DOCUMENT RESUME

ED 099 267 SO 007 963

TITLE	The Educational Situation in OECD Countries: A Review of Trends and Priority Issues for Policy.
INSTITUTION	Organisation for Economic Cooperation and Development, Paris (France).
PUB DATE	74
NOTE	70p.
AVAILABLE FROM	OECD Publications Center, Suite 1207, 1750 Pennsylvania Avenue, N.W., Washington, D.C. 20006 ($2.25)
EDRS PRICE	MF-$0.75 HC Not Available from EDRS. PLUS POSTAGE
DESCRIPTORS	Continuous Learning; Educational Economics; Educational Innovation; *Educational Policy; *Educational Status Comparison; *Educational Trends; Elementary Education; Enrollment; Global Approach; Higher Education; *International Education; Secondary Education; Teacher Supply and Demand
IDENTIFIERS	Canada; Europe; Scandinavia; Turkey; United States

ABSTRACT

An analysis of the educational situation in Organisation for Economic Cooperation and Development (OECD) member nations is presented in this report. Members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, The Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Part One contains a resume of priority areas in educational policy, such as basic education, national development strategies, reform of upper secondary education, diversification of post-secondary education, recurrent education, and teachers and innovation. Two major conclusions emerge from these priorities: that the role of education has broadened into one of a social service and that education has to be more closely related to other policies of government if the social service objectives are to be realized. Specific findings are discussed in the three chapters of Part Two: Growth in Enrollments and Teacher Supply, The Costs of Education, and Changes in Education Structures and in the Quality of Education. An annex includes statistical sources for each of the member nations. (JH)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY
OECD
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

THE EDUCATIONAL SITUATION IN OECD COUNTRIES

ED 099267

SP007 963

BEST COPY AVAILABLE

THE EDUCATIONAL SITUATION IN OECD COUNTRIES

A Review of Trends and Priority Issues for Policy

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

PARIS 1974

The Organisation for Economic Co-operation and Development (OECD) was set up under a Convention signed in Paris on 14th December, 1960, which provides that the OECD shall promote policies designed :

- *to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;*
- *to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development;*
- *to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.*

The Members of OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

© Organisation for Economic Co-operation and Development, 1974.
Queries concerning permissions or translation rights should be addressed to :

Director of Information, OECD
2, rue André-Pascal, 75775 PARIS CEDEX 16, France.

PREFACE

The attached Report was prepared by the OECD Secretariat as part of the work programme of the Education Committee and also in response to a specific request to the Organisation from the Seventh Conference of European Ministers of Education. Based on the results of earlier and current work within the educational programmes of the Organisation, the purpose of the report is to provide an analysis of the educational situation in Member countries, highlight the major issues which emerge and suggest future priority areas in educational policy.

The analysis is presented in three chapters: Chapter I deals with the growth in enrolments and with teacher supply; Chapter II covers the costs of education and Chapter III analyses the changes which have taken place in educational structures and in the quality of education. The statistical tables used in this report have been extracted from national data converted to the OECD standardized classification so as to ensure at least a minimum of international comparability. They have been verified by the national authorities concerned.

The main body of the report is introduced by a statement on Priority Areas in Educational Policy in which the OECD Secretariat has attempted to draw together the implications of the main conclusions which can be derived from the analysis. These were endorsed by the European Ministers of Education at their Eighth Conference, held in Berne in June 1973.

CONTENTS

Preface 3

Part One

PRIORITY AREAS IN EDUCATIONAL POLICY 7

Part Two

ANALYSIS OF THE EDUCATIONAL SITUATION IN MEMBER COUNTRIES

Chapter I

GROWTH IN ENROLMENTS AND TEACHER SUPPLY 17

Chapter II

THE COSTS OF EDUCATION 43

Chapter III

CHANGES IN EDUCATIONAL STRUCTURES AND IN THE QUALITY OF EDUCATION 49

Annex

STATISTICAL SOURCES 63

List of Tables

1. Enrolment Rates for Children aged 3 to 6 21
2. Full-Time Enrolment Rates for Children aged 7-14 23
3. Full-Time Enrolment Rates for Children in Regular Education at Ages 15-16 27

4. New Entrants to Higher Eduoation as a Percentage of Total Population at the Modal Age of Entry..... 31
5. Full-Time Enrolment at Ages 19-25 34
6. Pupil/Teacher Ratios in OECD Countries 42

Part One

PRIORITY AREAS IN EDUCATIONAL POLICY

Education as a Social Service

Two general conclusions emerge from the analysis, as from the country statements, with regard to the emerging role of education in the OECD countries. The first is that education is becoming relevant to a wider range of policy objectives than in the past. In addition to its traditional role of educating young people, the education service is becoming increasingly involved in policies for the care of children, and in particular disadvantaged children, in their very early years of life; in the provision of services to the family in the context of the new social role of women; in social equity and the redistribution of income; in the effective adjustment of young people to working life; in the flexibility of the labour force (including the social adjustment of migrant workers and their families, which will be the subject of a special conference currently being prepared under the aegis of the Committee of Senior Officials); in community action to influence the rapidly changing social and natural environment; and in the adjustment of individuals to new roles as their pattern of life changes. If the contribution of education to today's society is to be seriously assessed, these new objectives must be reflected in new indicators of educational performance, and related to the social indicators needed to guide economic growth in the 1970s. In effect, the concept of education as an investment, which was endorsed by the Third and Fourth Conferences of European Ministers of Education, needs to be restated in terms of the social objectives relevant to the next decade. The notion of education as a social service, meeting new needs in society for adults as well as youth, could serve as a focal point for a new discussion of the contribution of education to national needs.

Co-ordination with Other Policies

The second conclusion is that education has to be more closely related to other policies of governments if the new

social and economic objectives are to be effectively pursued. Combined operations between education, health, labour market, science policy and other authorities will be needed. This need is illustrated by the failure of the educational system to reduce social inequalities to the extent that some people hoped. It was too much to expect education to overcome the constraints of income structure and unequal access to resources, as well as the social and psychological barriers which result from housing and neighbourhood conditions. Nevertheless, education has a significant role to play in redistributing life chances if the necessary co-ordination with other policies can be achieved. These conclusions underline the need for much closer interaction between education and the other policies of governments, the need for more integrated policy/planning, and for inter-departmental operational programmes.

Basic Education should Continue to be Strengthened

The analysis also shows that even if such new tasks as those listed above are bound to arise, the provision of adequate basic education for young people remains a central preoccupation of policy in all countries. In those countries which have achieved full enrolment of the age-group up to 14 or 15 years, the major task will be improving the quality of education and developing pedagogical methods which will enable the comprehensive principle in secondary education to cater for the varying talents and needs of children. In others, as is shown by the special analysis of the problems of the developing Member countries(1), the improvement in quality will have to go hand-in-hand with the expansion of basic education for all up to the age of, say, 14; and both will need to be reconciled with the rapid development of training in the skills needed to adjust the labour force to their rapidly changing economics.

The Need for a Strategy of Development

Thus, in all countries, a crucial issue for the 1970s will be the balance between the allocation of resources for the extension and the strengthening of the basic education systems, provision of facilities for the handicapped, the continued

1) Education in OECD Developing Countries - Trends and Perspectives, OECD, Paris (forthcoming).

expansion of higher education, and the development of new services such as early childhood and recurrent education. These choices cannot be made without a strategy for development which, reflecting the historical circumstances and needs of each country, provides a pattern for the allocation of resources.

The Reform of Upper Secondary Education

Following the rapid growth of secondary and higher education in the last two decades, a crucial element in this strategy is bound to be policies for the 16-19 age-group. It is in this age-group that choices as between work and higher education take place, and where social selection is at its sharpest. All countries accept this as a major priority, as shown by its identification as the main theme of the Ministers' eighth conference. Options between allocating resources to extending full-time secondary education for one or more years, or to some form of further or recurrent education, will arise in many countries in the 1970s.

More and different options and greater flexibility over time will be needed so that young people can pursue their development without arriving at dead-ends in their life careers; and to mitigate social selection. Recognising that conventional schooling is not the unique way for educating people at this age, such options, over and above differentiated curriculum choices, would probably have to include subsidised employment or organised social service for school leavers, in conjunction with continued training and opportunities for them to return to full-time education when and if they so wish.

The Diversification of Post-secondary Education

The relationship between upper secondary education and higher education necessarily brings forward the question of selection into higher education. The remodelling of the entire post-secondary structure will continue to be a priority if the changing structure of employment and the social and professional aspirations of new social groups demanding higher education are to be reconciled. Such changes towards a more diversified system will to some extent take the edge off the

selection problem, in that a more varied and wider range of opportunities for higher education will result in relating different types of education more closely to the satisfaction of personal needs. In any event, Member countries will no doubt find it increasingly difficult to support the growth of higher education at its recent rate and in its present form in the 1970s.

Policies for Relating "Regular" and "Non-Regular" Education

For all these reasons, the trend towards greater diversification of access and options to higher education, in terms of space, time and study, seems irreversible. It will inevitably lead to closer affiliation of non-regular education schemes for adults to upper secondary and higher education - including the universities, which can no longer afford to be separated from the rest of the system. A trend in this direction would moderate the irrevocable nature of selection into or out of higher education. Public and private resources and initiatives would, in addition, be more closely linked. The rapidly growing provision of informal training for adults in industry and in administration should be made more responsive to the overall objectives of public policy, and in the long run be seen as part of an integrated education and training system.

Recurrent Education

Such a shift in the responsibilities of national education and training authorities would be a long and difficult process, and might be more successful if guided by a central policy concept such as recurrent education, in which the main aim is to achieve a new structural pattern based on an alternation of periods of education and work. Such a concept might well provide the synthesis of a new educational model, which some countries seem to be in search of, for relating the individual more effectively to learning opportunities both inside and outside the educational system.

The Search for Relevance

Be that as it may, there are already clear signs of a new search for all-round relevance in education, focussing essentially on content and methods, i.e. the substance of education. Whilst the neutrality of the curriculum is a value to be safeguarded, what is taught in schools inevitably reflects to some extent the needs and values of the community. In a democratic and pluralistic society, recognising the differing needs of its individual members, this calls for the deliberate development of effective participatory processes at all levels of planning and decision making in education, involving all the social partners concerned. Moreover, such participation of the community in the processes of education may lead to a more open school which is better adapted to the varying needs of children. It goes without saying that more participation implies a greater say by the pupils themselves, and more differentiated and flexible courses and methods to allow for individual differences.

Teachers and Innovation

The teacher's role is thereby changed and it is clear that the development of new teacher policies, aimed at releasing the teacher's initiative and imagination as a manager of learning situations, is a key area for new policies. Better education depends largely on the acceptance of these new roles by teachers. Such acceptance will no doubt depend on the teacher's participation in the planning of change, and on the services provided both by the public authorities and the community itself to support efforts to innovate in the schools. Indeed, the development of policies to promote and support innovation in schools is likely to be crucial. This is all the more necessary in view of the major effort which is still needed towards a better understanding of how the learning process operates.

The International Context of Policies

All the above developments will increasingly need to be placed in the international context. The rapid development

of educational co-operation since World War II, reinforced now by international cultural exchanges, population movements and economic and political integration, mean that educational policies are less autonomous than in the past. Indeed, in the context of accelerating integration in Europe, explicit policies for sustaining the diversity of the European cultural heritage may be called for, even if increased professional mobility is a necessity of economic development and material progress.

Part Two

ANALYSIS OF THE EDUCATIONAL SITUATION IN MEMBER COUNTRIES

For the purposes of the present analysis the OECD countries are divided into two geographic groups - European and non-European. The totals for the European group are intended to facilitate comparisons with other major OECD population groupings such as Japan and the United States. In the following discussion, problems of participation are analysed in terms of the degree of access to education of different age groups, as well as categorisation by social origin and level of education. This multiple presentation is useful because of the heterogeneity of education systems and the difficulty of drawing sharp distinctions between various levels and types of education, e.g. between pre-primary and primary and between primary and secondary. It should be stressed that comparable statistical information on education is still difficult to compile and that in some cases the tables presented in the report are necessarily based on rough estimates by the OECD Secretariat using national data. So far as possible the classification of education used here is based on the OECD standardised system(1); national data from which the tables have been compiled were converted to this classification and thus reflect a minimum standard of international comparability.

1) See Classification of Educational Systems, OECD, Paris, 1972-74(series).

Chapter I

GROWTH IN ENROLMENTS AND TEACHER SUPPLY

General Characteristics

About a quarter of the population of OECD Member countries are pupils in some kind of formal education - about 180 million people. Many others are engaged in part-time training or evening classes - perhaps the equivalent of 15-20 million when adjusted to a full-time basis. Nine million teachers provide educational services - roughly 3 per cent of the labour force. Figures on non-teaching personnel are not available for many countries, but it is clear that the total figure for OECD countries must run into several millions.(1) Education is therefore the biggest organised activity in OECD countries. It is also growing rapidly. In the 10 years 1960-70 the number of people receiving education rose by approximately a quarter. The biggest expansion has been in non-compulsory education where enrolments increased by 26 million, while in compulsory education there was also an increase of about 10 million.

As education is largely provided by governments, it may be assumed that its supply is proximately determined by political decisions. In many cases, however, the "decisions" were not explicitly formulated as a "policy", but represented a response

1) In France, in 1970, there were 216 thousand teachers in public secondary institutions and 138 thousand non-teaching personnel; see Notes d'information du ministère de l'Education nationale, Nos. 117 and 119, Paris. In Japan, in public education as a whole there were one million teachers and 269 thousand non-teaching personnel in 1970; see Educational Statistics in Japan 1971, Tokyo. In Great Britain, non-teaching personnel in education as a whole numbered 454 thousand in 1971 compared with 593 thousand teaching staff. In other countries for which there is information the the proportion of non-teaching staff is smaller than in the United Kingdom; see Social Trends No.3, HMSO, London, 1972, p.170.

to demand pressures from parents and students. In some areas, such as pre-primary education, where governments did not all provide "open access" to educational facilities, private demand was held in check. In general, private demand has made itself felt through the mediation of government facilities, but there are, of course, many countries where private or semi-private fee-paying facilities are important.(1) However a great many of these private schools are government subsidised, partioularly in the compulsory phase of education.

A very powerful influence behind the post-war upsurge in private demand for education, as in many other spheres, has been the accelerated growth in real incomes. From 1950-1970 per capita income in OECD oountries rose by 4 per cent a year while voluntary enrolments rose about 6 per cent a year. In the inter-war period, when incomes rose very little, the progress of education was much slower. Real income growth affects demand in two ways: as people get richer they can afford to forego the earnings of adolescent children and have enough income to support them for a longer period in school. The rise in per capita private income is accompanied by a bigger rise in government income. Tax structures in virtually all Member countries are such that when per capita income rises, government tax revenue per head of population rises even more rapidly: hence economic growth both stimulates the demand and provides the resources for more education.

---

1) Of those children who were receiving education at the various stages, the percentages in the private sector were as follows:

	Pre-Primary	Primary	First cycle of secondary	Second cycle of secondary	Technical and Professional
France (1970)	14.6	13.9	18.5	20.6	26.3
Germany (1969)	80.0	0.5	6.7	11.3	6.0
Italy (1969)	94.3	7.1	5.0	7.5	7.3
Japan (1969)	75.5	0.6	2.9	32.7	
United Kingdom (1970)	12.1	4.4	9.2		n.a.

At the same time, it is clear that the relationship between the social demand for education and the growth of incomes is an exceedingly complex one. Whilst economic growth obviously sets limits on the feasible rate of educational growth, political and personal options reflected in the allocation of national and family resources are the final arbiter. In a situation where education is looked upon as providing access to equality of opportunity, the social demand for education tends to result in growth of the private educational sector even when public resources for education are curtailed. Furthermore, the spread of demand for educational opportunities to the adult, working population appears to be generating a new sector of private demand of immense potential significance. Thus, it seems more than likely that if present rates of economic growth are sustained in the 1970s, as foreseen in the official OECD forecasts, the demand for educational facilities will continue to grow and will face public authorities with very difficult problems of priorities for expansion. The following analysis of educational growth at the various levels of the educational system attempts to sketch out what these priority problems will be.

Early Childhood Education (3-6 year olds)(1)

Demand for early childhood education has increased rapidly. From 1960 to 1970 it is estimated that this type of education expanded at an annual rate of about 4.5 per cent. Public provision of facilities has been motivated by social as well as educational considerations, and the social have often predominated over the educational. Indeed, in some countries, pre-primary education is in the hands of welfare ministries rather than Ministries of Education, though responsibility tends to

1) It should be noted that the discussion here is concerned with early childhood education, and not with pre-primary. The pre-primary concept can be misleading when comparisons are made between countries with different policies on school entrance; e.g. it is often suggested that United Kingdom facilities are relatively scanty at pre-primary level (which is true) but as children there start primary education earlier, the United Kingdom is above average in its provision for 3 to 6 year olds.

pass to Ministries of Education when the compulsory phase begins. A change in public policy now seems to be under way, with greater emphasis on the educational rather than custodial values, particularly for children whose later learning processes are likely to be retarded or impaired by early family deprivation. Several important studies have shown that reductions in the variance of school performance can be secured more effectively before the age of 7 than in the later stages of education,(1) although there is also evidence that these gains can be lost in later years, which poses the problem of the relationship of early childhood education to the succeeding stages of education.

Enrolment ratios for the age-group 3-6 vary a good deal from country to country - from 96 per cent in Belgium to 4 per cent in Norway (Table 1) - a difference which is obviously explained by different social attitudes to the young child and her/his upbringing. However, statistical information is poor, particularly in the pre-compulsory phase where many of the schools are private in some countries, e.g. Italy and Japan. On average it would seem that about half of the children aged 3-6 go to school in OECD countries. The age at which compulsory schooling begins varies from 5 in the United Kingdom to 7 in Scandinavia and Yugoslavia; in most other Member countries obligatory schooling starts at age 6. The large inter-country variation in provision for 3-6 year olds indicates considerable past differences in policy. There is obviously a strong private demand for this form of education and substantial pressure on the public authorities to provide more of it. Sweden has decided to make substantial provision for pre-primary education in the near future. Finland intends to make school attendance compulsory for 6 year olds, and to extend facilities for even younger children. The Netherlands is considering the advisability of extending compulsory full-time or part-time schooling to children aged five or even four.(2) In the United Kingdom

1) See B.S. Bloom, Stability and Change in Human Characteristics, Wilby, New York, 1964, and B.S. Bloom, A. Davis and R. Hess, Compensatory Education for Cultural Deprivation, Holt, Rinehart and Winston, New York, 1965.

2) See CME/HF(73)2, Council of Europe, Strasbourg, February 1973

Table 1

ENROLMENT RATES FOR CHILDREN AGED 3 TO 6

(per cent of population at each age enrolled in academic year beginning at date cited)

		3	4	5	6	3-6
Austria	1970	n.a.	n.a.	n.a.	97	(45)
Belgium	1970	90	95	99	99	96
Denmark	1970	n.a.	n.a.	n.a.	n.a.	(9)
Finland	1968	n.a.	n.a.	n.a.	n.a.	(7)
France	1970	61	87	100	100	88
Germany (a)	1970	n.a.	n.a.	n.a.	n.a.	45
Greece (b)	1969	n.a.	n.a.	n.a.	98	46
Iceland		n.a.	n.a.	n.a.	n.a.	
Ireland	1970	(0)	(60)	(90)	(100)	(63)
Italy	1970	n.a.	n.a.	n.a.	n.a.	62
Luxembourg	1970	n.a.	58	91	100	(67)
Netherlands	1970	0	84	96	99	70
Norway	1970	n.a.	n.a.	n.a.	n.a.	(4)
Portugal	1970	n.a.	n.a.	4	24	(7)
Spain	1970	12	43	49	98	56
Sweden (c)	1970	n.a.	n.a.	n.a.	n.a.	25
Switzerland	1970	n.a.	n.a.	n.a.	n.a.	(39)
Turkey		n.a.	n.a.	n.a.	n.a.	
United Kingdom	1970	6	35	98	99	60
Yugoslavia	1965	n.a.	n.a.	n.a.	n.a.	(12)
Australia	1971	n.a.	n.a.	n.a.	100	(55)
Canada	1970	5	20	85	98	54
Japan	1970	17	61	80	(100)	(65)
United States	1970	13	28	80	98	57

(a) The data refer to "places" supplied. The number of children considerably exceeds the number of places.

(b) Excluding pre-kindergarten.

(c) Includes:

i) children in day nurseries, where children 6 months to 6 years are cared for at least 5 hours a day, and
ii) children in nursery schools, where groups of children aged 4-6 play under a teacher's supervision for less than 5 hours, every day.

N.B. The figures in brackets are estimates based on the assumption that 90 per cent of pupils enrolled in pre-primary education belong to the age-group 3-5 (for countries in which compulsory schooling begins at age 6).

Sources: See notes in the Annex.

there has recently been a major change in policy for this age-group. The intention now is to provide places for 90 per cent of 4 year olds and half of the 3 year olds by 1980, compared with 10 per cent provision until now.(1) There would therefore seem to be a general consensus on the importance of expanding facilities at this level.

The Age-Group 7-14

This grouping has been used because it encompasses the ages at which school attendance is compulsory and complete in most OECD countries and because the traditional distinction between primary and first-cycle secondary education is being blurred by the move towards more comprehensive systems. Growth in enrolments for this age-group in OECD countries as a whole was about 0.5 per cent a year from 1960 to 1970; in the period 1960-65 there was an actual decline in enrolments and from 1965-70 an increase of 1.7 per cent a year on average, the variations being due mainly to demographic factors. The length of compulsory education in Europe varies from 6 years (in Greece) to 11 years (in the United Kingdom). There are several countries where compulsory attendance is being increased. In Denmark the leaving age will be raised from 14 to 16 and in Belgium from 14 to 15. Southern Europe is the only part of the OECD area where enrolment is not more or less universal for this age-group; school attendance there covers only five-sixths of the 7-14 age-group (see Table 2), partly because obligatory schooling is of short duration and partly because of extensive truancy.

In all OECD countries the public sector provides educational services free in the compulsory phase. For the age-group in compulsory education equality of opportunity in the formal sense has been achieved. Nevertheless, the burden of compulsion is more severe for poor parents than for those better off, and in some countries where average income is low (as it is in Southern Europe) there is still a substantial amount of truancy and illegal employment of children, just as there was in Northern Europe some decades ago when incomes were lower. Furthermore, there are several countries where there is an important private sector of education attended mainly by children from upper income groups.

1) See Education: A Framework for Expansion, HMSO, London, 1972.

Table 2

FULL-TIME ENROLMENT RATES FOR CHILDREN AGED 7 TO 14(a)
(per cent of population enrolled in academic year beginning at date cited)

Austria	1969	99.8
Belgium	1966	98.0
Denmark	1970	98.1
Finland	1967	99.0
France	1970	98.6
Germany	1969	98.0
Greece	1969	90.7
Iceland	1970	97.4
Ireland	1967	98.9
Italy	1966	87.3
Luxembourg	1970	95.9
Netherlands	1970	99.0
Norway	1970	99.0
Portugal	1970	89.0
Spain	1970	90.2
Sweden	1972	98.8
Switzerland	1970	95.4
Turkey	1968	76.4
United Kingdom	1970	98.5
Yugoslavia	1968	85.9
Australia	1971	100.0
Canada	1970	98.2
Japan	1970	99.9
United States	1970	99.0

(a) In many cases, special schools for handicapped children are excluded.

Sources: See notes in the Annex.

Even when there is effectively universal attendance in public education for the age-group 7-14, there is some degree of inequality in the distribution of expenditure per pupil. In general, the distribution is such that the poorer facilities go to the children of poor families. This inequality is most likely to occur in countries where education is financed largely from local revenues. This is the case in the United States where the Coleman Report(1) has recorded the difference in facilities between areas of different social background. The most important U.S. policy instrument to reduce these differences is through the federal spending authorised by the Elementary and Secondary Schooling Act of 1965. In European countries, where control by the central authorities is stronger, there is probably less inequality in resource inputs in different school districts at a given level of education than in the United States, and there have been efforts to reduce differentials and in a few cases even to provide compensatory facilities in the poorest areas, e.g. the Educational Priority Areas in the United Kingdom.

Another reason for inequality in some Member countries is the fact that children are segregated into different types of school or different streams within schools. A certain kind of differentiation happens very early in countries where grade repeating occurs, e.g. in France where it occurs from the first year in school. In general, French children who are behind for their age are from the lower income groups, and at the end of the primary phase they enter that section of the first secondary cycle which usually leads to early termination of study. In most countries, the segregation is most severe between the ages of 11 and 13. At this age some children are allocated to schools which lead to higher education, and others, most of them from low-income families, to schools which are substantially intended to terminate at the end of the compulsory phase.

Governments have made considerable efforts to improve the situation by introducing various forms of comprehensive schooling or of systems which provide for more flexibility of transfer of children at different ages. Comprehensive schools for the

1) James S. Coleman, Equality of Educational Opportunity, U.S. Department of Health, Education and Welfare, 1966.

compulsory phase are typical in North America, Japan, Sweden and Norway and have been introduced in Italy and to some extent in France in the first cycle of secondary education, while both Denmark and Finland are elaborating plans for reforming the system along comprehensive lines. In England and Wales, most of the Local Education Authorities have produced plans for introducing comprehensive schools, but the progress, timing and even the form of comprehensive reorganisation vary widely according to local initiative and decisions.

In the past decade, the social problems of education, particularly at this level, have been aggravated because of the large inflow of immigrants. In Switzerland, a fifth of the labour force are immigrants, in Germany 10 per cent of the labour force are temporary foreign workers and in the United Kingdom about 4 per cent of the labour force are migrants from the West Indies, India and Pakistan. These phenomena of migration into the most affluent countries are likely to be an increasingly important feature of the manpower structure. The migrants themselves have substantial problems of basic education and language, because most of them come from countries with lower educational standards than the host country, particularly in the United Kingdom where they may have only three years' education compared with an average of ten years for the British labour force. The problems of their children are also very big, because they have a learning handicap in that their family language is foreign, and their parents have below average education and incomes. It is obvious that if these children are to be given a decent education a good deal of compensatory expenditure will be needed at the very early stages of their school careers.

Post-Compulsory Education

For the purpose of analysis, post-compulsory education is divided into three groups: the age-group 15-18, in which the bulk of the post-compulsory secondary population is concentrated in OECD countries;(1) those in full-time higher education; and those in various kinds of post-formal education (which may be at several levels).

1) All age groupings involve a degree of arbitrariness. In some Scandinavian countries secondary schooling continues to age 20, and in France there is a dispersed range of school leaving from age 18-20 because of grade repeating.

15-18 Age-Group

On average, only about half of the age-group 15-18 are enrolled in full-time formal education in OECD countries, but the situation varies a great deal from country to country. In the non-European countries an average of two-thirds of this age-group is in full-time schooling, in Northern Europe about half, and in Southern Europe less than a third. Amongst the Northern European countries, those with the proportionately lowest provision of full-time education are Austria, Germany and the United Kingdom, but in all these three countries there is a policy of providing extensive facilities for part-time education linked with the introduction into employment. Information on part-time enrolments is not readily available, but policies on part-time education differ a great deal from country to country.

There are basically two types of post-compulsory secondary education, i.e. schools which provide a preparation for higher education and schools which are intended to lead directly to employment. This breakdown is crucial for an understanding of the contemporary evolution of educational systems in the OECD countries, both with regard to equality of opportunity and successful transition into employment. For most of the countries shown, for which data are available, less than half of the pupils are in schools or streams which lead to the option of higher education. There is now increasing policy concern with the consequences of this for individual life chances, and several countries are trying to provide a bigger choice of options and offerings at the upper secondary level as a means of combatting premature selection and "blind alleys" in the educational careers of individuals. There are of course very substantial organisational and pedagogical problems involved if such an open-option system is to be successfully created, particularly if subsequent access to higher education is to be a reality.(1)

1) See Chapter III on structural changes.

Table 3

FULL-TIME ENROLMENT RATES FOR CHILDREN AGED 15-18

(per cent of population at each age enrolled in academic year beginning at date cited)

		15	16	17	18	15-18
Austria	1969	54.8	32.6	23.6	16.4	31.9
Belgium	1966	75.1	61.3	47.0	33.2	54.2
Denmark	1970	85.2	66.8	31.8	23.2	51.7
Finland	1967	(59.2)	51.9	43.5	35.2	47.4
France	1970	80.5	62.6	45.1	29.1	54.3
Germany(a)	1969	54.9	30.8	20.4	15.7	30.5
Greece	1969	56.8	49.1	45.8	26.1	44.7
Iceland		n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	1967	82.4	64.3	46.5	31.8	56.3
Italy	1966	42.1	33.6	27.4	20.2	30.8
Luxembourg	1970	67.9	56.5	42.3	31.2	49.5
Netherlands	1970	79.7	60.6	41.5	28.4	52.5
Norway(b)	1970	94.2	74.6	59.8	46.5	68.9
Portugal	1970	30.1	25.4	22.0	20.4	24.5
Spain	1970	35.0	29.6	22.8	19.0	26.7
Sweden	1972	96.7	74.0	60.8	40.8	68.1
Switzerland	1970	94.6	61.5	52.7	27.4	61.4
Turkey	1968	n.a.	n.a.	n.a.	n.a.	(21.1)
United Kingdom	1970	73.0	41.5	26.2	17.6	39.4
Yugoslavia	1968	n.a.	n.a.	n.a.	n.a.	36.6
Australia	1971	81.5	54.2	37.2	23.6	49.4
Canada(c)	1970	98.0	89.1	77.2	45.8	78.1
Japan	1970	(83.8)	(79.0)	(74.8)	(29.9)	(65.8)
United States(d)	1970	97.7	93.5	86.2	53.8	82.9

(a) Excludes part-time compulsory vocational schools.

(b) Includes a very minor number of part-time pupils.

(c) Excludes enrolments in trade schools and schools for handicapped.

(d) Including part-time students in higher education.

( ) Estimates.

Sources: See notes in the Annex.

Though data on the growth of enrolment in the age-group 15-18 are by no means complete, it is clear that in the past decade the average growth rate has been about 7 per cent a year.(1) Most of this increase has been the result of growth in voluntary participation. The only significant extension of the period of compulsory education which took effect in this period and affected this age-group was in France. Recently the United Kingdom extended the compulsory age-group from 15 to 16 which will affect future growth rates for this age-group. Extension of the compulsory school-leaving age has not therefore been a major policy issue except in a few countries.

On average 71 per cent of the 15 year olds are at school whereas only 29 per cent of the 18 year olds are still there (Table 3). The attrition is due mainly to students completing cycles of different lengths rather than to drop-out. Many of those who leave school between the age of 15-18 have no recognised qualification and therefore face serious difficulty in finding a job. Many of these then take up some form of further education which is theoretically intended for adults. In most countries, the bulk of secondary education has terminated before age 19, but there are countries like Sweden, where people often stay in school until they are about 20. In France and other countries with grade repeating the age spread of school leavers is much wider than in, e.g., Japan where most people leave school at the same age. The people terminating the full phase of secondary education were traditionally the bulk of the entry to higher education, but there is now a growing tendency to accept other entrants, e.g. those who have not completed the full traditional secondary academic cycle and who enter higher education via the "zweiter Bildungsweg", as it is called in Germany, or mature students who enter from work. In other words, the diversification of upper secondary education is having consequences in modifying the flows into post-secondary education.

In post-compulsory education, inequality of public education facilities by social class becomes much more apparent. In all OECD countries - except Spain - most forms of public secondary education are free, but those who terminate their studies

1) Growth in enrolment for the secondary group as a whole rose by 4.7 per cent from 1960 to 1970, but a large part of the secondary group consists of children in compulsory attendance, where the rate of growth was less than average.

the earliest are generally from the lowest income groups. There is therefore a striking differentiation in the social distribution of length of schooling. This applies to all countries, even those where governments have given greater emphasis to equality. In Sweden,(1) for example, the average worker's child still gets about five years less education than children whose parents belong to the professional and managerial class, and this situation is probably typical of all Northern European OECD countries. In Southern Europe the absolute gaps would be wider. The segregation of pupils into different streams or schools is greater at this level than in the compulsory phase of secondary education.

There are various opinions on the reasons for social differentiation in post-compulsory education. Some writers such as Burt claim that intellectual ability is unequally distributed by social group, and would argue that this explains a good deal of the lower participation rates of the low-income groups, although the skewness in the social distribution of ability alleged by Burt is much smaller than the observed disparity in enrolment in higher education. This position is hotly contested by other writers who have stressed the unequal distribution of I.Q. test-taking ability, different styles of intelligence or of learning, etc. Many of these writers argue that the differentiation is due mainly to socio-cultural deprivation of low-income children (i.e. living in homes without books, having parents without much education, living in an environment with children of similar background, and, in extreme cases, experiences of nutritional defects or inadequate housing). These factors obviously weaken the educability or learning motivations of the lower-income groups. Furthermore, segregation, grade repeating and streaming of children by ability tends to intensify the variance in performance between social groups. For these reasons, therefore, moves towards a more comprehensive and flexible educational structure may be considered as tending to mitigate social stratification.(2)

1) See L. Johansson, Utbildning-Empirisk Del, Allmänna Förlaget, Stockholm, 1971.

2) A recent survey of the evidence suggests that the mean level of pupil performance is higher in comprehensive than in segregated education, though there are obviously cases where rapid transition to a comprehensive system may temporarily reduce mean levels of performance. See T. Husén Social Background and Educational Career, CERI/OECD, Paris, 1972.

Another, more straightforward, reason why low-income children get poorer educational facilities than those from the upper social groups is simply the fact that their parents are poorer. Education is not free just because fees are zero. Once education ceases to be compulsory, and children are allowed to enter the labour market, their time becomes a scarce resource and the earnings they must sacrifice by staying at school are substantial. In a family where the head of household is an unskilled worker, and there are two teenage children, family income can often be doubled by sending them to work. In the past decade of rapid economic growth this problem has diminished and the socio-cultural constraints have become relatively more important, but there are still many families in which economic problems are an operative constraint on access to education.

Higher Education Growth

The expansion of higher education was more articulately conceived and deliberately planned in the 1960s than in earlier periods, as is evidenced by the major enquiries and reform plans for this sector which were set afoot in a large number of Member countries. This concern of governments was, of course, motivated by the massive demand for higher education resulting from the generalisation of secondary education. However, it is not possible to explain what happened by listing government intentions. The "swing from science" in the United Kingdom is a good example: manpower forecasts indicated a shortage of scientists, the University Grants Committee allocated more new university places to science than the humanities and social sciences, but students had their own ideas of what to study. The process of expansion has therefore continued to reflect the strong social pressures of demand from individuals.

Enrolment in higher education increased by 8 per cent a year from 1960 to 1970. The number of students rose from 2 million to 4.3 million in the European Member countries and from 7.1 to 14.5 in OECD countries combined. Governments have responded to growth of demand for education at the higher levels by providing both educational facilities and additional resources for student maintenance in the form of loans and grants. They have also created a wide range of new options and types of

Table 4

NEW ENTRANTS(a) TO HIGHER EDUCATION AS A PERCENTAGE OF TOTAL POPULATION AT THE MODAL AGE OF ENTRY

	Year	New entrants (thousands)	Modal age(b) of entry	Approximate size of population from which entrants drawn (thousands)	Ratio of new entrants to population (percentage)
Austria(c)	1969	15.2	18 - 20	95	16.0
Belgium(c)	1970	(42.2)	18 - 20	143	(29.5)
Denmark	1970	22.1	19 - 21	77	28.7
Finland	1970	19.0	19 - 21	86	22.1
Italy(c)	1969	178.6	19 - 21	841	21.2
Netherlands(a)	1970	40.4	18 - 20	221	18.3
Norway(c)	1970	15.5	19 - 21	59	26.3
Portugal	1970	10.0	18 - 20	151	6.6
Sweden	1972		19 - 21		(27.0)
Turkey	1970	(39.8)	18 - 20	713	(5.6)
United Kingdom(c)	1970	225.3	18 - 19	770	29.3
Yugoslavia	1970	111.4	18 - 20	383	29.1
Australia	1970	(51.8)	17 - 18	221	23.5
Canada(d)	1971	137.2	18	408	33.6
Japan	1970	484.7	18	1,808	26.8
United States	1970	1,780.1	18	3,826	46.5

(a) Thes figures are intended to show both full-time and part-time education, but it is possible that in some countries, the data cover only full-time education as is the case in the Netherlands. Fo this reason the Netherlands figures are understated.

(b) The term "modal age" has been broadened for purposes of this survey to include not only the model age as such, but other ages around it as necessary to make up approximately 70 to 80 per cent of new entrants. When the modal age itself comprises 70 to 80 per cent of new entrants, it has been used alone.

(c) For Belgium, Italy, partially for the United Kingdom, and to a minor extent for Austria and Norway, the figures refer to first year students, i.e. they include both new entrants and repeaters and therefore overstate enrolments relative to other countries.

(d) Covers only high school graduates of 1970-71 proceeding directly to higher education in 1971.

( ) Estimates.

Sources: See notes in the Annex.

higher educational institutions to meet variations in individual requirements and to democratise entry to higher education. One of the problems in this respect is the difficulty in achieving parity of esteem between universities on the one hand and non-university establishments on the other which have a higher proportion of low-income entrants and do much less research than universities.

The growth in student numbers has not been steady. Recent figures for total enrolments and new entrants into higher education indicate that in Canada, France, Japan, Sweden, the United Kingdom and the United States growth has slackened off since 1968. However, in other countries, the momentum of expansion has continued so it is difficult to discern a general trend. To some extent these variations are due to demographic and economic factors; other influences which are difficult to analyse such as student attitudes have obviously been important.

It is difficult to make internationally valid comparisons of enrolment rates in higher education because the age of entry and the duration of studies vary considerably.(1) In Denmark, for instance, the average student completes his course in seven years whereas in the United Kingdom the average student finishes in three or four years. In the United Kingdom, most students enter university at 18 but in Sweden the age is 20. Drop-out rates also vary a good deal from country to country. Probably the best summary way of measuring the degree to which each generation participates in at least some higher education, is to show the ratio of new entrants to the population of the modal year of age which is characteristic of entrants to higher education (Table 4). Unfortunately, comparable information on entrants to higher education is only available for some countries. In European countries it would seem that, on average, about a fifth of the relevant age-group now has access to higher education in some form or other, compared with half in the United States. However, the figures range from 6 per cent in Turkey to about 30 per cent in Belgium, Denmark, the United Kingdom and Yugoslavia. Figures for enrolments by single year of age are shown in Table 5; this table shows clearly the wide range of systems which prevail in Member countries. However,

1) These problems are discussed at length in Development of Higher Education 1950-67: Analytical Report, OECD, Paris, 1971, pp. 68-77.

Table 5 is not directly comparable with Table 4, because Table 5 includes some students in secondary education in those countries where the secondary phase lasts until age 20.

In most Member countries university enrolments still form the bulk of higher education, but there are significant exceptions. In the Netherlands and the United Kingdom universities account for only half of enrolments in higher education. The rate of growth of the non-university sector has been slower than that of universities in Europe, but in the non-European countries it is the non-university sector which has taken the lead. At the postgraduate level, the growth rates have, throughout the 1960s, been higher than those of the levels below in most industrialised Member countries.(1) Comparable data are particularly difficult to put together for this level, but it is significant that this rate of growth showed no sign of significant diminution at the beginning of the '70s, in spite of cut-back measures and difficulties with the employment situation.

Higher Education and Equality of Opportunity

The differential in access to education by social class is most marked in higher education, where, in the mid-1960s, upper- and middle-class children had several times more chance of university education than workers' children. Furthermore, there is social discrimination in choice of establishment and field of study. Students from the higher income groups choose universities over other establishments and are predominant in branches which lead to high-paying professions like law and medicine. Working-class participation in higher education has increased in the past decade and may well have increased faster than upper- and middle-class participation, but as it started from such a low level, it is clear that the bulk of the extra [illegible] ch[illegible]ren of the upper social groups.

---

(1) See the [illegible] for six [illegible] "Postgraduate Education: [illegible]", OECD Document, Paris, 1972. This [illegible] between education and [illegible] policies [illegible] in the development of higher education [illegible].

Table 5

FULL-TIME ENROLMENT AT AGES 19-25

(per cent of population at each age enrolled in academic year beginning at date cited)

		19	20	21	22	23	24	25
Austria	1969	10.4	8.7	7.5	6.7	5.6	4.5	4.4
Belgium	1966	24.4	16.9	13.0	7.3	5.2	3.4	n.a.
Denmark	1970	18.0	14.7	14.8	14.6	12.5	10.9	(9.3)
Finland	1967	26.9	20.6	19.0	17.9	16.7	14.2	n.a.
France	1970	19.5	16.2	15.6	12.6	9.7	6.5	6.9
Germany	1968	12.6	10.6	9.5	9.1	7.5	6.9	5.8
Greece	1969	(20.7)	(20.1)	(18.6)	(7.9)	6.7	4.9	3.7
Iceland		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	1967	16.7	10.0	6.8	n.a.	n.a.	n.a.	n.a.
Italy	1966	15.5	10.0	7.0	4.5	3.0	1.5	n.a.
Luxembourg	1970	22.2	14.9	11.8	9.2	6.8	4.5	n.a.
Netherlands	1970	[illegible] 6	15.1	11.1	8.4	6.7	5.1	4.6
Norway	1970	31.7	22.6	19.5	17.1	14.2	11.4	n.a.
Portugal	1970	16.3	13.0	9.5	7.5	6.4	5.4	5.7
Spain	1970	16.7	19.0	11.0	6.7	6.4	6.6	5.8
Sweden	1972	24.0	19.8	17.9	16.5	13.9	11.8	9.6
Switzerland		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Turkey		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	1970	14.3	12.4		4.6			n.a.
Australia		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Canada(a)	1970	31.6	25.9	21.0	12.6	8.3	5.5	4.3
Japan	1970	(22.6)	(13.8)	(13.7)	n.a.	n.a.	n.a.	n.a.
United States	1970	40.9	(35.4)	(28.7)		14.0		n.a.

(a) Excludes enrolment in trade schools and schools for handicapped.

( ) Estimates.

N.B. It should be noted that not all the people in these age-groups are in higher education. In Sweden, a substantial number of 19 and 20 year olds are still at secondary school.

Sources: See notes in the Annex.

However, further remedial policies to correct the situation in higher education may not be of high priority, because the problem does not originate at the higher level. OECD studies and country reviews have shown that the wastage of talent is greatest at the secondary level, and that there is not much social discrimination in transition to university of those who have graduated successfully from secondary school, nor is there much social discrimination in drop-outs from higher education. This is so largely because many governments now provide grants and loans on a substantial scale for those in higher education. Not all governments provide explicit financial support for pupil maintenance at the secondary stage, though this is done in France, Norway, Sweden and Switzerland.(1) There are, of course, social security child allowances and parental tax relief for children attending secondary school but these are not large in relation to earnings foregone, and the tax reliefs are indeed of less value to lower income groups than to the upper.

All the evidence points to the conclusion that the problem of equality of access to higher education cannot be tackled in isolation and calls for measures at all levels of education, i.e. expansion of pre-primary education to overcome some of the early socio-cultural deprivation of low-income children, evening up of public facilities for compulsory education offered in different school districts and elimination of grade repeating; reduction of streaming and differentiation in secondary schooling and expansion of facilities for secondary education; help in overcoming the economic problems of low-income families; better provision for re-entry into education for those who have already started work.

---

1) In France, in 1971, 41 per cent of pupils in public and private secondary education received grants of an average value of French Fr. 444. This compares with grants for only 14 per cent of students in higher education in 1971 (excluding the pre-salary of intending teachers), who received an average amount of French Fr. [illegible]. In total French Fr. 415 million were spent in grants to secondary pupils and French Fr. 330 million in grants to students in higher education (but the amounts were about equal if account is taken of the pre-salaries paid to intending teachers). In Switzerland, 7% per cent of students in the second cycle of education received grants of an average value of 1, [illegible] Swiss Francs.

The Labour Market for Graduates

In the 1960s, there was great emphasis on the contribution which an increased flow of graduates might make to economic growth, and many governments reinforced their support to educational expansion for this reason. However, there is now a concern in some countries that the supply of graduates may be rising too fast. It is, of course, very difficult to judge what is meant by too fast except in terms of measured "returns" from education which are not available for short-term comparisons. It is certainly true that the production of graduates increased more rapidly than ever before in the 1960s. There was a lag of several years before the post-war outflow of graduates matched the accelerated growth in enrolments, so the stock of graduates did not start increasing significantly in most countries until the mid-1950s. Accelerated economic growth had greatly increased the demand for graduates - a demand which could not be met by the limited number of people trained in pre-war and wartime years. Most countries therefore felt and proclaimed that they had a shortage of high-level personnel until well into the 1960s. This situation was itself a major stimulus to the supply of graduates. In the 1960s higher education enrolments accelerated further - with an annual rate of growth of 8 per cent. As a result the outflow of graduates increased further in the mid-1960s. Comparative figures are not readily available on the growth in stock of trained people but in France and Japan, for instance, the stock of graduates increased by about three-quarters from 1960 to 1969, and in the United States the stock increased by more than half.

In 1970-71 there were signs of a weakening in the labour market for highly educated people in a few OECD countries, e.g. Canada, the United States, the United Kingdom and Sweden. In all these countries, new graduates from higher educational institutions experienced longer delays in finding jobs, and there was some evidence of unemployment amongst established scientists and engineers within the United States. In most countries there is insufficient information to tell whether the relative incomes of graduates have suffered, and wage differentials are usually fairly sticky because of the strength of professional organisations. However, there is some evidence of

graduates taking jobs below their expectations, and in Japan for example (where the supply of graduates is very large) the differential between emoluments of those with higher and secondary education has been reduced.

It should be noted that most of the countries where graduates have experienced job problems have in fact been those in which there was a general recession in economic activity. This is a fairly new thing for the post-war period, since in most other previous temporary phases of recession, graduate unemployment has not occurred on any noticeable scale. The recent unemployment has in any case not been dramatic and was cushioned by migration and entry into lower-level jobs than were anticipated. However, in the United States, the slackening in demand for scientists and engineers was clearly not just conjunctural. It stemmed also from the major cutback in government-sponsored space and military research projects. This had repercussions in the United Kingdom and Canada as well, because these countries had previously supplied graduate emigrants to the United States. This change in U.S. Government policy, which took effect in a period of recession, is probably the main reason why the problem has become larger than it has in previous post-war recessions.

As far as Europe is concerned, it could be argued that the return on higher education is unlikely to fall because the stock of graduates is relatively much lower than in the United States, where graduate income differentials have remained stable for decades. This is a powerful argument, but it should be noted that the United States uses graduates in jobs with lower status than those to which European graduates have traditionally aspired. It seems that Europe is entering a phase where graduate aspirations will have to be revised, and this may well create some disillusion with higher education amongst young people. However, this phase may well be short lived, because employers will adjust their educational requirements upwards, and there will be a need for new entrants to the labour force to acquire degrees in order to get jobs previously allocated to non-graduates.[1]

---

[1] See I. Berg, Education and Jobs: The Great Training Robbery, Praeger, New York, 1971, who argues that the United States overinvests in formal higher education.

Summing up, it seems that the fundamental problem is not so much one of unemployment, but of better feedback between the rapidly evolving labour market, professional qualifications, the supply of education and social demand. Whilst forecasts of the likely demand for graduates can play a useful role, the experience of the 1960s has made it clear that manpower planning is a rather crude tool which usually implies a rigid view of adjustment possibilities or job substitutions in the labour market. Analysis of costs and benefits as a guide to the planning of investments depends upon historical rates of remuneration which may change substantially in future. The situation will probably never be easy to predict in view of the long lead-times involved, but it would certainly be helped by better and more frequently collected information on earnings and unemployment by level of education and age. Policy-making would also be aided by making the cost of education more explicit. More careers guidance for students would obviously help. Most important of all is the development of more diversified and flexible post-secondary structures which enable the individual to adjust his qualifications as he proceeds in his career, with much more interplay between education and professional experience. A development in this direction would indeed seem to offer most hope for an effective feedback between the labour market and education.

Post-Formal Education

There has been a generally rapid growth in facilities for post-formal education in the past decade, whether in the form of on-the-job training, part-time cultural activity, or various forms of institutional post-formal training. A good deal of the expansion has been stimulated by legislation, and most of these programmes now receive government finance. In France, under the acts of 1966, 1968 and 1971, the right to leave of absence with pay has been guaranteed to all workers up to 2 per cent of enterprise payrolls, or 3 per cent in the case of "cadres". In Germany the "zweiter Bildungsweg" was introduced in 1964, which enabled students to prepare for entry to higher education without going through the gymnasium, and the Vocational Training, Training Promotion and Employment Promotion Acts were introduced in 1969. In Sweden labour training is very important.

In the United Kingdom, the Industrial Training Act of 1964 introduced a grant-levy system to facilitate industrial training. In Canada the Occupational Training of Adults Program was introduced in 1967. In the United States the Manpower Training and Development Act was introduced in 1962, and the Vocational Education Act in 1963. The last decade was therefore a period of particularly intensive activity on the training front.

Some of these post-formal educational activities are covered by the available statistics of education where they involve attendance at courses in public institutions. However, many of the activities are organised in the form of on-the-job training, or by private sector agencies, such as secretarial schools or by groups such as trade unions and co-operatives, which do not figure in ordinary education statistics, so that it is very difficult to get an idea of their total scope. In some countries information is available which makes it clear that these activities involve substantial numbers of people, but as the training activity is generally on a part-time basis, the figures should be adjusted downwards before they are compared with the population receiving full-time education. In Sweden for instance, about 2 million people are involved in some kind of part-time, post-formal education as compared with 1.5. million in the formal education system, but on a full-time equivalent basis, the post-formal activity is probably not much more than 10 per cent of the activity in formal education. Surveys in Canada and France show that on-the-job training schemes in these countries are fairly extensive. In France, a million workers are involved in such schemes (about 5 per cent of the labour force), and in Canada half a million workers (about 6 per cent of those employed).

In recent years there has been a growing awareness of the need for a more coherent view of these training opportunities and the development of a more articulately conceived relationship between them and the formal education system. The search for an enlarged view of education as a life-long process has been expressed in the term "recurrent education", a concept which has been much discussed in OECD(1) and in many countries, e.g. France, Scandinavia and the United States. In its strongest

1) See Recurrent Education: A Strategy for Lifelong Learning, CERI/OECD, Paris, 1973.

form the concept of recurrent education involves not simply a supplement to existing educational opportunities, but a major restructuring of secondary and higher education programmes and certification procedures so as to provide an alternative to continuous youth education, as well as a considerable increase in expenditure on maintenance grants for mature students who re-enter education without the hitherto necessary credentials.

The Supply of Teachers

At all levels of education and in virtually all countries, governments have increased the input of real resources per pupil. Over the past two decades, teacher input per pupil year has risen about 20 per cent on average in OECD countries. The change has occurred in all countries and at most levels of education, but has been carried furthest at the pre-primary and primary levels. This has permitted a reduction in the officially required teaching loads, a decrease in class size, and an increase in the variety of course offerings. There has been an increase in non-teaching personnel and a general improvement in the qualifications of teachers and substantial efforts to improve curricula.(1)

Nevertheless, it is interesting to note the wide range in pupil/teacher ratios in different countries, which shows implicitly the range of different policies which countries pursue. We do not know what impact these policy differences have on pupil performance or what benefits countries have achieved by using such substantial extra resources to reduce class size. It is not clear how much further countries are likely to go in this direction, when there are pressures to increase the education budget, e.g. by increasing the proportion of the population which enjoys educational facilities, particularly at the secondary and higher level where pupil/teacher ratios are already a good deal lower than at the primary level.

Changes in pupil/teacher ratios are largely decided by the authorities on the basis of an assessment of pedagogical needs, the state of the budget and pressure from teachers' unions. It would seem from the evidence available that a reduction in the

1) See Chapter III on Changes in the Quality of Education.

pupil/teacher ratio has been given high priority in most countries, though it is not yet clear what impact this has had on the quality of pupil performance. At all events, there is no clear evidence that reduction in class size(1), within the ranges now prevailing in OECD countries, has much direct impact on pupil performance.

It is difficult to assess what changes are likely to have occurred in the level of academic achievement in the past decade. In most countries the reduction of class size was intended to provide an improvement in quality, and there has also been an increase in the ratio of qualified teachers and in in-service training for teachers. However, objective evidence of the performance of children in schools is rather difficult to find. In the United Kingdom, for example, there are regular surveys of reading ability, but their usefulness as an indicator has been challenged. Examination performance figures are available over long periods of years for a number of countries, but often the marking procedure is itself designed to achieve a steady overall average and range of performance. The only major conclusion which can be drawn is that there is no clear evidence of significant changes in the quality of pupil performance. Recently, the IEA in Stockholm has carried out a series of tests of educational performance in mathematics, reading ability, science, literature, civic education, French and English, which permit a comparison of levels of achievement in twelve of the OECD countries. The results show a fairly wide range in performance for mathematics and science within OECD countries, though the range is not nearly so wide as it is in comparison with the developing world. Generally speaking, the IEA results show that average performance of pupils at the terminal secondary level is lowest in countries where the proportion of the age-group enrolled is high. But there is less inter-country variation in the level of performance of the highest decile of pupils, so it would be misleading to conclude that the expansion of enrolments leads to lower quality.

There are several dimensions for judging the quality of education. One is the average level of pupil performance, which depends on the quality of the facilities offered, and how hard

1) Reductions in pupil/teacher ratios do not always just reduce class size, they may also lead to a reduction in teaching hours.

the pupils work. However, the quality of an education system also depends on the degree of variation in pupil performance. There will always be a fairly wide range because of variations in academic ability. But some education systems seem to widen the "natural" range by procedures such as grade repeating, differentiation of pupils into different types of school by rigid streaming within schools, and differentiation by sex. There are obviously a number of other factors which affect quality such as the relevance of the curriculum, the degree to which schools develop affective qualities and personalities of children. These topics are admittedly of the utmost importance but obviously too wide to be discussed here.

Table 6

PUPIL/TEACHER RATIOS IN OECD COUNTRIES

	1950		1970	
	Average	Range	Average	Range
Pre-Primary	32	11 - 47	27	17 - 51
Primary	32	18 - 45	27	17 - 38
Secondary	21	10 - 46	19	10 - 33
Higher	14	4 - 39	12	5 - 26

Source: These figures are OECD Secretariat estimates based on data from national sources. The figures for 1950 are less reliable and cover fewer countries than those for 1970.

Chapter II

THE COSTS OF EDUCATION

In the course of the 1960s, the cost of education increased by about 15 per cent a year on average in OECD countries. The growth rate has varied by level, being 13 per cent for primary, 16 per cent for secondary and 20 per cent for higher education. This compares with a growth in national product in money terms of about 9-10 per cent a year.

There were several factors behind the rapid growth of costs. The growth in enrolments was about 2.4 per cent a year, but varied from about 0.5 per cent at the compulsory level, 4.7 per cent at pre-primary, about 7 per cent at post-compulsory secondary and 8 per cent for higher education. The expansion was fastest at the most expensive levels, so a weighted average of enrolments is needed to judge the impact that the growth in enrolments is likely to have had on costs. This shows that the increase in enrolments accounted for an increase of about 3 per cent a year in real costs.

There was also an improvement in the amount of facilities available per pupil. The decline in class size affected all countries and most levels of education. Not much direct comparative evidence is available on non-teaching resources per pupil, but if they increased at the same rate as teacher inputs, the rise in all inputs per pupil probably contributed about 1 per cent a year to the increase in the education bill.

Government expenditure on student maintenance and welfare in higher education has increased very fast in the past decade, and although these items are still not more than 15 per cent of government current expenditure on education, they may have added 1 per cent a year to the annual bill for education as a whole.

The general experience of inflation in OECD countries was something in the order of 5 per cent a year. This affected all levels of education because it led to increases in the price of

educational equipment and books, and to rises in teacher salaries to keep pace with the rising cost of living.

Finally, education is a sector of the economy where productivity growth, in the sense experienced in the manufacturing industry, has generally not occurred. Nevertheless, teacher salaries have risen in real terms more or less parallel with those in the rest of the economy, i.e. the education budgets had to provide teachers with a rising standard of living as well as the offset to rising prices mentioned in the previous paragraph. This item has added about 4 per cent a year to education budgets. Thus the 15 per cent average annual increase in costs in the 1960s can be broken down roughly as follows: 3 per cent increase a year due to growth of enrolments, 1 per cent to increased inputs per pupil, 1 per cent a year to the growth in aid to students, [illegible] per cent to the general rise in prices, and 4 per cent due to the productivity lag in education.

In assessing likely future trends in educational costs, all the factors enumerated in the previous paragraphs need to be taken into account. Growth in enrolment is determined proximately by government, but depends largely on public pressure for school or university places in educational systems which largely have open access. It is difficult to predict what the future rate of growth of enrolment will be. If there is any slackening, it seems unlikely to be very substantial. As indicated above, the proportion of postgraduate students has continued to increase rapidly during the last few years, though there is some feeling that this expansion should be less rapid in future, particularly in the United Kingdom where a recent study has shown that the returns on postgraduate education are very low. The rate of growth of spending on [illegible] scholarships and loan funds will probably slow down [illegible], partly because it has [illegible] very rapidly in the past decade, and partly because in most countries the benefits are already [illegible] concentrated [illegible]. On the other hand, more [illegible] support will be necessary at the secondary level if participation of low-income groups is to be encouraged. The rate at which the general price level moves is beyond the competence of the educational authorities, and does not in itself pose a major problem insofar as government revenue generally keeps pace with inflation. The [illegible] have most scope for affecting costs [illegible] the level of input per pupil. In the past, [illegible] in this field has not been very explicit, and given the

substantial improvements in pupil/teacher ratios that have already been achieved, a more explicit examination of other routes to the improvement of quality will be imperative.

The scope for reducing the rate of growth of expenditure is probably greatest in higher education where costs per pupil year are highest. In some countries the average length of first degree courses is extremely long, e.g. the Netherlands and Denmark, and the Netherlands authorities have now taken steps to reduce the first phase of study to four years. There is now a tendency to split up courses into smaller units which should give greater flexibility. It does not appear that countries are contemplating a reduction in length of study by shortening university vacations which are usually much longer than those elsewhere in the education system and *a priori* are not very productive academically. Other options for cost reduction involve more widespread use of modern technology, including education through television and other forms of mass media. These are being tried in several countries, notably in "TeleKolleg" in Germany and the Open University in the United Kingdom, though it is too early yet to say what impact these new media are likely to have on unit costs and whether they will lower costs at all.

More intensive use of school and university buildings can be achieved by closer co-ordination of the different social programmes. The sophistication and variety of provision now being made in secondary schools coupled with the growing demand for facilities for continuing adult education and recreation has led to an increasing interest in the wider use of school buildings by the community. This is prompted by both socio-educational and economic considerations. First there is the realisation not only that the community can contribute to and benefit from the provision of an easily accessible range of educational and cultural facilities but also that the activities of the school can no [illegible]

and administrations with varying interests and responsibilities. Added to these are problems of ownership, management, distribution of capital, running and maintenance costs.(1)

It is sometimes argued that costs could be reduced in higher education by a reduction in drop-out rates. However, drop-out rates cannot be used as indices of efficiency because the variations arise mainly from differences in policy. For example, the French university system is open to everyone with a baccalauréat and the British university system is more selective. Lower drop-out rates in the United Kingdom do not therefore reflect greater productivity. The "open door" system practised in Continental Europe and the United States means that many candidates are admitted who cannot complete the course. The social cost of these systems is the output that the student would have produced if he had been working, and outlays for his incomplete education. On the other hand, selective systems reject some people who might have earned a degree, and the loss of their potential earnings is a significant loss to society.

As conventionally measured, public and private spending on education represent about 6 per cent of the gross national product of OECD countries. On a more comprehensive view the figure would be considerably higher for three reasons. In the first place, about 60 million pupils are above the age of compulsory schooling and allowance should be made for earnings they would have had if they worked. Secondly, some argue that an estimate should be included for the rental value of educational buildings. This is difficult to assess as the buildings often have no alternative commercial use, but they should not be considered as a free resource just because the rental cost is not made explicit by present conventions of public accounting. Finally, the educational process includes a wide range of activities outside the existing purview of education authorities. On-the-job training and adult education of various kinds and, in some countries, pre-primary education, are handled by other ministries. Allowance for these "peripheral" forms of education could sometimes add considerably to existing budgets.

---

1) On trends concerning educational building see Chapter III, section on Improvements in School Building. See also School Building Resources and their Effective Use, OECD, Paris, 1966.

When these various components of cost are added together they suggest that education is an activity that absorbs about an eighth of the income or potential income of the OECD area. But it should be stressed that it is difficult to express education's claim on resources very precisely. If earnings foregone and imputed rent are included as part of the cost of education, the total should not be related to GNP, but rather to GNP augmented to include these and some other imputable items. Furthermore, education budgets are not always comparable between countries - welfare payments for school meals and milk are much bigger in some countries than in others. Expenditure on research also varies a good deal from country to country and often a large part of it is financed outside the educational budget.

Chapter III

CHANGES IN EDUCATIONAL STRUCTURES AND IN THE QUALITY OF EDUCATION

The preceding analysis shows how continued educational growth over the last twenty years, both in terms of numbers of children and equality of opportunity, has been accompanied by major organisational and structural changes. The broad nature of these changes, the extent of which varies in the Member countries (and in fact partly reflects a country's stage of educational development), emerges clearly from the analysis. These structural developments have necessitated equally significant, though less clearly perceived, pedagogical changes. The traditional systems of education, with dominantly élitist goals, are being thereby transformed into ones where a broadly-based equality of opportunity is the central objective. More flexible educational structures and practices have been recognised as a necessary condition for education to meet the varying needs of the mass of young people now being retained in the educational system.

Structural Changes

The main trends and issues in structural development have been analysed in considerable detail in previous OECD reports(1); only the most salient points relevant to policy need therefore be taken up here.

At the pre-primary level, where the analysis foresees rapid growth in most countries during the 1970s, new policies

1) See in particular Conference on Policies for Educational Growth - General Report: Educational Policies for the 1970s, OECD, Paris, 1971; Development of Secondary Education: Trends and Implications, OECD, 1969; Development of Higher Education 1950-1967: Analytical Report, OECD, 1971; "Toward New Structures of Post-secondary Education", OECD Document, 1971; Recurrent Education, op. cit.

are in the course of being defined in many countries. Wide variations exist between countries as to the relative importance attached to the main goals served by early childhood education, e.g. compensation for social and cultural disadvantage, service to the family, early social and cognitive experience for the child. However, behind such varied goals lies growing recognition of the need for professionally supported growth in these critical years of the child's cognitive, social and emotional development. If this is the case, policies will be needed to ensure the effective pursuit of the specific objectives of early childhood education and its co-ordination with the succeeding years of compulsory education.

Up to now, it is at the compulsory school level that the structural impact of educational expansion has been most felt. The two main features have been:

a) the extension of compulsory schooling, generated largely by increased voluntary enrolments, and resulting in the gradual merging of primary with lower secondary education;

b) postponement of selection at this level so as to provide a longer period of common educational experience for all children, as a necessary foundation for both academic as well as professional training.

Whether through comprehensive schools or flexible parallel educational streams with transfer between them, the aim has been to give children from different social classes a more equal chance, particularly as between the general/academic and technical/vocational streams. And although the main debate has been on different types of schools, the fundamental underlying issue is whether or not schools can provide learning opportunities suited to the varying needs of the children themselves, rather than to the needs of selection into the upper secondary or post-secondary institutions.

Two major problems arise here. First, the traditional academic curriculum is unsuitable for a large number of adolescents, so that the attempt to provide more relevant courses for them tends to reinforce social selection. Secondly, the attempt to move from separate streams to classes of children of varying background and ability appears to run into difficulties because it needs a new pedagogical approach. Thus, behind the structural changes lies a fundamental pedagogical question: can we accept the varying needs of individuals in a pluralistic

society, offer a variety of choice in courses, and promote the personal development of young people by pedagogical methods which allow more influence over her or his own learning? The answer would of course imply fundamental changes in the traditional academic curriculum and in the traditional role of the teacher.

These problems are particularly acute for the large number of "low ability" pupils, mainly from socially disadvantaged families, who leave compulsory education without formal educational qualifications, marketable skills or propensity to return to education at a later stage.

The dilemma becomes sharper when one moves to a consideration of the upper secondary education level. At this level difficulties of integrating the academic (i.e. preparation for entry into higher education) and the technical/vocational (i.e. labour market orientation) streams have been experienced in a number of countries. Many have set up a more polyvalent structure of educational options and offerings in order to combat social selection without depriving the economy of needed middle-level manpower. But in-built social preferences and incentives seem to sustain the status differentiation of institutions and result in a drift towards the more traditional institutions. In other countries, the trend has been to provide, for a significant portion of the pupils of this age group, opportunities for part-time education and training in conjunction with employment. Here again, the options are limited in terms of life-chances, and career choices seem to be irreversibly determined at this juncture of the individual's development.

A likely implication of these trends is that those countries which are approaching universal education up to this level will need to develop educational options which enable people to return to education later, thereby avoiding dead-ends in their personal development. Any widespread application of this principle could mean a major restructuring of the whole of the post-compulsory education sector, including higher and adult education, leading towards a system of recurrent education.

Recurrent education would, in this context, fulfil a two-fold role. First, it would offer a second chance to those adults whose life-chances and career options are restricted by virtue of their earlier educational experience. It would enable education to give satisfaction to aspirations and motivations arising in the course of professional career and life

experience. In many Member countries such second chances will have to be offered primarily at the level of upper secondary education programmes. Secondly, it would diminish the irreversible character of early educational choices.

In upper secondary education (the 16-19 age group) this raises intricate problems concerning the options available to students, as well as the educational and other experience (work, but also social experience) to be offered. Polyvalent and truly equivalent programmes will be needed which cover a wider range of options than is at present available. Further, if the choice between further study or a first job is to be made real, the possibility of a return to studies by those opting for work will need to be built into the system.

The above trends raise the central issue of the links between upper secondary and post-secondary education. Whether or not a policy of recurrent education would promote a better balance between the two, the strains created by massive individual demand for educational opportunities at the post-secondary level are apparent in most countries. Everywhere there have been difficulties in adjusting the system to make it relevant to these new demands, and no country can yet claim to have solved the problem of effectively relating higher education, the aspirations of individuals and the needs and absorptive capacity of society for qualified people.

Traditionally, the system has been divided into main sectors: one, largely oriented towards vocation and concerned primarily with technical and teacher training, is generally under close governmental control: the second, comprising mainly the university sector, has enjoyed relative freedom in pursuing broader educational goals in teaching and research. In spite of a trend in many countries towards a dilution of this binary structural framework, different institutional types, creating distinct "channels" with clear differences of social, academic and professional status, still prevail in most countries.

The response to this has been growing recognition of the need for <u>diversification</u>. In practice this has meant the setting up of new higher education institutions to meet special needs and/or target populations: the introduction of reformed or new programmes within existing institutions: and a move towards closer affiliation with adult education programmes, with greater freedom of movement in both youth and adult programmes, based on transferable credits for work done or on intermediate qualifications. The trend, in other words, is towards greater

diversification of access and options to higher education, in terms of space, time and study.

It is as yet too early to assess what the likely success of this move may be. Some existing evidence suggests that the prevailing value and reward structures, which separate the universities from the rest of the system, constitute an obstacle to the development of such diversified systems of mass higher education. However, a considerable number of imaginative new policies are now in the early stages of development, and it is possible that the necessary incentives can be provided by which a diversified post-secondary education system may become acceptable as an effective and equitable alternative to the traditional one.

The Search for Curriculum Relevance

The array of socio-economic developments and advancements which form the background to recent educational growth, changes in the demands and needs of society and of the individuals who function within it have all necessitated a re-examination and reorganisation of the core of the organised teaching/learning processes, which revolves around problems of the curriculum. The main trends in schooling during the last two decades, as they have affected the curriculum and the major areas of change, and which will continue to influence curriculum development well into the 1980s have been analysed in considerable detail in a series of OECD studies.(1)

The shift in curriculum concern which has been taking place can be briefly summed up as follows: in the 1950s and early 1960s, when the academic curriculum was the pride of most systems and intellectual development the overriding purpose of the school, the emphasis was on updating of subject content to catch up with the latest developments in knowledge. This was particularly so in science and mathematics, which were the major preoccupation in the post-sputnik period. Rapid educational growth and changing socio-economic circumstances led

1) See especially: Curriculum Improvement and Educational Development, OECD, 1966; The Nature of the Curriculum for the Eighties and Onwards, OECD/CERI, 1972; Styles of Curriculum Development, OECD/CERI, 1971; Educational Technology: The Design and Implementation of Learning Systems, OECD/CERI, Paris, 1971.

to increased attention as to how the scope of the curriculum could be broadened to encompass socio-economically relevant problems. This has been accompanied by recognition of the need to adjust the curriculum to the varying needs and personality of the individual, the development of new styles of learning emphasising independent learning and leading to individualised curricula, without neglecting the socialising role which the curriculum should retain in a pluralistic society.

These developments have been accompanied by efforts to use educational technology - the computer, the language laboratory, television, etc. - as great potential inroads which would change the nature of the teaching/learning process. This has not proved to be the case, partly because the educational system has not been able to accommodate these technologies, and partly because the technologies themselves have not yet demonstrated, despite considerable experimentation, that they can do better than the more traditional approaches within the system. The technologies are certainly not dead but their usefulness will need to be radically rethought in the coming years, with particular reference to the specific educational tasks, such as the mass education of adults, for which new technologies may be particularly effective.

The stages indicated above have, to varying degrees, affected all levels of education against the background of strong historical and cultural traditions which still condition the prevailing value structures in education in different societies. When compulsory education was limited to the primary stage, its main purpose was literacy and numeracy; the non-compulsory secondary stage that followed was basically an "academic" curriculum designed on a subject discipline basis with an ultimate eye to university education. Technical and vocational courses were separate and held in low esteem. When compulsion was extended to the first grades of the secondary stage, the existing "academic" curriculum was largely adopted despite its inappropriateness for a large number of children; vocational education remained neglected and debased. One major trend has been to modify this curriculum in the direction of making it relevant to those children who will either go no further in school or only to sixteen. There has also been a gradual merging of general/academic with technical/vocational education within a growing orientation period of common educational experience.

Closely linked with this has been a general movement, at all stages, to make the curriculum more relevant to the age, understanding and interests of children and less to the future development of the subject disciplines. Thus, fundamental changes have occurred at the primary level in a number of Member countries, almost unnoticed and without a vast investment of funds or any specific political decisions. These changes have been marked by a movement away from a subject-centred curriculum towards one which is child-centred, to an attempt to base the learning of the child on his own interests and to provide the atmosphere in which he can best learn. Recently the emphasis for a basic change in educational offerings has moved down into the pre-primary area, due to the belief that interventions to support the growth of the child should be made as soon as possible before the effects of social and cultural deprivation become difficult to counteract.

A similar trend is beginning to affect the nature of schooling for the 16-19 age group. The dichotomy between the overtly academic nature of schooling for one group of pupils and the vocationally oriented courses for others at this age has long been under scrutiny. There is a search for a better mix of studies to combat social selection, to diversify the options available as between "regular" schooling and other kinds of further education.

Behind these trends lies a considerable broadening of the concept of the objectives of education and their relative importance; for example, that understanding is more important than repetition; that learning how to learn is more important than what is learnt; that the development of the individual, his attitudes, his standards, is as important as the acquisition of knowledge; that expression and creation should be enjoyed by all; that oral skills are as - or more - important than written skills for the average person.

Parallel to the pressure for change arising from a reconsideration of objectives is the pressure for new understanding of how children learn. Most importantly this has involved the recognition of the key role of motivation and the intelligent use of the natural interests of children. Again, active learning in which the student interacts directly with materials - books, work sheets, etc. - with other students, with teachers, is recognised as more effective than passive learning in which children receive information from a teacher. The "discovery"

of principles by pupils can lead to better motivation and understanding than explanation by a teacher. Finally, children learn at different rates and in different ways both because of differences in ability and interest but also from day to day according to their concentration: therefore the "lockstep" process of class teaching in which all children proceed at a given pace has to give way to a more flexible system of individualised or small-group learning.

Out of these pressures for change have emerged new subject content, new organisation of certain subjects in integrated groups, new methods in the organisation of teaching and learning. Curriculum development has thus gradually begun to respond by attempts to set up projects which cover broader areas of the curriculum, though this trend is thwarted by the still zealously guarded subject discipline.

In summary, a picture of education in schools is emerging which reflects the following characteristics, which are likely to be the major forces for change in the next two decades:

- the school is becoming increasingly regarded more as an agent of change, or at least a means by which both the individual and society can accommodate change, than as a transmitter of the culture;
- stress is being placed on a curriculum relevant to the manifold goals of education and extending learning opportunities over a life-time;
- thus, the curriculum, particularly at secondary level, is becoming a broad one, choices being delayed and options kept open;
- such basic dimensions of present educational structures as examination practices, assessment of progress, time schedules, grouping practices, accommodation are being radically changed;
- emphasis is shifting from teaching to learning; from the learning of facts to the understanding of principles, from the learning of knowledge to learning how to learn, from the acquisition of knowledge to the development of personal and social attitudes; all these are reflected in a change towards independent and small-group learning;
- the school, which has long been regarded as a community on its own, a state within the state with its own rules, is now being seen as an extension of the community, an open system which forms a part of the whole; in this

regard, roles and relationships, responsibilities for decision-making, policy determination, and even instruction are extended beyond the traditional boundary of the school;

- a greater understanding has emerged of the increasing power of the informal education system, particularly of the mass media; with this comes perhaps a conscious attempt to use this informal system as an instrument for - or a supplement to - the formal system.

Qualitative Changes in the Teaching Force

The teacher recruitment effort, which shows significant overall improvement in teacher/student ratios in the late 1960s, was all the more substantial in that it had to offset, in a number of countries, the deterioration which had occurred in such ratios in varying degrees between 1950 and 1965.(1) In view of the primacy of this objective, it is understandable that other qualitative changes directly concerning the teaching force could only be implemented in more recent years. Such changes have been increasingly facilitated by a rise in potential teacher supply consequent on the growth and restructuring of post-secondary education.

In the first place, over recent years, the percentage of teachers regarded as "unqualified" under national recruitment regulations has fallen. In primary education, this percentage is seldom above 10 per cent. While the improvement is also considerable in secondary education, it is more uneven at this level, insofar as certain countries still have difficulties in recruiting teachers of scientific and technical subjects and of arts and crafts. Although qualification requirements are not so rigid in higher education, it should nevertheless be noted that in almost all Member countries, it is the disproportionate increase in the categories of lower status personnel that has made it possible to meet teacher demand and improve staff/student ratios at the tertiary level.

---

1) See in particular the OECD studies: Training, Recruitment and Utilisation of Teachers in Primary and Secondary Education, 1973; Quantitative Trends in Teaching Staff in Higher Education, 1972; Conference on Policies for Educational Growth, Vol.V: "Teaching Resources and Structural Change", OECD Document, 1971.

Secondly, this development has been accompanied by the upgrading of certain teacher training institutions, particularly primary teacher training colleges, where the trend now is for the provision of essentially post-secondary courses. In some countries, this trend has been accompanied by the creation or strengthening of links with the university; in a very few countries, such training colleges have actually been integrated into the university. Similar changes have occurred in the training of teachers of technical and arts and crafts subjects, in order to bring recruitment of these categories of teachers closer to the level of teachers of general subjects.

Thirdly, in order to give greater prominence to general education and the new disciplines necessary for greater cohesion of theoretical and practical training, the duration of the latter has recently been extended in training colleges for teachers of primary and sometimes of short- or first-cycle secondary courses. A similar but less marked trend has been recorded for future teachers of traditional secondary classes who receive more extensive practical training after and/or during their years at university, in close contact with the schools.

Despite these manifest changes, recent work by the OECD(1) has brought out the latent disparity between the new role of the teacher as it emerges from the implementation of educational reform plans and the means - particularly at the level of training - by which he can be enabled to perform such a role efficiently. Not enough attention, for example, has been paid to changes in teachers' attitudes and behaviour as a necessary condition for innovation; only in a very few exceptional cases has any consideration been given to the training and attitudes of teacher-trainers. Recognition of this deficiency has spread to the entire higher education sector and a few countries are currently examining means of improving teacher recruitment and training for a rapidly evolving post-secondary education.

A younger teaching force, resulting from the massive recruitment drive, means that more teachers, trained according to standards that have on the whole remained traditional, will stay on longer in a system that has to change and in which one of the principal agents of change is the teacher. Only an intensive programme of in-service training can meet this need.

---

1) The Teacher and Educational Change: A New Role, OCDE, Paris, 1974.

To offset the lower qualifications resulting from periods of shortage, and also to encourage teachers to adjust to their new functions, many countries have initiated, frequently in conjunction with the teachers' representatives, refresher courses to be taken inside and/or outside their teaching assignments. Such activities are indicative of gaps in initial training, and pilot experiments are being developed in some countries with a view to its reform. However, owing to lack of co-ordination and inadequate resources, these activities have not yet given the full results expected. Behind such efforts lies the difficulty of clearly determining the teachers' own needs. Recent progress in securing participation of the various groups concerned in school development - particularly of teachers - might point the way to how the efforts which have been made for some time now in the continuing training of teachers can be rendered more effective.

Improvements in School Building

The developments outlined above have led to completely new approaches to the problems of school building and are reflected in many different ways in recent school plans. Standard classrooms have given way to a great variety of forms of teaching space. There are still areas for formal instruction, lectures or demonstrations, but these are replaced in part by space for work in small groups, for discussions, for seminars; by space for independent study and investigation; by working space for teams of teachers to discuss common projects and prepare teaching materials; and by special areas to accommodate the new teaching/learning resources. Such variety aims at providing a closer match between the vastly increased range of educational activities and the corresponding facilities needed in terms of spatial requirements, equipment and furniture, services and environment.

Coupled to this is the emergence of much deeper and less regularly cellular plans arising from the need to closely interrelate comparatively large areas of accommodation and reflecting the trend away from rigid subject specialisation towards the integration of activities. A common theme discernible is often a quality of indetermination, reflecting the need for teachers to be able to seize a learning opportunity and to structure a teaching situation around it. The breakdown of the

class-centred structure demands alternative approaches to the problems of administrative and pastoral organisation: each pupil must have a place with which he can identify - a "home" or "base" in which he can meet his friends, keep personal possessions and where he can find and be found by the member of staff responsible for his welfare and progress in the school. In addition, the changing relationships between teacher and pupil call for an ambiance less institutional in character than is often the case. Carefully chosen furnishings and finishes help give a more domestic feeling: soft upholstery, carpets, curtains and pictures increasingly form a part of the vocabulary of school building design.

The search for new answers to the new problems necessitates a certain freedom of choice for school building designers and a consequent plurality of solutions. It can only be successful if backed by strong research and development work: the continuous analysis of educational and technological developments; the testing of the results of those investigations in individual projects; and feedback of experience gained. This requires wide participation and consultation in decision-making by public representatives, officials, parents, teachers, etc., and new forms of collaboration between educationists, administrators and architects.

All this takes considerably more effort and time than in the past and points to the necessity for long-term planning and programming of school building investment so that sufficient time can be given to the consultation, briefing and design stages at the level of the individual school. The economic procurement of school buildings and the effective matching of facility provision to the new educational requirements will thus, in the final analysis, be determined by the ability of the institutional arrangements to adapt to the changed and changing conditions.

New Objectives for Educational Change - The Emergence of New Structures for Research, Development and Innovation

The above trends show that the rapid growth of education in the last twenty years in the OECD countries has resulted in a formidable array of changes in all aspects of the educational process. It is equally clear, however, that no country has yet

succeeded in finding a way of systematically improving the effectiveness of education in relation to its new role in society.

Since 1945, and especially during the 1960s, there has been a rapid growth of educational research and development (in the region of 500-600 per cent) mainly towards R & D directed to the solution of practical problems in the educational system, as against the more traditional academically oriented research. The trends in this direction have been reviewed in an OECD survey.(1) In spite of this apparently spectacular increase in effort, however, the proportion of resources allocated to R & D in relation to total education budgets remains, in most countries, surprisingly low(2); moreover, no country appears as yet to have found a satisfactory solution to the problem of relating R & D to policy objectives.

One of the reasons for this is the realisation that, whilst research and development can play an important role in changing educational systems, other factors for change (such as the training of teachers and the decentralisation of decision-making) have to be brought into the picture. The consequence has been that Member countries are increasingly searching for policies for innovation, in which R & D plays an essential but not exclusive role. New institutions have emerged in many countries, and new roles have been assigned to the existing arms of educational administration. These range from the Swedish concept of "rolling reform"; the United Kingdom's emphasis on the encouragement and support of initiatives in the schools themselves, via a Schools Council; the endeavour of the United States' federal authorities to use R & D as the means of stimulating the change process in the American school system, leading to the recent establishment of a National Institute of Education, and the establishment in France of new institutions to give logistic support to a series of fundamental educational reforms at the national level. At the international level, the OECD Centre for Educational Research and Innovation was established in 1967 to develop co-operation between Member countries in these fields.

These developments are now so widespread that they amount to a concerted endeavour to transform the structure of

1) "Research and Development in Education", OECD Document, Paris, 1974.

2) For the majority of the European Member countries, the proportion is between .1 and .5 per cent.

educational administration in such a way as to ensure a continuing and effective process of change. An OECD report on Strategies for Innovation in Education(1) attempts to draw the lessons from the various experiments at the central, regional and local levels in OECD countries to initiate and implement educational changes.

These efforts in education to develop an effective innovative process are part of a wider process of social change. New patterns of growth, which reflect the increasing importance of social objectives and aspirations in the OECD countries, are leading all countries to commit an increasing share of national resources to sectors such as education, health and the urban environment. Ways and means of ensuring the effective use of these growing expenditures has become a high priority for governments. The definition of effectiveness and therefore the directions of innovation have to reflect both the community's options with regard to a future society, and the growing participation of individuals in decisions which affect their daily lives. Further, the development of these new social services in education, health and many other fields, is leading to new forms of mixed public and private initiative which defy the classical differentiation between the public and private sector. In sum, policies for innovation in social areas such as education and health must be interrelated and come to mean nothing less than policies to formulate and promote the fundamental social changes which will be a central issue in the 1970s.

In this connection, the analysis in the report would seem to imply that the most challenging force for educational innovation in the 1970s will be the recognition that education and training are a right of adults as well as of young people. For this will change not only the objectives of educational policy, but also the instruments available to governments for achieving these objectives, the public and private resources available to the education and training system, and the institutions (much wider than schools and universities) involved in the educational endeavour.

1) Case Studies of Educational Innovation, Volume IV. OECD/CERI, Paris, 1973.

Annex

STATISTICAL SOURCES

Tables 1, 2, 3 and 5

Australia	:	Figures supplied by the Australian Authorities.
Austria	:	1969 Die allgemeinbildenden höheren Schulen; Die mittleren und höheren technischen und gewerblichen Schulen; Die mittleren und höheren kaufmännischen Schulen; Die mittleren und höheren berufsbildenden Frauenschulen und die Soziallehranstalten; Das land und forstwirtschaftliche Schulwesen; Die Lehrer und Erzieherbildung; Die berufsbildenden Pflichtschulen; Österreichische Schulstatistik; Statistisches Jahrbuch.
Belgium	:	Annuaire statistique de l'enseignement 1966-67; Early Childhood Education in Belgium, CERI/OECD, Paris, 1972 (mimeo.).
Canada	:	Education in Canada, a Statistical Review for 1960-61 to 1970-71; and information supplied by the Canadian Authorities.
Denmark	:	Statistisk Arbog 1972; Uddannelsesstatistik; and figures supplied by the Danish Authorities.
Finland	:	Statistik Arsbog 1970; Educational Growth Enquiry, Country Replies, OECD, Paris, 1970 (mimeo.); Basic Education Series, OECD, 1972 (mimeo.); Pre-primary: unpublished data collected by CERI/OECD; and figures supplied by the Finnish Authorities.

France	:	Tableaux de l'Education nationale 1972; and figures supplied by the French Authorities.
Germany	:	Figures supplied by the German Authorities.
Greece	:	Figures supplied by the Greek Authorities.
Iceland	:	**Yearbook of Nordic Statistics, 1970.**
Ireland	:	An Roinn Oideachais 1967/68, p. 6 and p. 17; Pre-primary: unpublished data collected by CERI/OECD; CME/HF-P(72)12, October 1972, Council of Europe, Strasbourg.
Italy	:	Note e Relazioni, November 1973, Istituto centrale di Statistica, Roma; Early Childhood Education in Italy, CERI/OECD, Paris, 1972, (mimeo); Statistical Yearbook 1971; Bollettino mensile di Statistica.
Japan	:	Educational Statistics in Japan 1971; and figures supplied by the Japanese Authorities.
Luxembourg	:	Annuaire statistique 1971; Courrier de l'Education nationale, April, June, July and August 1972; Pre-primary: unpublished data collected by CERI/OECD.
Netherlands	:	Figures supplied by the Netherlands Authorities.
Norway	:	Statistisk Årbok 1971; Undervisningsstatistikk 1971; Basic Education Series, OECD, Paris, 1972, (mimeo); and figures supplied by the Norwegian Authorities.
Portugal	:	**Estatisticas da Educação 1971;** Supplementary statistics supplied by the Portuguese authorities.
Spain	:	Estadistica de la Enseñanza en España 1967-71; Las Cifras de la Enseñanza en España 1971; and figures supplied by the Spanish Authorities.
Sweden	:	Statistisk Årsbok 1971; Basic Education Series, OECD, Paris, 1972, (mimeo); Pre-primary: unpublished data collected by CERI/OECD.

Switzerland : Statistical Yearbook 1971;
Statistique scolaire suisse 1968/69;
Basic Education Series, OECD, Paris, 1972.
(mimeo.).

Turkey : Enquête sur l'expansion de l'enseignement, réponse des pays, OECD, Paris, 1970, (mimeo.).

United Kingdom: Statistics of Education.

United States : Primary Enrolment, October 1970;
and figures supplied by the U.S. Authorities.

Yugoslavia : Educational Growth Enquiry, Country Replies, OECD, Paris, 1970, (mimeo.).

Table 4

Australia : 1970
Figures supplied by the Australian Authorities. Figures quoted for Australia relate to new entrants to universities, colleges of advanced education and teachers colleges only; new entrants figures for technical and other post-secondary colleges were not available for inclusion.

Austria : 1970
- University: Österreichischer Hochschulstatistik, Teil 1, 1969/70, pp. 24 and 25.
- Non-university: Die mittleren und höheren technischen und gewerblichen Schulen 1970/71 p. 42, Tab. 1.20;
Die mittleren und höheren berufsbildenden Frauenschulen und die Soziallehranstalten 1970/71, p. [illegible], Tab. 3.[illegible];
Die Lehrer und Erzieherbildung 1970/71, Tab. 5.03;
Enrolments in the first year of higher non-university education have been used since no figures for new entrants are available. Enrolments in the first year to the "Lehrgänge für medizinisch technische Assistenten" were estimated and amounted to 0.5 per cent of the total entry.

Belgium : 1970

Data supplied by the Belgian Authorities.

Canada : Data supplied by the Canadian Authorities.

Denmark(1) : 1970

- University: De Videregående Uddannelser 1960-1970:

Universities	p. 73
Schools of Architecture	"
School of Pharmacy	"
Dental College	"
Engineers' Academy	"
Technical university	"

De Videregående Uddannelser 1971: Veterinary and agricultural college, page 53.

- Non-university: De Videregående Uddannelser 1960-1970:

Colleges of technology	p. 73
Teacher training colleges (primary and lower secondary)	"
Academies of music	"
School of librarianship	"

De Videregaende Uddannelser 1971:

Teacher training colleges (kindergarten)	p. 110
Domestic science teacher training colleges	"
Institute of physical education	"
Schools of social work	"
Midwifery school	"
College of physiotherapy	"

New entrants into schools of economics and business administration were estimated (approximately 14 per cent of the total). The following schools have been excluded, for lack of data: colleges of educational studies, building schools, schools of painting and sculpture, nursing schools.

Finland : 1970

Central Statistical Office of Finland, Statistical Reports KO 1972: 4 and KO 1971: 20.

1) See Classification of Educational Systems, OECD, Paris, 1972.

Italy : 1969
Istituto centrale di Statistica: Annuario Statistico dell' Istruzione Italiana 1971: scuole di ostetricia: tav. 155 p. 293; Diplomi: tav. 142 p. 259; Gruppo scientifico, medico, etc.: tav. 142 p. 259; Accademie statali di Belle Arti: tav. 135, p. 253.

Japan : 1970
Statistical Yearbook 1971, pp. 343 to 346.
New entrants in fourth year in Kōtō-senmongakko were estimated (proportion: less than 1 per cent of total).

Netherlands : 1970
Figures supplied by the Netherlands Authorities.

Norway : 1970
- Non-university: Fag og Yrkesskolor 1/10/70 pp. 28 and 29.
- University: NAVF'S 1971.3, p. 8.
Only those schools for higher non-university education for which data are available have been considered (alminnelige laererskoler, tekniske skoler, social skoler, barnevernskoler, spesialskoler i sykepleie, grunnskoler i sykepleie, skoler for husstell). Other miscellaneous schools covering 5 per cent of entrants were excluded.

Portugal : 1970
Estatisticas da Educação 1971, p. 121
Demographic data (supplied by the Portuguese Authorities) are provisional.

Sweden : 1970
CME/HF-P(72)8, Council of Europe, Strasbourg, 1972.

Turkey : 1970
Figures supplied by the Turkish Authorities.

United Kingdom : 1969
England & Wales
- Non-university:
Statistics of Education, Further Education, Vol. 3, 1969, pp. 28, 29, 31, 32, 34, 36; Statistics of Education - Teachers, Vol. 4, 1969, p. 6.

- University:
Statistics of Education - Universities, Vol. 6, 1969, p. 12;
Statistics of Education - Further Education, Vol. 3, 1969, pp. 21, 23, 24, 27.

Scotland

- Non-university:
Scottish Educational Statistics, 1969, pp. 82, 83.
- University:
Statistics of Education - Universities, Vol. 6, 1969, p. 12;
Scottish Educational Statistics, 1969, pp. 80, 81.

Northern Ireland

- Non-university:
Northern Ireland - Education Statistics, No. 10, p. 71;
Northern Ireland - Education Statistics, No. 11, p. 71.
- University:
Statistics of Education - Universities, Vol. 6, 1969, p. 12.
For further education, new entrants data were not available and first year students were used as a proxy.

United States : 1970
Figures supplied by the U.S. Authorities.

Yugoslavia : 1970
Figures supplied by the Yugoslav Authorities.

OECD SALES AGENTS
DEPOSITAIRES DES PUBLICATIONS DE L'OCDE

ARGENTINA – ARGENTINE
Carlos Hirsch S.R.L.,
Florida 165, BUENOS-AIRES.
☎ 33-1787-2391 Y 30-7122

AUSTRALIA – AUSTRALIE
B.C.N. Agencies Pty. Ltd.,
161 Sturt St., South MELBOURNE, Vic. 3205.
☎ 69.7601
658 Pittwater Road, BROOKVALE NSW 2100.
☎ 938 2267

AUSTRIA – AUTRICHE
Gerold and Co., Graben 31, WIEN I.
☎ 52.22.35

BELGIUM – BELGIQUE
Librairie des Sciences
Coudenberg 76-78, B 1000 BRUXELLES 1.
☎ 13.37.36/12.05.60

BRAZIL – BRESIL
Mestre Jou S.A., Rua Guaipá 518,
Caixa Postal 24090, 05089 SAO PAULO 10.
☎ 256-2746/262-1609
Rua Senador Dantas 19 s/205-6, RIO DE
JANEIRO GB ☎ 232-07.32

CANADA
Information Canada
171 Slater, OTTAWA, K1A 0S9.
☎ (613) 992-9738

DENMARK – DANEMARK
Munksgaards Boghandel
Nørregade 6, 1165 KØBENHAVN K.
☎ (01) 12 69 70

FINLAND – FINLANDE
Akateeminen Kirjakauppa
Keskuskatu 1, 00100 HELSINKI 10. ☎ 625.901

FRANCE
Bureau des Publications de l'OCDE
2 rue André-Pascal, 75775 PARIS CEDEX 16
☎ 524.81.67
Principaux correspondants :
13602 AIX-EN-PROVENCE : Librairie de
l'Université. ☎ 26.18.08
38000 GRENOBLE : B. Arthaud. ☎ 87.25.11
31000 TOULOUSE : Privat. ☎ 21.09.26

GERMANY – ALLEMAGNE
Verlag Weltarchiv G.m.b.H.
D 2000 HAMBURG 36, Neuer Jungfernstieg 21
☎ 040-35-62-501

GREECE – GRECE
Librairie Kauffmann, 28 rue du Stade,
ATHENES 132. ☎ 322.21.60

ICELAND – ISLANDE
Snaebjorn Jonsson and Co., h.f.,
Hafnarstraeti 4 and 9, P.O.B. 1131,
REYKJAVIK ☎ 13133/14281/11936

INDIA – INDE
Oxford Book and Stationery Co
NEW DELHI, Scindia House. ☎ 47388
CALCUTTA, 17 Park Street. ☎ 24083

IRELAND – IRLANDE
Eason and Son, 40 Lower O'Connell Street,
P.O.B. 42, DUBLIN 1. ☎ 01-41161

ISRAEL
Emanuel Brown
35 Allenby Road, TEL AVIV ☎ 51049-54082
also at
9, Shlomzion Hamalka Street, JERUSALEM
☎ 234807
48 Nahlath Benjamin Street, TEL AVIV
☎ 53276

ITALY – ITALIE
Libreria Commissionaria Sansoni
Via Lamarmora 45, 50121 FIRENZE ☎ 579751
Via Bartolini 29, 20155 MILANO ☎ 365083
Sous-dépositaires
Editrice e Libreria Herder,
Piazza Montecitorio 120, 00186 ROMA
☎ 674628
Libreria Hoepli, Via Hoepli 5, 20121 MILANO
☎ 865446
Libreria Lattes, Via Garibaldi 3, 10122 TORINO
☎ 519274
La diffusione delle edizioni OCDE è inoltre assicurata dalle migliori librerie nelle città più importanti.

JAPAN – JAPON
OECD Publications Centre,
Akasaka Park Building,
2-3-4 Akasaka,
Minato-ku
TOKYO 107 ☎ 586-2016
Maruzen Company Ltd.,
6 Tori-Nichome Nihonbashi, TOKYO 103,
P.O.B. 5050, Tokyo International 100-31.
☎ 272-7211

LEBANON – LIBAN
Documenta Scientifica/Redico
Edison Building, Bliss Street,
P.O.Box 5641, BEIRUT. ☎ 354429 – 344425

THE NETHERLANDS – PAYS-BAS
W.P. Van Stockum
Buitenhof 36, DEN HAAG. ☎ 070-65.68.08

NEW ZEALAND – NOUVELLE-ZELANDE
The Publications Officer
Government Printing Office
Mulgrave Street (Private Bag)
WELLINGTON. ☎ 46.807
and Government Bookshops at
AUCKLAND (P.O.B. 5344) ☎ 32.919
CHRISTCHURCH (P.O.B. 1721) ☎ 50 331
HAMILTON (P.O.B. 857). ☎ 80.103
DUNEDIN (P.O.B. 1104). ☎ 78.294

NORWAY – NORVEGE
Johan Grundt Tanums Bokhandel,
Karl Johansgate 41/43, OSLO 1. ☎ 02-332980

PAKISTAN
Mirza Book Agency, 65 Shahrah Quaid-E-Azam,
LAHORE 3. ☎ 66839

PHILIPPINES
R.M. Garcia Publishing House,
903 Quezon Blvd. Ext., QUEZON CITY,
P.O. Box 1860 – MANILA. ☎ 99.98.47

PORTUGAL
Livraria Portugal,
Rua do Carmo 70-74, LISBOA 2. ☎ 360582/3

SPAIN – ESPAGNE
Libreria Mundi Prensa
Castello 37, MADRID-1. ☎ 275.46.55
Libreria Bastinos
Pelayo, 52, BARCELONA 1. ☎ 222.06.00

SWEDEN – SUEDE
Fritzes Kungl. Hovbokhandel,
Fredsgatan 2, 11152 STOCKHOLM 16.
☎ 08/23 89 00

SWITZERLAND – SUISSE
Librairie Payot, 6 rue Grenus, 1211 GENEVE 11.
☎ 022-31.89.50

TAIWAN
Books and Scientific Supplies Services, Ltd
P.O.B. 83, TAIPEI.

TURKEY – TURQUIE
Librairie Hachette
469 Istiklal Caddesi,
Beyoglu, ISTANBUL, ☎ 44.94.70
et 14 E Ziya Gokalp Caddesi
ANKARA ☎ 12 10 80

UNITED KINGDOM – ROYAUME-UNI
H.M. Stationery Office, P.O.B. 569, LONDON
SE1 9NH. ☎ 01-928-6977, Ext. 410
or
49 High Holborn
LONDON WC1V 6HB (personal callers)
Branches at : EDINBURGH, BIRMINGHAM,
BRISTOL, MANCHESTER, CARDIFF,
BELFAST

UNITED STATES OF AMERICA
OECD Publications Center, Suite 1207,
1750 Pennsylvania Ave, N.W.
WASHINGTON, D.C. 20006 ☎ (202)298-8755

VENEZUELA
Libreria del Este, Avda. F. Miranda 52,
Edificio Galipán, Aptdo. 60 337, CARACAS 106.
☎ 32 23 01/33 26 04/33 24 73

YUGOSLAVIA – YOUGOSLAVIE
Jugoslovenska Knjiga, Terazije 27, P.O.B. 36,
BEOGRAD ☎ 621-992

Les commandes provenant de pays où l'OCDE n'a pas encore désigné de dépositaire peuvent être adressées à :
OCDE, Bureau des Publications, 2 rue André-Pascal, 75775 Paris CEDEX 16
Orders and inquiries from countries where sales agents have not yet been appointed may be sent to :
OECD, Publications Office, 2 rue André-Pascal, 75775 Paris CEDEX 16

PUBLICATIONS DE L'OCDE
2, rue André-Pascal, 75775 Paris Cedex 16

N° 32 757 - 1974
Dépôt légal 2 611

IMPRIME EN FRANCE

PRICE $ 2.25 £ 0.90 F 9
(91 74 03 1) ISBN 92-64-11221-9