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ABSTRACT

The Organization for Economic Cooperation and Development (OECD-CERI) Educational Indicators Project (INES), initiated in 1988, is described in this paper, which focuses on the development of "Network B" to study education and labor market destinations (Network B is one of four networks set up by the project, each of which was assigned a different domain for development). Experts from 18 OECD countries participated--Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Portugal, Sweden, Switzerland, the United Kingdom, and the United States. Following a brief introduction, the project classifications, conventions, and indicators are described. The next part presents findings on general educational attainment and its relationship to gender, labor force status, and earnings variations. Findings suggest that unemployment is higher for youth and women and that differentials in incomes by level of educational attainment tends to be greater for women than for men. At some educational level, men have somewhat higher earnings than do women. Wide variations in general education attainment exist among countries. Seven tables are included. The appendix contains definitions of the study variables and formulas for calculating data. (LMI)

EDUCATION AND LABOUR MARKET IN THE OECD-CERI EDUCATIONAL INDICATORS PROJECT (a)

(Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA, April 1992)

(a) By Aurea Micali

EDUCATION AND LABOUR MARKET IN THE OECD-CERI EDUCATIONAL INDICATORS PROJECT

1. INTRODUCTION

The OCDE-CERI Educational Indicators Project (INES) has being going on since 1988.

In its second phase, the project was carried out in two technical groups, administered by the OCDE-CERI secretariat in Paris, and in four networks, with each group assigned a specific domain for development.

By November 1989, The structure of the project was the following:

-Technical group 1: Student flows
(led by OCDE secretariat);

-Technical group 2: Costs and resourses
(led by OCDE secretariat);

-Network A : Student achievement outcomes
(led by the United States);

-Network B : Education and labour market destinations
(led by Sweden);

-Network C : Features of school and school systems
(led by France);

-Network D : Attitudes and expectations of school systems
(led by Netherlands).

Network B has developed from an earlier network in the first phase of the project, dealing with "Outcomes of Education".

There were three main reasons for setting up Nw B:

- the interaction between educational participation and employment is an important policy question, as it regards the economic growth of the system;
- the rationale for considering labour market destinations as indicators of the effectiveness of schooling and higher education should also take individuals benefits into consideration;
- the labour market destination and the process of transition from school to work can be telling about the 'quality' of education and the capability of the educational system to provide the skills the labour market needs.

2. CLASSIFICATIONS AND CONVENTIONS

NwB brought together experts in education and labour market from 18 OCDE countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Luxemburg, Netherlands, New Zealand, Portugal, Sweden, Switzerland, United Kingdom, United States.

After a first period of theoretical work, the crucial problem the network had to deal with was the comparability of data.

For this purpose preexisting international classifications in the field of education and labour market were adopted.

In the area of education the Project used UNESCO International Standard Classification of Education (ISCED).

It provides 7 levels for grouping different courses from nursery school, to university.

The relationship between traditional OECD terminology describing levels of education and ISCED levels is as follows:

ISCED levels	OECD
0	Pre-primary
1	Primary
2	Lower secondary
3	Upper secondary
5	Non-university tertiary education
6/7	Higher education
5/6/7	Tertiary education

The ISCED classification turned out not to be up-to-date in many respects. Some study programmes that are provided in the member nations do not fit into the ISCED categories.

Apprenticeship programs, in particular, raise many problems ; they vary greatly in the way they are organised, between countries and sometimes within a country. It happens, then, that these programs appear in ISCED level 2 and 3 and, to a lesser extent, in ISCED 5.

As a consequence, the range of competence covered by an ISCED level can be very wide in the international context as well as at a national level.

The project decided to keep the ISCED classification, in

order not to lose the advantage of a language already established at the international level and not to spend considerable time and energy building a new classification taking the risk of relatively poor returns in the short run.

Within the area of Labour market the Project adopted the ILO/OCDE definition of Labour Force, Employed and Unemployed and, for occupations, the ISCO classification called ISCO88 (see appendix).

In order to reduce comparability problems member countries had been asked not to use their usual statistics and to process data in order to follow international standards, as much as possible.

One of the aims of the network was actually to stimulate the member countries to improve their statistics in order to allow better comparisons between countries in the future.

THE INDICATORS

Although data had often been a serious constraint, the group decided not to be paralysed by current data availability and to provide a set of reasonable and desirable indicators likely to be calculated in the future.

The choice of indicators was made according to three main criteria: 1. relevance to educational policy; 2. applicability to different educational systems; 3. availability of statistical data.

The first aspect is the most important. As it is expected that the indicators will be used by planners, analysts and policymakers in OCDE countries, first of all they must offer conceptually sound information relevant to program management.

Therefore Network B proposed a set of indicators which are in part 'ideal' (i.e. to be reported if permitted by data, definitions and priorities), in part 'real' (already calculated, even if in a reduced form).

Indicators chosen for reporting are the following (a):

B.1 General educational attainment *
B.1.2 Gender differences in Educational attainment*

The first indicator is the percentage of the adult population (ages 25-64) that has completed a certain highest level of education, according to ISCED 0/1, 2, 3 , 5, 6/7.

B.1.2 is the number of women per 100 men, by educational attainment (same population).

The two indicators come from the same data set. Both of them are macro level indicators, just like others coming from different groups (such as GDP per capita or Youth and population). They give an overview of the educational distribution of the whole population and address the conditions under which the educational system and the labour market operate in each country.

"General educational attainment" also gives an indirect measure of the upper limit of the total supply of persons at different levels of education, 'available' for the Labour market.

B.2. Labour force status and educational attainment *

Percentage of the total population (15-64years) by labour force status (participation in labour force, employmente rate, unemployment rate) and highest level of education comleted.

The indicator describes the labour market situation for various subgroups of population. It gives general information about the degree of correlation between current employment status and highest level of education completed.

B.3. Voluntary inactivity and education

Percentage of economically inactive but, under certain circumstances, 'available' population that has completed a certain highest level of education.

This indicator gives a measure of the educational level for that part of the population which could enter the labour market.

These persons constitute an important potential source of additional work. It is thus useful to know if educational attainment is a factor in their not partecipating in labour force.

(a) 'Real' indicators are marked by '*'. For technical details see appendix.

B.4 Occupational distribution of employed by educational level

Fraction of the population with certain occupations at the different ISCED level of education.

The indicator is intended to give information about the possible link between level of education achieved and occupation. Such information is usefull in forecasting educational needs in major occupational area.

B.5. Earnings variation and education *

Ratio of the average yearly earnings of persons with different level of education and earning of persons at level of education 3 (according to ISCED).

This indicator analyses how earning changes for individuals at different levels of education. Such information is very relevant, since earnings are correlated to several other important social variables.

B.6. Traning for the adult population

This indicator refers to the fraction of population aged 25-64 years participating in vocational training for at least one week during the year.

It shows the need for increasing or changing vocational competence among individuals who left formal education some time ago. It gives some indications about how fast the educational system has to change in order to follow the on-going modifications in the labour market.

B.7 Labour force status of school leavers; short and long perspective

Labour force status (participation, employment and unemployment rates) 1 or 5 years after leaving education.

The indicator shows the labour force status of school leavers one and five years after leaving different levels of education and field of study.

The information is important for the school system as it increases the knowledge about the market's demand for experience/skills.

B.8. Entry into labour market

Rate of unemployment for school leavers (at least one year accumulated) and transition rate (% of leavers who got a stable work: within a month, within a year, after 1-5 years) during a five-year period after completion of education.

This indicator brings the preceding one one step further in describing how the first five years of labour-market experience turned out for leavers from different levels and types of education: how long they had to wait for stable job, their risk for unemployment.

It also gives a qualitative dimension to the information deriving from B.7 on how different educational groups fare in the labour market.

B.9 Transition characteristics

This indicator measures, in relative terms, the gap between young people who met most difficulties during transition from school to work and total active population aged 15-24.

The most important difference from the previous indicator is the method of measurement. "Entry into the labour market is strictly quantitative, whereas "Transition characteristics" is qualitative in its orientation. The indicator is based on a number of relevant criteria chosen by each country (since conditions vary greatly between nations) to give each individual a score. The method then compares groups facing extremely great difficulties on the labour market with normal groups.

The indicator focuses on the difficulties that young people experience in trying to get a stable, good job. It gives information about groups that need additional support in the transition from school to work.

B.10 Training for young unemployed

It's the rate of partecipation in training during last year among the young unemployed.

The indicator focuses on a major risk group: young persons without employment.

For individuals coming from different levels and types of education it shows to what extent they participate to vocational training in order to improve their chances to get a job.

B.11 Source of recruitment into employment

The indicator is the percetange distribution of newly employed persons broken down by "labour force status" before becoming employed and by occupation group if they already had a

job.

The main issue at stake here is what source of recruitment employers use for selecting new personnel (whether vacancies are covered by individuals coming directly from the educational system or by people who have already got some training and work experiences).

The entire set of indicators can be divided into two groups: the first one, from B.1 to B.6, refers to the total population (persons aged 15-64 or 24-64); it is based on stock data and uses only ISCED classification to relate labour market to education (i.e. educational level with regardless to the field of study); the second one, from B.7 to B.11, focusses on young people (15-24years old), is based on flow data and always provides breakdowns both by level of education (ISCED) and orientation.

The two types of indicators play different roles in the analysis. "Stock indicators" show the net results of interactions between the two systems over time and "flow indicators" show the characteristics of flows behind these results.

In particular, the first two indicators (B.1 and Bl.2) are backgrowd indicators. They give first information on the level of education in each country. B.2 and B.3 show in a general way the influence of education in determining the position of individuals in the labour market and their attitudes towards work (which levels of educations are more often at work ? Which persons have most difficulties in finding a job ? Which don't even try to seek one ?).

The last 3 indicators of the first group (B4 :Occupational distribution of employed by educational level: B5: Earnings and education; B.6: Training for the adult population) focus on the level of consistency between educational attainment and type of work. Indicators B.4 and B.5 evaluate the adequacy of job quality and earning to the individuals educational investment; indicator B.6 measures the gap between professional skills-learnt at school- and new occupational demands.

On the other hand, "flow indicators' focus especially on the transition period from school to work.

The first group, in comparison to "flow indicators" have great stability over time. Both the educational and employment structure of population change only marginally from one year to another.

It should be observed that, so far, out of a total of 12 indicators, for which templates have been developed, only some

of them have been calculated (those marked by '*').

No indicator of the second group has been processed (only few countries could be able to deliver data for 'flow indicators') and three indicators in particular have to be considered under construction (Voluntary inactivity, Source of recruitment into employment, Transition characteristics). They need further technical and conceptual work.

4. THE DATA

The "real" indicators proposed by Network B, as mentioned above, are: General educational attainment, Gender differences in educational attainment, Labour force status and educational attainment, Earnings variation and education.

Some of the results obtained are shown in the annexed tables.

General educational attainment

The data resulting from initial elaborations of this first macro indicator are shown in table n.1.

The vast majority of the adult pupulation in the OCDE countries (20 nations for indicator B.1) completed primary, lower secondary and upper secondary school.

In spite of this in Spain and Portugal the percentage of adult population that completed only Isced level 0/1 is more then 50%.

At the same time in some countries (7 out of 20) everybody went beyond primary school. Japan, Austria, Germany, Switzerland, U.K. and all Northern European nations have no adult population at ISCED level 0/1 (0%).

At the opposite side of the ISCED classification there are those who completed some level of the tertiary education.

On this respect variation between countries is very wide. In some cases, the percentage of people classified at ISCED levels 5 or 6/7 in one country can be more than 4 times as much in another.

Highest values are reached in North America, Australia and New Zealand (with a peak of 35% in the U.S.); the lowest ones in Southern Europe and in Austria, reaching the minimum level of 5%.

As we can see the stock of education/knowledge available

varies sensibly from country to country. In particular, not every country put the same effort in developing higher education.

Gender differences in educational attainment

This indicator shows the attitude of women towards education in comparison to men.

Some of the data deriving from such background indicator are presented in table n.2.

In all OCDE countries women are less likely than men to complete highest levels of education (ISCED 6/7).

The proportion of women ranges from a minimum of 25%, in Japan to 87% in Sweden.

In general, the percentage of women is not less than 50%, except for the case of Japan, Belgium, Netherlands and Switzerland.

The highest proportion of women at ISCED levels 6/7 may be found in the geografical areas of North America and Southern Europe.

The situation is different for non-universty tertiary education.

A difference between sexes in all member countries seems to be that women tend to choose shorter post upper secondary education programs.

The percentage of women per 100 men at ISCED level 5 in most OCDE countries is over 100%. In some countries they are over double the number of men (340% in Portugal, 252% in Japan, 204% in Australia). On the other hand, a few countries women are a "minority" (31% in Germany, 40% in Switzerland, 93% in Netherland and 99% in U.S.).

Employment rate

This indicator derives from B.2: "Labour force status and educational attainment". It is one of the macro indicators and it is not immediately linked to the educational system.

The employment rate (see table n.2) varies in the OCDE countries from 58.4% to 83.8% (see table n.2).

Minimum values (below 60%) are registered in Southern Europe (with the exception of Portugal), maximum values in Northern Europe (over 76%) .

The employment rate seems to be influenced by the educational level of the population.

Comparing the population's educational attainment with the employment, one can easily find a link between the two phenomena.

The countries with the highest percentage of population that didn't go further than ISCED level 0/1, usually report the lowest employment rates, and vice versa.

In Northern Europe, Switzerland and U.K., one can find some of the highest employment rates and the lowest percentage of population (0%) at ISCED level 0/1.

On the other hand in those countries where the percentage of population that didn't reach ISCED level 2 is high (Southern Europe, Ireland and Belgium), the employment rate has minimum values.

In this respect, Portugal is an exception. It has 89% of the population at ISCED level 0/1, but its employment rate is not that low (in those economic systems in which Agriculture is the most important industry, the employment rate is usually high because women are often self-employed in the family farm).

Unemployment rates

Starting from indicator B.2, two different unemployment rates were calculated: the first referring to the adult pupulation (25-64 years old people only), the second one the whole population (persons aged 15-64).

These two macro indicators had been built, just like the previous one, to show the conditions under which the labour market and the educational system operate in each country.

The information they provide (see table n.4) is very usefull.

The probability of getting a job varies considerably from country to country. In some cases, the unemployment rate of the total population is in the ratio of 1 to 10 .

It ranges from 1.6% in Sweden to 19.1 in Spaign. Less sensible differences may be observed in the unemployment rate of adult population.

Interesting information results from the comparison of the two indicators.

As shown in the table the unemployment rate for adult population (25-64) is always lower than for 15-64years old

people (with only two relevant exceptions: Japan and Denmark).

In some countries, differences are quite sensible; this is the case of Italy (11.8 for total population, 6.6 for adults), Australia (7.1 versus 5.4), Netherlands (9.3 and 6.5).

In the light of such differences, the network decision to build specific indicators for young people and school leavers seems to be correct. In fact, the more unemployment proves to be a youth-related phenomenon, the tougher gets the role of the educational system in preparing new generation to working life.

Unemployment and education

Table n.5 shows part of the results deriving from indicator "Labour force status and educational attainment".

The interaction between education and labour market is not only shown by employment rates; also unemployment rates show a strong connection with schooling levels.

There is an inverse correlation between unemployment rate and ISCED level achieved. People with low education have high probability of getting no job.

In some countries, the unemployment rate for people who only enrolled to primary school is three times as high as the rate of those who completed some University programs.

In the U.S., the unemployment rate is 8.5 for ISCED level 0/1 and only 2.2 for ISCED level 6/7; in New Zealand, it is 9.3 versus 2.9; in Belgium 14.0 and 2.0; in France 11.8 and 3.0.

Unemployment rate is almost always higher for women than for men at all ISCED levels (u.r.w / u.r.m > 1) . At ISCED level 6/7 this is true in all countries, but for the case of U.S., Denmark and Sweden, where women have small advantages.

If the likelihood of entering the labour market for both men and women rises in proportion to the educational level achieved, differences in opportunities between sexes increase the more they have studied.

The ratio of women unemployment rate to men unemployment rate is always higher for ISCED level 6/7 than for ISCED level 0/1, with only two exception: Ireland and Italy; at the same time in the majority of OCDE nations women's unemployment rate rises in comparison to men's, from ISCED level 2 to 6/7, .

So apparently women who try to enter into the labour market with a high level of qualification must face a strong competition with men.

Earnings variation and educational attainment

Educational attainment is consistely related to earnings from work. In general, the higher the level of educational attainment, the higher individual earnings.

Population with only primary education earn, in the average, less than those who reached secondary school, whereas those who achieved university education earn from 43% (New Zealand) to the 90.3% (U.S.) more than the population that is at ISCED level 3.

The spread in earnings by level of educational attainment tends to be higher for women than for men.

At the same level of educational attainment, men tend to have somewhat higher earnings than women.

5. TABLES

TABLE 1: PROPORTION OF THE POPULATION 25-64 YEARS OF AGE BY LEVEL OF EDUCATIONAL ATTAINMENT (1989)

	ISCED 0/1	ISCED 0/2	ISCED 5/7
NORTH AMERICA			
Canada	14	28	30
United States	8	18	35
PACIFIC AREA			
Australia	14	44	31
Japan	0	30	21
New Zealand	33	43	31
NORTHERN EUROPE			
Denmark **	0	43	17
Finland	0	42	18
Norway	0	35	21
Sweden	0	33	23
CENTRAL & WESTERN EUROPE			
Austria	0	35	5
Belgium	33	63	17
France	24	50	14
Germany	0	22	17
Ireland	37	62	14
Netherlands ***	19	45	19
Switzerland	0	20	24
United Kingdom	0	35	15
SOUTHERN EUROPE			
Italy	44	74	6
Portugal	89	93	6
Spain	67	80	9

* 1987 ** 1988 *** 1990

TABLE 2: NUMBER OF WOMAN PER 100 MEN 25 TO 64 YEARS OF AGE BY LEVEL OF EDUCATIONAL ATTAINMENT (1989)

	ISCED 5	ISCED 6/7
NORTH AMERICA		
Canada	115	78
United States	99	81
PACIFIC AREA		
Australia	204	61
Japan *	252	25
New Zealand **	163	67
NORTHERN EUROPE		
Denmark **	189	61
Finland	103	62
Norway	91	77
Sweden	125	87
CENTRAL & WESTERN EUROPE		
Austria	0	62
Belgium	137	43
France	149	63
Germany	31	52
Ireland	119	65
Netherlands ***	93	39
Switzerland	40	45
United Kingdom	155	51
SOUTHERN EUROPE		
Italy	0	73
Portugal	340	78
Spain	0	84

* 1987 ** 1988 *** 1990

TABLE 3: EMPLOYMENT RATE OF THE POPULATION 15-64 YEARS OF AGE AND % OF POPULATION AT ISCED LEVEL 0/1 (1989)

	Empoyment rate	% of population at ISCED 0/1
NORTH AMERICA		
Canada	76.0	14
United States	75.8	8
PACIFIC AREA		
Australia	72.4	14
Japan	72.7	0
New Zealand	72.5	33
NORTHERN EUROPE		
Denmark	83.8	0
Finland	76.9	0
Norway	80.1	0
Sweden	82.3	0
CENTRAL & WESTERN EUROPE		
Austria	66.8	0
Belgium	61.8	33
France	65.6	24
Germany	68.9	0
Ireland	61.0	37
Netherlands	65.2	19
Switzerland	76.3	0
United Kingdom	75.5	0
SOUTHERN EUROPE		
Italy	60.9	44
Portugal	71.1	89
Spain	58.4	67

TABLE 4: UNEMPLOYMENT RATES FOR THE POPULATION 15-64 AND 25-64 YEARS OF AGE (1989)

	population 15-64	population 25-64
NORTH AMERICA		
Canada	7.7	6.7
United States	5.4	4.4
PACIFIC AREA		
Australia	7.1	5.4
Japan	2.5	5.9
New Zealand	5.6	6.0
NORTHERN EUROPE		
Denmark	6.5	8.3
Finland	4.5	3.0
Norway	3.2	- (*)
Sweden	1.6	1.0
CENTRAL & WESTERN EUROPE		
Austria	3.6	2.7
Belgium	10.3	7.5
France	10.0	8.1
Germany	7.7	7.3
Ireland	16.7	14.4
Netherlands	9.2	6.5
Switzerland	0.6	0.8
United Kingdom	8.3	6.4
SOUTHERN EUROPE		
Italy	11.8	6.6
Portugal	5.7	6.0
Spain	19.1	12.9

(*) data not available

TABLE 5: UNEMPLOYMENT RATE AND RATIO OF FEMALE AND MALE UNEMPLOYMENT RATES FOR THE POPULATION 25-64 YEARS OF AGE BY LEVEL OF EDUCATIONAL ATTAINMENT (1989)

	UNEMPLOYMENT RATE M+W			UN.RATE W / UN.RATE M		
	-ISCED 0/1	ISCED 2	ISCED 6/7-	-ISCED 0/1	ISCED 2	ISCED 6/7-
NORTH AMERICA						
Canada	10.3	9.8	3.6	1.1	1.2	1.3
United States	8.5	9.1	2.2	0.9	0.9	0.9
PACIFIC AREA						
Australia	8.1	7.0	3.7	0.7	0.9	1.6
Japan *	0.0	7.0	2.3	-	2.2	6.5
New Zealand **	9.3	4.7	2.9	0.6	0.8	2.7
NORTHERN EUROPE						
Denmark **	0.0	12.1	3.4	-	1.3	0.8
Finland	0.0	4.1	1.7	-	1.0	3.1
Sweden	0.0	1.4	1.0	-	1.5	0.4
CENTRAL & WESTERN EUROPE						
Austria	0.0	3.6	1.1	-	1.1	-
Belgium	14.0	9.2	2.0	1.6	4.2	1.9
France	11.8	10.5	3.0	1.3	1.9	2.3
Germany	0.0	13.8	4.5	-	1.0	2.3
Ireland	19.2	20.3	3.3	2.0	1.6	1.2
Netherlands ***	13.6	7.6	5.0	1.4	2.5	2.2
Switzerland	0.0	1.5	0.8	-	8.7	7.3
United Kingdom	0.0	10.0	2.4	-	0.6	1.5
SOUTHERN EUROPE						
Italy	5.9	6.8	4.8	2.9	3.5	2.3
Portugal	6.0	5.8	6.1	1.0	1.2	1.1
Spain	12.7	15.6	10.7	1.6	2.4	2.4

* 1987 ** 1988 *** 1990

TABLE 6: RELATIVE MEAN ANNUAL EARNINGS BY LEVEL OF EDUCATIONAL ATTAINMENT

		ISCED 0/1			ISCED 6/7		
		M+W	M	W	M+W	M	W
Australia	1986	-	-	-	155.2	160.9	176.1
Canada	1989	89.5	87.1	75.5	174.9	168.1	175.6
Denmark	1988	96.0	92.8	110.7	145.0	143.2	140.0
Finland	1988	110.0	-	-	189.0	187.0	177.0
Netherlands	1985	83.3	-	-	177.7	167.3	195.0
New Zealand	1989	76.9	83.6	70.6	143.4	137.2	132.6
Sweden	1988	76.0	80.0	70.0	153.0	152.0	151.0
United Kingdom	1988	0.0	0.0	0.0	163.0	156.0	176.0
United States	1989	48.3	50.7	34.4	190.3	169.8	194.6

6.A P P E N D I X (a)

(a) This appendix is an excerpt from a provisional draft of OCDE Handbook, where the INES Project work are illustrated.

GENERAL EDUCATIONAL ATTAINMENT

Definition

Percentage of the population that has completed a certain highest level of education (according to ISCED 0/1, 2, 3, 5, 6/7)).

Target population is adult population (all resident) age 15-64.

Breakdowns

- By gender
- By age (15-19, 20-24, 25-29, 30-34, 35-44 and 45-64, preferably brokwen down into 45-54, 55-64).

Calculation formula

$$p_{ij} = \frac{N_{ij}}{N_i} \cdot 100;$$

where

p_{ij} is the fraction (per cent) in section i with highest level of education completed j.

N_i = number of persons in section i

N_{ij} = number of persons in section i with highest level of education completed j.

j adopts values 1-5 according to the following:

j	ISCED levels
1	0/1
2	2
3	3
4	5
5	6/7

LABOUR FORCE STATUS AND EDUCATIONAL ATTAINMENT

Definition

Target population is the total population (all resident) age 15-64.

Labour force concepts accord with standard ILO/OCDE definitions concerning statistics of the economically active population, employment and unemployment. These definitions include:

he labour force (the currently active population)

The "labour force" or currently active population comprises all persons who fulfil the requirements for inclusion among the employed or unemployed as defined below.

Total employment

Persons in employment comprising those in civilian employment plus the armed forces and include all those employed as defined below:

The "employed" comprise all persons above a specified age who during a specific brief period, either one week or one day, where in the following categories:

- paid employment:
  1. "at work": persons who during the reference period performed some work for wage or salary, in cash or in kind;
  2. "with a job but not at work": persons who having already worked in their present job, were temporarily not at work during the reference period and had a formal attachment to their job.

This formal job attachment should be determined in the light of national circumstances, according to one or more of the following criteria: a. the continued receipt of wage or salary: b. an assurance of return to work following the end of the contingency, or an agreement as to the date of return; c. the elapsed duration of absence from the job, which, wherever relevant, may be that duration for which workers can receive compensation benefits without obligations to accept other jobs.

- "self-employment":

1. "at work": persons who during the reference period performed some work for profit or family gain, in cash or in kind;

2. "with an enterprise but not at work": persons with an enterprise, which may be a business enterprise, a farm or a service undertaking, who were temporarly not at work during the reference period for any specific reason.

Unemployment

The unemployment comprise all persons above a specified age who during the reference period were:

1. "without work", i.e. were not in paid employment or self-employment, as defined above;

2. "currently available for work", i.e. were available for paid employment or self-employment during the reference period; and

3. "seeking work", i.e. had taken specific steps in a specific recent period to seek paid employment. The specific steps may include registration at a public or private employment exchange; application to employers; checking at work site, farms, factory gates, market or other assembly places; placing or answering newspaper advertisements; seeking assistance of friends or relatives; looking for land, building, machinery or equipment to establish own enterprise; arranging for financial resourses; applying for permits and licences, etc.

lBreakdows

- By gender
- By age (15-19, 20-24, 25-29, 30-34, 35-44 and 45-64, preferably broken down into 45-54, 55-64)
- By level of education completed (according to ISCED 0/1, 2, 3, 5, 6/7).

Calculation formula

$$u_i = \frac{{}^{u}N_i}{{}^{l}N_i} \cdot 100;$$

were

u_i is the fraction (per cent) unemployed in section i;

${}^{l}N_i$ = the number of persons in the labour force in section i;

${}^{u}N_i$ = number of unemployed in section i.

VOLUNTARY INACTIVITY AND EDUCATION

Definition

Percentage of inactive but available population that has

completed a certain highest level of education (according to ISCED 0/1, 2, 3, 5, 6/7).

Target population are all residents age 15-64 who are:

- not in the labour force;
- not in full-time education;
- not in national service;
- not institutionalised (in prison, hospitals, etc.);
- not retired.

Breakdows

- By gender
- By age (15-19, 20-24, 25-29, 30-34, 35-44 and 45-64, preferably broken down into 45-54, 55-64)

Calculation formula

$$p_{ij} = \frac{N_{ij}}{N_i} \cdot 100;$$

where

p_{ij} is the fraction (per cent) in section i with highest level of education completed j;

N_i = number of persons in section i;

N_{ij} = number of persons in section i with highest level of education completed j. j adopts same values than in "General educational attainment"

OCCUPATIONAL DISTRIBUTION OF EMPLOYED BY EDUCATIONAL LEVEL

Definition

Occupation according to ISCO, one digit-level (major occupation groups).

Target population is employed individuals aged 15-64.

If an individual has more than one job, the occupation should be defined as the job on which he/she works the higest number of hours per week.

Breakdowns

- By gender;
- By age (15-19, 20-24, 25-29, 30-34, 35-64)
- By level of education completed (according to ISCED 0/1, 2, 3, 5, 6/7)

Calculation formula

$$o_{ij} = \frac{{}^{e}N_{ij}}{{}^{e}N_{i}} \cdot 100;$$

where

o_{ij} is the fraction in section i with occupation j;

${}^{e}N_{i}$ = number of persons (employed) in section i;

${}^{e}N_{ij}$ = number of persons (employed) in section i with occupation j.

j adopts values 1-10 when ISCO88 is applied and 1-9 when ISCO-68 is applied according to the following;

ISCO-88

j	Occupation groups
- 1	legislators, senior officials and managers;
- 2	professionals;
- 3	technicians and administrative associates professionals;
- 4	clerks;
- 5	service workers and shop and market sales workers;
- 6	skilled agriculturel and fishery workers;
- 7	craft and related workers;
- 8	plant and machine operators and assemblers;
- 9	elementary occupation;
- 10	armed forces.

ISCO-68

j	Occupation groups
- 1	professional, technical and related workers;
- 2	administrative and managerial workers;
- 3	clerical and related workers;
- 4	sales workers;
- 5	service workers

- 6 agriculture, animal husbandry and forestry workers, fisherman and hunters;
- 7 production and related workers, transport equipment operators and labourers;
- 8 workers not classifiable by occupation;
- 9 members of the armed forces.

EARNINGS VARIATION AND EDUCATION

Definition

Relative earnings are defined as the ratio of mean annual money earnings for persons with highest level of education completed 0/1, 2, 5 and 6/7, according to ISCED, to those with highest level of education completed 3, according to ISCED.

Other comparisons can be made, such as earnings in one ISCED group in relation to earnings in the next lower ISCED group.

The mean is calculated on the basis of information about the total labour force in an educational group, thus refering not only the employed but also the unemployed, those who have been working only part of the year and/or part-time.

By earnings is here meant annual money earnings, i.e. direct pay for work, before taxes. Income from other sources such as government aid programmes, interest etc. should not be included.

Target population is the total population (all resident) age 25-64.

Breakdowns

- By gender
- By age (25-29, 30-34, 35-44 and 45-64).

Calculation formula

$$r_i = \frac{M_{ij}}{M_i} \cdot 100;$$

where

r_i : is the relative money earnings (per cent) in section i;

M_i = median/mean earnings among persons with highest level of education completed in section i;

M_{ij} = median/mean earnings among persons with highest level of education j in section i. j adopts same values than in "General educational attainment".

TRAINING FOR THE ADULT POPULATION

Definition

Training refers to all kinds of vocational training financed or sponsored by authorities, provided by employers or self-financed. Training courses on the worksite and vocational training courses leading to an educational qualification are included.

The length of the training programmes should be classified in the following groups: less than 3 months, 3-6 months and more than 6 months.

To be registred in the minimum category, participation must be of at least one week or 40 hours during the year.

Target population is the total population (all resident) age 25-64.

Breakdowns

- By gender
- By age (25-34, 35-44, 45-64)
- By level of education completed (according to ISCED 0/1, 2, 3, 45, 6/7).

Calculation formula

$$t_{ij} = \frac{N_{ij}}{N_i} \cdot 100;$$

where

t_{ij} is the fraction (per cent) participators in vocational training of lengh j in section i;

N_i = number of persons in section i;

N_{ij} = number of persons in vocational training of length j in

section i.

j adopts values 1-3 according to the following:

j	Length of participation in voc. training during last year
1	Less than 3 months;
2	At least 3 months but less than 6 months;
3	At least 6 months.

LABOUR FORCE STATUS OF SCHOOL LEAVERS; SHORT AND LONG PERSPECTIVE

Definition

Labour force status t years after leaving education measured by:

- participation in labour force rate;
- employment rate;
- unemployment rate.

t = 1 and 5.

Labour force concepts according to ILO/OCDE definition (see "Labour force status and educational attainment").

By leavers in here is meant the following:

Lower secondary school leavers(ISCED level 2):

An individual who satisfies the following conditions:

- at the beginning of a certain school year, the reference year, was not enroled in secondary school;
- at the end of the school year prior to the reference year was enroled in lower secondary school;
- had completed lower secondary school (using a country specific definition).

Upper secondary school leaver (ISCED level 3):

An individual who satisfies the following conditions:

- at the beginning of a certain school year, the reference year, was not enroled in upper secondary school/university;
- during the school year prior to the reference year has graduated from upper secondary school.

Leavers with a completed third level education, shorter than

three years (ISCED level 5).

An individual who satisfies the following conditions:

- during a particular year he/she has completed a third level education, shorter than three years;
- did not enroll in an education at university level (ISCED 6/7) during the following year.

University leaver (ISCED level 6/7):

An individual who satisfies the following conditions:

- during a particular year he/she was awarded a baccalaureate degree or equivalent or completed a third level education of three years' duration or more;
- did not enroll in a graduate programme during the following year.

For ISCED level 3, 5, 6/7 also field of study should be reported in the following aggregated groups:

- general programs (01);
- teacher training (14);
- fine arts (18, 58);
- humanities (22, 26);
- social and commercial programs (30, 34, 66, 78, 84);
- law (38);
- natural and physical sciences (42, 46);
- industrial and engineering programmes (52, 54, 70);
- medical programs (50);
- agriculture, forestry and fishery;
- other programs.

Target population is leavers from:

- lower secondary school (ISCED 2);
- upper secondary school (ISCED 3);
- short third level educations (ISCED 5);
- university (ISCED 6/7).

Breakdowns

- By gender
- By level of education completed (according to ISCED 2, 3, 5, 6/7);
- By field of study for ISCED 3, 5, 6/7.

Calculation formula

$$l_i = \frac{{}^{l}N_i}{N_i} \cdot 100$$

$$c_i = \frac{{}^{c}N_i}{N_i} \cdot 100$$

$$u_i = \frac{{}^{u}N_i}{{}^{l}N_i} \cdot 100;$$

were

l_i is the fraction (per cent) in the labour force in section i

${}^{'}c_i$ is the fraction (per cent) employed in section i;

u_i is the fraction (per cent) unemployed in section i;

N_i = numbers of persons in section i;

${}^{l}N_i$ = numbers of persons in Labour force in section i;

${}^{c}N_i$ = numbers of employed in section i;

${}^{u}N_i$ = numbers of unemployed in section i.

ENTRY INTO LABOUR MARKET

Definition

Labour market experience for leavers during a five year period after completion of education measurd by

a) rate of unemployed at least one year (accumulated)
b) transition rate = rate of leavers who got a stable job
- directly (within a month)
- within a year
- after 1-5 years

The length of time should be measured here as the time since the person started seeking work, which in not necessarily exactly the same as the time after completion for education.

A stable job is one that satisfies the following two conditions:

1) is permanent;
2) provides an adeguate income (e.g. the guaranteed minimun

industrial wage).

Target pupolation is leavers from

- lower secondary school (ISCED level 2)
- upper secondary school (ISCED level 3)
- short third level education (ISCED level 5), and
- universities (ISCED level 6/7)

Breakdows

- By gender
- By level of education completed (level of education according to ISCED, level 2,3,5 and 6/7) and for all levels except level 2 breakdown on field of study.

Calculation Formula

$$u_i^{\bullet} = \frac{{}^{u}N_i^{\bullet}}{N_i} \cdot 100$$

$$c_{ij}^{\bullet} = \frac{{}^{c}N_{ij}^{\bullet}}{N_i} \cdot 100;$$

where

$u_i^{\bullet}$ is the fraction (per cent) unemployed at least one year in section i;

$c_{ij}^{\bullet}$ is the fraction (per cent) employed whit a stable job with time jto stable job;

N_i = number of person in section i

${}^{u}N_i^{\bullet}$ = number of unemployed at least one year in section i

${}^{c}N_{ij}^{\bullet}$ = number of employed with a stable job with time J to stable job in section i

j	Time to stable job
1	Less than one month
2	At least one but less than twelve months
3	At least twelve months

TRAINING CHARACTERISTIS

Definition

The indicator measures in relative terms the gap between people who met the most difficulties during the transition fron school to work and all the active age-group

Each country chooses items to calculate a composite score. The items selected should make it possible to place each person on a scale (from 1 to 10 or 1 to 20, for example) according to "quality" of the transition to working life. This quality is defined by the characteristics that each country considers most relevant in its own definition of "succesful transition". These characteristics might concern:

- job itself: the person has or has not obtained a job;
- security/insecurity of a job;
- social protection;
- some others items on satisfaction/dissatisfaction.

The value of the indicator is the gap between the average score of all active population aged 15-24 years and the average score of the group who met the most difficulties.

Target population: active young people aged 15-24 years.

Target group of interest: the ten per cent of the target population who have met the greatest difficulties in transition from school to work

On the condition that the score's distribution for the entire population obtained in each country is similar to a normal curve, the indicator "Difficulty of transition" might be obtained by expressing in term of reduced deviation fron the national average, the position of the target group of young people whose post-school carreer we wish to measure.

Breakdonws

- By gender
- By level of education completed (according to ISCED 1,2,3,5 and 6/7).

Calculation Formula

$$t = \frac{\bar{Z}_x - \bar{Z}}{\sigma_z};$$

where

t is the difficulties of transition rate.

$$\bar{Z} = \frac{1}{N}\sum_{i=1}^{N} Z_i$$

$$\bar{Z}_x = \frac{1}{N_x}\sum_{i=1}^{N_x} Z_i$$

$$\sigma_z^2 = \frac{1}{N}\sum_{i=1}^{N} (Z_i - \bar{Z})^2$$

Here Z_i is the defined score for person i and N and N_x the number of persons in the target population respectively the target group of interest.

In practice the rate I will have to be estimated by use of estimates for $\bar{Z}, \bar{Z}_x$ and σ_z.

TRAINING FOR YOUNG UNEMPLOYED

Definition

Training includes all kinds of vocational training financed or sponsored by authorities or provided by employers or self-financed, i.e. both training courses at the work site and vocational training courses leading to an educational qualification are included.

Rate of partecipation in training during the last year among the young who were unemployed at the beginning of that year.

The length of the partecipation should be classified in the following groups:

- less than 3 months,
- 3-6 months
- more than 6 months.

To be registred in the minimun category partecipation must be of at least one week's or 4o hours during the year.

Target population is unemployed persons aged 15-24. "Participants" are persons who prior to partecipation in training were unemployed.

Breakdows

- By gender
- By age (15-19, 20-24), level of education completed (according to ISCED, levels 0/1,2,3 and 5)
- By field of study for ISCED 3 and 5.

Calculation Formula

$$t_{ij} = \frac{N_{ij}}{N_i} \cdot 100;$$

where

t_{ij} is the fraction (per cent) partecipators in vocational training of length j in section i

N_i = number of persons in section i

N_{ij} = number of persons in vocational training of length j in section i

j adopts values 1-3 according to the following

1j Length of partecipation in voc. training during last year

1 Less than 3 months
2 At least 3 months but less than 6 months
3 at least 6 months

SOURCES OF RECRUITMENT INTO EMPLOYMENT

Definition

Percentage distribution of newly employed persons by their principal activity prior to becoming employed and by the occupation grouping into which they where employed.

Newly employed persons will include only those who became employed into a full time position with a new employer (establishment) during the reference period, i.e. the last year. Classification of the activity prior to becoming employed will be to the main activity. Hence, persons attending school and working part-time will be classified as attending school.

The occupation groupings are based upon ISCO categories, ISCO88 if possible, otherwise ISCO68.

ISCO88 groupings of major categories:

Group 1: ISCO 1,2,3 (Material, professional and thecnical occu_ pations)
Group 2: ISCO 4,5 (Clerical, sales and services)
Group 3: ISCO 7,8,0 (Crafts and other skilled labour, including military)
Group 4: ISCO 6,9 (Labourers and primary occupations)

Definition of employed, unemployed and not in the labour force are as in B2 with the exception of "students", who will be classified on the basis of "full-time" school attendance.

Target population in newly employed persons 15 to 24.

Breakdowns

- By occupation grouping (see definition)

Calculation Formula

$$e_{ij} = \frac{N_{ij}}{N_i} \cdot 100;$$

where

e_{ij} is the fraction (per cent) employed with previous status j in section i

N_i = number of persons in section i

N_{ij} = number of persons with previous status j in section i

j adopts values 1-9 according to the following

j	Previuos status
1	Full-time students
2	" " " , ISCED-level < 3
3	" " " , ISCED-level = 5
4	" " " , ISCED-level = 6/7
5	Employed
6	" , same occupation group
7	" , not same occupation group
8	Unemployed
9	Not in labour force and not full time student.