar	Schilling	Belgian Franc	Canadian Dollar	Krone	Finnish Mark	French Franc	Deutsche Mark	Drachma	Krona
	currency units per US $ 31st October 1971 market rates	1.165	24.280	46.620	1.003	7.256	4.162	5.534	3.336	30.000	87.420
IMPORTS (goods only)	total (CIF) (million US $)	• •	3,549	(BLEU) 11,353	13,308	4,385	2,637	19,119	29,814	1,958	157
	from other OECD countries (million US $)	• •	2,902	(BLEU) 9,319	11,875	3,764	1,970	14,223	22,992	1,568	129
	from rest of world (million US $) (excl. unspecified)	• •	647	(BLEU) 2,031	1,433	620	667	4,892	6,794	389	28
	total imports as percentage of GNP at current prices	• •	24.7	(BLEU) 43.9	17.5	28.2	25.8	12.9	15.9	20.9	33.4
	increase in volume of total imports from 1965 to 1970 (percentage per year)	• •	9.7	(BLEU) 10.4	8.2	8.0	8.2	12.2	9.6	7.0	• •
EXPORTS (goods only)	total (FOB) (million US $)	• •	2,857	(BLEU) 11,595	16,135	3,290	2,306	17,940	34,189	643	147
	to other OECD countries (million US $)	• •	2,128	(BLEU) 10,274	14,311	2,784	1,738	13,050	27,082	435	129
	to rest of world (million US $) (excl. unspecified)	• •	729	(BLEU) 1,261	1,824	488	568	4,889	7,037	207	18
	total exports as percentage of GNP at current prices	• •	19.9	(BLEU) 44.8	21.2	21.1	22.6	12.1	18.3	6.9	31.3
	increase in volume of total exports from 1965 to 1970 (percentage per year)	• •	12.2	(BLEU) 10.5	11.1	6.4	9.1	10.6	11.4	14.0	• •
FOREIGN TOURISM (international transport excluded except for Canada)	receipts (millions of $)	151	999	(BLEU) 348	1,192	314	120	1,192	1,024	194	• •
	percentage of change over 1969	+ 14.4	+ 27.2	+ 10.8	+ 18.9	+ 20.7	+ 42.9	+ 11.2	+ 12.0	+ 29.5	• •
	expenditures (millions of $)	207	323	(BLEU) 492	1,410	273	86	1,057	2,493	55	5
	percentage change over 1969	+ 13.1	+ 9.1	+ 8.4	+ 18.5	+ 10.2	+ 3.6	+ 1.7	+ 31.2	+ 15.4	+ 96.2

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
Pound	Lira	Yen	Luxembourger Franc	Guilder	Krone	Escudo	Peseta	Krona	Swiss Franc	Lira	Pound	Dollar
0.401	612.300	329.300	46.620	3.348	6.850	27.560	68.670	5.025	3.989	14.850	0.401	1.000
1,569	14,939	18,881	(BLEU) 11,353	13,393	3,697	1,556	4,747	7,005	6,467	886	21,723	FOB 39,964
1,355	10,077	8,457	(BLEU) 9,319	10,874	3,217	1,139	3,385	5,903	5,791	689	13,753	FOB 28,052
196	4,842	10,424	(BLEU) 2,031	2,519	480	408	1,361	1,102	676	197	7,925	FOB 11,887
40.3	16.1	9.6	(BLEU) 43.9	42.8	32.5	24.2	14.7	21.5	31.7	7.1	17.9	4.0
7.9	13.3	17.5	(BLEU) 10.4	11.0	10.8	• •	8.5	7.1	10.4	• •	5.6	10.0
1,035	13,188	19,318	(BLEU) 11,595	11,767	2,455	946	2,387	6,782	5,137	589	19,351	43,226
956	9,690	9,460	(BLEU) 10,274	10,057	2,140	635	1,706	5,623	3,885	429	12,081	28,042
50	3,366	9,853	(BLEU) 1,261	1,562	315	304	668	1,159	1,252	159	7,181	15,174
26.6	14.2	9.8	(BLEU) 44.8	37.6	21.6	14.7	7.4	20.8	25.1	4.7	16.0	4.4
9.5	11.5	15.0	(BLEU) 10.5	12.6	8.8	• •	19.4	8.2	10.0	• •	5.9	6.5
193	1,639	232	(BLEU) 348	421	156	222	1,681	143	733	64	1,040	2,319
+ 2.7	+ 0.4	+ 56.8	+ 10.8	+ 26.0	+ 22.4	+ 32.9	+ 28.2	+ 12.6	+ 14.0	+ 38.8	+ 20.6	+ 12.7
• •	727	315	(BLEU) 492	598	140	98	113	481	309	48	924	3,953
• •	+ 47.5	+ 30.7	+ 8.4	+ 10.7	+ 21.6	+ 32.4	+ 31.4	+ 31.8	+ 12.4	+ 13.0	+ 18.8	+ 16.6

ANIMAL PROTEIN

grams per inhabitant and per day 1968-1969 or 1968

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
69	52	53 (BLEU)	64	61	57	62	54	43	• •

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
59	38	30	53 (BLEU)	53	52	34	34	54	53	• •	54	68

DWELLINGS COMPLETED

number per 1,000 inhabitants 1969

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
11.2	6.2	5.8	9.3	10.0	8.5	11.3	8.5	11.9	7.4

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
4.8	5.3	13.2	• •	10.0	8.6	4.3	8.0	13.7	9.5	3.8	6.9	7.4

NET CONSUMPTION OF ELECTRICITY

kWh per head and per year (excluding losses) 1970

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
4,008 1969	2,843	2,864	8,580	2,662	4,302	2,566	3,551	981	6,150

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
1,630	1,932	2,734 1969	7,202	2,798	13,140	648	1,370	7,039	3,952	208	3,770	7,379

HIGHER EDUCATION ENROLMENT 1968-69

as a percentage of age group 20-24

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
16.8	10.0	15.5	26.5 67-68	14.9	11.8	18.6	11.3	10.7 67-68	8.0 67-68

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
10.4 67-68	13.6	18.2	7.8	13.4	11.4	6.7	10.4	18.8	11.2	5.5	13.4	43.3

TELEPHONES

number per 1,000 inhabitants 1969

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
293	181	200	441	328	232	161	212	100	335

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
98	160	194	314	242	283	73	124	515	457	15	253	567

PASSENGER CARS

number per 1,000 inhabitants 1969

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
299	152	199	305	209	137	238	208	22	182

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
123	170	80	251	177	182	52	61	275	206	4	205	427

TELEVISION SETS

number per 1,000 inhabitants 1969

AUSTRALIA	AUSTRIA	BELGIUM	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	GREECE	ICELAND
215	173	207	294 1968	250	210	201	262	10	153

IRELAND	ITALY	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
153	170	214	183	223	207	37	167	401	184	0.7	284	399

INNOVATION IN HIGHER EDUCATION : SHORT-CYCLE COURSES

If a transition from elitist to mass higher education is to be brought about, traditional universities will not be able to do the job alone; new types of higher education will have to be developed to cope with increasing numbers and more diversified student needs. One possibility is expansion and appropriate reforms of short-cycle higher education, and OECD's Education Committee has been exploring the problems involved in setting up such institutions or programmes and integrating them into the educational system and the society at large. These problems and some of the solutions envisaged are described in the following article by Dorotea Furth, Consultant to the OECD Directorate for Scientific Affairs.

Practically all OECD countries have realised that policies for higher education based on "more of the same" strategies will be ineffective in solving present problems; the new solutions envisaged imply important structural reforms and the creation of quite new types of institutions in many countries.

One of the basic hypotheses underlying OECD's approach to the long-term development of education in its Member countries is that future higher education systems must be *diversified* and better *articulated;* they must provide a wider variety of educational offerings (patterns of study, degrees and ways in which to obtain them), than is at present available, and there must be close organic links and complementarity between the various components of the system : easy flows of students, teachers and financial resources from one field of study to another, as well as between institutions, co-ordination between the various institutions and at least a minimum of integrated planning.

There are several possible approaches to bringing about diversification : the Open University in the United Kingdom, and the American "University Without Walls" are just two examples. Another strategy is the adaptation and development of extra - or non - university institutions and courses which were originally created to provide terminal and for the most part vocationally oriented education. For want of a better term, these are provisionally called short-cycle institutions (SCIs).

The characteristics of SCIs, like other educational establishments, vary greatly from country to country. However, in order to simplify the discussion, three traditional types or models can be distinguished.

The multipurpose model, in which the SCIs have a close link to university education, facilitating transfer of some SCI students, providing a highly diversified curriculum, both academic and vocational; these institutions are generally geared to meet local or regional needs (United

States and Western Canadian Junior Colleges are examples).

The specialised model, in which SCIs have very little connection with universities. They provide mostly terminal programmes, specialising in a rather small number of vocationally oriented fields and are usually under central administration. (Most of the Continental European systems follow this model.)

The binary model, where SCIs are completely separate from the university sector, highly diversified and offer practically all levels of study from sub-degree to post-graduate courses (e.g. the United Kingdom).

Many countries are now not only carrying out reforms within these traditional models but are experimenting with new forms of short-cycle education as well. Thus, for example, Norway has embarked on a new scheme of post-secondary "regional colleges", the first of which started operations in 1969. These schools are intended not only to fill in the gaps left by traditional 6-7 year university courses on the one hand and strictly vocational schools on the other but also to experiment with new types of curricula and new admissions policies (e.g. students not having formal secondary school qualifications are admitted). They greatly emphasise part-time studies, are closely geared to the life of the region and are intended to cater to the academic as well as vocational needs of the students.

In the United Kingdom, innovation in the structure of higher education has focussed on the so-called Polytechnics in which several specialised technical institutes are fused into one in an attempt to create university-level education with a technical and professional orientation—equivalent to the university but different.

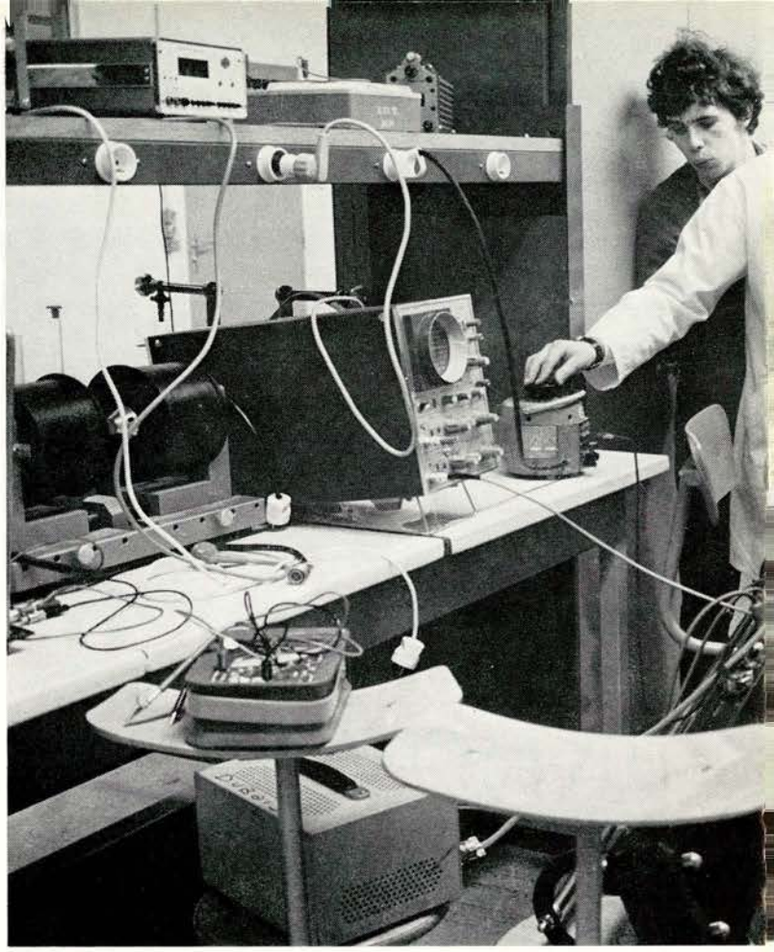
In Quebec province in Canada all students leaving secondary education, both those intending to go to university and those who will pursue vocational studies, must now pass through a newly created common short-cycle institution (the CEGEP).

If short-cycle education is to become part of an integrated yet differentiated higher education system, the institutions concerned face a number of dilemmas of which perhaps the most crucial is how to achieve respectability in the world of higher education without losing sight of those particular functions which are not fulfilled by traditional universities. Successful results will probably never be achieved unless existing hierarchies between various types of institutions or patterns of study are greatly attenuated, which means bridging the gap between the "noble" (university) and "less noble" (non-university) sectors of the post-secondary system. The difficulties should not be underestimated, for the disparity is the expression of deeply rooted values which hold pure research, development of knowledge for its own sake and theoretical and abstract disciplines in the highest esteem while technical, vocational and other practically oriented studies are valued least.

This conflict is reflected in many of the more detailed issues with which planners and educators are concerned; some of these are discussed in the following paragraphs.

Access and Admission

In Canada, the United Kingdom, the United States and Yugoslavia where universities are characterised by selective admission, the short-cycle institutions constitute the open sector of the system. In the United States and Canada for example where the existence of mass secondary education (more than 70 per cent of the age group complete this level) has given rise to increasing demand for access to higher education on the part of students coming from the less privileged groups of society, the SCIs, with their open access, are the institutions on which this demand has had the greatest impact. This poses important problems. The coexistence of free access to SCIs and selection at universities may easily lead to a certain pseudo-democratisation of the system in which institutional status differences are actually reinforced: selective university-type institutions, relieved from the pressure of numbers can "make place" for youth from middle and upper class strata and for those having the most ability.



Students in electronics at one of the recently created university institutes of

The United States has dealt with this problem by developing "university transfer" courses in Junior Colleges, but several studies show that a relatively small proportion of the students actually transfer to universities at the end of Junior College studies and a large number "drop out" in the course of the first year.

In the United Kingdom, although the non-university sector plays an important role in providing access to higher education for less favoured groups of society, equality of educational opportunity is hampered by limitations on student mobility, since students who have entered the non-university sector can only transfer to the more prestigious universities in very exceptional circumstances. To compensate, the non-university sector offers an increasing number of university-level and even post-graduate courses, but still the dichotomy between "noble" and "less noble" institutions is very clear.

In Continental European SCIs, the situation is very different: a strong tradition of open universities prevails



technology (IUT) at Cachan outside Paris.

in the majority of these countries, and it is the universities — and particularly certain fields of study — which have borne the burden of the quantitative expansion of recent years. Hence, in some European countries, SCIs are the selective institutions; in a few cases, for example in France, students who have been refused admission to short-cycle technical institutes are admitted to university study.

In Europe it is the secondary schools which serve as the main selection mechanism, but recent, sometimes radical, reforms of upper secondary education are in the direction of comprehensiveness. This may lead to the elimination of the hierarchy among different types of secondary school with the result that graduates of all types of upper secondary education would have access to all forms of higher education.

If so European SCIs will have to face a number of new problems in future, for example :

- Should SCIs compete for the same clientele as universities or should they cater to the needs of students whose interests and abilities do not correspond to the requirements of theoretical, academic education?
- Will a great number of students who drop out of universities seek admission to SCIs? What effect would this have on the status and prestige of these institutions?
- To what extent will it be possible to organise access to higher education as a flexible process rather than an irreversible one?

Transfer Versus Terminal Programmes : A Search for Compatibility

The structure and organisation of studies in SCIs reflect the constant dilemma of these establisments : on the one hand, responding to the increasing social demand for education so as to offer real equality of opportunity; on the other hand, playing the role of diversification agent and training middle-level technicians. This duality is translated into a search for compatibility between transfer and terminal courses. The results of overemphasis of transfer work are best illustrated by the example of the American Community Colleges, which provide opportunity for access to four-year institutions to students who otherwise would have been unable to enjoy the benefits of long-cycle education. But by giving so much emphasis to this "transfer" function (often in response to the pressure of student demand) the American Community Colleges have often neglected other important objectives and become academically dependent on surrounding universities for recognition of their programme.

The opposite trend is seen in the specialised SCIs in Continental Europe, which have emphasised their economic objectives and the terminal nature of their education and thus become "blind alleys" for the students. The most recent reforms deal with this problem by introducing so-called "passerelles", "cursos puente", "permeability" or similar measures aimed at permitting or facilitating transfer, "subject to certain conditions". An important element in these measures is that transfer is envisaged as a two-way process, not only allowing SCI graduates to enrol in long-cycle studies but also — and perhaps to a greater extent — permitting potential university drop-outs to enrol in SCIs. Unsuccessful or discouraged students could in this way be recuperated by the system and given the possibility of finishing short-cycle studies.

At the core of the search for compatibility between transfer and terminal courses is the problem of appropriate curricula and of conceptual and pedagogical linkages between practically and theoretically oriented studies. Ideally, this problem would be resolved if equivalence could be established between the first part (first cycle) of long university studies and courses provided in short-cycle institutions. In practice no real solutions have yet been found, and many attempts have failed.

The combination of a new approach to curricula problems and the simultaneous development of a credit point system to cover all institutions of higher education would be the most powerful tool for achieving an organic linkage of SCIs to other forms of higher education while preserving, and even developing further, the diversification of the two sectors.

The credits would correspond to small "learning units" or "modules" transferable between fields and levels of study and between the various types of institutions. Many features of such a system have already been introduced in the United States, but their implementation in Europe is a relatively new and limited phenomenon, though recent proposals, for example the French "unités capitalisables" and the German "Baukastensystem", have attempted to widen the scope for transferability of credits. A further step is the Swedish idea of eliminating all types and levels of degrees and replacing them with certificates indicating the number and subject content of points acquired. This would allow students to terminate their studies whenever they wish or whenever they have a sufficient number of points for a particular job.

Such efforts to change curricula and to reform structures are more than techniques; they represent a trend towards a student-centred rather than an institution-centred system of higher education.

(continued on page 30)

Status of Teachers and Students in Short-Cycle Institutions

The often marginal status of SCIs is clearly reflected in some of the present conflicts affecting the teachers of these institutions whose salary, and other perquisites (teaching load, the degree of academic freedom, the possibilities of carrying out research etc.), bear a much closer resemblance to secondary school patterns than to those of higher education.

This is in a certain sense a vicious circle: on the one hand it is said that teachers in SCIs are not sufficiently qualified to be ranked (or paid) on a par with university professors; on the other hand it is argued that the only way of raising the educational standards and prestige of the SCIs is to provide attractive working conditions and adequate status.

For students, as for teachers, the problem is often one of material conditions. A situation must obviously be avoided in which SCI students — many of whom come from the lower social classes — benefit less from financial assistance and the use of libraries, restaurants, cultural activities and other facilities than the students enrolled in universities. In some of the new SCIs — e.g. Norwegian District Colleges and University Institutes of Technology (IUT) in France — students are entitled to exactly the same scholarship schemes and facilities as university students. The question is whether under certain conditions they should not receive additional advantages, partly to help compensate for the material and cultural handicaps resulting from their social backgrounds, partly (when necessary) as a means of enhancing the forces of attraction of SCIs.

Employment of Short-Cycle Graduates

To a great extent the status and prestige of SCIs will depend on the immediate employment conditions and future career prospects of their graduates. This is a dual responsibility: it is up to the educational system, and especially the SCIs, to train high quality graduates so that they are able to meet the rapidly changing requirements of a technologically-based economy; at the same time the labour market must be able to provide SCI graduates with satisfactory salary and status, particularly in relation to university graduates. Frequently however this is not the case. In the civil service of many countries, for example, job classification schemes make no specific provision for graduates of short-cycle institutions.

As for career prospects, SCI graduates have in the past often been able to obtain working conditions similar to those of university graduates in their first jobs, but the possibilities of promotion later on were much more limited.

One solution to this problem would be to adopt promotion policies based on an employee's work performance rather than on his degree, but probably the key to improving the professional status of SCI graduates and "ennobling" the SCIs themselves will be to open up to these graduates a wider range of possibilities for further education.

A Search for Identity : The Underlying Issue

It is interesting to note that the integration of SCIs into higher education has not necessarily contributed to the increase of their prestige within the context of the overall system. SCIs are still in the process of finding their place in a structure which often seems highly resistant to the incorporation of new elements. Conceptually this can be explained rather simply: as such institutions become recognised members of the higher education group, they are judged and judge themselves with reference to the traditionally most prestigious members of this group, namely the universities. Such a value scale is obviously completely unsuited to the present needs of society which, on the contrary, requires a *wide institutional diversification without, or with a minimum of, institutional hierarchy*.

The problem seems to be that structures of higher education, although evolving slowly, have nevertheless changed more rapidly than the value systems prevailing in them. Thus, because of the very powerful and traditional norms emanating from universities, it is difficult, if not impossible, for the SCIs to acquire sufficient prestige or parity of esteem without following these norms and thereby rejecting their own specific functions.

It is possible that the whole problem can really be solved only in the context of recurrent education which would make any distinction between short - and long - cycle higher education meaningless. But probably full, or even partial, implementation of such an ideal cannot be expected anywhere in the near future. In the meantime SCIs are faced with a basic dilemma : to pursue their objectives through a gradual integration with the university sector or to follow a more or less independent and parallel path.

While *separate development* may further widen the gap between "noble" and "less noble" institutions, it may equally contribute to the development of a large and widely diversified system offering all types, levels and patterns of study so that, sooner or later, the traditional university sector would represent only a small part of the whole and gradually lose its dominant position. Signs of such a development seem to be appearing in the United Kingdom with its binary system.

Integration with the university sector could imply that SCIs will increasingly orient all their activities to the traditional university image and bring about a dangerous uniformisation of the system. On the other hand it could also bring about a radical change in the philosophy, objectives, functions and methods of university education and consequently a new definition and concept of university institutions and of higher education as a whole.

To a great extent it is the attitude of the universities that will arbitrate between these two alternatives. The crucial question is whether the universities will accept the SCIs as equal partners, with all the attendant consequences, or whether they will choose to stick to their traditional (even if superficially revised) value structure, by virtue of which they retain their distinct character as elitist institutions.

If the latter, a separate but parallel development of SCIs would probably be a more efficient strategy in the short term. If, on the contrary, universities accept the SCIs as equals, the integration of universities and various types of SCIs would help make it possible to achieve unity without uniformity, and diversity with a minimum of institutional hierarchy. In the final analysis, these reflect political options in overall national policy as to how the onset of mass higher education is to be articulated into the social and economic system.

GROUP FARMING : A NEW EXPERIMENT IN CO-OPERATION BETWEEN FARMERS

Group farming is one of the ways in which some farmers are trying to cope with the problems of small farms. OECD is shortly publishing a report on the subject, and the following article highlights the main points covered. At the same time, OECD Member governments are taking steps to improve farm structures and a detailed report is in preparation, based on studies made by the Working Party on Agricultural Policies of the OECD Committee for Agriculture. An article on the subject will appear in a later issue of the OECD Observer.

Although little is known about it outside the countries concerned, a new form of agricultural co-operation has been growing up over the last few years. This is group farming. As farmers' activities became more fully meshed with the general economy, they have sought to make up for their relative weakness by organised action. Such joint efforts were first concentrated on the supply and sale of products, then extended to machinery and labour. The next logical step towards integration is the pooled use of land; group farming is an arrangement under which several farmers join forces in managing and exploiting each and every factor of production, including land (although this in no way implies its collectivisation, the position differing entirely from that found in the Yugoslav combinats and the kolkhozes).

Group farming leads to the improved use of inputs and to smaller outlays for machinery per hectare.



Experiments in France and Spain

In France this principle has been applied to form the " Groupements Agricoles d'Exploitation en Commun " (GAEC's). By the end of 1970 about 2,200 GAEC's, covering 220,000 hectares between them, were being worked by 6,000 farmers (accounting for no more than 0.7 per cent of arable farmland and 0.6 per cent of the total number of farmers). Each was operated by an average of three partners and one paid employee.

While the pioneers of the movement considered that farmers should become a part of the market economy, which meant mechanisation and concentrations, they also wanted to safeguard the family farm and preserve the farmers' independence by avoiding any industrial type of concentration. They believed that by grouping farms, farmers' incomes would increase owing to lower costs, the more efficient use of inputs and better organisation of work. They also expected living conditions to improve. Legislation was introduced to promote the new trend, and the steps which would enable the GAEC's to be set up were taken.

In Spain group farming was a process which developed spontaneously in a less organised environment than in France. It assumes a great variety of forms, which fall into two main categories: producer co-operatives and syndicates.

The producer co-operatives developed quite independently of the Government. While few in number (there were 318 at the end of 1969) they may reach a considerable size (between 800 and 1,000 hectares or even as much as 2,000 hectares in non-irrigated areas, as against some 300 hectares in irrigated districts) and include 30 to 50 members.

(Continued on page 32)

The syndicated groups in their present form, on the other hand, are the result of a series of government measures. At first, substantial advantages were granted to associations of wheat farms, and the incentives were then extended to all farming groups growing grain, even as only one of their activities. Lastly an Act passed in 1969 provides for assistance to all forms of group farming. There are now 2,200 joint farming syndicates, each boasting from 6 to 10 members, which generally cover from 150 to 300 hectares of non-irrigated land.

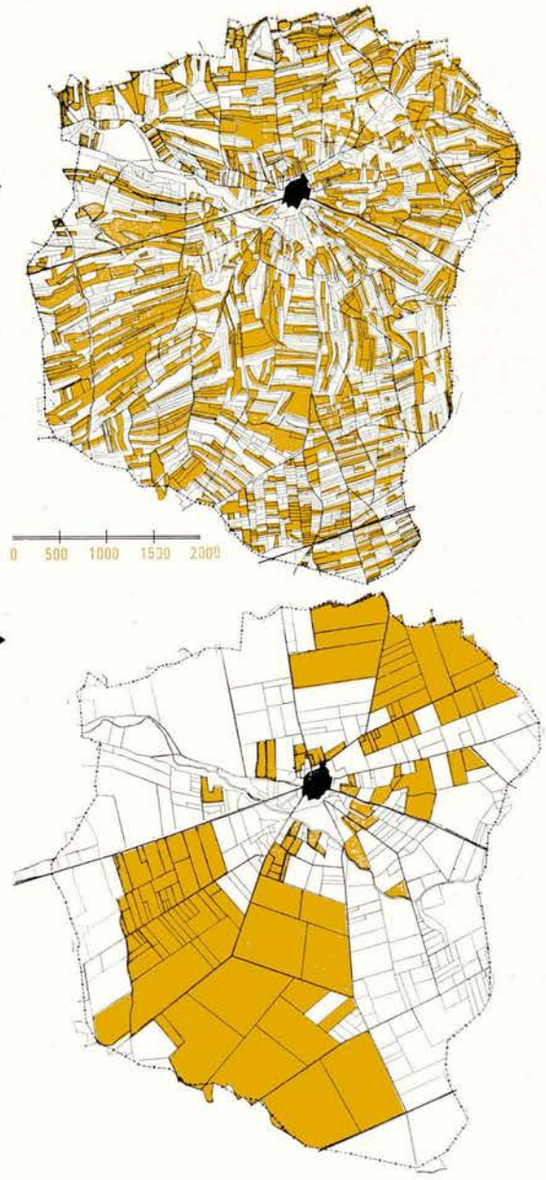
Apart from France and Spain, Japan is the only country where group farming has made some headway. In 1968 Japan numbered some 430 groups which might be regarded as fully integrated. In the other OECD countries the number of such groups is minimal.

Why has the group farming movement been virtually restricted to two countries alone? In some cases (e.g. in Scandinavia and the Netherlands) the high level of co-operation, contractual integration and mutual aid has gone so far towards solving the farmers' problems that for the time being comparatively little need is felt for any closer co-operation (although increasing interest is being shown in farming groups in Norway). In other cases — especially in Germany and Belgium but also in the northeastern part of the Netherlands — while a few have been set up no legislation exists to meet the specific needs of farming groups. For taxation purposes these are accordingly treated as industrial or commercial undertakings and thus forfeit all the tax concessions generally enjoyed by the individual farmer. The German Government has started to look into this question.

A first assessment

Group farming takes a variety of forms and is designed to meet differing local situations in the two countries where it has mainly been introduced. How far can the experience these countries have gained be of use to other countries? In the eyes of the OECD Working Party the primary importance of group farming lies in setting up farming units of a *size* consistent

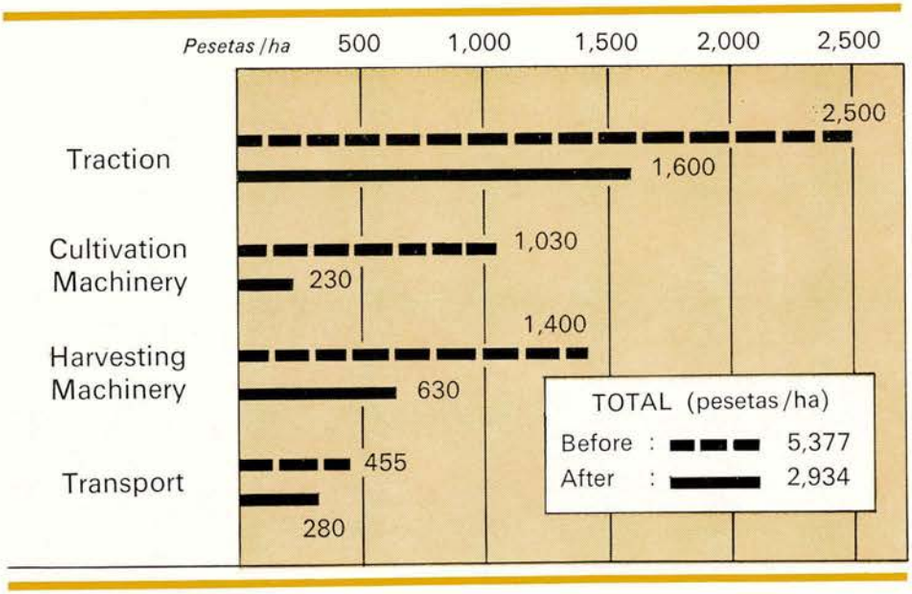
THE ALDEASECA DE LA FRONTERA CO-OPERATIVE (SALAMANCA)



An example of what the Spanish authorities consider the optimal solution : the establishment of the Aldeaseca de la Frontera co-operative was decided upon at the same time as the re-distribution of the land. As a result of these two operations, undertaken simultaneously (in 1962), the 82 associate members of the new co-operative were provided with fewer plots of ground (24 instead of 1,478), less dispersed and larger. The combined effect of the two processes thus permitted the constitution of a well-based system of cultivation.

1. TREND OF MECHANISATION :

Investment per hectare before and after the creation of the Zuniga co-operative (established in 1958 in Spanish Navarra)



with the requirements of modern agriculture. Such a need is felt in many countries and regions, particularly in Europe and in Japan, where the existence of too many over-small holdings creates a problem. Group farming enables a small-scale farm structure to be replaced by a large-scale structure at a stroke instead of by slow stages; indeed, a serious disadvantage of a gradual increase in farm size is that the machinery and buildings cannot be replaced or adjusted to suit each new dimension, while to become a paying proposition certain specialised types of equipment require plenty of room to work in from the start. Group farming leads to the improved use of inputs and to smaller outlays for machinery per hectare (Diagram 1).

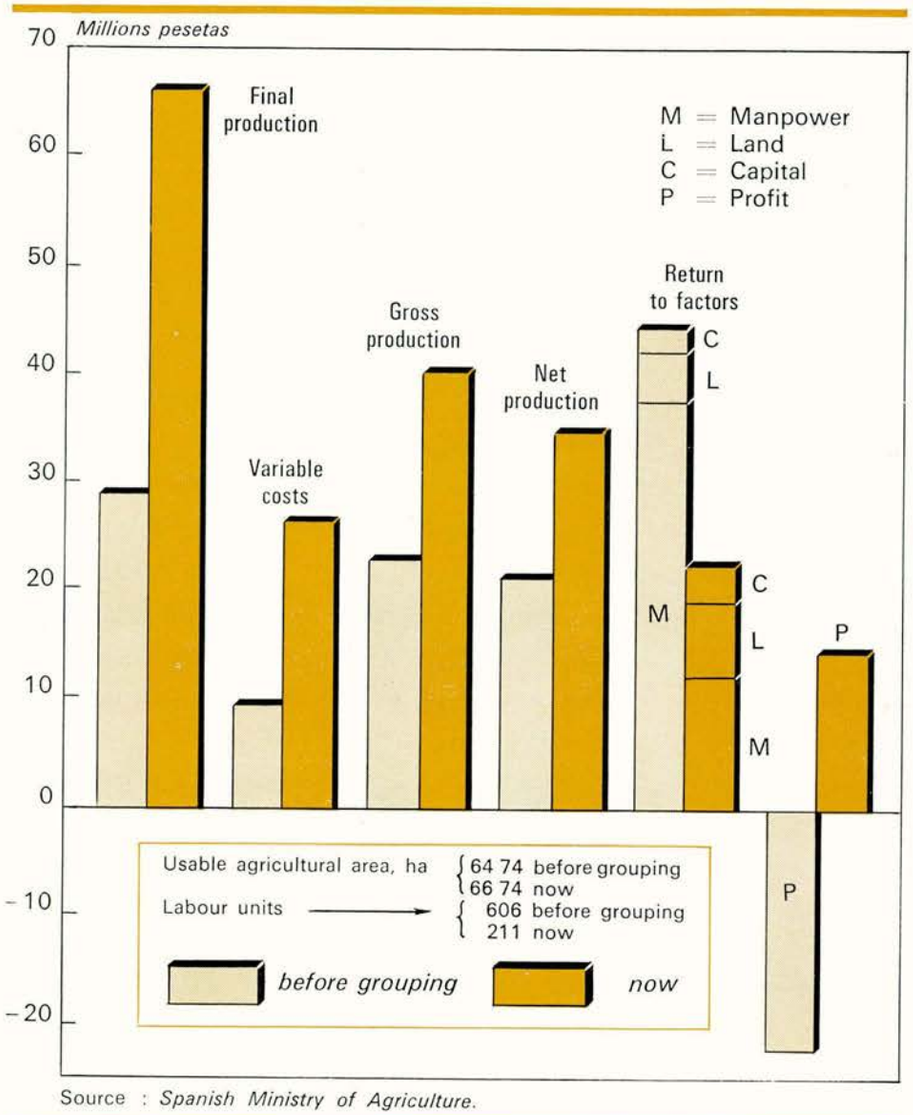
Group farming encourages *rationalisation* of labour and generally implies a higher output per worker per unit of land. Except perhaps on a few very large co-operative farms, group farming moreover tends to promote a more highly qualified labour force. This is because each member of the work force does a specialised job, and also because the partners are afforded the opportunity of taking time off to attend courses.

Better *living conditions* for farmers and their wives are certainly one of the main benefits provided by group farming, even where incomes do not greatly increase. Working hours can generally be reduced and farmers' wives are largely released from farm work. Shared responsibility brings more free time and weekly or annual holidays.

Structural improvements are however little promoted by group farming if all the partners have to continue to work on their farms; in this event the labour/land ratio is not directly affected by formation of the group unless rationalisation makes it possible to reduce the number of wage workers previously employed. The group farming schemes found in Spain, under which not all the partners need be expected to work on the farm, instead enable the land/labour ratio to be altered owing to the departure of an appreciable number; those who leave make their land available to the group and draw a corresponding share of the profits.

2. ECONOMIC RESULTS

for 8 cooperatives in a sample of the Aranda de Duero region (Spain)

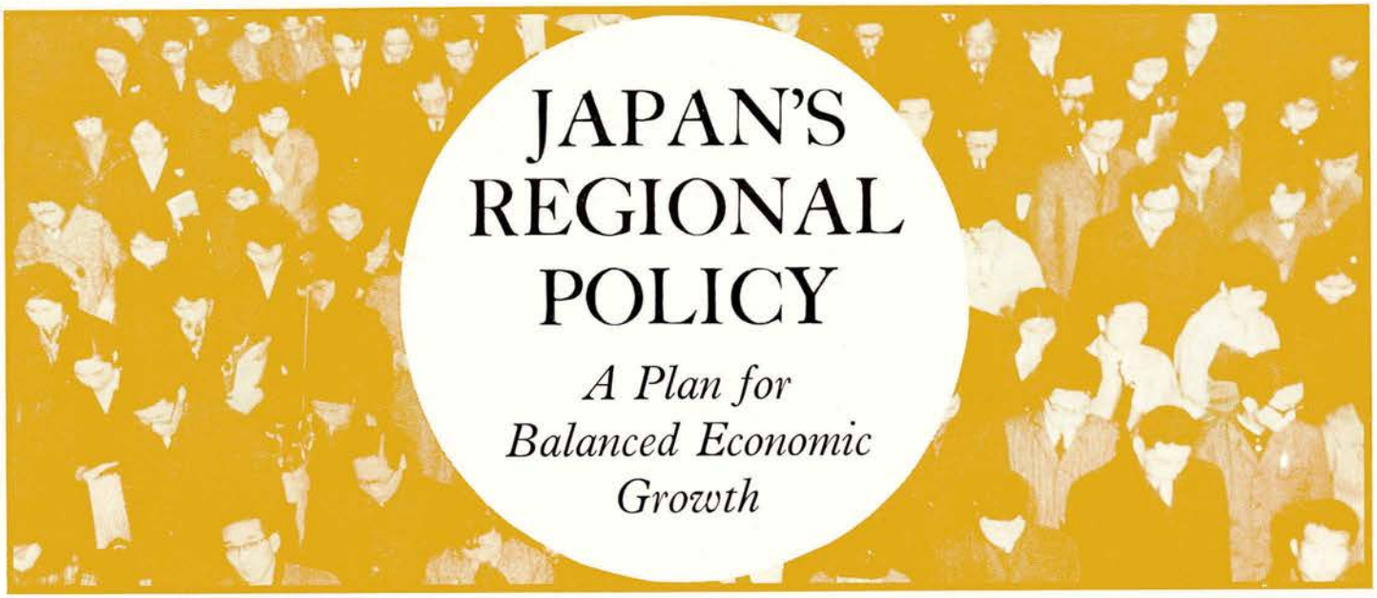


Source : *Spanish Ministry of Agriculture.*

While this procedure does lead to structural improvement, a sometimes thorny problem which arises is that of distributing earnings in proportion to the capital or work contributed.

In many cases a net improvement in the farms' economic performance has been noted (Diagram 2). Yet any higher *income per partner* proves difficult to attain if all the farmers who formerly worked their individual holdings continue as active members of the group; thus in France, the GAEC's do not seem to have scored any marked increase in earnings, although it is well to remember that most are of recent origin and have yet to advance beyond the running-in stage, with all the re-adjustments the process involves. Incomes have increased most in crop-farming groups, whereas on farms extensively engaged in raising livestock the main benefit lies in the farmers' new way of life and their release from earlier drudgery.

A group in which all partners continue to work has no additional *capital* per farmer, except insofar as the farmers can obtain credit more easily as a group. The problems of finance, however, which are of vital importance in modern agriculture, lose some of their acuity in so far as grouping leads to the formation of fairly large farms without requiring the purchase of land.



JAPAN'S REGIONAL POLICY

A Plan for Balanced Economic Growth

Japan's regional policy has entered a new phase with the adoption of a Comprehensive National Development Plan stretching as far as 1985. Japan's problem is, while maintaining its exceptionally high rate of growth, to restore economic balance by relieving the pressure on the areas to which industries and labour throng and by giving a fillip to other areas. The authorities in charge of this exercise are putting the emphasis on developing transport and communications facilities and on improving the quality of life. An OECD Industry Committee Working Party has studied Japanese regional development policy on the spot (1) and the following article discusses some of the facts it brought to light.

(1) The report, entitled "Salient Features of Regional Development Policies in Japan", is obtainable on request from the OECD Industry Committee Secretariat.

TWO facts determine Japan's attitudes and policies on regional development; the habitable area is very limited (population density reaches 1,400 persons per square kilometre) and the country's ultra-rapid economic expansion (11.9 per cent in 1969 and 10.9 per cent in 1970) is concentrated along the "Pacific Coast Belt", which includes Tokyo, Osaka and Nagoya. This Tokaido "Megalopolis" alone contains 23 per cent of the population and supplies 75 per cent of industrial production, although it covers less than 3 per cent of the area of the country. Such a situation results in overcrowding, environmental disruption, and a thinning out of population in the rural and peripheral areas.

Thus Japan's regional problem has two main facets; first, the disutilities of concentration, namely air and water pollution, housing shortages, constantly rising land prices, water supply difficulties, transport problems, etc., aggravated by insufficient investment in social capital; and secondly, the attraction of the already over-populated area for the younger and more dynamic section of the rural population. The latter results in economic stagnation in the countryside, where it is becoming difficult to maintain community equipment and public services at an adequate standard for the population which stays behind.

The OECD Working Party considers that the intense pressure on material resources and services in the Pacific Coast Belt has probably no equal anywhere else, nor has the worsening of the environment in the Belt, which is distinguished by factories, housing and rice fields jostling each other and by a scarcity of green spaces.

Among the other OECD countries there are many which have to reconvert old industrial areas hampered by slow-growing or declining industries and to create new sources of employment in these areas. In Japan this problem has been limited to the coal mining areas and is well on the way to solution (the mine labour force contracted from 350,000 in 1950 to the present 80,000). Reconversion is no great problem, because a large part of the industrial structure and equipment was reconstructed and modernised after 1945, and because under-employment tends to be concealed by the lifetime employment system and the high rate of growth of the economy.

Towards a balanced development

There have been three distinct phases in the evolution of regional development policy in Japan. From 1945 to 1962, priority was given to the industrial development of the Pacific Coast Belt, which

seemed the best way to rebuild the national economy, but in 1962, with the introduction of a National Development Plan, a new posture was adopted and new approaches to regional policy charted. For the first time the need was recognised to give attention to the areas outside the Pacific Coast Belt and to promote a balanced development of the various regions. A number of new concepts relating to different types of area were introduced under this Plan, including the concept of the new industrial city, of special areas for industrial consolidation, particularly in those parts outside, but near to, the main population concentration, and of areas for small-scale industrial development in the underdeveloped parts of Japan. All these concepts and the solutions attempted in relation to each of them had one common feature in that they were based on the nodal system of development, the aim being to promote regional development through the repercussion effect of each centre. Apart from these areas and from the coal mining areas, where positive measures for promoting development were being taken, action was started to restrain the excessive concentration of industry and population in the major cities and to promote the decentralisation of industry and the reconversion of urban areas.

Towards the end of the 'Sixties it was apparent that the results of this policy were not coming up to expectation. The tendency towards concentration had not been abated and environmental conditions were deteriorating. Accordingly, by 1969, the third phase in attitudes towards regional development came into operation with the New Comprehensive National Development Plan.

The proposals it contains have points in common with the 1962 Plan, but they break new ground by putting a great deal of emphasis on the development of nation-wide transport and communications networks. The scheme is to interconnect Tokyo with Sapporo, Sendai, Nagoya, Osaka, Hiroshima and Fukuoka, making them into a complex of economic activity under central control, and then to connect up this network with key cities in the different regions, thereby extending the development potential to the whole country. Thus the Pacific seaboard area would be lengthened to run all the way from Hokkaido to the northern part of Kyushu.

The proposals show also that to-day's Japanese leaders are paying serious attention to environmental questions and the quality of life. Furthermore, there is now a third new ingredient in regional development policy, namely the construction of cities and large-scale industrial complexes, several times bigger than those set up under the 1962 legislation.

The means employed

The range of governmental measures and incentives for implementing regional policy in Japan are on the whole similar to those applied elsewhere and are applied within the context of comprehensive development plans, but the Industry Committee Working Party was impressed by the fact that in Japan there are plans for facing up to each kind of problem and that these plans do not remain mere pieces of paper, but are implemented with energy and efficiency.

The main expenditure of central government on regional development consists, first, of direct grants (or grants-in-aid for interest on local bonds) to provincial and local authorities for general and industrial infra-structure development, and secondly of tax reductions and loans for industrial enterprises.

Preferential tax treatment takes a number of forms; reduction of, or exemption from, municipal property taxes, the corporate tax, the real estate tax and the like, and also special depreciation allowances. Loans for investment in equipment are provided by government institutions at rates between 7 and 8.3 per cent; loans from the Japan Development Bank and the Financial Institutions for Development in Hokkaido and Tokohu amounted to $ 250 million in fiscal year 1969. Aid is automatically granted to firms, provided they fulfil the requirements as regards investing in equipment and providing employment. Unlike what happens in some other countries, no attempt is made to attract firms to development areas by a system of subsidies with no strings attached. Regional planning covers many different kinds of area, which can be classified under three main headings:

- Industrial development areas: this category includes the new industrial cities, the special areas for industrial consolidation, the industrial development areas in undeveloped regions, and the coal field rehabilitation areas (these four zones together contain 34 per cent of the total population);
- Urban re-development areas in the Tokyo, Kinki and Chubu regions;
- Undeveloped areas, depopulated areas and outlying islands.

In addition to incentives, there are certain controls on industrial development. Firms wishing to open a new factory whose building area exceeds 3,000 square metres or whose total area of land exceeds 9,000 square metres have to notify the Ministry for International Trade and Industry (MITI) of their intentions. If the proposed location is unsatisfactory, the Ministry will then offer advice and enter into discussions with the firm to try to influence it. The controls are generally exercised in relation to quite local questions, although government intervention might in some cases involve a firm in making a radical change in its proposed location. The primary object of the system is to avoid further environmental disruption and any location meeting this criterion is acceptable, even if it is not in an area for development. There are also legal controls on industrial building, but the Working Party noted that there was no system for obliging firms to move out of congested centres.

Central and local authorities

Unlike many other countries, Japan has not set up new intermediate regional authorities between the central Government and the local authorities for purposes of regional development. This is because the administrative structure in Japan combines the advantages of a powerful central Government with those of autonomy at provincial and local levels.

In general terms, the central Government is re-



The main problem faced by the Japanese authorities responsible for regional policy is the growing congestion of the area bordering the Pacific: Tokyo underground at the rush hour.

sponsible for basic policy planning and preparation of legislation, and thus takes the initiative in regional planning, while detailed planning and implementation are by and large the responsibility of the local autonomous bodies. The latter consist of 46 prefectures, each having an elected governor and assembly and well equipped with technical planning resources, and under them more than three thousand cities, towns and villages. The presence of elected bodies at the various levels of Government provides opportunities for the expression of views at regional levels. Thus central and local authorities work together in the pursuit of acceptable policies in the regions.

There are, however, exceptions to the general rule. First, the central Government is responsible for some major infra-structure development (e.g. main roads, ports, agricultural land consolidation). Secondly, a number of special agencies or administrations dealing with specific regional problems are located in the office of the Prime Minister, e.g. the Hokkaido Development Agency and the three units concerned with the problem of the densely populated cities.

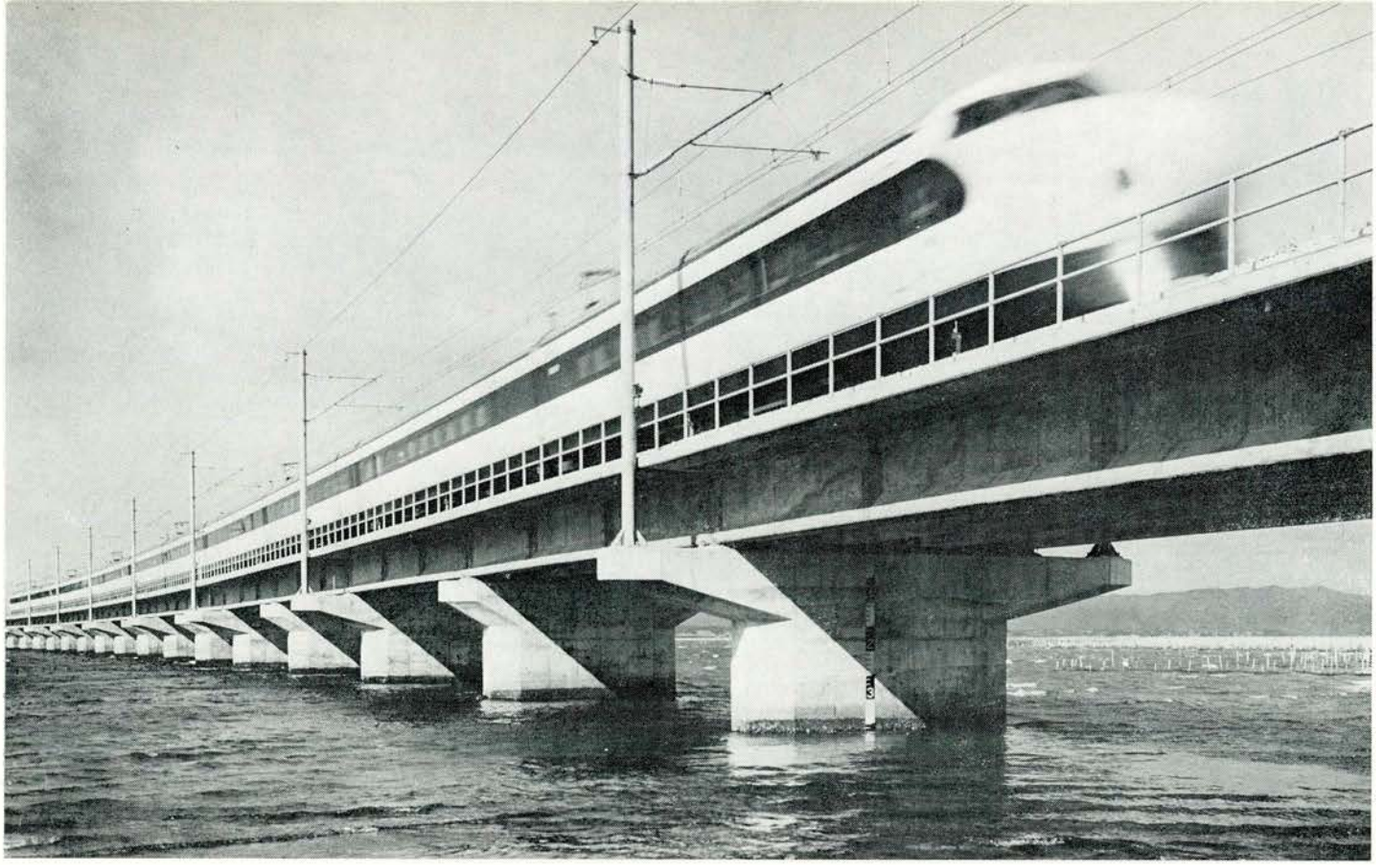
Public corporations dealing with such matters as railways, housing, toll road construction and management, expressways, water resources, and coal mine area rehabilitation are also an important central government instrument for carrying out regional policies. They are for the most part set up and financed by the State to deal with new infra-structure tasks, e.g. a public corporation was set up in July, 1970 for the construction and management of the 10 kilometre long Honshu-Shikoku inter-island bridge.

At central Government level there is no single agency with overall responsibility for co-ordinating all aspects of regional development policy. The latter is based on a series of laws and ordinances and under present arrangements the Economic Planning Agency is responsible for basic regional policy planning and for co-ordinating the regional surveys made by the various Ministries and agencies, while the Ministry for International Trade and Industry is responsible for all the industrial aspects, such as location of industries, provision of industrial infra-structures, and anti-pollution measures. Other Ministries with important roles are Construction, Transport and Home Affairs.

Towards more balanced growth

In the opinion of the OECD Working Party, the high rate of economic growth in Japan cannot be maintained if the Pacific Coast Belt is to be the only growth area. The Japanese authorities are making efforts to overcome the limitations imposed by over-congestion by developing infra-structures and communications networks elsewhere in the country. The objective of regional policy is to improve the balance between the rates of development in the different parts of the country and to direct more of the growth away from the congested areas.

Up to now a widening in the income gap between the different regions has been barely prevented by the regional development policies pursued. In Japan income disparities between the rural and the urban worker and between the different regions do not pose acute social problems such as are encountered in the Mezzogiorno, for example. However, the Working Party gained the impression that Japan is likely to be faced in the future with acute problems of physical planning. Although in terms of productive resources rapid economic expansion may give the



To aid the country's growth, the Japanese authorities are developing the national rail network: the Tokyo-Osaka express, with a maximum speed of 125 miles per hour.

opportunity to correct misallocation, in terms of the physical form of infra-structure developments what is being done now—not only in relation to physical infra-structure developments, but also in relation to industrial installations—is determining the living conditions and the social circumstances in which people will live for a further fifty to one hundred years.

The New National Comprehensive Development Plan charts the way ahead to 1985. The Japanese population is expected to increase by one million a year over the next fifteen years, meaning that if the movement from the rural areas continues at the rate experienced in 1955-1965, the population of the central area where more than 60 million people live will increase by 1,375,000 a year, while the population in all other regions will decline. This would imply very big increases in the big city areas, e.g. Tokyo region by 700,000 a year to reach 25 million in 1985, Osaka region by 350,000 a year to reach 14 million in 1985, and Nagoya region by 170,000 a year to reach 5.5 million in 1985.

These figures can be compared with those for Paris, whose population increases by 120,000 a year and yet gives the impression of extreme concentration. However, if Japan's regional policies are successful and if in particular the communications and transport networks are established, the movement to the central area would slacken so that the growth in its population would be slowed down to 1.1 million a year, i.e. in the Metropolitan area an annual average growth of 1.8 per cent compared with the 2.6 per cent experienced over the past five years.

Furthermore, it will be necessary to accommodate and provide services and employment opportunities in urban areas, both within and outside the Pacific Coast Belt, for people leaving the land—at present 20 per cent of the employed population is engaged in agriculture, forestry and fishing, and this proportion is expected to fall to 9 per cent by 1985. Employment in industry is expected to increase from 17 million in 1968 to between 23 and 24 million in 1985, so that the rate of demand for land for industrial sites will be three times higher in 1985 than it was twenty years earlier. In addition it will be necessary to supply sites for firms wishing to move out of congested areas. About 10 per cent of industrialists plan to move their plants from Tokyo, Osaka and Nagoya and another 40 per cent are considering similar action.

Industrialisation and rising standards of living are likely to lead to a demand for better housing conditions, more attractive cities, the conservation of natural sites and a better environment, and all this will necessitate greater attention to physical and regional planning; thus the basic problem for Japan in the coming fifteen years is to reconcile economic growth with the needs of regional and environmental planning.

In its conclusions the Working Party stressed that Japanese regional problems and policies are conditioned by the speed and scope of economic growth which exceeds that of other advanced countries and poses in itself the necessity to foster development increasingly outside the central belt and to cope with the environmental problems and social needs which arise. It was evident that the nature of the problems had been recognised and that further intensification of the efforts already underway would be required over many years, if a sound regional balance of the economy was to be achieved and if economic growth was not to be accompanied by worsening of the environment.

PROSPECTS OF A BETTER BALANCE BETWEEN MILK AND BEEF PRODUCTION

Market forecasts up to 1975 have been issued for livestock products in OECD countries. There is at present a surplus of dairy products and a shortage of beef. To assist the authorities responsible for economic forecasting and policy formulation, the future prospects have been examined by the OECD Committee for Agriculture in a study (1) covering all Member countries. The forecasts are based on replies received from these countries, not on projections arrived at by econometric calculations. A few of the main issues discussed in the study are indicated below.

(1) "Forecasts of the Dairy and Beef Situation", is issued on the responsibility of the Secretary General. The EEC forecasts cover the six original Members of the Community and make no allowance for the prospective effects of its enlarged membership on the market situation. Australia, which became a Member of OECD in June 1971, is not included in the total figures for the OECD area.

Milk Consumption and Production

Some significant changes are expected to occur between now and 1975 in the liquid milk market. In almost all cases, consumption and sales on the farm are declining; this is mainly due to the general decrease in the rural population but may also be partly explained by a switch to processed milks. The growth of towns leads to whole milk being replaced by standardised milk. The rise in the fat content of standardised milk by comparison with the second half of the Sixties is fairly general: a larger quantity of whole milk is therefore required to produce a given quantity of standardised milk. On the other hand, low-fat milks are becoming increasingly popular in certain countries.

The increase in total milk production between now and 1975 will be comparatively small, except in Japan. For the OECD area as a whole, a rise of under 1 per cent per year is anticipated, giving a total increase of 11 million metric tons up to 1975 (see Table 1).

However, the increase in the quantity available for human consumption, i.e. after deduction of the quantity used for animal feeding, is more significant than the increase in the total output of milk. There is a general tendency to reduce the volume of whole milk fed to stock, with a corresponding increase in the use of skim milk powders with certain additives.

The reduction in the quantities used for animal feed should be particularly marked in the present European Economic Community — about 0.7 million tons. The increase in the supplies available for human consumption should thus amount to 6.7 million tons in Western Europe, while a drop of 0.7 million tons is expected in North America.

Cheese and Butter

The rising demand for *cheese* is one of the most promising features of dairy produce markets at the present time. The forecasts indicate that all producer countries hope to maintain the upward trend in output, except Denmark, where a slight decline is predicted. Production is expected to increase by some 860,000 tons in all, representing about 20 per cent in relation to 1969 and equivalent to about 5 million tons of milk. The higher output will not, however, be exactly matched by increased overall consumption in Member countries: a rise of about 700,000 tons is anticipated — 160,000 tons short of the increase in production.

A comparison between the production and consumption forecasts points to a change in the balance of trade: whereas in 1969 the net import requirement was slightly over 50,000 tons for all Member countries combined, the aggregate forecasts (if fulfilled) would result in an export availability of 107,000 tons by 1975. Allowance must, however, be made for the fact that cheese manufacture generally keeps in step with market requirements. If demand fell appreciably short of the production forecasts, manufacturing could be curtailed. The milk diverted from cheese manufacture would then be used mainly for butter production, which would show a proportionately larger surplus.

For all OECD Member countries combined, the forecasts point to an increase of some 45,000 tons in *butter* production between now and 1975, equivalent to about 1 million tons of milk. The expected rise in consumption falls well short of this figure, being slightly over 30,000 tons. There is thus likely to be an overall increase in export availabilities, from 60,000 tons in 1969 to 74,000 tons in 1975.

Beef and Veal

Total *production* of beef and veal in Member countries is expected to rise by just over 3 million tons between 1969 and 1975, representing an increase of 17 per cent (see Table 2). This can be largely attributed to the vigorous expansion anticipated in North America, where output is likely to rise by 1.8 million tons, mainly produced in the United States.

Consumption in the OECD area as a whole should practically keep pace with output to show a rise of 2.8 million tons. This suggests that only a slight dent will be made in the overall "deficit", or

1. MILK : production in 1969 and forecasts for 1973 and 1975

(million metric tons)

COUNTRY	1969	1973	1975	Change 1973-1969	Change 1975-1969
Belgium	3.91	3.89	3.95	— 0.02	+ 0.04
Luxembourg	0.22	0.23	0.24	+ 0.01	+ 0.02
France	25.39	(28.50)	30.67	(+ 3.11)	+ 5.28
Germany	22.22	22.36	22.60	+ 0.14	+ 0.38
Italy	10.12	10.30	10.30	+ 0.18	+ 0.18
Netherlands	7.92	8.33	8.60	+ 0.41	+ 0.68
EEC	**69.78**	**73.61**	**76.36**	**+ 3.83**	**+ 6.58**
Denmark	4.86	4.25	4.04	— 0.61	— 0.82
Finland	3.60	3.10	2.92	— 0.50	— 0.68
Iceland	0.11	0.12	0.12	+ 0.01	+ 0.01
Norway	1.74	1.81	1.84	+ 0.07	+ 0.10
Sweden	3.19	2.86	2.70	— 0.33	— 0.49
Nordic countries	**13.50**	**12.14**	**11.62**	**— 1.36**	**— 1.88**
Ireland	3.68	3.86	4.03	+ 0.18	+ 0.35
United Kingdom (1)	13.51	13.90	14.25	+ 0.39	+ 0.74
Austria	3.34	3.40	3.50	+ 0.06	+ 0.16
Switzerland	3.21	3.34	3.40	+ 0.13	+ 0.19
Total Western Europe (2)	***107.02***	***110.25***	***113.16***	***+ 3.23***	***+ 6.14***
Greece	1.27	1.40(6)	(1.50)	+ 0.13	+ 0.23
Portugal (3)	0.60	(0.70)	(0.70)	+ 0.10	+ 0.10
Spain	4.30	5.05	5.64	+ 0.75	+ 1.34
Turkey	2.21	2.86	3.03	+ 0.65	+ 0.82
Yugoslavia	2.73	3.00	3.25	+ 0.27	+ 0.52
Southern Europe	**11.11**	**13.01**	**14.12**	**+ 1.90**	**+ 3.01**
Total OECD Europe	***118.13***	***123.26***	***127.28***	***+ 5.13***	***+ 9.15***
Canada	8.48	8.60	8.60	+ 0.12	+ 0.12
United States	52.77	52.60	51.70	— 0.17	— 1.07
North America	**61.25**	**61.20**	**60.30**	**— 0.05**	**— 0.95**
Japan	4.58	6.01	6.98	+ 1.43	+ 2.40
New Zealand (4)	6.45	6.54	6.66	+ 0.09	+ 0.21
Total OECD (5)	***190.41***	***197.01***	***201.22***	***+ 6.60***	***+ 10.81***

(1) Average of low and high forecasts.
(2) 15 countries listed above.
(3) Deliveries.
(4) 1968/69, 1972/73, 1974/75.
(5) Including Yugoslavia and New Zealand, but excluding Australia.
(6) 1972.

import requirement. Every country postulates a market increase in consumption between 1969 and 1975.

Large as it is, the import requirement of all OECD Member countries combined represents only about 5 per cent of total consumption. Australia (now a Member), Argentina, Uruguay, Eastern Europe and even a few developing countries in Africa, are large-scale suppliers. Argentina is endeavouring to maintain its exports, albeit at the expense of home consumption. The Eastern European countries, too, will no doubt do their best to maintain at least their present level of sales, as will the developing countries, in order to earn foreign exchange. It thus appears probable that the OECD's slightly lower import requirement will be covered in 1975.

The Milk-Beef Balance

Member countries' forecasts point to a better balance between milk and beef production: the output of milk is expected to rise by 6 per cent between 1969 and 1975, and the output of meat by 17 per cent. The main problem in achieving a satisfactory milk-beef balance arises from the use of dual-purpose breeds in most European countries as a source of both milk and beef production.

Two alternative courses are open to these countries: either to maximise the amount of beef which can be obtained from a given number of cows, or to switch from milk production to intensive beef and veal production. Encouraging results have been obtained in trying out the first alternative: heavier weights at slaughter, higher retention of calves, genetic

2. BEEF AND VEAL : Production, Consumption and Net Trade in 1969 and Forecasts for 1973 and 1975 *(Million metric tons)*

COUNTRY	Indigenous Production			Available for consumption			Net trade		
	1969	1973	1975	1969	1973	1975	1969	1973	1975
Belgium	228	254	269	250	278	295	— 22	— 24	— 26
Luxembourg	12	13	14	12	13	13	0	0	+ 1
France	1,600	1,730	1,730	1,495	1,630	1,700	+ 105	+ 100	+ 30
Germany	1,186	1,286	1,316	1,391	1,531	1,608	— 205	— 245	— 292
Italy	779	825	835	1,229	1,320	1,360	— 450	— 495	— 525
Netherlands	293	324	338	274	311	328	+ 19	+ 13	+ 10
EEC	**4,098**	**4,432**	**4,502**	**4,651**	**5,083**	**5,304**	**— 553**	**— 651**	**— 802**
Denmark	234	193	193	97	98	101	+ 137	+ 95	+ 92
Finland	111	110	110	97	100	105	+ 14	+ 10	+ 5
Iceland	1	1	2	1	1	2	0	0	0
Norway	58	56	57	57	56	57	+ 1	0	0
Sweden	166	150	143	151	153	155	+ 15	— 3	— 12
Nordic Countries	**570**	**510**	**505**	**403**	**408**	**420**	**+ 167**	**+ 102**	**+ 85**
Ireland (1)	321	383	406	56	60	59	+ 265	+ 323	+ 347
United Kingdom	762	898	924	1,206	1,227	1,237	— 444	— 329	— 313
Austria (2)	178	172	184	165	167	168	+ 13	+ 5	+ 16
Switzerland	124	142	148	165	177	183	— 41	— 35	— 35
Total Western Europe (3)	***6,053***	***6,537***	***6,669***	***6,646***	***7,122***	***7,371***	***— 593***	***— 585***	***— 702***
Greece	86	100	(110)	142	151	(160)	— 56	— 51	(— 50)
Portugal	85	79	83	92	86	89	— 7	— 7	— 6
Spain	255	385	440	368	400	440	— 113	— 15	0
Turkey	182	250	296	171	218	245	+ 11	+ 32	+ 51
Yugoslavia	275	290	325	175	163	175	+ 100	+ 127	+ 150
Southern Europe	**883**	**1,104**	**1,254**	**948**	**1,018**	**1,109**	**— 65**	**+ 86**	+ 145
Total OECD Europe	***6,936***	***7,641***	***7,923***	***7,594***	***8,140***	***8,480***	***— 658***	***— 499***	***— 557***
Canada	901	1,076	1,166	885	1,022	1,087	+ 16	+ 54	+ 79
United States (1) (4)	9,902	10,982	11,458	10,912	12,032	12,533	— 1,010	— 1,050	— 1,075
North America	**10,803**	**12,058**	**12,624**	**11,797**	**13,054**	**13,620**	**— 994**	**— 996**	**— 996**
Japan	160(7)	233	268	174(7)	256(8)	298(8)	— 14	— 23	— 30
New Zealand (5)	377	447	493	134	137	137	+ 243	+ 310	+ 356
Total OECD (6)	***18,276***	***20,379***	***21,308***	***19,699***	***21,587***	***22,535***	***— 1,423***	***— 1,208***	***— 1,227***

(1) Including slaughterings of live imports.
(2) Carcass weight.
(3) 15 countries listed above.
(4) Slaughterings of live imports amounted to about 145,000 tons in 1969.
(5) 1968/69, 1972/73, 1974/75.
(6) Including Yugoslavia and New Zealand, but excluding Australia, whose exports averaged 281,000 tons during 1967/68-69/70.
(7) 1968.
(8) Average of lowest and highest forecast.

improvement, introduction of different breeds, commercial cross-breeding. The second alternative is more difficult: given the predominance of small dairy farms in Europe, the much higher profits to be made from milk than meat, and the considerable demand for veal, a massive switch to beef production is hardly likely in the near future.

Yet in some cases, such a change may be favoured by circumstances: when, for instance, a former small-scale dairy farmer need not depend on beef production for his entire income, but can draw part of it from another farming enterprise, or from a job outside the farm. Again, a large dairy farmer who can no longer find the labour he needs may decide to turn to a less demanding branch, and may well choose beef production.

New husbandry techniques, as they gain wider acceptance, should allow a growing number of milk producers (except the very smallest) to consider changing from milk to meat. The new methods (for example, use of maize silage, beet pulp and barley in specialised fattening units) seem to yield profits almost as high as those to be drawn from a dairy enterprise on the same farm, at least in certain areas. The success of this type of production does, however, depend on the existence of markets for the meat produced. This underlines the necessity of paying close attention in future to marketing as well as production techniques.

AT OECD

Ways and Means Committee of the United States House of Representatives

Members of the Ways and Means Committee of the United States House of Representatives, under the leadership of the Hon. Al Ullman, Acting Chairman, and the Hon. John W. Byrnes, met on January 6th and 7th with OECD's Secretary General, Emile van Lennep, and other officials of the Organisation and with Jean Rey, Chairman, and other members of OECD's Group on Trade and Related Problems to discuss current problems in international trade and payments.

Members of the Congressional group

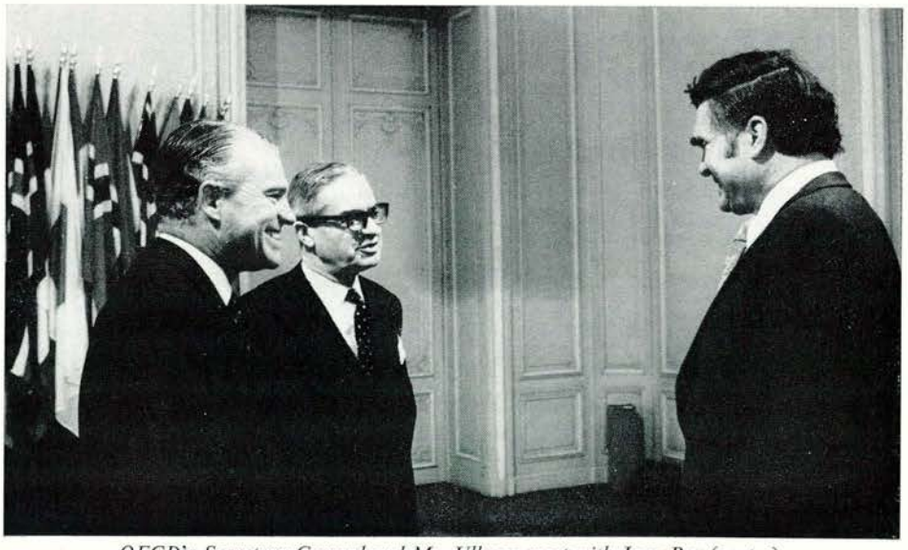
Hon. Al Ullman, Acting Chairman
Hon. Jackson Betts
Hon. Donald Brotzman
Hon. John W. Byrnes
Hon. Hugh Carey
Hon. James Corman
Hon. Richard Fulton
Hon. Sam Gibbons
Hon. Joseph Karth
Hon. Phil Landrum
Hon. Jerry Pettis
Hon. Herman Schneebeli
Hon. Charles Vanik
Hon. Joe Waggonner



Left to right : Congressmen Byrnes and Ullman, OECD's Secretary General Emile van Lennep, Congressmen Landrum and Betts.



A round-table conference between members of the Committee and OECD officials. Left to right at the table : Congressmen Landrum, Byrnes and Ullman, OECD's Secretary General, Deputy Secretaries General Benson L. Timmons and Gérard Eldin and Assistant Secretary General J.C.R. Dow.



OECD's Secretary General and Mr. Ullman meet with Jean Rey (centre), Chairman of OECD's Group on Trade and Related Problems.

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