

School leavers in Europe and the labour market effects of job mismatches

*Youth transitions from education to working life in Europe
Part II*

Statistics
in focus

POPULATION AND
SOCIAL CONDITIONS

THEME 3 – 5/2003

Contents

Incidence of job mismatches ...	2
Labour market effects of job mismatches.....	4
Adjustment strategies.....	6

The transition from school to work is often regarded as a 'rite of passage' in which young people are introduced to the world of labour. This transition process takes place in stages and is a turbulent and uncertain period. First of all, school leavers have to compete for the available jobs with those who have already gained a position in the labour market. Their lack of work experience often forces them to face unemployment. Secondly, school leavers often end up in jobs that do not match their educational qualifications very well. These 'job mismatches' are, for instance, the result of incomplete information on the abilities of school leavers and the characteristics of jobs offered by employers.

This report by Maarten H.J. Wolbers (Research Centre for Education and the Labour Market (ROA), Maastricht University, the Netherlands) gives some key information on the incidence of job mismatches among school-leavers in Europe. First, determinants of job mismatches among school leavers are investigated. Next, effects of having a job mismatch on the labour market position of school-leavers are examined. Special attention is paid to cross-national variation in this respect.

The data that are used come from the EU LFS 2000 ad hoc module. This module was designed to collect information on the transition from school to working life. In total, fourteen EU Member States and six Central/Eastern European countries included an additional set of questions in their LFS to investigate this transition. These questions were aimed to collect information on school completion when respondents left education for the first time, first significant employment, continuous job search periods, and social background.

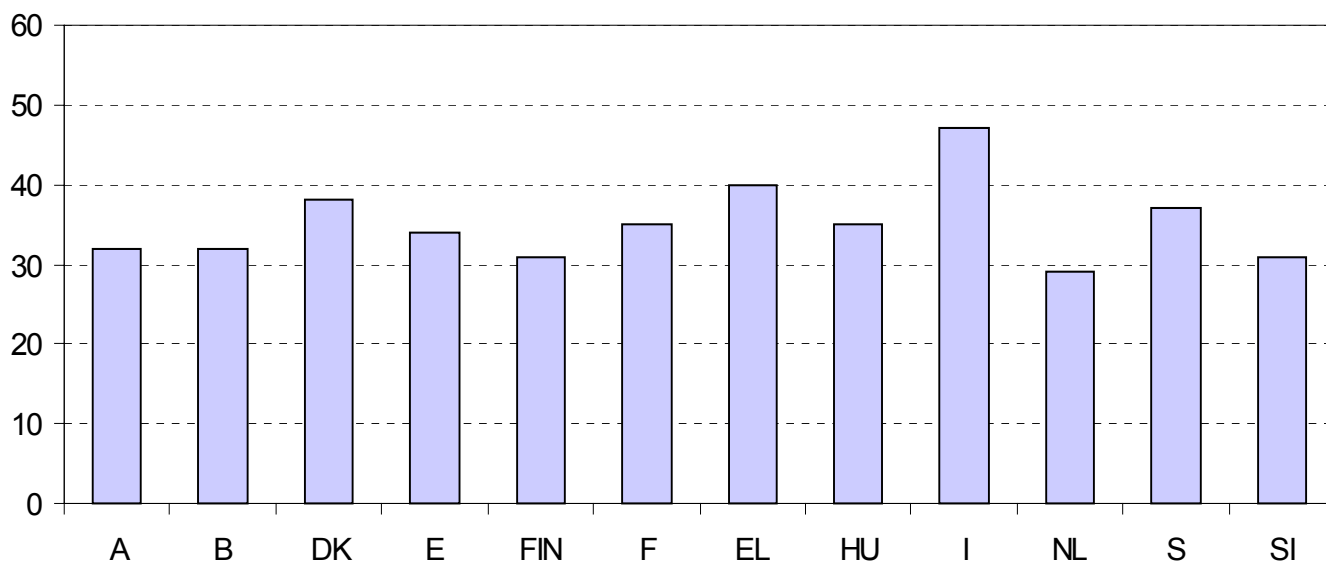
The following analysis covers twelve countries (Austria, Belgium, Denmark, Spain, Finland, France, Greece, Hungary, Italy, the Netherlands, Sweden, and Slovenia) for which reliable data are currently available. Data from Ireland, Lithuania, Luxembourg, Latvia, Portugal, Romania, Slovakia, and the United Kingdom are excluded, because of small sample sizes and/or serious problems with measurement or comparability of one or more crucial variables of interest.



Incidence of job mismatches

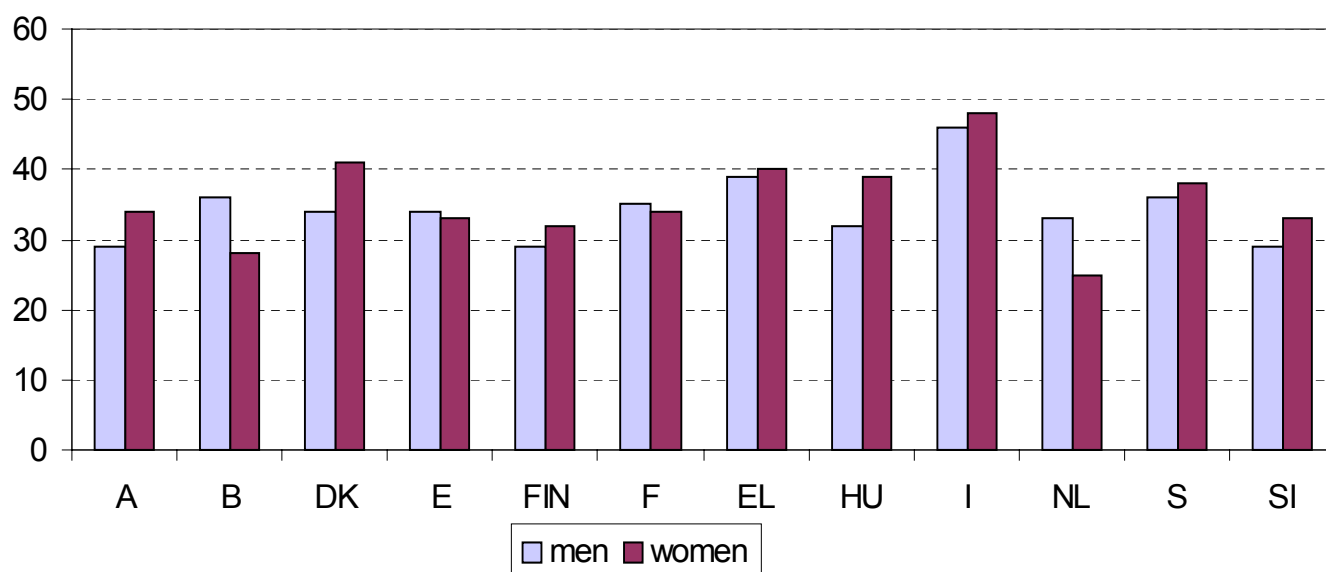
Figure 1 demonstrates the degree of cross-national variation in the incidence of job mismatches in Europe. The percentage of school leavers working in a job outside their field of education is highest in Italy (47%), followed by Greece (40%). Denmark and Sweden also have a considerable proportion of school leavers with a non-matching job. In the Netherlands, on the other hand, the incidence of job mismatches is lowest (29%). In Finland, Slovenia, Austria, and Belgium the percentage of job mismatches is also relatively low.

Figure 1: Incidence of job mismatches by country (%)



In most European countries, women are more likely to be employed in a non-matching job than men (see Figure 2). Exceptions exist for Belgium, Spain, France, and the Netherlands, where male school leavers are more often working in a job that is not directly related to the field of education attended. Figure 2 shows however that gender differences are quite modest. The difference is largest in Belgium and the Netherlands, where the likelihood of having a job mismatch is 8% higher for men than women.

Figure 2: Incidence of job mismatches by gender and country (%)



The level of education attained by school leavers is related to the likelihood of being employed in non-matching job (see Figure 3). Among school leavers with upper secondary education at most (ISCED 3-4) around 40% have a job mismatch, although a lot of variation exists between countries. This percentage is highest in Italy (50%), while it is lowest in the Netherlands (29%). At the highest educational level (ISCED 5-6) 30% of the graduates still have a job mismatch. However, the cross-country variation in the percentage of graduates with a non-matching job is small.

Figure 3: Incidence of job mismatches by level of education and country (%)

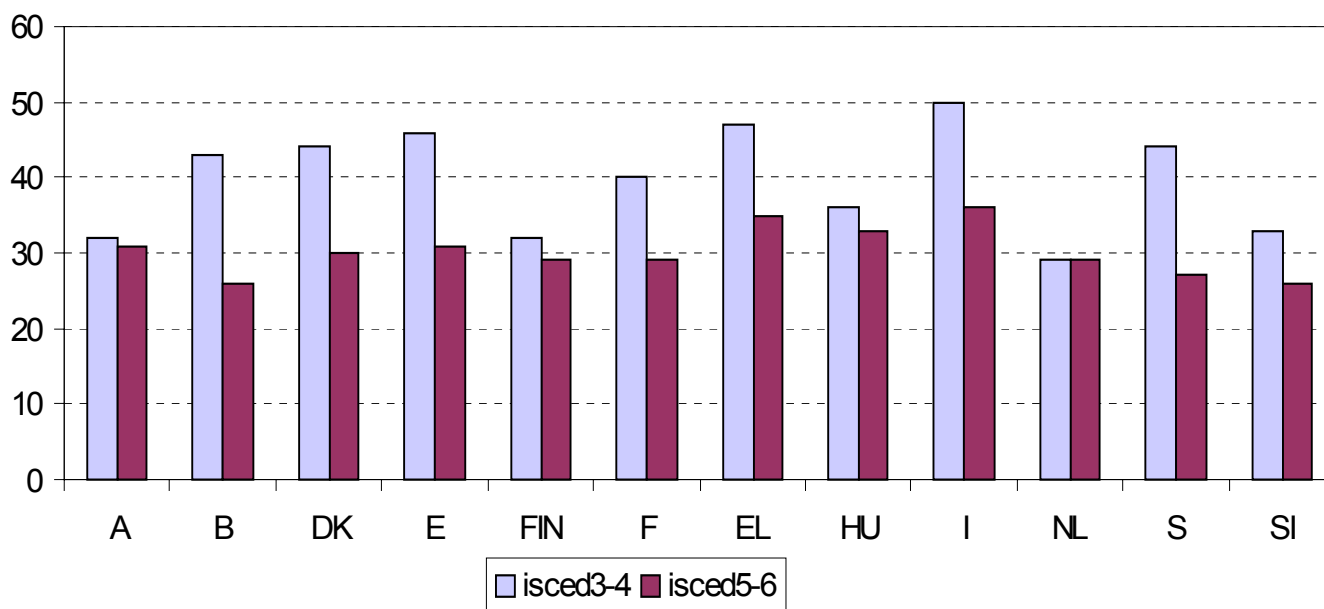


Table 1 shows that the incidence of job mismatches differs between fields of education. It can be seen that school leavers who have attended a vocational programme in humanities/arts, agriculture or sciences are most likely to be employed outside their own occupational domain. For instance, around two third of those who left education with a vocational programme in humanities/arts, have a job that does not fit their field of education. For the sectors education and health/welfare, on the other hand, there is a much closer link between the field of education attended and the occupation found. Presumably the relative degree to which the curriculum of the vocational programme provides the required knowledge and skills matters here. Some fields of education specifically prepare students for a few particular jobs (such as teacher or medical doctor for education and health/welfare; professions that are accessible only with the right qualification), whereas others are broader and not so job-specific.

Table 1: Incidence of job mismatches by field of education and country (%)

Field of education	A	B	DK	E	FIN	F	EL	HU	I	NL	S	SI
Education	31	22		46	17	32	56	28	69	29	43	25
Humanities, arts	64	67	86	65	67	62	73	58	78	82	65	50
Social sciences, business, law	37	18	40	28	38	31	22	45	33	24	40	35
Sciences	56	44	36	48	43	53	63	44	68	50	60	50
Engineering, manufacturing, construction	24	37	26	26	23	28	37	27	43	23	24	23
Agriculture	60	90	55	50	50	61	60	81	81	61	50	75
Health, welfare	29	29	16	35	21	16	35	23	33	23	24	29
Services	23	27	81	32	36	37	17	40	46	30	27	21

Labour market effects of job mismatches

The important issue then is whether having a job mismatch matters for the labour market position of school leavers. To assess the labour market effects of job mismatches some labour market outcomes of school leavers are analysed here. The results in this section also hold when level of education and other variables are considered.

Most of the earlier research has analysed the effect of job mismatches on wages. The empirical results suggest that individuals working in a non-matching job earn less than individuals with adequate employment. Since information on income is not available in the data set for most countries, the occupational status of the current job is used as a proxy for wages to estimate the effect of job mismatches.

Figure 4 shows that - with the exception of Austria and Hungary - having a job mismatch coincides with lower occupational returns on the labour market. This is in line with the earlier findings on wages. The strongest difference is found in Spain: for school leavers with a non-matching job, the average occupational status is 11 (52 - 41) points lower than for those who have a matching job. In Slovenia, in contrast, the difference in status attainment is small: only 1 point on the occupational status scale.

Figure 4: Occupational status attainment by job mismatch and country

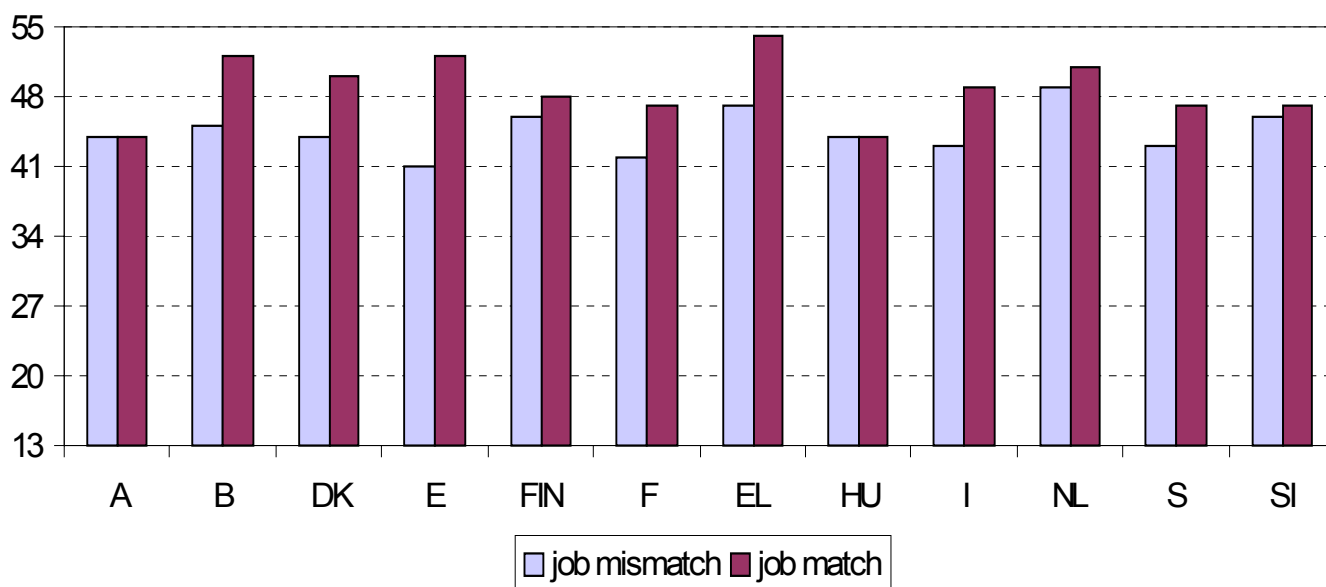
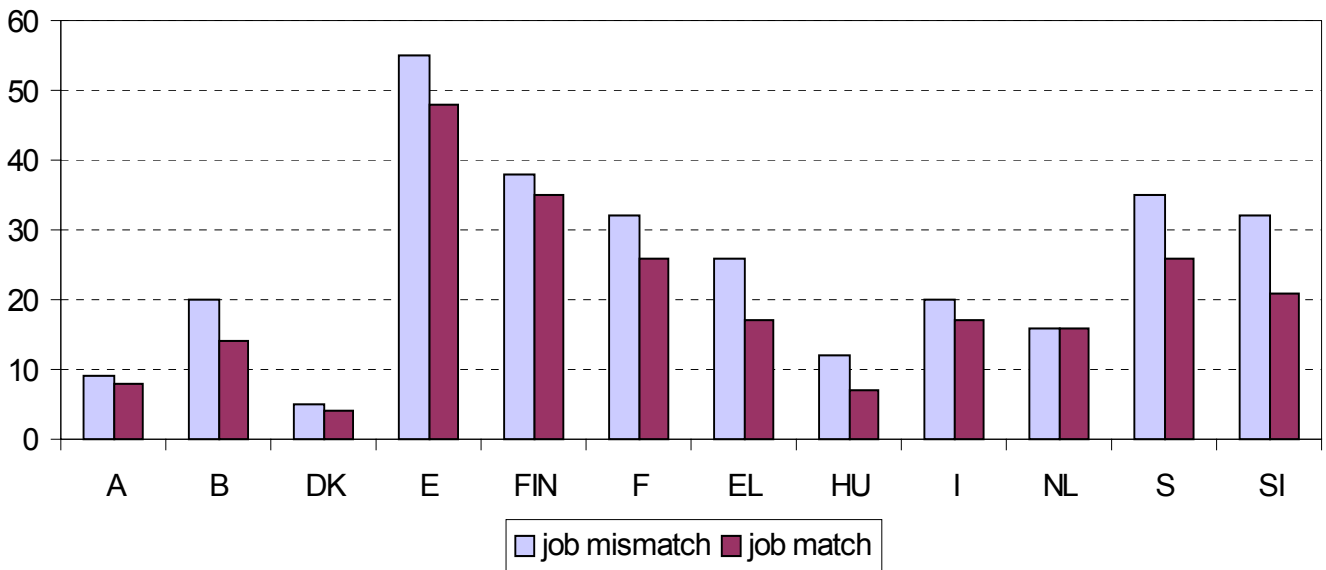


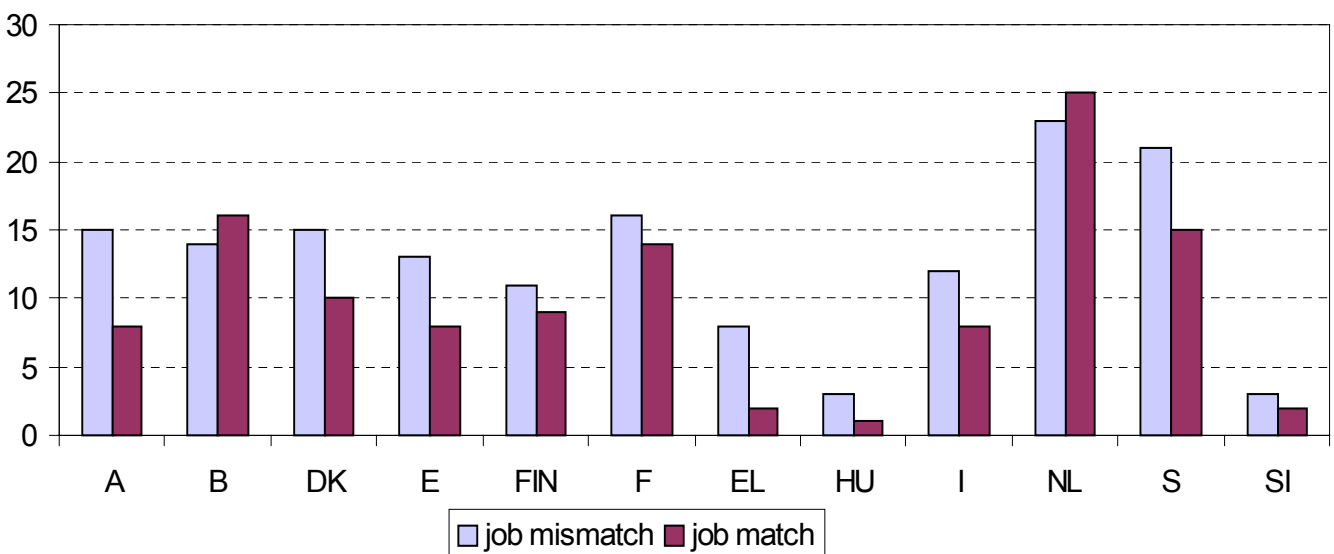
Figure 5 shows that school leavers who have a job that does not fit their field of education are employed more often on a temporary basis than school leavers with a fitting job. In Sweden, for instance, 35% of school leavers with a non-matching job have a temporary contract, whereas this percentage is 26% for those with a matching one. Slovenia and Greece show comparable percentage differences, followed by most other countries where the differences are somewhat smaller. In Austria, Denmark, and the Netherlands, on the other hand, there is little or no association between temporary employment and having a job mismatch: the percentage of temporary employment is (almost) the same for both groups of school leavers.

Figure 5: Temporary employment by job mismatch and country (%)



With respect to part-time employment a similar pattern is found (see Figure 6). In most countries under investigation, school leavers who hold a non-matching job are more likely to be employed in a part-time job than school leavers with a matching job. However, there is some cross-country variation in the strength of the association between part-time employment and having a job mismatch. The percentage difference is largest in Austria (15% - 8% = 7%), followed by Greece and Sweden (both 6%). In Finland, Hungary, and Slovenia, on the other hand, there is only a slight discrepancy with respect to part-time employment among school leavers with a non-matching versus matching job. In Belgium and the Netherlands, the difference is negative, indicating that in these countries school leavers with a job mismatch are less often employed in a part-time job than school leavers with a job that matches their field of education.

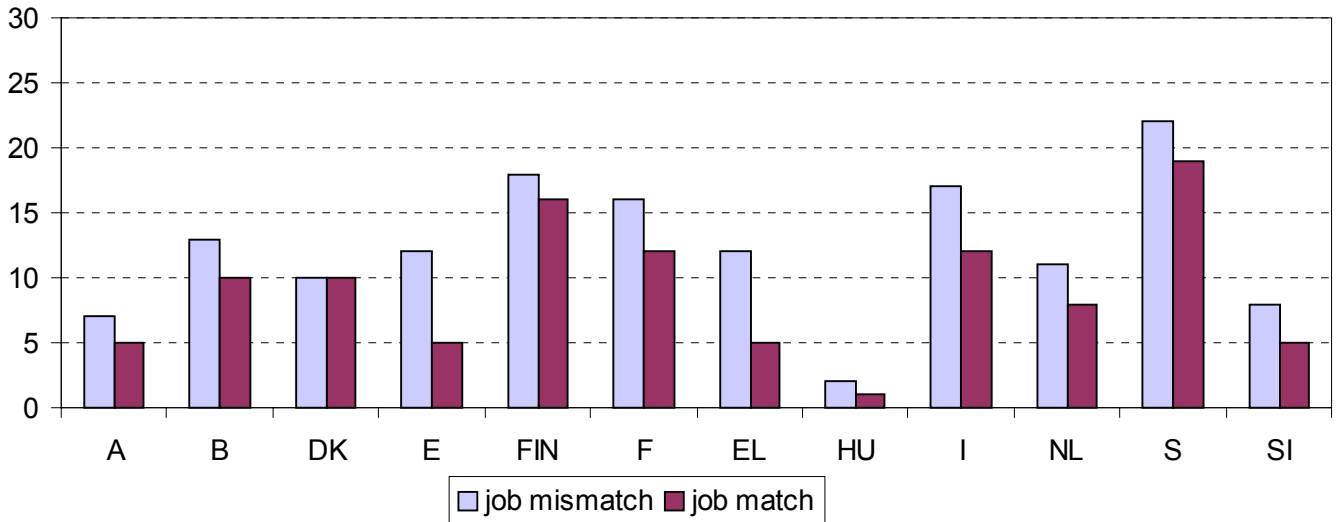
Figure 6: Part-time employment by job mismatch and country (%)



Adjustment strategies

Two adjustment strategies are possible for school-leavers who have a job mismatch. A first strategy to improve fit is to look for another job. Figure 7 shows that in all European countries - with the exception of Denmark - school leavers with a non-matching job more often look for another job than those with a matching one. In the Southern European countries (Greece, Spain, and Italy) the percentage difference is relatively large. The reasons for this job search are diverse, but it may be expected that job dissatisfaction is one of the main reasons for the job search behaviour of school leavers who work outside their field of education.

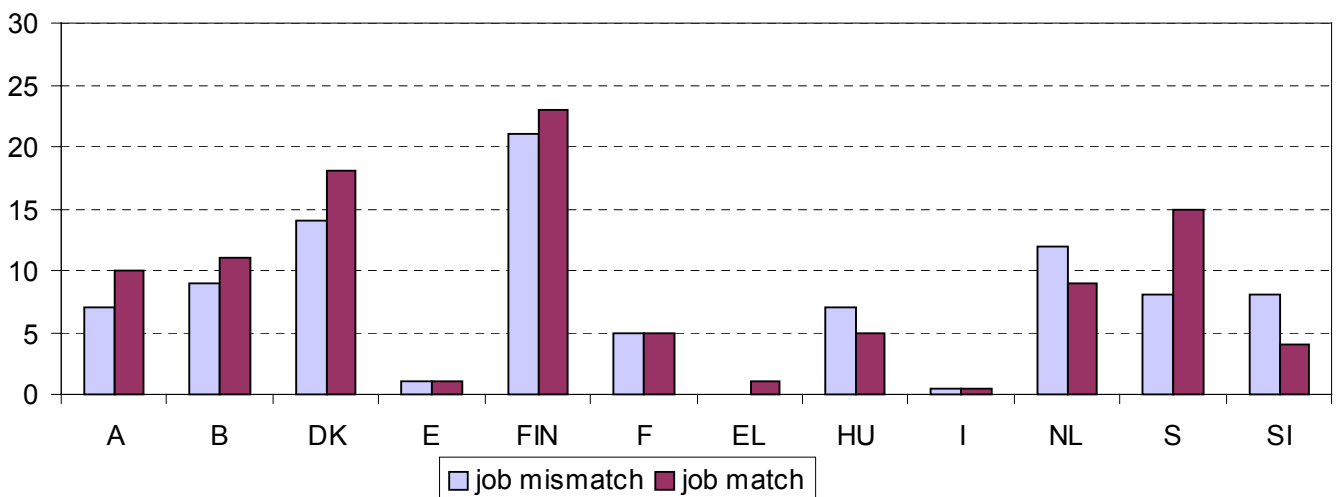
Figure 7: Job search activities by job mismatch and country (%)



A second strategy to deal with job mismatches is to invest in additional training, in order to compensate for skill deficiencies in initial education. It is assumed that if the field of education attended by school leavers corresponds to the field that is required on the work floor, the need for further training is less.

The results of Figure 8, however, do not give much empirical evidence that continuing vocational training might substitute for initial education. Only in Hungary, the Netherlands, and Slovenia, do school leavers with a non-matching job participate more in continuing vocational training than those with a matching one. Furthermore in Spain, France, and Italy, there is no association between continuing vocational training and having a job mismatch. In all other countries the conclusion is that continuing vocational training complements rather than substitutes for the knowledge and skills acquired in initial education (i.e. participation in continuing vocational training is lower among school leavers with a job mismatch than among those with a job match).

Figure 8: Participation in continuing vocational training by job mismatch and country (%)



➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

Abbreviations: A – Austria; B – Belgium; DK – Denmark; E – Spain; FIN – Finland; F – France; EL – Greece; HU – Hungary; I – Italy; NL – Netherlands; S – Sweden; SI – Slovenia

School leaver: is defined as someone aged 15-35 years old, who left initial education within the past five (Finland, the Netherlands, and Sweden) or ten (all other countries) years.

Field of education: refers to the latest educational programme attended before leaving initial education. This definition implies that field of education does not necessarily relates to the highest educational level successfully completed. For more information on this variable, see Andersson and Olsson (1999), *Fields of education and training. Manual*, Luxembourg, Eurostat.

Job mismatch: is measured as a discrepancy between the current occupation a school leaver is working in and the field of education attended in initial education. Individuals working outside their field of education are treated as school leavers with a non-matching job. Since lower secondary education is considered as general in nature, it does not make sense to talk about a job mismatch for those who left school with a diploma at the level of ISCED1-2, and, therefore, all school leavers from this level of education are excluded from the analysis. For the same reason, school leavers from upper secondary education and tertiary education with a general programme are not analysed. In Table 2 an overview is given of the occupations that match to a particular field of education. For example: in the category of education, all teaching professionals are present (codes 230-235); the category of sciences consists of, among other occupations, physicists, chemists, mathematicians, statisticians, and computing professionals (codes 211-213); the category of agriculture comprises all skilled agricultural and fishery workers (codes 600, 610-615), the category of health/welfare includes health professionals (code 222) and nursing and midwifery professionals (code 223), and so forth. Basic criterion used when assigning occupational codes to a field of education is the assumed congruence of skills acquired through the field of education and those needed on the job. All other combinations between field of education and occupation are considered as job mismatches.

Table 2: Field of education and their matching jobs

Field of education	Matching jobs (ISCO-88 (COM) 3-digit codes)
Education	200, 230, 231-235, 300, 330, 331-334
Humanities, arts	200, 230, 231, 232, 243, 245, 246, 300, 347, 348, 500, 520, 521, 522
Social sciences, business, law	100, 110, 111, 121-123, 130, 131, 200, 230-232, 241-245, 247, 300, 341-344, 346, 400, 401-422
Sciences	200, 211-213, 221, 230-232, 300, 310-313, 321
Engineering, manufacturing, construction	200, 213, 214, 300, 310-315, 700, 710-714, 721-724, 730-734, 740-744, 800, 810-817, 820-829, 831-834
Agriculture	200, 221, 222, 300, 321, 322, 600, 611-615, 800, 833, 900, 920, 921
Health, welfare	200, 221-223, 244, 300, 321-323, 330, 332, 346, 500, 510, 513, 900, 910, 913
Services	300, 345, 400, 410-419, 421, 422, 500, 510-514, 516, 520, 522, 800, 831-834, 900, 910, 913

Occupational status of a job: is determined on the basis of the International Socio-Economic Index (ISEI) as described in Ganzeboom and Treiman (1992), Internationally comparable measures of occupational status for the 1998 international standard classification of occupations, *Social Science Research*, 25, 201-239. Status scores were assigned to occupational titles (based on 3-digit information from the ISCO-88 classification) according to a scale that ranges from 16 for occupations with the lowest status to 90 for occupations with the highest status.

Participation in continuing vocational training: refers to training participation of school leavers to advance or change the working career (i.e. participation in initial education is excluded) in the last four weeks before the survey.

Further information:

➤ Databases

New Cronos Theme 3, Domain educ

To obtain information or to order publications, databases and special sets of data, please contact the **Data Shop** network:

BELGIQUE/BELGIË	DANMARK	DEUTSCHLAND	ESPAÑA	FRANCE	ITALIA – Roma
Eurostat Data Shop Bruxelles/Brussel Planistat Belgique Rue du Commerce 124 Handelsstraat 124 B-1000 BRUXELLES / BRUSSEL Tel. (32-2) 234 67 50 Fax (32-2) 234 67 51 E-mail: datashop@planistat.be URL: http://www.datashop.org/	DANMARKS STATISTIK Bibliotek og Information Eurostat Data Shop Sejrogade 11 DK-2100 KØBENHAVN Ø Tlf. (45) 39 17 30 30 Fax (45) 39 17 30 03 E-mail: bjb@dst.dk URL: http://www.dst.dk/bibliotek	STATISTISCHES BUNDESAMT Eurostat Data Shop Berlin Otto-Braun-Straße 70-72 (Eingang: Karl-Marx-Allee) D-10178 BERLIN Tel. (49) 1888 644 94 27/28 Fax (49) 1888-644 94 30 E-Mail: datashop@destatis.de URL: http://www.eu-datashop.de/	INE Eurostat Data Shop Paseo de la Castellana, 183 Despacho 011B Entrada por Estébanez Calderón E-28046 MADRID Tel. (34-91) 583 91 67/ 583 95 00 Fax (34-91) 583 03 57 E-mail: datashop.eurostat@ine.es URL: http://www.datashop.org/	INSEE Info Service Eurostat Data Shop 195, rue de Bercy Tour Gamma A F-75582 PARIS CEDEX 12 Tél. (33-1) 53 17 88 44 Fax (33-1) 53 17 88 22 E-mail: datashop@insee.fr	ISTAT Centro di Informazione Statistica Sede di Roma, Eurostat Data Shop Via Cesare Balbo, 11a I-00184 ROMA Tel. (39-06) 46 73 31 02/06 Fax (39-06) 46 73 31 01/07 E-mail: dipdff@istat.it URL: http://www.istat.it/Prodotti-e/Allegati/Eurostatdatashop.html
ITALIA – Milano	LUXEMBOURG	NEDERLAND	NORGE	PORTUGAL	SCHWEIZ/SUISSE/SVIZZERA
ISTAT Ufficio Regionale per la Lombardia Eurostat Data Shop Via Fieno 3 I-20123 MILANO Tel. (39-02) 80 61 32 460 Fax (39-02) 80 61 32 304 E-mail: mileuro@tin.it URL: http://www.istat.it/Prodotti-e/Allegati/Eurostatdatashop.html	Eurostat Data Shop Luxembourg 46A, avenue J.F. Kennedy BP 1452 L-1014 LUXEMBOURG Tél. (352) 43 35-2251 Fax (352) 43 35-22221 E-mail: dslux@eurostat.datashop.lu URL: http://www.datashop.org/	STATISTICS NETHERLANDS Eurostat Data Shop-Voorburg Postbus 4000 2270 JM VOORBURG Nederland Tel. (31-70) 337 49 00 Fax (31-70) 337 59 84 E-mail: datashop@cbs.nl	Statistics Norway Library and Information Centre Eurostat Data Shop Kongens gate 6 Boks 8131 Dep. N-0033 OSLO Tel. (47) 21 09 46 42/43 Fax (47) 21 09 45 04 E-mail: Datashop@ssb.no URL: http://www.ssb.no/bibliotek/datashop/	Eurostat Data Shop Lisboa INE/Serviço de Difusão Av. António José de Almeida, 2 P-1000-043 LISBOA Tel. (351-21) 842 61 00 Fax (351-21) 842 63 64 E-mail: data.shop@ine.pt	Statistisches Amt des Kantons Zürich, Eurostat Data Shop Bleicherweg 5 CH-8090 Zürich Tel. (41-1)225 12 12 Fax (41-1)225 12 99 E-mail: datashop@statistik.zh.ch URL: http://www.statistik.zh.ch
SUOMI/FINLAND	SVERIGE	UNITED KINGDOM	UNITED STATES OF AMERICA		
STATISTICS FINLAND Eurostat Data Shop Helsinki Tilastokirjasto PL 2B FIN-00022 Tilastokeskus Työpajakatu 13 B, 2.Kerros, Helsinki P. (358-9) 17 34 22 21 F. (358-9) 17 34 22 79 Sähköposti: datashop@stat.fi URL: http://www.tilastokeskus.fi/tik/ki/datashop/	STATISTICS SWEDEN Information service Eurostat Data Shop Karlavägen 100 - Box 24 300 S-104 51 STOCKHOLM Tfn (46-8) 50 69 48 01 Fax (46-8) 50 69 48 99 E-post: infoservice@scb.se URL: http://www.scb.se/tjanster/datashop/datashop.asp	Eurostat Data Shop Office for National Statistics Room 1.015 Cardiff Road Newport South Wales NP10 8XG United Kingdom Tel. (44-1633) 81 33 69 Fax (44-1633) 81 33 33 E-mail: eurostat.datashop@ons.gov.uk	HAVER ANALYTICS Eurostat Data Shop 60 East 42nd Street Suite 3310 NEW YORK, NY 10165 USA Tel. (1-212) 986 93 00 Fax (1-212) 986 69 81 E-mail: eurodata@haver.com URL: http://www.haver.com/		

Media Support Eurostat (for professional journalists only):

Bech Building Office A4/017 • L-2920 Luxembourg • Tel. (352) 4301 33408 • Fax (352) 4301 35349 • e-mail: eurostat-mediasupport@cec.eu.int

For information on methodology

Karsten Kühn, Eurostat/E3, L-2920 Luxembourg, Tel. (352) 4301 35480, Fax (352) 4301 35399, E-mail: karsten.kuehl@cec.eu.int

ORIGINAL: English

Please visit our web site at www.europa.eu.int/comm/eurostat/ for further information!

A list of worldwide sales outlets is available at the **Office for Official Publications of the European Communities**.

2 rue Mercier – L-2985 Luxembourg
Tel. (352) 2929 42118 Fax (352) 2929 42709
URL: <http://publications.eu.int>
E-mail: info-info-opoce@cec.eu.int

BELGIQUE/BELGIË – DANMARK – DEUTSCHLAND – GREECE/ELLADA – ESPAÑA – FRANCE – IRELAND – ITALIA – LUXEMBOURG – NEDERLAND – ÖSTERREICH
PORTUGAL – SUOMI/FINLAND – SVERIGE – UNITED KINGDOM – ISLAND – NORGE – SCHWEIZ/SUISSE/SVIZZERA – BALGARJA – ČESKÁ REPUBLIKA – CYPRUS
EESTI – HRVATSKA – MAGYARORSZÁG – MALTA – POLSKA – ROMÂNIA – RUSSIA – SLOVAKIA – SLOVENIA – TÜRKIYE – AUSTRALIA – CANADA – EGYPT – INDIA
ISRAËL – JAPAN – MALAYSIA – PHILIPPINES – SOUTH KOREA – THAILAND – UNITED STATES OF AMERICA

Order form

I would like to subscribe to Statistics in focus (from 1.1.2003 to 31.12.2003):

(for the Data Shop and sales office addresses see above)

All 9 themes (approximately 200 issues)

Paper: EUR 240

Language required: DE EN FR

Statistics in focus can be downloaded (pdf file) free of charge from the Eurostat web site. You only need to register. For other solutions, contact your Data Shop.

Please send me a free copy of 'Eurostat mini-guide' (catalogue containing a selection of Eurostat products and services)
Language required: DE EN FR

I would like a free subscription to 'Statistical References', the information letter on Eurostat products and services
Language required: DE EN FR

Mr Mrs Ms

(Please use block capitals)

Surname: _____ Forename: _____

Company: _____ Department: _____

Function: _____

Address: _____

Post code: _____ Town: _____

Country: _____

Tel.: _____ Fax: _____

E-mail: _____

Payment on receipt of invoice, preferably by:

Bank transfer

Visa Eurocard

Card No: _____ Expires on: ____/____/____

Please confirm your intra-Community VAT number:

If no number is entered, VAT will be automatically applied. Subsequent reimbursement will not be possible.