Ulrich Teichler

Higher Education and Graduate Employment in Europe

Select Findings from Previous Decades

Reihe WERKSTATTBERICHTE

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Contents

1

Introduction

As regards fostering of their students' competences, European universities are expected to serve a general, academic and professional function.[1] Universities aim to contribute to a general enhancement of the students' knowledge and possibly a cultivation of values, attitudes and the personality in general. They are also the training ground for the - minority of - students who eventually will become scholars and teach future generations of students. Finally, universities are expected to provide a foundation of knowledge and skills relevant for occupations typically taken over by graduates.

We note variations by country as regards the emphasis universities place on any of these three functions. Disciplines and fields of study differ strikingly in the weight they put on the individual functions and the extent to which these functions are viewed to be in harmony or conflicting. Finally, the emphasis on the various functions changes over time. The same can be said about the way the preparatory role for professional practice is interpreted. Universities might - varying according to country, discipline and historical development - in one extreme be viewed as merely providing knowledge loosely laying the foundation for professional competence. In the opposite extreme, universities are clearly expected to fulfil a direct professional training function.

In comparison to other - i.e. generally regarded as 'lower' - levels and types of pre-career education and training, university teaching and study are least clearly geared to occupational tasks. First, the more cognitively demanding tasks are, the less directly they can be trained. Second, the university is expected more strongly to have a critical and an innovative function. Graduates should not merely be prepared to take over given tasks; rather they are expected to be capable and willing to reshape the jobs tasks. They might acquire 'tools' and learn rules, but they also have to be motivated and in the position to question established professional practice and to cope with undetermined work tasks.

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[1] Cf. U. Teichler, 'Occupational Structures and Higher Education', in B.R. Clark and G. Neave (eds.), *The Encyclopedia of Higher Education* (Oxford: Pergamon, 1992), 975-992.

In analysing the relationships between universities and graduate careers after World War II, however, experts, rather than underscoring basic functions principally remaining unchanged, tend to point out substantial changes over time. Notably, the rapid expansion of the number of students is a key element in this context. It is a part of an - accelerated - process of industrialization and modernization of European societies in which a university degree becomes more and more a prerequisite for access to top occupational positions and in which respective job tasks more and more require high levels of cognitive competence and systematic thinking.[2] This trend, however, is accompanied by a widespread uneasiness among experts, politicians and the population in general - sometimes expressed in terms of euphoria and optimism, sometimes in terms of concern and pessimism, and frequently in terms of controversial debates. Notably, four issues were at stake in one way or other over the last few decades which might be illustrated with respective questions.[3]

(a) Do the competences acquired up to graduation develop in tune with the job requirements and, thus, the demands of the employment system? What are the consequences of eventual discrepancies - in quantitative terms - between demand and supply, and - in qualitative terms - between competences and requirements?

(b) What role does the attainment of a university degree play in the overall process of social selection and status distribution? What mode of educational meritocracy is emerging, and what does it mean for the links between competences and work tasks, for teaching and learning at universities?

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2 See H. Perkin, *The Rise of the Professional Society* (London: Routledge, 1989).

3 Major overviews on higher education and employment in various postwar stages in Europe (or in Western industrial societies or globally) are provided in OECD, *The Utilisation of Highly Qualified Personnel* (Paris, 1973); U. Teichler, D. Hartung and R. Nuthmann, *Higher Education and the Needs of Society* (Windsor: NFER Publishing Company, 1980); H.J. Bodenhöfer (ed.), *Hochschulexpansion und Beschäftigung* (Wien: Böhlau, 1981); R. Lindley (ed.): *Higher Education and the Labour Market* (Guildford: SRHE, 1981); O. Fulton, A. Gordon and G. Williams, *Higher Education and Manpower Planning* (Geneva: ILO, 1982); U. Teichler, 'Hochschule und Beschäftigungssystem', in L. Huber (ed.), *Ausbildung und Sozialisation in der Hochschule* (Stuttgart: Klett-Cotta, 1983; Enzyklopädie Erziehungswissenschaft, Vol. 10), 59-77; R. Holtkamp and U. Teichler (eds.), *Berufstätigkeit von Hochschulabsolventen - Forschungsergebnisse und Folgerungen für das Studium* (Frankfurt and New York: Campus, 1983); M. Kaiser, R. Nuthmann and H. Stegmann (eds.), *Berufliche Verbleibsforschung in der Diskussion*, Vol. 3 (Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit, 1985); G. Psacharopoulos (ed.), *Economics of Education: Research and Studies* (Oxford: Pergamon, 1987); B.C. Sanyal, *Higher Education and Employment: An International Comparative Analysis* (London: Falmer, 1987); U. Teichler, 'Higher Education and Work in Europe', in J.C. Smart (ed.), *Higher Education: Handbook of Theory and Research*, Vol. 4. (New York: Agathon, 1988), 109-182; U.Teichler, 'Occupational Structures and Higher Education' op. cit.; OECD, *From Higher Education to Employment*. 4 Vols. (Paris, 1992); OECD, *From Higher Education to Employment: Synthesis Report* (Paris, 1993); 'Higher Education and Employment' (special issues), *European Journal of Education*, 30 (1995) 1, 30 (1995) 2; J. Brennan, M. Kogan and U. Teichler (eds.), *Higher Education and Work* (London: Kingsley, 1995).

(c) How do the university students change in terms of their competences, their motivations and inclinations as well as career expectations and prospects? How does this affect the character and quality of teaching and learning at universities and eventually the competences of graduates?

(e) How do the universities evolve as regards students' access, enrolment and graduation, the institutional patterns, the study programmes as well as the teaching and study activities in the wake of their changing role for graduate employment and work? How do they react to the changing conditions of graduate employment and work, and how do they try to change these conditions actively?

The aim of this study is, first, to provide an account of quantitative changes in enrolment and graduation in Europe between about 1950 and about 1990. Second, a summary will be given of major political and research debates about the changing relationships between higher education and employment. Third, an overview will be provided on the modes of graduation and award of degrees as well as on their links to professional practice. Fourth, changes in graduate employment and work will be demonstrated in detail, as far as visible by means of statistical material and empirical surveys. Finally, we refer to select ways the universities themselves address the changing relationships between higher education and employment.

The terminology used in the preceding paragraph already hints at one of the major changes European universities faced after World War II as regards teaching and study. While universities remained the core institutions of society as far as linkages between research and teaching are concerned, they tend to be viewed nowadays as an 'institution of higher education', i.e. not being the sole provider of complex competences, whereby the distinction between universities and the other institutions of higher education often is blurred and their respective functions overlap. This has to be mentioned in advance, because many sources referred to in the following text do not delineate clearly between universities and other institutions of higher education.

This study was initiated by the Association of European Universities (CRE). A revised and shortened version will be published in *A History of the University in Europe*, Volume 4.

2

Expansion of Higher Education and Graduate Employment: An Overview

2.1 Overall Development of Enrolment, Graduation and Attainment

Higher education experienced an unprecedented expansion which had far-reaching consequences for graduate employment. As the available data vary in terms of the sources referred to, the countries included, the types of higher education institutions taken into consideration and the statistical measure employed, whereby selection and definitions change over time, select examples will be provided here to illustrate the development.

As regards admission to and enrolment at institutions of higher education, a few aggregate data might suffice to indicate the trends.

- According to UNESCO statistics, the ratio of students at tertiary education institutions among the respective age group in the richer countries (the top third in the world in terms of GNP per capita) increased from 3.7% in 1950 to 8.4% in 1960, 13.6% in 1970 and 18.9% in 1975.[1] Similarly, the mean enrolment ratio - students at universities and similar specialized institutions as a proportion of the 20-24 years old population - in ten Western European countries comprises 4.5% around 1950, 6.4% around 1960 and 17.4% in 1975 according to the data presented by Flora.[2]

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1 F.O. Ramirez and J. Boli-Bennet, 'Global Patterns of Educational Institutionalization', in P.G. Altbach, R.F. Arnove and P.G. Kelly (eds.), *Comparative Education* (New York: Macmillan, 1982), p. 16.

2 Calculated on the basis of those countries for which information is provided for all three points of time by P. Flora, *State, Economy, and Society in Western Europe 1815-1975: A Data Handbook. Volume I: The Growth of Mass Democracies and Welfare States* (Frankfurt: Campus, 1983), pp. 553-653.

- According to OECD statistics, the number of students at higher education institutions in the European market-oriented (OECD member) states grew annually 5% on average during the 1950s and almost 8% during the 1960s, whereby the growth rates in 'university type higher education' surpassed those in 'non-university-type education'.[3]
- According to UNESCO statistics, the 'third-level' enrolment ratio in Europe increased from 10.2% in 1960 to 17.4% in 1970, 21.8% in 1980 and 23.8% in 1990.[4] In 1990, it had surpassed 25%.
- According to OECD statistics, the entry ratio to 'tertiary education' had reached 38% on average in the European OECD member states in 1991, among them 24% in 'university education'.[5] In contrast, UNESCO statistics show that the entry ratio to higher education in Eastern European countries co-operating economically and politically with the Soviet Union had remained below 20% until the late 1980s - i.e. before their rapid socio-economic transformation to marked-oriented economies began.[6] The ratio of graduates among the respective age group did not reach the same level as the entry ratio. First, the growth in admission, naturally, affects the graduation a few years later. Second, a substantial proportion of students - among university students more than 30% on average in Western Europe[7] - do not graduate.

Table 1 suggests that the mean ratio of graduates from university-level institutions of higher education in 13 Western European countries was about 5.5% in 1950 and 6.5% in 1960. It increased to 12.0% in 1970 and 14.7% in 1975.[8]

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3 J.-P. Pellegrin, 'Quantitative Trends in Post-Secondary Education', in OECD (ed.) *Towards Mass Higher Education* (Paris, 1974), 9-61; cf. also OECD, *Development of Higher Education 1950-1967: Statistical Survey* (Paris, 1970).

4 See the calculation in U. Teichler, 'Western Europe' in P.G. Altbach (ed.), *International Higher Education: an Encyclopedia* (New York and London: Garland 1991), p. 610, which is based on UNESCO, *Statistical Yearbook 1987* (Paris, 1987), pp. 2-5.

5 OECD, *Education at a Glance: OECD Indicators* (Paris, 1993), p. 126.

6 The developments in the Eastern European countries varied substantially, though, as notably demonstrated in L. Cerych, S. Colton and J.-P. Jallade, *Student Flows and Expenditure in Higher Education 1965-1979* (Paris: European Cultural Foundation, Institute of Education, 1981).

7 Estimate based on the source referred to in section 2.2.

8 R. Schneider, 'Die Bildungsentwicklung in den westeuropäischen Staaten 1870-1975' *Zeitschrift für Soztologie* 11 (1982), 207-226. Schneider refers to universities and similar institutions and excludes primary school education where offered in separate institutions.

Table 1
Proportion of University Graduates of the Respective Age Group in Selected European Countries (percentage of 20-24 years olds)

Country	1950	1955	1960	1965	1970	1975
France	3.1	3.4	9.9	13.4	15.9	21.1
Finland	4.0	4.8	4.5	6.7	9.5	11.9
Austria	9.5	6.9	5.8	8.4	10.9	11.8
Denmark	3.4	3.7	3.1	3.2	5.8	7.7
Sweden	4.7	5.6	7.3	7.8	14.0	14.9
Ireland	8.8	8.9	12.6	17.9	19.9	18.6
Netherlands	3.5	4.0	3.5	4.2	6.1	8.9
Belgium	4.8	7.4	9.6	11.8	14.3	18.5
Italy	4.9	5.3	5.7	8.1	15.3	18.5
Germany (F.R.)	6.7	6.8	5.2	7.1	10.8	12.4
Switzerland	5.6	4.4	4.2	4.2	7.3	8.6
Norway	6.2	5.6	7.7	7.7	12.0	19.9
United Kingdom	6.0	6.2	10.2	10.2	14.1	18.6
Mean	5.46	5.62	6.51	8.52	11.99	14.72

Source: R. Schneider, 'Die Bildungsentwicklung in den westeuropäischen Staaten 1870-1975', *Zeitschrift für Soziologie* 11 (1982), p.22.

Table 2 indicates that of nine European OECD member states the ratio of the respective age group successfully completing non-university higher education or a first university degree on average increased from 19.7% in 1975 to 20.9% in 1980 and 22.8% in 1987. Among them, the ratio of first university degrees increased during that period from 9.2% to 10.4% and eventually 11.0%. In 1991, the ratio of first-degree university graduates of the respective age group in 16 European member states was 13.3% on average.[9]

Finally, the percentage of the adult population having attained higher education reaches respective levels with a considerable time lag.

9 OECD, *Education at a Glance*, op. cit., p. 179.

Table 2
Proportion of the Age Group Obtaining a Higher Education Degree in Selected OECD Countries 1975, 1980 and 1987 (percentages)

	Short/non-university qualification			University degree			Graduate degree		
	1975	1980	1987	1975	1980	1987	1975	1980	1987
Austria	0.0	0.0	2.9	5.2	6.6	7.2	1.5	1.2	0.6
Belgium	11.0	10.3	18.4	10.1	10.7	14.6	.	.	.
Finland	11.6	15.6	17.2	13.0	12.8	12.4	0.6	0.1	1.1
Germany	10.1	7.7	8.1	12.5	11.9	12.8	1.3	1.4	1.5
Greece	3.6	5.3	5.3	10.5	11.5	11.7	0.3	0.4	0.4
Italy	0.3	0.6	0.6	9.0	8.7	7.6	0.8	1.5	1.7
Netherlands	11.6	16.0	15.5	4.7	4.5	8.0	.	.	.
Norway	41.6	38.6	31.7	10.8	14.3	22.4	5.2	6.2	7.4
Spain	0.4	0.5	6.4	7.4	12.2	9.6	.	.	0.5

Source: Based on OECD, *Education in OECD Countries 1978-88* (Paris, 1990), pp. 81-83, 113.

As Table 3 shows, the proportion of the population over 25 years in the OECD member states having studied for some period and most of whom having completed higher education increased from 7.0% in 1960 to 18.2% in 1985. The respective ratios were 3.9% and 9.8% in 'centrally-planned economies'. According to data of the early 1990s, the mean proportion of adults in 16 European OECD member states having completed higher education was about 16%, among them about 10% holding a university-level degree.[10]

The proportion of persons having completed higher education naturally varies according to age (cf. Table 4-6). Among the population being 55 to 64 years old in the early 1990s in 16 European member states, 9% had completed higher education (cf. Table 7), and 19% among those being 25 to 34 years old (cf. Table 4).[11]

One should bear in mind, though, that the statistics referred to are not necessarily consistent across countries in terms of exclusion or inclusion of students and graduates from non-university institutions. In some cases, statistics on prior years are adapted after the upgrading of an institution, in others not.

[10] OECD, *OECD Education Statistics 1985-1992* (Paris, 1995), p. 194.

[11] Ibid., pp. 194-198.

Also, institutions might be included or excluded in international statistics which do not have the official status of higher education institutions within the respective country, but might be considered equivalent to institutions abroad which are officially recognized there as institutions of higher education.

Such inconsistency of treatment notably can be observed in respect to higher vocational schools in Finland (the predecessor schools of 'ammattikorkeakoulu' upgraded in the 1990s), the Netherlands (the HBO sector officially upgraded only in 1986), Norway (specialized vocational schools) and Switzerland ('Höhere Technische Lehranstalten' and similar institutions) as well as the Eastern European countries (for example the 'VUZ' in the Soviet Union).

Table 3
Educational Attainment of the Population over 25 Years 1960 - 1985 (percentages)

	Year	School	Primary	Secon-dary	Higher	Average years of school
OECD countries	1960	6.4	61.0	25.5	7.0	6.71
	1965	6.0	58.0	27.9	8.2	7.03
	1970	5.2	54.0	31.3	9.5	7.42
	1975	5.4	47.7	34.2	12.8	7.88
	1980	4.6	39.4	40.2	15.9	8.65
	1985	3.3	37.7	40.8	18.2	8.88
Centrally planned economies	1960	5.0	68.9	22.3	3.9	6.83
	1965	5.3	62.1	27.6	5.0	7.29
	1970	4.0	53.4	36.3	6.4	7.97
	1975	3.7	47.9	40.9	7.5	8.33
	1980	2.7	39.4	49.9	8.0	8.78
	1985	2.3	36.1	51.9	9.8	9.17

Source: *OECD Job Study* (Paris, 1994).

Table 4
Percentage of the Population 25 to 34 Years of Age that has Completed a Certain Highest Level of Education

		Early childhood and primary education			Lower secondary education			Upper secondary education			Non-university teritary education			University education			Total		
	Year	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w
European Community																			
Belgium	1992	13.2	12.5	13.9	26.0	29.8	23.9	32.7	32.5	32.9	15.7	12.0	19.6	11.5	13.2	9.6	100	100	100
Denmark	1992	.	.	.	33.1	32.4	33.9	47.4	49.8	44.9	6.2	5.0	7.4	13.3	12.9	13.7	100	100	100
France	1992	.	.	.	32.9	31.6	34.3	45.5	47.8	43.3	9.2	8.2	10.3	12.3	12.4	12.1	100	100	100
Germany	1992	.	.	.	11.4	9.1	13.7	68.2	68.8	67.5	8.7	9.1	8.2	11.8	13.0	10.5	100	100	100
Ireland	1992	13.8	13.9	13.7	30.4	35.7	25.2	34.6	29.5	39.6	11.4	10.7	11.9	9.8	10.1	9.6	100	100	100
Italy	1992	8.9	8.0	9.8	48.7	50.6	46.9	35.6	34.7	36.6	.	.	.	6.8	6.8	6.7	100	100	100
Netherlands	1992	9.5	9.1	9.9	22.6	22.4	22.9	44.3	44.3	44.4	.	.	.	23.6	24.3	22.8	100	100	100
Portugal	1991	65.4	67.1	63.7	14.0	14.2	13.7	12.1	12.0	12.3	1.6	0.6	2.5	6.9	6.1	7.7	100	100	100
Spain	1992	28.5	28.3	28.7	30.3	30.5	30.0	18.8	19.4	18.2	6.2	7.3	5.1	16.3	14.5	18.1	100	100	100
United Kingdom	1992	.	.	.	19.1	17.8	20.4	60.3	60.5	60.1	8.1	7.4	8.8	12.5	14.3	10.7	100	100	100
Other Europe-OECD																			
Austria	1992	.	.	.	21.1	15.0	27.3	71.0	77.4	64.4	.	.	.	7.9	7.6	8.3	100	100	100
Finland	1992	.	.	.	18.3	20.2	16.3	61.1	59.6	62.8	9.5	8.0	11.0	11.1	12.2	9.9	100	100	100
Norway	1992	1.3	1.5	1.1	10.7	12.1	9.2	59.8	59.4	60.3	15.6	14.1	17.1	12.7	12.9	12.4	100	100	100
Sweden	1992	.	.	.	17.0	18.6	15.3	57.8	57.1	58.5	15.9	14.9	16.9	9.3	9.4	9.3	100	100	100
Switzerland	1992	.	.	.	12.8	10.3	15.3	66.0	60.4	71.7	12.5	18.0	7.0	8.7	11.4	6.1	100	100	100
Turkey	1992	70.4	61.4	79.3	9.1	12.4	5.8	14.9	19.2	10.7	.	.	.	5.6	7.1	4.1	100	100	100

Source: OECD, *OECD Education Statistics 1985-1992* (Paris, 1995), pp.194-198.

Table 5
Percentage of the Population 35 to 44 Years of Age that has Completed a Certain Highest Level of Education

		Early childhood and primary education			Lower secondary education			Upper secondary education			Non-university teritary education			University education			Total		
	Year	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w
European Community																			
Belgium	1992	20.9	19.1	22.8	27.6	27.6	27.5	28.2	29.4	27.0	12.6	10.2	15.1	10.7	13.7	7.6	100	100	100
Denmark	1992	.	.	.	39.1	34.5	43.8	36.8	43.2	30.1	7.9	6.0	9.9	16.2	16.2	16.1	100	100	100
France	1992	18.4	17.3	19.5	24.6	21.8	27.4	39.4	43.3	35.2	6.4	5.6	7.3	11.2	11.7	10.7	100	100	100
Germany	1992	.	.	.	13.1	8.7	17.5	60.9	59.2	62.7	10.6	13.3	7.8	15.4	18.8	11.9	100	100	100
Ireland	1992	27.6	29.3	25.9	28.7	29.7	27.8	25.8	21.9	29.8	8.9	8.5	9.3	8.9	10.6	7.2	100	100	100
Italy	1992	25.8	21.0	30.6	39.7	42.0	37.5	25.3	26.8	23.8	.	.	.	9.2	10.2	8.1	100	100	100
Netherlands	1992	14.3	12.8	16.1	24.7	20.4	29.2	36.8	39.1	34.2	.	.	.	24.2	27.2	20.5	100	100	100
Portugal	1991	74.6	73.2	76.0	8.7	9.0	8.4	8.2	9.5	6.9	2.1	1.1	3.0	6.4	7.1	5.7	100	100	100
Spain	1992	58.8	55.5	62.1	16.8	16.6	17.1	10.7	11.9	9.4	2.7	4.0	1.5	10.9	12.0	9.9	100	100	100
United Kingdom	1992	.	.	.	28.9	22.6	35.1	50.2	54.8	45.6	7.9	6.0	9.9	13.0	16.6	9.3	100	100	100
Other Europe-OECD																			
Austria	1992	.	.	.	29.6	21.8	37.3	61.1	68.2	53.9	.	.	.	9.4	10.0	8.7	100	100	100
Finland	1992	.	.	.	30.9	32.1	29.7	47.5	45.2	49.8	8.6	8.2	9.0	13.0	14.5	11.5	100	100	100
Norway	1992	1.2	1.5	0.9	15.6	14.8	16.5	53.4	51.8	55.0	14.3	13.4	15.3	15.5	18.5	12.2	100	100	100
Sweden	1992	.	.	.	23.9	26.9	20.8	46.9	45.8	48.0	14.8	12.4	17.4	14.4	14.9	13.8	100	100	100
Switzerland	1992	.	.	.	16.1	11.8	20.6	61.4	56.8	66.2	13.1	18.8	6.9	9.5	12.6	6.2	100	100	100
Turkey	1992	79.6	72.0	87.7	6.4	8.8	3.9	7.9	10.6	5.0	.	.	.	6.1	8.7	3.4	100	100	100

Source: OECD, *OECD Education Statistics 1985-1992* (Paris, 1995), pp.194-198.

Table 6
Percentage of the Population 45 to 54 Years of Age that has Completed a Certain Highest Level of Education

		Early childhood and primary education			Lower secondary education			Upper secondary education			Non-university teritary education			University education			Total		
	Year	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w
European Community																			
Belgium	1992	35.0	31.1	38.8	26.8	27.3	26.4	20.7	22.4	19.0	10.1	8.1	12.1	7.4	11.1	3.6	100	100	100
Denmark	1992	.	.	.	41.9	36.7	47.4	39.6	43.7	35.4	5.2	4.7	5.7	13.2	14.9	11.5	100	100	100
France	1992	38.8	36.0	41.5	13.9	11.3	16.6	33.1	37.0	29.2	3.7	3.3	4.1	10.4	12.2	8.6	100	100	100
Germany	1992	.	.	.	19.4	12.2	26.9	58.2	56.8	59.6	11.0	15.1	6.8	11.4	16.0	6.7	100	100	100
Ireland	1992	41.7	45.2	38.1	23.5	22.3	24.7	19.7	16.0	23.6	7.2	6.4	8.0	7.8	10.1	5.5	100	100	100
Italy	1992	51.5	45.2	57.7	28.0	30.5	25.5	14.9	17.4	12.5	.	.	.	5.6	7.0	4.3	100	100	100
Netherlands	1992	19.2	17.0	21.5	28.6	21.9	35.5	33.8	38.6	28.8	.	.	.	18.4	22.5	14.1	100	100	100
Portugal	1991	84.2	81.1	87.0	5.4	6.6	4.2	5.0	6.4	3.7	1.7	1.1	2.3	3.7	4.7	2.8	100	100	100
Spain	1992	77.0	72.4	81.4	9.2	9.7	8.8	4.9	6.0	3.8	1.7	2.8	0.6	7.1	9.0	5.3	100	100	100
United Kingdom	1992	.	.	.	38.0	29.4	46.5	45.1	51.4	38.9	7.8	6.3	9.3	9.1	12.9	5.3	100	100	100
Other Europe-OECD																			
Austria	1992	.	.	.	35.1	22.7	47.3	59.1	68.8	49.4	.	.	.	5.9	8.5	3.3	100	100	100
Finland	1992	.	.	.	47.9	48.0	47.8	34.1	31.9	36.4	7.6	7.5	7.6	10.4	12.6	8.1	100	100	100
Norway	1992	1.3	1.6	1.1	23.2	21.4	25.2	51.4	49.4	53.5	11.4	11.8	10.9	12.6	15.9	9.3	100	100	100
Sweden	1992	.	.	.	34.6	36.6	32.5	41.5	40.7	42.4	10.3	8.6	12.0	13.6	14.1	13.1	100	100	100
Switzerland	1992	.	.	.	22.5	14.2	31.1	55.6	53.5	57.7	14.1	21.4	6.6	7.8	10.9	4.6	100	100	100
Turkey	1992	86.9	81.0	92.2	4.4	6.5	2.3	4.8	6.4	3.1	.	.	.	3.9	6.1	1.7	100	100	100

Source: OECD, *OECD Education Statistics 1985-1992* (Paris, 1995), pp.194-198.

Table 7
Percentage of the Population 55 to 64 Years of Age that has Completed a Certain Highest Level of Education

		Early childhood and primary education			Lower secondary education			Upper secondary education			Non-university teritary education			University education			Total		
	Year	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w
European Community																			
Belgium	1992	52.5	47.2	57.5	23.9	24.8	23.0	14.4	16.5	12.4	5.0	4.8	5.3	4.2	6.7	1.9	100	100	100
Denmark	1992	.	.	.	55.6	46.9	63.8	31.9	38.4	25.7	3.2	3.6	2.8	9.4	11.1	7.8	100	100	100
France	1992	62.5	58.5	66.2	8.6	6.9	10.1	21.6	25.4	18.1	1.7	1.5	1.9	5.6	7.7	3.7	100	100	100
Germany	1992	.	.	.	31.2	16.7	45.2	52.6	58.0	47.4	9.1	14.1	4.2	7.1	11.1	3.2	100	100	100
Ireland	1992	57.7	61.0	54.5	17.2	15.6	18.8	14.7	12.1	17.3	5.2	4.1	6.2	5.2	7.3	3.2	100	100	100
Italy	1992	70.4	65.5	75.0	17.7	20.0	15.5	8.4	9.6	7.4	.	.	.	3.5	5.0	2.1	100	100	100
Netherlands	1992	31.0	24.3	37.4	27.3	23.0	31.4	28.5	35.2	22.0	.	.	.	13.2	17.4	9.2	100	100	100
Portugal	1991	90.0	87.6	92.0	3.3	4.2	2.6	3.2	4.1	2.5	1.3	0.9	1.6	2.2	3.2	1.3	100	100	100
Spain	1992	87.3	84.2	90.1	4.4	4.7	4.1	3.1	3.9	2.4	0.9	1.4	0.4	4.3	5.9	3.0	100	100	100
United Kingdom	1992	.	.	.	49.0	40.2	57.4	37.4	45.0	30.0	6.8	4.8	8.6	6.9	10.0	3.9	100	100	100
Other Europe-OECD																			
Austria	1992	.	.	.	50.5	36.0	63.8	46.2	59.1	34.3	.	.	.	3.3	4.9	1.9	100	100	100
Finland	1992	.	.	.	68.9	68.5	69.3	19.5	17.5	21.3	6.3	7.3	5.4	5.3	6.7	4.9	100	100	100
Norway	1992	1.7	1.8	1.6	37.4	33.6	41.0	46.7	46.4	46.9	7.5	8.2	6.8	6.7	10.0	3.7	100	100	100
Sweden	1992	.	.	.	51.7	51.0	52.4	33.0	33.0	33.0	6.8	6.3	7.2	8.5	9.6	7.5	100	100	100
Switzerland	1992	.	.	.	29.8	18.1	40.1	53.2	55.0	51.7	11.9	19.1	5.6	5.1	7.8	2.6	100	100	100
Turkey	1992	92.5	89.6	95.4	2.9	3.8	2.1	2.9	3.9	1.9	.	.	.	1.7	2.7	0.6	100	100	100

Source: OECD, *OECD Education Statistics 1985-1992* (Paris, 1995), pp.194-198.

2.2 Variations in Europe

The ratios of beginner students, students and graduates of the respective age cohorts did not increase continuously from 1950 and 1990 and their development did not follow any convergent trend across Europe. At least the following variations are worth noting.

Overall across Europe, the ratio of beginner students continued to grow. Highest growth rates on average could be observed in the 1960s, but some growth could be observed in the 1950s, 1970s and 1980s as well. Stagnation or even modest decline of the ratio of beginner students could be observed in individual countries for up to about one decade.

The differences by country are striking. According to UNESCO statistics, the ratio of students of the population aged 20-24 years was highest in 1950 in the Netherlands (7.4%) and Poland (5.9%); in contrast, it was only 2.1% in Spain and even lower in Albania and Turkey.[12] According to OECD statistics, the number of first-time entrants to full-time higher education per 100 'in the theoretical starting age' was above 40% in the majority of European OECD member states around 1990, but below 20% in Central and Eastern Europe as well as in Turkey.[13] The ratio of graduates of the respective age group in 1950 was about three times as high in Austria and Netherlands as it was in France at that time; 25 years later, the ratio of graduates was more than 20% in France, while it was less than 10% in Denmark, Switzerland, and the Netherlands. As Table 2 (cf. above) shows, the OECD reported a ratio of more than 30% of the respective age group obtaining a higher education degree in Norway and Belgium, but a respective ratio of less than 10% in Italy. Some countries moved up in the list of respective ratios and others down. Altogether, we do not note any general trend of more rapid expansion of those starting off with low ratios in the 1950s and 1960s.

This does not mean that no trends across countries can be identified. Rather, we observe, first, that higher education expanded rapidly in the 1950s and early 1960s in the planned economies and thereafter only moderately at most. In contrast, most European OECD member states experienced high growth during the 1960s and partly during the 1970s and, in the 1980s, eventually reached an enrolment ratio about twice as high on average as those in planned economies.[14]

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[12] See UNESCO, *Access to Higher Education in Europe* (Paris, 1968), p. 31. Countries such as Cyprus, Luxembourg, Malta, etc. are not addressed in the text because they predominantly rely on other countries as far as training of their highly educated professionals is concerned.

[13] OECD, *Education at a Glance*, op. cit, p. 126.

[14] See UNESCO/CEPES, *Planning in Higher Education* (Bucharest, 1986).

Second, the ratios of beginner students and graduates varied less by country in respect to university degrees than in respect to completion of any kind of higher education. Altogether, non-university higher education plays quite a different role in Europe: the proportion of students enrolling in such a sector varied from less than 5% to more than 70% in 1990. Yet, in 1987, even the ratio of those completing a first university degree varied among the nine European countries addressed in Table 2 (cf. above) from about 22% in Norway to about 7% in Austria.

It has to be added at this point that the graduation ratios across European countries cannot be more or less inferred from beginner students ratios a few years earlier. For drop-out rates have increased in many European countries over time and they differ substantially between the European countries. In a study published by the Council of Europe, the 'success quota', defined as the ratio of graduates in 1985 to the number of beginner students in 1980, varied among nine countries addressed between more than 90% and less than 50%.[15] Various drop-out studies referred to by the OECD even name drop-out rates of 63% in Italy and 70% in Yugoslavia during the 1980s.[16]

The impact of the various developments on the educational attainment of the labour force might be finally illustrated by recent OECD statistics. In the early 1990s, the proportion of persons 25 to 64 years old having completed higher education was highest in Norway (25%) and Sweden (24%), while the respective ratios were only about less than 8% in Austria, Italy, Portugal and Turkey (cf. Table 8).[17]

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[15] U. Teichler, *Convergence or Growing Variety: the Changing Organisation of Studies* (Strasbourg: Council of Europe, 1988), p. 85; similarly R. Bijleveld, 'Comparing Completion Rates in Higher Education', in L. Goedegebuure and F. van Vught, *Comparative Studies in Higher Education* (Culembourg: Lemma, 1994), p. 289.

[16] OECD, *From Higher Education to Employment: Synthesis Report*, op. cit., p. 58.

[17] OECD, *OECD Education Statistics 1985-1992*, op.cit., p. 194

Table 8
Percentage of the Population 25 to 64 Years of Age that has Completed a Certain Highest Level of Education

		Early childhood and primary education			Lower secondary education			Upper secondary education			Non-university teritary education			University education			Total		
	Year	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w	m+w	m	w
European Community																			
Belgium	1992	28.3	25.4	31.2	26.4	27.6	25.2	25.0	26.2	23.8	11.4	9.2	13.6	8.8	11.6	6.1	100	100	100
Denmark	1992	.	.	.	41.1	36.6	45.7	39.7	44.4	34.9	5.9	5.0	6.8	13.3	14.0	12.7	100	100	100
France	1992	26.2	24.3	28.1	21.5	19.5	23.5	36.3	39.9	32.8	5.7	5.1	6.4	10.2	11.3	9.2	100	100	100
Germany	1992	.	.	.	18.1	11.4	24.9	60.5	61.1	59.9	9.8	12.7	6.9	11.6	14.8	8.3	100	100	100
Ireland	1992	31.7	33.7	29.7	26.1	27.4	24.7	25.3	21.2	29.3	8.6	7.9	9.3	8.3	9.8	6.9	100	100	100
Italy	1992	36.9	32.5	41.3	34.6	37.0	32.3	22.1	23.1	21.0	.	.	.	6.4	7.3	5.4	100	100	100
Netherlands	1992	16.7	14.4	19.1	25.3	21.8	29.0	37.1	40.0	34.1	.	.	.	20.9	23.8	17.8	100	100	100
Portugal	1991	77.6	76.3	78.7	8.3	9.0	7.6	7.5	8.4	6.7	1.7	0.9	2.4	5.0	5.4	4.6	100	100	100
Spain	1992	61.1	58.0	64.1	16.0	16.4	15.6	9.9	10.9	8.9	3.0	4.1	1.0	10.0	10.7	9.4	100	100	100
United Kingdom	1992	.	.	.	31.9	26.1	37.8	49.6	53.9	45.3	7.7	6.2	9.2	10.7	13.8	7.7	100	100	100
Other Europe-OECD																			
Austria	1992	.	.	.	32.0	22.3	41.7	61.0	69.7	52.4	.	.	.	6.9	7.9	6.0	100	100	100
Finland	1992	.	.	.	38.5	38.9	38.1	42.9	41.2	44.6	8.2	7.8	8.5	10.4	12.1	8.8	100	100	100
Norway	1992	1.4	1.6	1.1	19.6	18.6	20.7	53.7	52.7	54.8	12.8	12.4	13.3	12.4	14.8	10.9	100	100	100
Sweden	1992	.	.	.	30.2	31.7	28.6	45.8	45.2	46.4	12.4	10.9	13.8	11.7	12.2	11.2	100	100	100
Switzerland	1992	.	.	.	19.2	13.0	25.4	59.8	56.8	62.9	12.9	19.2	6.6	8.0	11.0	5.1	100	100	100
Turkey	1992	80.0	73.1	87.1	6.4	8.7	3.9	8.9	11.6	6.1	.	.	.	4.8	6.6	2.9	100	100	100

Source: OECD, *OECD Education Statistics 1985-1992* (Paris, 1995), pp.194-198.

2.3 Distribution by Field of Study

In the course of both the expansion of higher education and the structural change of the labour force since Word War II, the composition of students and graduates according to field of study has changed substantially. Experts agree that various factors played a role: students might choose fields; politicians and administrators might steer through the provision of funds and through regulations regarding access and admission; scholars and administrators might extend certain fields and make them more attractive while reducing others and harming their reputation; the employers' system might signal demand in various ways and professional bodies might try to expand their role or to keep their profession exclusive; costs per study place might have, ceteris paribus, an influence on the study places provided.

In all European countries we find a mix of fields or institutions open for everybody qualified to enrol as well as restricted admissions in other areas.[18] Altogether, planning according to perceived manpower demands dominated in the planned economies while 'social demand', i.e. the sum of students' choice, played a substantial role in most Western European countries.[19]

Ups and downs were most pronounced in teacher training and related fields. Science and engineering fields permanently were advocated as gaining importance. Public sector employment grew in many European countries until the 1970s and thereafter decreased.

Statistical categories vary between countries and possibly over time. The international organisations most actively involved in compiling educational statistics, i.e. UNESCO and OECD, changed their classification of fields of study over time. No documents are available analyzing the change of the composition of higher education in Europe from about 1950 to about 1990 according to field of study corresponding to a consistent scheme.

In comparing the composition of students by disciplinary groups in 1955 and 1985 on the basis of UNESCO statistics[20], we note a substantial contrast between some of the planned economies in Central and Eastern Europe and most Western European countries. As regards the former, the proportion of students enrolled in humanities and social sciences in Romania comprised only 29% in 1955 and declined to even 16% in 1985. Also in the Soviet Union and in Czechoslovakia, this

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[18] See UNESCO, *Access to Higher Education in Europe*, op.cit.; *Access to Higher Education in Europe* (Bucharest, 1981); OECD, *Policies for Higher Education in the 1980s* (Paris, 1983); B.B. Burn, 'Higher Education: Access', in T. Husén and T.N. Postlethwaite (eds.), *The International Encyclopedia of Education* (Oxford: Pergamon, 1985), 2179-2185.

[19] Cf. J. Marceau, 'General Report', in OECD (ed.), *Individual Demand for Education* (Paris, 1979), 9-48.

[20] Cf. UNESCO, *Access to Higher Education in Europe*, op. cit., pp. 34-35; V. Nicolae, R.H.M. Smulders and M. Korka, *Statistics of Higher Education* (Bucharest: CEPES, 1989), p. 86.

proportion was somewhat above 40% and declined below 40%, whereby notably engineering took a much larger share than in Western European countries. As regards the Western European countries we note a range in the proportion of students in the humanities and social sciences from 43% to 65% in 1955 and from 45% to 62% in 1985.

In a recent overview provided by OECD regarding fields of study at institutions of higher education in nine European countries in the late 1980s[21],

- humanities and social sciences (including teacher training, excluding economic fields and law) comprised 61% of all students in Denmark, between 30% and 40% in the majority of countries, but only 17% in Norway, 22% in Belgium and 24% in Germany. In the latter three countries, decreasing employment opportunities for teachers had led to a substantial decline of students in the respective fields;
- economic and legal fields had a share of 40% in Belgium and between a quarter and a third in the majority of countries. In Sweden, the number of students in those areas was only 15%, whereby law was an exceptionally small field (3%);
- the proportion of science and engineering students was 40% in Germany, whereby the large number of engineering students at Fachhochschulen comes into play. Although science and engineering were named most frequently, when it came to deliberate planning of resources in higher education, the proportion of students in those fields did not vary less across countries than in other fields: it ranged from 17% (Spain) to 34% (Norway) among the other countries surveyed;
- finally, the proportion of students in medical fields and other health science areas was highest in Sweden (25%). Also, the proportion in Austria (20%) has to be considered as high because the Austrian statistics on higher education do not include any non-university sector. On the other hand, only 7% of the students in the Netherlands and 5% in the Federal Republic of Germany were enrolled in medical fields, whereby para-medical fields in Germany are taught mostly outside higher education.

Altogether, the distribution of students varied more according to field of study among the Western European countries than the public debates on higher education and its relationships to employment suggest. Factors affecting the provision of study places and students' options are obviously more diverse in post-war Europe than major rationales emphasized in public debates have lead us to believe.

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[21] OECD, *From Higher Education to Employment: Synthesis Report*, op. cit., p. 40.

3

Changing Debates about the Quantitative and Structural Relationships between University and Employment

3.1 Common Debates

Universities in the various European countries differ substantially in their basic concepts as regards the function of teaching and learning vis-à-vis employment and work. Also, as discussed above, the ratios of the respective age group beginning and eventually completing a course programme at universities or other institutions of higher education vary substantially. This notwithstanding, the changing relationships between higher education were accompanied by quite similar debates in the European countries - at least among those pursuing similar economic and social policies.[1]

During the first few years after World War II, many European countries were absorbed in re-establishing the universities after the turmoil of the war. No substantial change in the relationships between study and career seemed to be on the agenda.

3.2 Expansion Expected to Serve Economic Growth and Social Equality

The planned economies in Eastern Europe, however, came to the conclusion in the early 1950s that a targeted increase of highly trained cadres would provide for a rapid technological improvement and substantial economic growth. They extended the study provisions systematically during the 1950s with the effect that, for example, the overall number of engineers and higher technicians in the production sector of the Soviet Union increased by more than 50% during the 1950s and even by

[1] Cf. Teichler, 'Occupational Structures and Higher Education', op. cit., 978-979.

more than 40% from 1960 to 1965.[2] The technological development in the planned economies had a tremendous impact in market-oriented industrial countries in the West: the so-called 'Sputnik shock', the successful launching of the first space mission by the Soviet Union, triggered off a call for rapid expansion of education and notably a substantial investment in science and engineering both in secondary and higher education.

The view that expansion of higher education was essential for stimulating economic growth already had gained momentum in the newly emerging sub-discipline of economics of education during the 1950s.[3] The 'Sputnik shock' contributed to a rapid dispersion of these notions first in the US and subsequently in France[4] as well as in other Western European countries, whereby the OECD played a significant role.[5] Around the mid-1960s, most experts and politicians in Western Europe seemed to share the view that expansion of higher education was desirable for the stimulation of economic growth.

In the planned economies, manpower forecasts gained momentum whereby the individual production enterprises were asked to indicate in advance the number of graduates they would need in a few years. These projections were added up and formed the basis for the decisions as regards the number of students to be admitted in corresponding fields of study. This system was handled in a relatively strict manner in the Soviet Union[6] and Romania, but in a more flexible way in Poland.[7]

In Western European countries two other approaches in establishing the relationships between the demands of economy for highly qualified labour and the supply by the higher education system became popular among economists. First, the Manpower Requirement Approach was used to predict future demand by extrapolating the structural changes of the labour force in the individual industrial sectors in the wake of economic development, predicting the speed of restructuring

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2 D. Chuprunov, R. Avakov and E. Jiltsov, *Enseignement supèrieur, emploi et progrès technique en URSS* (Paris: Unesco Press, 1982), p. 43.

3 Cf. the overviews in M.J. Bowman et al. (eds.), *Readings in the Economics of Education* (Paris: Unesco Press , 1968); K. Hüfner and J. Naumann, *Ökonomie - Eine Zwischenbilanz* (Stuttgart: Klett, 1969); G. Williams, 'The Economic Approach', in B.R. Clark (ed.), *Perceptives on Higher Education* (Berkeley, Cal.: University of California Press, 1984), 79-105; M. Woodhall, 'Economics of Education: A Review', in G. Psacharopoulos (ed.), *Economics of Education*, op. cit., 1-8.

4 Cf. E. Esnault, 'Employment Prospects in the Seventies', in OECD (ed.), *The Utilization of Highly Qualified Personnel* (Paris, 1973), 125-210.

5 OECD, *The Residual Factor and Economic Growth* (Paris, 1964).

6 I.V. Ivanov, 'Skilled Manpower Planning, Forecasting and Training in the USSR', in R.V. Youdi and K. Hinchliffe (eds.), *Forecasting Skilled Manpower Needs* (Paris: UNESCO/IIEP, 1985), 153-172.

7 A. Josefowicz, J. Kluczynski and T. Obrebski, 'Manpower and Education Planning and Policy Experience in Poland, 1960-80' in Youdi and Hinchliffe (eds.), op. cit., 135-152.

on the basis of growth scenarios, and to compare the number of positions for highly qualified persons thus derived with the prospective supply of graduates and school leavers.[8] This approach was first employed on a large scale in the OECD's Mediterranean Regional Project in the early 1960s.[9] Second, the Human Capital Approach served as the basis of calculating returns to educational investments[10], whereby some adherents to this approach came to the conclusion that higher returns for graduates than social investments indicate a shortage of highly-skilled persons and lower returns an oversupply.[11]

Concurrently, political efforts in Western European countries gained momentum to reduce inequalities of educational opportunity, notably according to socio-economic background, gender, and region. This was striven for as a socio-political goal in its own right as well as based on the belief that a reduction of social barriers to education would mobilize talents needed in society to stimulate economic growth.[12] While admission quotas were fixed for children of manual workers, farmers, etc. in some Eastern European countries, notably during the 1950s and 1960s, efforts were made in Western Europe to reduce educational inequalities through indirect measures such as the abolishment of tuition fees, the provision of need-based scholarships, the introduction of compensatory education for the disadvantaged, the provision of educational opportunities in hitherto disadvantaged regions, information campaigns, etc.[13]

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8 See G. Psacharopoulos, 'The Manpower Requirements Approach', in Psacharopoulos (ed.), *Economics of Education*, op. cit., 331-335; as regards its application see Youdi and Hinchliffe (eds.), op. cit.; Fulton, Gordon and Williams, op. cit.

9 H.S. Parnes, *Forecasting Educational Needs for Economic and Social Development* (Paris: OECD, 1962); cf. G. Williams, 'The OECD's Mediterranean Regional Project', in Psacharopoulos (ed), *Economics of Education*, op. cit., 335-336.

10 G. Psacharopoulos, *Returns to Education: An International Comparison* (Amsterdam: Elsevier, 1973).

11 Cf. the critical comments by D.M. Windham, 'Social Benefits and Subsidization of Higher Education: A Critique', *Higher Education* 5 (1976), 237-252.

12 See the summary of the debates and activities in T. Husén, *Social Background and Educational Career* (Paris: OECD/CERI, 1972); OECD (eds.), *Education, Inequality and Life Chances*, 2 Vols. (Paris, 1975); D. Hartung and R. Nuthmann, *Status- und Rekrutierungsprobleme als Folgen der Expansion des Bildungswesens* (Berlin: Max-Planck-Institut für Bildungsforschung, 1975).

13 See U. Teichler, 'European Practise of Ensuring Equality of Opportunity to Higher Education, *Journal of Higher Education Studies* 3 (1988) 2, 2-11.

3.3 Structural Moderation

During the late 1960s and early 1970s, this optimistic view of the expansion of higher education was modified. Doubts grew whether an expansion of universities could be funded to the extent initially projected, whether such high numbers of graduates actually were needed and whether a high level of quality could be preserved in the process of rapid expansion. A restructuring of the higher education system was advocated in order to meet the growing diversity of students, their talents, motives and career prospects.

Some experts and politicians favoured a highly structured, diversified system of higher education in order to protect 'elite higher education' on the one hand and to provide 'mass higher education' for a growing number of students on the other hand.[14] Others pleaded for a 'soft' system of a broad range of educational goals and qualities as well as easier ways to modify individual educational choices. Finally, some opted for keeping quality differences limited.[15]

In the wake of these debates, various institutions were upgraded or newly founded to form a new sector of so-called 'non-university' or 'short-cycle' higher education in Western European countries, for example *Instituts universitaires de technologie* in France, Polytechnics in the United Kingdom, *distrikthogskoler* in Norway and *Fachhochschulen* in the Federal Republic of Germany. The types of institutions varied in the extent to which they emphasized more or less the same entry requirements as universities or lower ones, short-cycle study or study programmes similar to universities as well as a 'vocational' or a general curricular approach.[16]

Also, routes of access to higher education opened up for leavers of secondary schools traditionally not qualifying for higher education or for adults not having completed secondary education. Transfer routes were established from non-university higher education to university programmes.

In some countries, strong efforts were made to keep quality differences in the expanding higher education system limited. In the Federal Republic of Germany, the Framework Law for Higher Education enacted in 1976 provided for comprehensive universities combining 'theoretical' and 'practice-oriented' course programmes within the same institutions. Actually, however, only six comprehensive universities were founded which offered students the opportunity to choose be-

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[14] M. Trow, 'Problems in the Transition from Elite to Mass Higher Education', in OECD (ed.), *Policies for Higher Education* (Paris, 1974), 51-101.

[15] See the overview on the debates and options chosen in U. Teichler, *Changing Patterns of the Higher Education System* (London: Kingsley, 1988).

[16] See OECD, *Short-Cycle Higher Education: A Search for Identity*, op. cit.; UNESCO/CEPES, *New Forms of Higher Education in Europe* (Bucharest, 1976).

tween those options in the course of their study. According to the Swedish higher education legislation, all institutions of higher education were named 'högskole', and short as well as regular degree programmes were provided within the same institution.[17]

Altogether, no convergent structure of higher education emerged in Europe. A two-type or three-type institutional pattern spread, but did not become a consistent pattern all over Europe. The 'comprehensive' model remained exceptional. In some countries, a 'unitary' structure was preserved (for example in Austria, Italy, and Switzerland) or re-established (Finland). Re-structuring activities came more or less to a halt from the late 1970s to the late 1980s, and only re-emerged around 1990 notably in countries, where concern grew about the long duration of studies.[18] In various countries, they were expected to develop regions remote from universities.[19]

3.4 Pessimism and Concern about Overqualification

During the 1970s, the optimism of the 1960s was eventually replaced by pessimism as far as expansion of higher education is concerned, and by a dramatic criticism of the policies prevailing the 1960s.[20] Notably, views changed in four respects.

First, faith faded as regards a substantial growth of demand for highly qualified human resources. Occasionally, concern about an oversupply of graduates had been expressed earlier, but it gained momentum after the so-called 'oil shock' in 1973, when unemployment began to grow substantially in market-oriented societies. Many politicians and researchers pointed out an increasing 'mismatch' between demand and supply as well as growing discrepancies between the competences of graduates and the job requirements. For example, concern grew about an *'Akademisches Proletariat'*, i.e. an increasing number of graduates experiencing a similarly miserable fate as a substantial number of university graduates did during the world economic crisis around 1930. Or critique was expressed about an emerging 'displacement'[21], i.e. graduates taking over jobs traditionally held by persons

[17] See H. Hermanns, U. Teichler and H. Wasser (eds.), *The Compleat University* (Cambridge, Mass.: Schenkman, 1983).

[18] See Teichler, *Changing Patterns of the Higher Education System*, op. cit.; OECD, *Alternatives to Universities* (1991); C. Gellert (ed.), *Higher Education in Europe* (London: Kingsley, 1993).

[19] See J.-E. Lane, 'Higher Education Regionalisation', *Higher Education* 13 (1984), 347-368; J.-E. Lane, 'Local Communities and Higher Education', in Clark and Neave (eds.), op. cit., 946-956.

[20] Cf. the overview on the debate in T. Husén, *The School in Question* (London: Oxford University Press, 1979).

[21] A. Hegelheimer, 'Verdrängen und verdrängt werden', *Der Arbeitgeber*, 27 (1975), 1097-1099.

having completed intermediate levels of secondary education or of vocational education, thus offsetting the opportunities of these less privileged persons, while possibly performing worse on the job than those who had been trained for them in a more targeted manner.[22]

Second, efforts to reduce inequality of educational opportunity seemed to have been less successful than anticipated. Access to higher education of the previously disadvantaged social groups had indeed increased.[23] However, change was more modest than hoped for. Notably, increased educational opportunities did not seem to translate into corresponding equality of professional opportunities.[24] As subsequent research suggests, both educational and professional opportunities for women increased in most countries in the process of the expansion of higher education, though not leading to equity[25]; in contrast, inequality of professional opportunity by socio-economic background remained fairly stable in the process of educational expansion in many countries and was only reduced significantly in a minority of countries, for example the Netherlands and Sweden.[26] As regards continued inequality of job prospects by socio-economic background, notably two phenomena were underscored. On the one hand, employers might select graduates according to their social skills or 'cultural capital' and this more pronounced, if their number is seen as abundant.[27] On the other hand, pressures for the preservation of social inequality might increase the weight of tiny differences between educational credentials, for example between types of higher education institutions, between the individual universities or between grades, and thus make futile

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[22] See the summary of this debate in Fulton, Gordon and Williams, op. cit; Teichler, Hartung and Nuthmann, op. cit.

[23] See M. Kotwal, 'Inequalities in the Distribution of Education between Countries, Sexes, Generations and Individuals', in OECD (ed.), *Education, Inequality and Life Chances*, Vol. I, op. cit., 31-108; G. Busch, 'Inequality of Educational Opportunity by Social Origin in Higher Education', in OECD (ed.), *Education, Inequality and Life Chances*, Vol. I, op.cit., 159-181.

[24] See the summary of research and debates in T. Husén, *Higher Education and Social Stratification: an International Comparative Study* (Paris: UNESCO/IIEP, 1987).

[25] See G.P. Kelly and S. Slaughter, *Women's Higher Education in Comparative Perspective* (Dordrecht: Kluwer, 1991); A. Wetterer (ed.), *Profession und Geschlecht: Über die Marginalität von Frauen in hochqualifizierten Berufen* (Frankfurt/New York: Campus, 1992).

[26] Y. Shavit and H.-P. Blossfeld (eds.), *Persistent Inequality: Changing Educational Attainment in Thirtee Countries* (Boulder, Col.: Westview, 1993).

[27] See P. Bourdieu und J.-C. Passeron, *Die Illusion der Chancengleichheit* (Stuttgart: Klett, 1971); P. Bourdieu and J.C. Passeron, *Reproduction in Education, Society and Culture* (London and Beverly Hills, Cal.: Sage, 1977); see also R.K. Kelsall, A. Poole and A. Kuhn, *Graduates: The Sociology of an Elite* (London: Methuen, 1972).

the growing access of hitherto disadvantaged groups to the lower ranks of the higher education system as far as employment opportunities are concerned.[28]

Third, considerable career rewards for education, previously regarded as a desirable component of a meritocracy, became a focus of criticism. Instead of a cycle of shortage followed by increased rewards and again of an oversupply followed by reduced rewards, as the Human Capital Approach suggests, the combination of a relatively continuous opening of educational opportunities combined with a relatively continuous reward of educational attainment by the employment system seemed to have led to an endemic oversupply of highly qualified persons. Activities were called for to redress 'credentialism'[29] and the 'diploma disease'[30]: recruitment and career policies, notably in the public but also in the private sector, should cease to put - what was claimed to be - artificial emphasis on the qualifications acquired in assessing competences and performance.

Fourth, belief eroded in general as regards the rationality and possible success of targeted educational policy and planning. Macro-societal planning was viewed more cautiously.[31] Concepts of economics of education lost popularity.[32] Ambitious reform goals gave way to an awareness of the various pitfalls in the implementation of reforms.[33] In this context, limits of the predictive power of manpower forecasts and respective planning activities were a major target of critique.[34] Some errors seem to have increased 'mismatches'. Altogether, however, the relationships between higher education and employment turned out to be more flexible than the planning concepts prevailing in the 1960s had suggested.

The debates of this period about the tasks and functions of higher education vis-à-vis employment and work were more controversial than at any other time after World War II. When widespread support prevailed for growth in the preceding decade, divergent goals did not seem to be contradictory, and universities felt little pressure as far as the links between study and subsequent employment and work are concerned. When graduates began to face employment problems on a large

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[28] See U. Teichler, 'Struktur des Hochschulwesens' und 'Bedarf' an sozialer Ungleichheit', *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 7 (1974), 197-209.

[29] Cf. D. Davies, 'Credentialism', in Clark and Neave (eds.), op. cit., 871-877.

[30] R.P. Dore, *The Diploma Disease* (London: Allen and Unwin, 1976).

[31] See OECD (ed.) *Educational Planning: A Reappraisal* (Paris, 1983).

[32] See G. Williams, 'The Economic Approach', op. cit., 79-105.

[33] L. Cerych and P. Sabatier, *Great Expectations and Mixed Performance: The Implementation of Higher Education Reforms in Europe* (Stoke-on-Trent: Trentham, 1986).

[34] Cf. the summary in Youdi and Hinchliffe (eds.), op. cit.; Arbeitsgruppen des Instituts für Arbeitsmarkt- und Berufsforschung und des Max-Planck-Instituts für Bildungsforschung (eds.): *Bedarfsprognostische Forschung in der Diskussion* (Frankfurt: Aspekte, 1975); Teichler, Hartung and Nuthmann, op. cit.; Fulton, Gordon and Williams, op. cit.

scale, however, universities felt pressed to take into account more strongly the employability of their graduates.[35] Moreover, the aims of serving the general and academic goals of universities on the one hand and the professional goals on the other appeared contradictory under these conditions. The same seemed to hold true for the goals of serving the economic demands on the one hand and on the other of contributing to equality of opportunity, for higher education seems to become less open to hitherto disadvantaged groups at times of - desired or actual quantitative - stagnation than at times of deliberate growth.[36] On top of this, the controversies delineated above were fuelled by the aftermath of the student protests in the late 1960s and the reform debates triggered off by these protests. Finally, it became more difficult to take action in any direction at these times of stagnating or declining expenditures for higher education than in the preceding periods of deliberate expansion.

3.5 Adjustment to a High Supply and Individualized Solutions

From the late 1970s onwards up to the late 1980s, the sense of crisis as regards the relationships between higher education and employment was moderated and gave way to less emotional observations.[37] This reflected changes of graduate employment and work as well as processes of adaptation to the changed state of affairs.

First, the growth of the number of graduates beyond the presumed demand has not led to any single major problem. Rather, access to higher education did not expand any longer as much as before, some students avoided subjects the graduates of which faced serious employment problems, some students prolonged studies, the job search period increased somewhat, initial employment became somewhat more risky, unemployment reached a certain level, inappropriate employment increased to some extent, and so forth.[38]

This was accompanied by a growing awareness of the flexibility inherent in the relationships between higher education and employment. In the United Kingdom, enrolment in a certain field of study traditionally was not conceived to be a clear decision for a certain occupational area as in many other European countries. In fact, in 1971 about 8% of British university-trained persons having graduated from

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[35] See G. Williams, 'Graduate Employment and Vocationalism in Higher Education', *European Journal of Education* 20 (1985), 181-192.

[36] See P. Windolf, *Die Expansion der Universitäten 1970-1985: Ein internationaler Vergleich* (Stuttgart: Enke, 1990).

[37] See for example OECD, *Policies for Higher Education in the 1980s* (Paris: OECD, 1983).

[38] Cf. Chapters 2 and 5 of this contribution; see also U. Teichler, 'Beziehungen von Bildungs- und Beschäftigungssystem: Erfordern die Entwicklungen der achtziger Jahre neue Erklärungsansätze', in A. Weymann (ed.), *Bildung und Beschäftigung* (Göttingen: Schwartz, 1987; Soziale Welt, Sonderband 5), 27-57.

the humanities were employed in industry or agriculture and about 15% in private services.[39] But in other countries as well, potential and actual flexibility became visible. In the Federal Republic of Germany, for example, the Institute for Labour Market and Occupational Research of the Federal Employment Agency calculated on the basis of 1970 census data that one out of six graduates from mechanical engineering had substituted graduates from other disciplines and one-fifth non-graduates, while one sixth of the occupational categories typically occupied by graduates from mechanical engineering actually were filled by graduates from other fields of study and one fifth by non-graduates. Corresponding 'realized substitution' was even higher for graduates from electrical engineering and law; in the case of scientists, vertical substitution remained an exception, but horizontal substitution was even higher.[40]

Second, employment prospects for graduates obviously had become more diverse according to field of study, to type of higher education institution, and to prestige of the individual institution than it had been believed to be in the past. In some areas shortages were felt, while in others an abundance of graduates was obvious.[41] Graduates from some institutions had many options, while others faced serious employment problems. This state of affairs underscored the responsibility of the individual student in choosing an appropriate institution and in acquiring knowledge as well as the responsibility of the individual university and department as far as the study provisions and their relevance for the careers of their graduates are concerned.

These developments affected educational planning as well. After the initial high hopes and the subsequent serious criticism, macro-social planning eventually adjusted to moderate goals. This change was most visible in Western European countries, and in Western Europe notably in countries in which educational planning, as a planned provision of human resources for a market economy[42], had been quite pronounced, such as Sweden and the Federal Republic of Germany. But it affected the planning approaches in the planned economies as well.[43]

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[39] R. Butler, *Employment of the Highly Qualified* (London: Department of Employment, 1978)

[40] Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit, *Berufliche Flexibilität und Arbeitsmarkt*, (Nürnberg, 1977; Quintessenzen, 7), pp. 14 and 20; see also D. Mertens and M. Kaiser (eds.), *Berufliche Flexibilitätsforschung in der Diskussion*, 4 Vols. (Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit, 1978); U. Teichler and B.C. Sanyal, *Higher Education and the Labour Market in the Federal Republic of Germany* (Paris: Unesco Press, 1982), pp. 90-99.

[41] See the overview in Teichler, 'Higher Education and Work in Europe', op. cit., p. 131.

[42] See K. Hüfner, 'Higher Education in the Federal Republic of Germany: a Planned or a Market System? Or a Third Way?' In R. Avakov et al. (eds.), *Higher Education and Employment in the USSR and in the Federal Republic of Germany* (Paris: Unesco/IIEP, 1984), 185-196.

[43] UNESCO/CEPES (ed.), *Planning in Higher Education* (Bucharest, 1986).

The emerging mood as regards the possible role of planning and regarding the aims of higher education policies addressing graduate employment might be illustrated by the summary of the OECD conference convened in the early 1980s on policies for higher education in the 1980s. The OECD did not recommend a contraction of higher education systems. Apart from a general attitude of favouring market-oriented or moderate steering mechanisms rather than strong interventionist policies, fear was expressed that innovation in higher education, which had been encouraged under conditions of growth in the past, might come to a halt. On the other hand, the OECD assumed that a laissez-faire policy, i.e. just hoping for adjustments either in terms of declining social demand for higher education or in terms of absorption of the rising number of graduates on lower-level jobs, was not acceptable for most European OECD member states, given the state of visible problems and public concern. Rather, the OECD recommended to enhance the 'employment relevance of higher education studies' in various ways: 'guiding students toward more occupationally-relevant courses', 'encouraging institutions to be more sensitive to employment problems and give priority to courses that respond to the requirements of working life', 'placing more emphasis on technology and applied subjects', reforming the content and structure of studies and thereby 'imparting a more practical orientation of studies', and finally, promoting a 'new partnership between higher education and the world of work'.[44]

During this period, we note a significant change in the relationships between governments and higher education institutions in many Western European countries. With the exception of the United Kingdom, governments reduced bureaucratic control, thus raising the individual universities' opportunity to shape their own profile.[45] Evaluation systems were introduced expecting the individual universities or departments to demonstrate their potentials and achievements, and indicators for the 'performance' of higher education were employed in some countries as criteria for the allocation of funds.[46] Although aspects of academic quality in research and in teaching were paid most attention and issues of successful graduation and graduates' career additionally come into play[47], this changing system of steering, supervision and self-assessment increased awareness within the universities of the links between teaching, study and subsequent careers of graduates.

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[44] OECD, *Policies for Higher Education in the 1980s*, op. cit., p. 35.

[45] See G. Neave and F. van Vught, *Prometheus Bound: The Changing Relationship Between Government and Higher Education in Western Europe* (Oxford: Pergamon, 1991).

[46] See H.R. Kells, *Self-Regulatin in Higher Education: A Multi-National Perspective on Collaborative Systems of Quality Assurance and Control* (London: Kingsley, 1992).

[47] See the overview on widely used criteria and indicators in F.J.R.C. Dochy, M.S.R. Segers and W.H.F.W. Wijnen (eds.), *Management Information and Performance Indicators in Higher Education: An International Issue* (Maastricht: Assen, 1990).

It is obvious that no mood of balance re-emerged in the 1980s, as far as a 'match' between higher education and employment was concerned. Rather, the view continued to prevail that the supply of graduates surpasses the demand and that many graduates face employment problems and eventually will not end up in suitable positions. The situation, however, was interpreted less negatively than before, and faith in grand, macro-societal solutions had faded.

Besides, we continuously noted interpretations during the 1970s - both in Western and Eastern Europe -, and they became more vocal during the 1980s that an increase of the competences beyond those traditionally seen as required should not be interpreted as 'overqualification'.[48] Various reasons were put forward: that a rich supply of high skills was a reasonable risk strategy in the face of uncertain future demands, that it could contribute to the social equalization in terms of a reduction of social hierarchies, that job roles could be reshaped in the direction of a frequent combination of complex and less complex tasks, and that the rich supply of highly educated human resources could stimulate innovation and high quality work in areas traditionally neglected.

3.6 Further Vagueness, Increased Employment Problems, Further Massification or on the Way to a Highly Educated Society?

During the late 1980s and early 1990s, the relationships between higher education and employment became a stronger focus of debate than they had been from the late 1970s to the late 1980s, as a considerable list of studies, conferences and publications shows.[49] The views expressed, however, were strikingly divergent.

First, employers point out more strongly than in the past that graduates' attitudes and social skills rank high among the criteria they take into consideration for recruitment and promotion.[50] As far as the cognitive domain is concerned, however, statements about future demands tend to remain vague.

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[48] See D. Mertens, 'Unterqualifikation oder Überqualifikation', *Gewerkschaftliche Monatshefte*, 27 (1976), 488-497; Z. Suda, 'Universal Growth of Educational Aspirations and the 'Overqualification' Problem: Conclusions from a Comparative Data Analysis', *European Journal of Education* 14 (1979), 113-164; Z. Suda, *Occupational Satisfaction of Graduates Under Conditions of 'Overqualication'* (Maastricht: European Centre for Work and Society, 1981); D. Vaida, 'The University does not Overqualify', *European Journal of Education* 14 (1979), 165-174; Teichler, Hartung and Nuthmann, op. cit., chapter 3.

[49] See OECD, *From Higher Education to Employment: Synthesis Report*, op. cit.; 'Higher Education and the Labour Market' (special issue), *Higher Education in Europe* 18 (1993) 2; U. Teichler, 'Higher Education and Employment - The Issues for University Management', *Higher Education Management* 6 (1994), 217-225; 'Higher Education and Employment' (special issues), *European Journal of Education* 30 (1995) 1 and 2; J. Brennan, M. Kogan and U. Teichler (eds.), *Higher Education and Work* (London: Kingsley, 1995).

[50] See for example European Round Table of Industrialists, *Education and the European Competence* (Brussels, 1989).

Second, unemployment increased in various European countries in the early 1990s - both in the labour force in general and among graduates from higher education.[51] Thus, the call for targeted employment policies is back on the agenda. For universities, the growing unemployment makes it all the more difficult to opt for any curricular approach meant to be relevant for employment.

Third, the proportion of new entrant students among the respective age group seems to grow in various Western European countries since the late 1980s more strongly than from the mid-1970s to the mid-1980s. Also, governments in several countries, for example in France, Sweden, and the United Kingdom, promote a growth of the number of students. Finally, employers' voices in favour of further expansion seem to be on the rise as well.

In contrast to previous debates, no single major cause is advocated in favour of expansion. Rather, a variety of different arguments are put forward: in some areas, a growing demand for specialists is predicted. New technologies seem to lead to a growth of positions for graduates from mathematics, information sciences etc. The service sector obviously continues to grow, thus providing prospects for graduates. The increasing number of middle-level positions requiring flexible and well-educated persons leads to a more favourable assessment of a growing absorption of graduates by these segments. Declining birth ratios might call for a transformation of the work force towards increased proportions of highly skilled personnel. Growing societal problems - such as environmental destruction, disparities between developed and developing countries - might lead to corrective strategies which, in turn, will increase the demand for highly qualified specialists. Altogether, many experts seem to have faith in growing employment opportunities for graduates while concurrently warning about the uncertainties ahead.[52]

Fourth, growing attention is paid to employment of graduates in other countries. For example, about one fifth of students spending a period of study in another European country supported by the ERASMUS programme - the EU programme supporting temporary student exchange notably in networks of institutions of higher education which agree to ease temporary study abroad and recognize achievement abroad upon return - eventually become employed abroad.[53] The overall proportion of European university-trained persons working abroad was estimated to be at most 2% at about 1990, but prospects of a further rise have significantly affected the debates around 1990 about the future role of the European university.

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[51] Cf. OECD, *Education and Employment* (Paris, 1995), chapter 6.

[52] See for example R. Pearson, 'Meeting Europe's Employment Needs - Challenges for the Universities' *CRE-action* (1990) 92, 11-22.

[53] U. Teichler and F. Maiworm, *Transition to Work: Experiences of Former ERASMUS Students* (London: Kingsley, 1994), p. 57.

Finally, the trend towards further expansion of enrolment might eventually call into question the traditional view according to which the economic and social welfare depends heavily on an elite of scarce talents. A high quota of well-educated persons capable to spread and to absorb new knowledge might be regarded as crucial, and universities might be expected to consider their contribution to a highly educated society as a prime focus as far as teaching and study is concerned.[54]

It would be premature, though, to state any dominant trends and interpretations. The diversity and ambiguity of trends and interpretations are notably grave for countries in Central and Eastern Europe, where the socio-political system has dramatically changed and new socio-political options are on the agenda.[55] As far as the relationships between university and subsequent careers are concerned, consensus about best solutions is less in sight than in the preceding decades.

[54] Cf. U. Teichler, 'Towards A Highly Educated Society', *Higher Education Policy* 4 (1991) 4, 11-20.

[55] See Centre for Co-operation with the Economies in Transition (ed.) *Pilot Project on Regional Cooperation in Reforming Higher Education. Seminar IV: Professional and Social Competence* (Paris: OECD, 1995).

4

Graduation and Degrees

4.1 The Degree Programme

From the 1950s up to the 1970s, study in many European countries became more highly structured and more standardized than before. Almost all attention was paid to students wishing to study a whole study programme upon the successful completion of which their expertise is certified as a basic qualification for further academic and professional work.

In various European countries universities differed, and still differ to some extent today, as regards the extent to which students have to follow highly structured study programmes or, reversely, the extent to which study is relatively open in terms of the amount of individual courses to be taken, the choice of individual courses, the duration of study, etc. Notably, Western European universities closely following the Humboldtian tradition, and especially the humanities and social sciences in these countries, tended to provide many options. Also, some Southern European universities, for example in Italy and Spain, tended to provide the students ample freedom as far as the study period is concerned.

In the wake of higher education expansion during the 1960s and 1970s, we noted a trend for curricula to become more highly standardized. Many factors contributed to this trend. The growing professional relevance of higher education in many areas called for a clearer delineation of competences to be achieved. The 'knowledge explosion' required a sorting out process as regards what can be achieved in a few years of study. The proportion of students not adjusted through prior learning and family socialisation to loosely structured teaching and learning processes seemed to be on the rise. The growing funds needed for higher education called for increased efficiency, therefore long and open studies as well as discontinuation of study without a degree ('drop-out') were more likely to be regarded as a 'wastage', and more frequently than in the past, degrees were expected to certify a common body of knowledge.

This trend towards standardization of complete degree programmes, however, did not remain unchallenged. Efforts to serve learning of 'adults', 'life-long educa-

tion' and 'recurrent education' called for an opening up of those highly structured programmes. Notably, British and Nordic universities addressed these demands more strategically since the late 1960s and the 1970s. In addition, study opportunities were eased for students starting late, possibly without typical secondary education credentials, wishing to study part-time or through distance programmes - evening and distance study programmes were established in all planned economies already in the 1950s - or for students discontinuing study for some periods.

In most countries, however, teaching serving those not heading for a degree is clearly dissociated from degree programmes - for example as open lectures, non-degree adult education, continuing professional education, etc. Notable exceptions are the 'single courses' ('enstaka kurser') at Swedish institutions of higher education as well as the various levels of diplomas in Irish non-university higher education for one, two or three years of successful study.

Increased standardization has many implications for graduation and the award of a degree. Previous study achievements might have to be scrutinized more carefully, and the certification of competences might have to be more elaborate than in the past. Obviously, standardization of study programmes is accompanied by a more detailed assessment and certification during the course of study.[1]

A continuous counting of study loads and credits - somewhat similar to the US credit system - was introduced in various European countries from the late 1960s to the early 1980s. For example, Swedish points ('poäng') and the Finnish study weeks ('opintovikko') are understood as being equivalent to one week of study - irrespective of how much time is spent in classes or on self-study. Dutch universities began to calculate all study programmes in terms of an overall study load ('studiebelasting'). A course programme comprises a total of 6,720 study hours ('studie uren'), i.e., four years of study, whereby the academic year lasts 42 weeks and the weekly study load corresponds to 40 hours.

In some countries, efforts were made to establish clear stages of study, as found traditionally in France. Since the 1980s, for example, universities in the Federal Republic of Germany are expected to undertake a major interim assessment after about two years - similarly to the pre-diploma ('Vor-Diplom') which already existed in programmes leading to the degree called 'Diplom'.

Finally, efforts were made in some countries to create a clear stage structure of degrees where it did not exist before. For example, German and Austrian students wishing to be awarded a doctor's degree traditionally were not obliged to take any

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[1] Cf. the overviews of study programmes in Europe in A. Ebel and B. Moor (eds.), *Higher Education in the European Community: Student Handbook* (London: Kogan Page, 1985); U. Braun, *Student Handbook: A Directory of Courses and Institutions in Higher Education for 16 Countries not Member of the European Community* (Strasbourg: Council of Europe Press, 1991); U. Teichler, *Convergence or Growing Variety: The Changing Organisation of Studies* (Strasbourg: Council of Europe, 1988).

prior final examination and to be awarded any lower-level degree. This practice was more or less phased out in the 1970s and the 1980s respectively. Still, a small minority of German and Austrian universities allow students to take the doctorate as their first degree.

4.2 Graduation

Graduation is understood as a process in which a student's achievement is assessed and he or she is eventually certified as having successfully completed studies and having acquired such a configuration of expertise which can be considered as basic academic and/or professional qualification. Graduation tends to be symbolically underscored by a certificate testifying the complete qualification as well as frequently by the award of a title.[2]

As a rule the institutions of higher education are in charge of certifying the successful completion of studies. There are, however, various exceptions some of which might be mentioned.

(1) In the United Kingdom, universities are granted the right to award degrees through a royal charter. Other colleges traditionally had to cooperate with universities in order to have their students awarded an 'external degree' by the chartered university. When polytechnics were established in the late 1960s as a second major type of higher education institution, the Council for National Academic Awards (CNAA) was founded for the purpose of granting degrees and other awards in the non-university sector and of examining the respective curricula. Similarly, a National Council for Educational Awards (NCEA) was established in the Republic of Ireland.

(2) In the Federal Republic of Germany, students completing a field of study usually leading to a government-supervised profession - notably in medical fields, law and teacher training - are not awarded any university degree. Rather, they pass a state examination which is jointly examined by university professors and state examiners or professionals.

(3) In the United Kingdom and in Ireland, some professional bodies or other external institutions, for example churches, are awarded the right to grant degrees. In various other European countries, churches are involved in granting degrees.

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[2] Cf. the overviews in British Council, National Equivalence and Information Centre, *International Guide to Qualifications in Education* (London: Mansell, 1984); H. Jablonska-Skinder and U. Teichler, *Handbook of Higher Education Diplomas in Europe* (München: Saur, 1992); A. Wijnaendts von Resandt (ed.), *A Guide to Higher Education Systems and Qualifications in the European Communities* (Luxemburg: Office for Official Publications of the Commission of European Communities, 1991); G. Dahlström, *Att studera i Norden* (Kobenhavn: Nordisk Rad, 1985).

(4) In the planned economies, academies had the right to confer academic degrees, i.e. the doctorate, as well as the advanced academic degree ('doctor scientiae' or similarly).

a) Since the 1970s, some institutions of higher education regularly co-operating with partner institutions in other countries award a 'double degree', i.e. both a degree of the home institution and of the partner institution abroad, to students who had spent a study period abroad.

4.3 Certification and Award of Degrees

Universities, other institutions of higher education or possibly other awarding agencies certify the completion of studies. Such a certifying document might comprise general information about the awarding institution, the institution providing the course programme, the title conferred, the level of institution and of degree programme, the legal basis of the course programme and the award, the field of study, and the typical duration of the programme. It also provides information about the person having been awarded the degree (name and possibly other biographical data), details of his or her studies, competences and achievements, for example, areas of specialization chosen, prior examinations passed, title of thesis, and grades. In addition, names of examiners and those guaranteeing the award through their signature might be given.

In some European countries, governments regulate the information provided by the documents and other formal elements of certification. Altogether, however, certification of awards varies substantially as regards the degree of detail and the transparency of the competences acquired. On the one hand, they are expected to inform about the competences of graduates, but on the other hand, traditions emphasizing the symbolic nature of the award as well as efforts of deliberately disguising the value of the award make it difficult for the potential user to understand the competences certified, for instance by exaggerating the value of the award.[3]

The certification documents in some European countries provide detailed information about the grades conferred, possibly the overall grade as well as grades regarding different areas of expertise, different courses, the thesis and other components of the final examination. Or formulations supplementing the award might indicate grades, such as 'First Class Honours' or similarly in the United Kingdom. Other institutions might provide documents without any grades, but possibly pro-

[3] Cf. U. Teichler, 'The Informational Value of Higher Education Diplomas and the Information Needed to Unterstand Them', *Higher Education in Europe* 9 (1986) 4, 10-19; C. Berg and U. Teichler, 'Unveiling the Hidden Information in Credentials', *Higher Education in Europe* 13 (1988), 3, 13-24.

vide statements of the student's achievement which are not perceived as being part of the formal documentation of the award.

In most countries, awards upon the completion of study have typical names, and in many cases a title is awarded which the person might use in connection with his or her name. In some countries, the designation of the award and the title are more or less identical, for example the 'Magister' in Austria, or the 'kandidat' in Denmark or similarly in most other Nordic countries. In others designation of degrees and titles awarded differ: Holders of the 'laurea' degree conferred by Italian universities are called 'dottore' or 'dottoressa'.

Awards upon completion of study programmes might differ according to discipline, type of competences and professional area. For example, the 'Magister' in the Federal Republic of Germany, mostly conferred in the humanities, underscores the academic and general nature of the course programme, the 'Diplom', mostly awarded in science, engineering and social sciences, indicates some basic professional competences, and the 'Staatsexamen' is the first professional qualification for the civil service or other publicly supervised professions.

In many European countries, specific titles are awarded for those graduating in engineering - for example 'ingenieur (ir.)' in the Netherlands and 'ingenjör' in Sweden - or in other fields emphasizing professional preparation - for example 'meester in de rechten (mr.)' in the Netherlands or 'agronom' in Sweden. In Switzerland, titles differ according their institutional, regional or national standardization or recognition: the 'Dipl. Chem.-Ing. ETH' is a graduate of the Eidgenössische Technische Hochschule Zürich, while the 'architecte diplomé EPF' is a graduate of the École Polytechnique Fédérale de Lausanne. Upon completion of study, future barristers in the canton Bern are awarded the professional qualification of the 'Berner Fürsprecherpatent'. In contrast, a graduate in food chemistry is conferred a degree explicitly designating national validity: 'Lebensmittelchemiker (eidg. Diplom)'.

4.4 Levels of Awards

At many European universities, we note two levels of awards: the first university degree which signals basic academic and possibly professional competence, for example the 'Magister' in Austria, and the 'Doktor' awarded upon completion of substantial academic work.

In some European countries, additional awards were customary:

- In the United Kingdom and in the Republic of Ireland, we note a stage structure of two university degrees: a first degree mostly named 'bachelor's' and mostly awarded after three or four years of study, and a second degree taken by a majority of those awarded the first degree - mostly named 'master's' and mostly awarded after one additional year of study. It should be noted, though, that both

the first and second degree in Scotland are called master's, that some first degrees in England are called master's and some second degrees 'bachelor's.[4]

- In France and traditionally in the Nordic countries, two levels of examinations and awards were customary in the humanities and sciences, a 'licence' and 'maîtrise' after three and four years of study respectively in France, and, for example in Norway, a 'cand.mag.' after three and a half years of study and a higher candidatus the designation of which refers to a discipline, for example 'cand.psychol.' after two additional years of study. This partial two-stage system was discontinued in Sweden during the 1960s and in Finland during the 1970s.
- The advanced degree of a licentiate - for example a 'Lic.philos.' in Norway - is customary in Nordic countries. Efforts were made in the 1960s and 1970s to phase out the respective programmes and titles because the time and effort involved was viewed as almost corresponding to a doctorate in other countries, but eventually the award was preserved.
- In some countries, an advanced (post-doctoral) academic qualification is awarded which is generally viewed as the entry gate to the professoriate. This holds true for the 'Habilitation' in the Federal Republic of Germany as well as the 'doctor scientiae' in planned economies (for example 'Doktor habilitowany' in Poland).

Four interrelated factors contributed to a reconsideration of the structure of graduation and awards in Europe: the establishment and expansion of non-university higher education, the concern in some European countries about the long duration of studies, the growing professional relevance of studies, and finally efforts to ease international academic mobility of students and doctoral candidates as well as international professional mobility.

Most non-university higher education institutions newly emerging and established through upgrading - notably in the late 1960s or early 1970s or during the late 1980s and early 1990s - provide programmes of a duration between one and four years and award diploma degrees which are mostly viewed as lower in academic level than universities.[5] There are exceptions though: for example, the British and Irish institutions were also entitled to award bachelor's and master's degrees, and the Norwegian distrikt hogskoler can award a first university degree as

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4 British Council, *British Qualifications* (London: Kogan Page, 1986).

5 Cf. the overviews in OECD (ed.) *Short-Cycle Higher Education: A Search for Identity* (Paris, 1973); R.A. de Moor (ed.) *Changing Tertiary Education in Modern European Society* (Strasbourg: Council of Europe, 1978); G. Vedel (ed.) *Reform and Development of Tertiary (Post-Secondary) Education in Southern Europe* (Strasbourg: Council of Europe, 1981); Teichler, *Convergence or Growing Variety*, op. cit., pp. 110-130.; C. Gellert (ed.) *Higher Education in Europe* (London: Kingsley, 1993).

well. The degree programmes of the Grandes Écoles in France are generally viewed as more demanding than those at French universities.

Concern about the long duration of studies - along with debates about the international equivalences of degrees - led to the introduction of a bachelor's in Denmark in the late 1980s. It is awarded after completion of three years of study - irrespective whether the programme is designed as three-year programme or whether the title signifies a successful completion of an interim stage. Similarly, Spanish universities aimed to upgrade the successful completion of three years of study in the early 1990s.

As a compromise between traditions of university course programmes and changing job requirements universities in various European countries established short post-degree programmes. Credentials conferred at the completion of those programmes vary strikingly. In the Federal Republic of Germany, for example, some are called 'Zertifikat' and thus underscore the singular nature of those courses, while others are called 'Diplom' thus claiming similarity to regular university degrees with some professional emphasis.

Notably, international or supranational organisations are involved in easing international transparency of studies and degrees and stimulating boundary-crossing mobility. The Council of Europe adopted conventions on the equivalence of qualifications for admission to higher education (1953), on the equivalence of periods of university study (1958) and on the academic recognition of university qualifications (1959).[6] Governments of ten planned economies signed the 'Convention on the Validation and Mutual Equivalence of Secondary and Specialized Secondary School-Leaving Certificates, of Higher Education Diplomas, and of Diplomas Granted for Scientific Titles and Academic Degrees' 1972 in Prague. In 1979, the respective member states of the UNESCO adopted the Convention on the Recognition of Studies, Diplomas and Degrees concerning Higher Education in the States belonging to the Europe Region.[7] In the framework of the European Community, the European Council adopted directives on academic recognition for professional purposes in some fields (medicine, 1975; veterinary medicine, 1978; architecture, 1985; pharmacy, 1978).[8] Eventually in 1988, it adopted a directive according to which graduates having successfully completed three years of study at an institution of higher education in the European Community are, in principle, entitled to

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6 Cf. Council of Europe, *Report on Mutual Recognition of Degrees and Diplomas in Post-Secondary Education* (Strasbourg, 1975).

7 See 'International Recognition of Studies and Degrees: Challenges and Perspectives', *Higher Education in Europe* 13 (1988) 3, 5-66.

8 See Commission des Communautés Européennes, *La reconnaissance mutuelle des diplômes et des qualifications professionelles* (Bruxelles, 1980); cf. also G. Neave, *The EEC and Education* (Stoke-on-Trent: Trentham, 1984).

be professionally active in any other country of the Community, whereby a country generally requiring additional qualifications for professional recognition and licensing has to provide the opportunity of acquiring the respective qualification and credential through training or examinations.[9] Finally, the European Commission encouraged mutual recognition of study by providing support for temporary student mobility within networks of co-operating institutions of higher education - the Joint Study Programmes promoted from 1976 to 1986 and the ERASMUS Programme inaugurated in 1987 - under the condition that study achievements abroad are recognized by the home institution upon return.[10]

The diplomas which eventually emerged in Europe might be classified in nine categories.[11]

(1) Semi-terminal diploma, such as the 'Diplome d'études universitaires générales (DEUG)' in France after two years of study or the 'National Certificate' in Ireland after two years of study as well.

(2) Short-course diploma - terminal diplomas awarded upon completion of courses shorter than those considered adequate for first degrees in the respective countries, for example, a 'Diplome universitaire de technologie (DUT)' in France or a 'Diploma in Higher Education (DipHE)' in Ireland.

(3) A first university degree based on a relatively short course programme, such as a 'licence' in France, a 'bachelor's' in England and Wales and in Ireland and a 'cand.mag.' in Norway as well as a degree upon completion of a relatively long course programme at non-university higher education, for example a 'Diplom' supplemented by an '(FH)' in brackets awarded by German *Fachhochschulen* or a 'baccalaureus' (abbreviated 'bc.' or 'B.) conferred since the late 1980s by Dutch 'Hogescholen', formerly called 'hoger boroepsonderwijs (HBO)'.

(4) A first university degree based on a course programme requiring at least four years of study, for example a 'Magister' in Austria, a 'kandidaatti' in Finland, or a 'laurea' in Italy.

(5) An advanced university degree in countries where the first university degree is awarded after a relatively short period, for example a 'Master's' in England and Wales, or a 'maîtrise' in France. This degree tends to be considered equivalent to a first university degree based on a relatively long course programme.

(6) A supplementary or add-on diploma, certifying a short academic or professional qualification based on studies undertaken after the award of a first aca-

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9 See Bundesministerium für Bildung und Wissenschaft, *Akademische Berufe im EG-Binnenmarkt* (Bonn, 1992).

10 See F. Dalichow, 'Academic Recognition in the European Community' *European Journal of Education* 22 (1987), 39-58; J. Preston (ed.), *EC Training, Education and Research Programmes: An Action Guide* (London: Kogan Page, 1991).

11 The classification is largely based on Jablonska-Skinder and Teichler, op. cit., pp. 23-24.

demic degree, for example a 'Postgraduate Certificate in Education' (PGCE) in the United Kingdom or a 'Diplom' or 'Zertifikat' after a short 'Aufbaustudium' or 'Weiterbildungsstudium' in the Federal Republic of Germany.

(7) An advanced university degree following some years after the completion of a degree based on a relatively long degree programme. This is notably the licentiate degree in some Nordic countries.

(8) The academic degree of a 'doctor' or similar.

(9) An advanced academic degree, for example a 'Habilitation' or a 'doctor scientiae'.

The national and international debates about the values of credentials conferred upon completion of study programmes in higher education have eventually led to a widespread agreement according to which duration of study at institutions of higher education is the single most important indicator of study achievement. In comparison to this, the distinction between universities and other institutions of higher education has lost momentum. Around 1990, more experts seem to agree that a distinction of four levels is in place, if it comes to academic equivalences, i.e.

- diplomas beyond the level of a first university degree;
- degrees equivalent to a 'bachelor's';
- degrees equivalent to a 'master's;
- doctoral awards.

As regards the professional value, the distinction between the equivalent of a 'bachelor's' and the equivalent of a 'master's' is clear in some countries and professional areas, but blurred in others.

The emphasis on the duration of study as the key criterion for the academic and professional value of study has not led to a complete standardization of the length of course programmes - neither between countries nor within countries. For example, in the 1980s we note in Europe - even if artistic and medical fields are excluded because they tend to differ from the majority of fields - bachelor programmes ranging from three to five years of study, and programmes considered equivalent to a master's between four and six years. Within individual countries, the duration of an university degree programme is either strictly standardized (for example four years in the Netherlands) or might vary by one year (various arrangements in the Federal Republic of Germany or one year longer in engineering fields than in others fields in Spain and Italy). In Sweden, a first university degree might vary according to field of study even between three and five years.

Although the required duration of study became the single most important criterion for the value of degrees, the range of the actual duration tends to widen even further. While, for example, most British students tend to complete study in the

required period, students in Spain, Finland, Italy, Germany, France, Austria and possibly some other countries seem to prolong their studies on average by more than 50 percent beyond the officially required period. Prolongation seems to have increased further in most of these countries during the 1970s and 1980s with the exception of the Netherlands, where stricter rules of checking the duration were successfully employed in the early 1980s.[12]

Thus, the continuous debate on the need for clarification of the value of academic credentials and for the establishment of international equivalences has had some sorting impact but did not lead to a consistent system of diplomas and titles. The inclination to boost the title is not only common internationally in medical fields where a graduate can acquire a doctor title without substantial additional academic work, or in Italy and Czechoslovakia where university graduates in general or at least in some fields are named 'dottore' or 'JUDr.', 'RNDr.', etc., but it affects the debates on international equivalences as well. Handbooks can hardly overcome the general lack of information and the confusing details. In the international context, international offices of universities, national information and equivalence offices as well as personnel offices of public institutions and private enterprises have to shoulder a substantial burden in order to cope with this state of affairs.

[12] See U. Teichler and W. Steube, *Studiendauer und Lebensalter: Beiträge zur Diskussion aus sieben ausgewählten Ländern* (Bonn: BMBW, 1989; Bildung und Wissenschaft international, 1/89); see also R. Ciucci, 'Students in 1984: A Part-Time Activity along with Other Jobs? Illustrations from Italy', *European Journal of Education* 19 (1984), 299-308; P. Määtä and S. Valkonen, 'Study Careers and Productivity', in P. Hakkarainen, H. Jalkanen and P. Määtä (eds.), *Current Visions and Analyses on Finnish Higher Education System* (Jyväskylä: Jyväskylän yliopisto 1992), 121-135; R.J. Bijleveld, 'Programme Length and Duration of Studies in German and Dutch University Education: A Comparative Analysis', in Stifterverband für die Deutsche Wissenschaft (ed.), *Studienzeitverkürzung* (Essen, 1991), 83-107.

4.5 Academic Award and Professional Qualification

While abundant literature is available about credentials upon completion of study and their academic value, much less is generally known about the links between an award and right to be professionally active. Some typical modes can be stated.

The least regulated or most open link between a degree and professional practice is obviously less widespread in Europe than commonly assumed: it is completely left to the public or private employers whether they consider a degree as a prerequisite for certain positions or whether they also recruit persons for those position not holding a degree. Similarly, it is open for a person to undertake certain professional activities independently - irrespective whether he or she has been awarded a degree.

In some instances, governments might explicitly relativize the value of credentials by holding public qualifying examinations for entry to subsequent training or professional practice. Such a 'concours' is undertaken in France for graduates wishing to transfer to teacher training as well as to training for some other public services.

In some countries, laws and other governmental regulations underscore the importance of degrees by protecting certain titles and determining qualifications for access to professions. For example, the title 'Ingenieur' became a protected title in the Federal Republic of Germany during the 1950s, i.e. only to be used by persons having been awarded a corresponding degree. Since then, companies cannot designate experienced practitioners that way any longer.

Most Eastern European countries, the Nordic countries as well as a few other European countries adhere to the principle of 'effectus civilis'. Accordingly, the degree is a publicly accepted basic qualification for professional practice - irrespective what further processes of formal or informal training and learning might be required to be fully competent for the respective professional practice.

In some cases, government is directly involved in the process of examination and awards a degree at the end of a course programme. This is true for the German 'Staatsexamen' upon completion of study which is viewed as an incomplete degree. Only after some period of professional internship and a second examination, these persons are considered to be qualified and are possibly awarded a title.[13] In some other countries, government is less directly involved, but still plays a substantial role in establishing qualifications to be met.[14]

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[13] See C. Händle, 'Lehrerausbildung (Organisation)', in L. Huber (ed.), op. cit., 623-632; U. Branahl, 'Rechtswissenschaft (Studium)', in Huber (ed.), op. cit., 685-692.

[14] See T. Becher, *Governments and Professional Education* (Buckingham: SRHE & Open University Press, 1994).

In other cases, a professional training phase upon completion of a degree is provided at institutions of higher education as well. This holds true in some countries for teacher training phases upon completion of a degree in subjects to be taught in schools[15], for example in the United Kingdom or in the Netherlands.

In some countries, finally, professional bodies exert a strong power as regards access to a profession.[16] For example, some professions in engineering and economic areas in the United Kingdom and in Ireland require both the successful passing of a theoretical examination and the positive assessment after an extended practical phase supervised by the licensed professional as a prerequisite for professional licensing. Thereby they might consider the respective university degree as equivalent of the theoretical examination, or they might even require examinations in some areas in addition to the degree - the latter notably if they consider the curricula at some or all higher education institutions as not being in tune with what they consider to be indispensable knowledge.

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[15] See H. Judge, 'Teacher Education', in Clark and Neave (eds.), op.cit., 1229-1240; T.R. Bone and J. McCall, *Teacher Education in Europe: The Challeges Ahead* (Glasgow: Jordanhill College, 1990).

[16] See S. Goodlad (ed.), *Education for the Professions: Quis custodiet...?* (Guilford: SRHE & NFER-Nelson, 1984).

5

Graduate Employment and Work

5.1 Transition from Study to Employment

Before concern grew about graduate employment in various European countries in the 1970s, research or regular statistics about the transition from higher education to employment were scarce.[1] Since the 1970s, however, the number of surveys on graduate and employment increased substantially. In some countries, regular annual or biennial surveys were established; official statistics provided more often detailed accounts of the relationships between higher education and employment. Therefore, the subsequent overview will primarily address the period from 1970 to 1990.[2]

In many European countries, the period of transition to employment became a protracted process, requiring to become well informed about employment opportunities, to undertake elaborate search activities and possibly to accept employment conceived to be temporary in order to have a means of living while searching for more promising solutions. A certain period of search became almost a matter of procedure in countries where grades of final examinations play an important role for subsequent employment.

The increase of elaborate search can be demonstrated by the Austrian example: among the 1975/76 university graduates searching for a job in private enterprises or public organizations, 16% applied at ten or more institutions. Ten years later, the respective ratio was 34%.[3]

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1 See E. Esnault and J. Le Pas, 'New Relations between Post-Secondary Education and Employment', in OECD (ed.) *Towards Mass Higher Education: Issues and Dilemmas* (Paris, 1974), 105-169; M. Tessaring and H. Werner, *Beschäftigungsprobleme von Hochschulabsolventen im internationalen Vergleich* (Göttingen: Schwartz, 1975).

2 Cf. the overviews on available studies in Teichler, 'Higher Education and Work in Europe', op. cit; OECD, *From Higher Education to Employment: Synthesis Report*, op. cit.

3 S. Loudon, *Zum Berufseinstieg von Akademikern/innen* (Wien: Institut für Höhere Studien, 1988), p. 21.

An increasing length of the search period can be shown in Austria as well: the proportion of university graduates spending a period of waiting after graduation was 50% in 1975/76, i.e. shortly after the so-called 'oil shock' affected the labour market, declined to 40% in 1978/79 in the wake of a modest economic recovery and eventually increased to 79% in 1985/86. The curve of those waiting more than 6 months - 9%, 6% and 24% - even more clearly shows this change over time. It should be noted though that the number of those stating that they waited voluntarily surpassed that of those waiting involuntarily.[4] In Switzerland, however, the proportion of those waiting more than three months to start employment remained more or less constant at somewhat more than 20% over the 1980s.[5]

In most countries, few surveys were undertaken and thus, no trends can be established. Among Swedish graduates in 1984-85, only 4% percent of those employed about a year later waited more than four months to take up employment.[6] In contrast, a relatively high proportion of French and Italian graduates in the 1980s spent a relatively long period of search.[7]

In various countries, unemployment of recent graduates increased, though not continually. For example, the proportion of British university graduates being unemployed six months after graduation increased from 2% of the 1965/67 graduate cohort to 8% of those completing study in 1972/73 and eventually to 16% of those graduating in 1980/81, and thereafter declined to 9% among the 1986/87 graduate cohort.[8] The proportion of Norwegian university graduates reporting unemployment six months after graduation in a respective survey increased from 2% in 1981 to 7% in 1989. The respective quota of graduates from 'distrikt hogskoler' grew from 3% to 13% during the same period.[9] Similarly, in the Netherlands, the ratio of the number of unemployed recent university graduates in May of a given year as compared to the number of graduates of the previous year in-

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4 L. Lassnigg, S. Loudon and H. Spreitzer, 'Austria: Developments in Higher Education and the Changing Transition to the Labour Market', in OECD (ed.), *From Higher Education to Employment*, Vol. I (Paris, 1992), p. 113.

5 T. Ogay, 'Suisse', in OECD (ed.), *From Higher Education to Employment*, Vol. IV (Paris, 1992), pp. 191; see also B. Morgenthaler, 'Die Beschäftigungssituation der Neuabsolventen der Schweizer Hochschulen 1985', *Wissenschaftspolitik* (1986) 34 (Beiheft), p. 55.

6 Statistika centralbyran, *Högskolan 1984/85: Elevuppföljingar 1985* (Örebro, 1986), p. 20.

7 See J.-P. Jarousse and C. de Francesco, *L'enseignement supérieur contre le chomage* (Paris: European Institute of Education and Social Policy, 1984).

8 M. Bee and P. Dolton, 'Patterns of Change in U.K. Graduate Unemployment, 1962-87', *Higher Education* 28 (1990), p. 27.

9 T. Naess and P. Aamodt, 'Norway', in OECD (ed.), *From Higher Education to Employment*, Vol. III (Paris, 1992), p. 310.

creased from 17% in 1980 dramatically to 49% in 1985; thereafter, it declined moderately to 36% in 1989.[10]

For graduates in some small European countries working abroad might be a way to overcome the problems of the local labour market. For example, when the overall unemployment quota in the labour force in the Republic of Ireland increased during the 1980s, the proportion of unemployed by graduates from institutions of higher education increased initially from 14% in 1981 to 22% in 1983, but declined afterwards to 7% in 1989, while emigration to find work abroad increased from 8% in 1981 to 29% in 1989.[11]

Fixed-term contracts became more frequent. For example, the respective proportion among first jobs of Austrian graduates doubled within a decade: it increased from 21% in 1975/76 to 42% in 1985/86.[12] In the Federal Republic of Germany, more than one third of recently employed university graduates in the early 1980s had fixed-term contracts, among them half of those employed in the public sector and one tenth in the private sector.[13] In the late 1980s, more than two-thirds of recent university graduates had fixed-term contracts, among them more than 90% in the public sector and almost half in the private sector.[14] Traditionally, one would have expected a substantial proportion only during the first few years, but a survey conducted in Germany in the late 1980s shows that even 4-5 years after graduation 30% of the university graduates from mechanical engineering, 10% from economic fields and 18% from social work were in fixed-term contracts.[15]

Finally, it was frequently claimed that employment problems led graduates to continue study beyond graduation, both as a possible shelter from unemployment and in order to increase the level of qualification. This does not turn out to be a general phenomenon in Europe, though. In Austria, indeed, the proportion of 1985/86 graduates continuing study was 10% higher (42% as compared to 32%)

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[10] I.M.T. Coppens, 'The Netherlands', in OECD (ed.), *From Higher Education to Employment*, Vol. III, op. cit., p. 340.

[11] G. Hughes and P.J. O'Connell, 'Higher Education and the Labour Market in Ireland, 1981-1991', *European Journal of Education* 30 (1995), pp. 79-80. According to the authors, the trend reversed again from 1989 and 1991, possibly as a consequence of deteriorating employment prospects abroad.

[12] Lassnigg, Loudon and Spreitzer, op. cit., p. 134.

[13] K.-H. Minks and R. Reissert, *Studium, Übergang und Berufseintritt unter veränderten Arbeitsmarktbedingungen* (Hannover: HIS, 1984).

[14] K.-H. Minks and R. Nigmann, *Hochschulabsolventen zwischen Studium und Beruf* (Hannover: HIS, 1991).

[15] H. Schomburg, 'Berufsverlauf in den ersten vier bis fünf Jahren nach Studienabschluß', in U. Teichler and M. Buttgereit (eds.), *Hochschulabsolventen im Beruf* (Bad Honnef: Bock, 1992), pp. 29-30.

than among their predecessors ten years earlier.[16] In the Federal Republic of Germany, however, the proportion of students enrolled who had already obtained a degree remained constant at a level of 12%-13% from 1973 to 1991.[17] And in the United Kingdom, the proportion of first university graduates continuing education and training six months later decreased from 34% in 1976 to 22% in 1988[18] - notably due to a decline in the area of teacher training.[19]

Altogether, it does not come as a surprise to note that a substantial proportion of graduates experience problems in their search for employment. Surveys suggest, however, that students became accustomed to the growing complexity of the transition process. For example, 35% of the Norwegian university graduates in 1982 reported such problems as compared to 43% of graduates from 'distrikt hogskoler'. The respective quotas declined to 16% and 29% in 1987, although the unemployment quota increased during that period.[20] Similarly, the proportion of recent Swiss university graduates reporting to have faced respective problems when surveyed one year after graduation declined from 47% in 1985 to 28% in 1989.[21]

5.2 Changing Employment

New employment opportunities for graduates emerged as a consequence of rapid structural change of the economy and the labour market. In all industrial societies we note an increase of employment in the third sector. For example,

- in France, employment in the agricultural sector declined from 30% in 1949 to 6% in 1990, in industry it declined moderately, after a temporary increase, from 33% to 29%, and in the services it increased from 37% to 65%.
- In the Federal Republic of Germany, employment in the first sector decreased similarly from 22% in 1950 to 4% in 1990, the industrial sector followed a similar curve on a higher level from 45% to 39%, and employment in the third sector increased from 33% to 57%.
- Industrialization took place somewhat later in Italy. The respective figures were 44% in 1951 and 9% in 1990 for agriculture, 30% and 32% for industry, and finally 27% and 60% for the service sector.

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[16] Loudon, op. cit., p. 30 (the percentage does not include graduates only formally enrolled).

[17] Bundesminister für Bildung und Wissenschaft, *Grund- und Strukturdaten 1993/94* (Bonn, 1993), pp. 154-155.

[18] Johnes and Taylor, op. cit., p. 123.

[19] J. Tarsh, 'United Kingdom', in OECD (ed.), *From Higher Education to Employment*, Vol. IV, op. cit., p. 89.

[20] NAVS utredningsinstitutt, *Arbeitsmarkerkedet et halvt ar etter eksamen* (Oslo, 1989), p. 59.

[21] Ogay, op. cit., p. 188.

- In the United Kingdom, the agricultural sector was already substantially smaller and decreased further during this period from 5% in 1951 to 2% in 1990. Employment in the industrial sector decreased more rapidly than in the other countries referred to (from 47% to 29%), while the service sector was exceptionally high initially (48%) and grew further (to 69%).[22]

The growth trend of the third sector naturally provided more employment for graduates, as, for example, more than 85% of professionally active university-trained persons in the Federal Republic of Germany were active in the third sector during that period. However, in various countries we note a stagnation or even a decline of public-sector employment which notably affected recent graduates in specific fields of study, for example teacher training.

Altogether, the sectoral change provided growing employment opportunities for graduates, but the proportion of graduates among the persons active in the respective sectors increased as well. For example, the quota of university-trained persons among those active in industry in the Federal Republic of Germany increased, according to census and microcensus data, from about 1% in 1961 to 2% each in 1970 and 1980. The respective numbers of university and *Fachhochschule*-trained persons substantially increased from 3.3% in 1976 to 5.7% in 1987. The respective proportions in banking and in the insurance sector grew only from 2.7% to 3.0% and 3.4% and from 4.4% to 7.7% respectively. In government and social security positions, the quota of university-trained persons was 5.7% in 1961, declined slightly to 5.0% in 1970 and grew to 7.7% in 1980; the respective proportion of university and *Fachhochschule*-trained persons increased from 9.7% in 1976 to 15.4% in 1987.[23]

The available data suggest that in many European countries employment for graduates grew up to about 1970, especially in the context of sectoral change of the economy. In the 1970s and 1980s, however, graduates were absorbed on the labour market primarily through an increase of the respective quota of graduates within the individual sectors. The latter development might be illustrated by two other examples.

- The proportion of persons in Norway having completed higher education among all professionally active persons in primary and secondary sectors increased from 5% in 1975 to 11% in 1989 as well as in commerce and commu-

[22] OECD, *The OECD Jobs Study: Evidence and Explanations. Part I: Labour Market Trends and Underlying Force of Change* (Paris, 1994), p. 5.

[23] See K. Parmentier and M. Tessaring, 'Bildungswesen und Arbeitsmarkt für Hochqualifizierte: eine Übersicht', in Arbeitsgruppen des Instituts für Arbeitsmarkt- und Berufsforschung und des Max-Planck-Instituts für Bildungsforchung (eds.), op. cit., p. 257; U. Teichler and B.C. Sanyal, 'Higher Education and the Labour Market', in R. Avakov et al. (eds.), op. cit., (Paris: UNESCO/IIEP, 1984), p. 105; D. Hartung and B. Krais, 'Studium und Beruf', in U. Teichler (ed.), *Das Hochschulwesen in der Bundesrepublik Deutschland* (Weinheim: Deutscher Studien Verlag, 1990), p. 195.

nication from 7% to 12%. It also increased in sectors traditionally accommodating larger proportions of college-trained persons: in finance and business services from 23% to 41% and in the public administration from 26% to 37%.[24]

- Similarly, the proportion of university-trained persons in the Swedish industry grew from 2% in 1971 to 6% in 1991, in other private sectors from 3% to 9%, in the health system from 5% to 11%, and in public administration from 20% to 35%.[25]

Most attention among politicians and experts was paid to the 'vertical' change of graduate employment. Some shift from high-status positions and from the university-trained professions towards qualified middle-level positions took already place before 1970. This was more pronounced in those European countries, in which the growth of student numbers had started relatively early. In France, for example, the proportion of persons in the labour force having completed higher education and being active as employers, professionals and managers declined moderately from 73% in 1954 to 68% in 1968 and eventually to 62% in 1975. In contrast, the proportion of graduates employed as middle-level executives increased from 16% to 21% and 26% percent during this period. However, during this period there was no substantial change in the proportion of degree-holders being employed in occupation in which graduate employment tends to be exceptional. The proportion of those active as clerical workers, farmers, manual workers, service personnel and in other occupations remained constant at about 11-12%.[26]

Most experts agree that the proportion of demanding jobs has continued to increase within most sectors during the 1970s and 1980s, but not to such an extent that it would ensure positions and job tasks for the growing number of university graduates in matching those in the past. Thus, we note an increase in the number of graduates from institutions of higher education in positions and tasks not necessarily requiring a degree.

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[24] See OECD, *From Higher Education to Employment: Synthesis Report*, op.cit., p. 98.

[25] Op. cit., p. 98.

[26] V. Vincens, 'Postgraduate Education and Employment: The French Case', *European Journal of Education* 16 (1981), pp. 34-35.

Table 9
Professional Function of University Trained Persons in the Federal Republic of Germany 1989 by Age and Gender (percentages)

	Total	below 35 years	35 - 44 years	45 and older
a) all				
Self-employed	15.5	8.3	16.6	20.7
Leading positions	20.7	13.7	20.5	27.1
Qualified specialists	47.0	50.6	49.3	41.7
"Sachbearbeiter"	6.5	11.3	4.9	4.0
Workers, low-level employees	9.3	14.1	8.3	6.3
No answer	1.0	2.0	0.4	0.3
Total	100	100	100	100
b) Men				
Self-employed	18.0	8.7	19.4	23.1
Leading positions	26.7	17.5	26.8	32.8
Qualified specialists	42.3	50.1	44.2	35.4
"Sachbearbeiter"	5.0	9.4	4.0	2.9
Workers, low-level employees	6.7	10.9	5.1	5.5
No answer	1.3	3.4	0.6	0.4
Total	100	100	100	100
c) Women				
Self-employed	10.5	7.7	11.4	13.4
Leading positions	8.6	8.9	8.2	9.7
Qualified specialists	56.6	51.2	59.1	60.8
"Sachbearbeiter"	9.6	14.7	6.7	7.2
Workers, low-level employees	14.7	18.7	14.6	8.8
No answer	-	-	-	-
Total	100	100	100	100

Source: H. Plicht, K. Schober and F. Schreyer, 'Zur Ausbildungsadäquanz der Beschäftigung von Hochschulabsolventinnen und -absolventen', *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 27 (1944), pp. 197-198.

This change of positions and tasks can be measured 'objectively', e.g. in terms of occupational categories. For example, of the graduates from the second cycle of French institutions of higher education in 1975, 15% were employed three years later in intermediate occupations and 2% in lower positions ('employés' and 'ouvri-

ers et divers'); the respective ratios increased to 19% and 4% for 1984 graduates three years later.[27]

In other European countries we note as well that less than 10% of persons having completed higher education were employed during the 1970s and 1980s in categories which tend to be viewed as clearly not requiring a degree. Up to 20% were employed in categories which might be called 'middle-level occupations', such as technicians, sales and office workers. While some experts tend to view these positions as not requiring a degree, others argue that a self-rating - as regards required level of education or the extent to which they utilize their knowledge - is more valid in those cases than the seemingly 'objective' occupational classification.

The same holds true for functional classifications within companies. According to a debate among experts in the early 1990s in Germany, some claim that about one fifth of university graduates have positions and work tasks clearly below any appropriate level[28], while others point out the vagueness of the classification. As the microcensus data of 1989 show (see Table 9), 9.3% of the professionally active university-trained persons (10.0% of the *Fachhochschule*-trained persons) were classified as workers or low-level employees and a further 6.5% (17.8%) as "Sachbearbeiter"[29], which might be translated 'specialist' or 'case worker'.

Another way of looking at the links between educational attainment and occupations is to analyze the increasing proportion of degree-holders within the individual occupations. If the degree was required for professional practice already before the process of expansion of higher education under consideration, change of this kind cannot be expected by definition. In Sweden, for example, more or less all medical doctors, dentists, nurses, psychologists, lawyers, and teachers professionally active in 1970 had been higher education-trained. The most obvious upgrading trend took place from 1970-1985, when the proportion of college-trained persons aged 30-39 years in the overall labour force almost doubled (from 12% to 22%), among

- professionals in electrical engineering and telecommunications (12%/38%),
- professionals in architecture, civil engineering, and mechanical engineering (14%/37%),

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[27] A. Charlot and F. Pottier, 'France', in OECD (ed.), *From Higher Education to Employment*, Vol. III, op. cit., pp. 118.

[28] 'Akademiker-Beschäftigung: Ein Fünftel unter Niveau', *iwd* (1994) 30.

[29] H. Plicht, K. Schober and F. Schreyer, 'Zur Ausbildungsadäquanz der Beschäftigung von Hochschulabsolventinnen und -absolventen, *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* 27 (1994), 177-204.

Table 10
Educational Attainment Level in Occupational Groups in Sweden, age 30 - 39, 1970 and 1985

	Educational level 1970					Educational level 1985				
	Higher education	Upper secondary	Other	Total %	Total N	Higher education	Upper secondary	Other	Total %	Total N
Structural engineering (Engineers, architects etc.)	14	64	22	100	14800	37	46	17	100	13200
Electrical Engineering and Telecommunications	12	69	18	100	9600	38	45	17	55	17700
Other technical occupations	9	58	31	98	31200	27	41	28	98	37700
Biological, chemical and physical occupations	36	35	30	100	5700	62	19	19	100	13800
Doctors	100	0	0	100	3700	100	0	0	100	9200
Dentists	100	0	0	100	2000	100	0	0	100	3100
Nurses	91	8	2	100	8500	96	1	3	100	23500
Other medical, health-care and nursing occupations	9	49	41	99	29700	13	59	27	99	79200
Head teachers, directors of studies	85	5	10	100	1100	81	5	14	100	700
University and college teachers	91	2	8	100	3000	84	3	13	100	5000
Teachers of theoretical subjects	87	4	9	100	11600	79	6	15	100	14600
Class teachers	91	3	6	100	12000	91	2	7	100	22400
Pre-school teachers	71	14	15	100	2000	91	2	7	100	18000
Other educational work	48	21	31	100	10000	50	20	29	100	17200

continued

Table 10 (continued)

	Educational level 1970					Educational level 1985				
	Higher education	Upper secondary	Other	Total %	Total N	Higher education	Upper secondary	Other	Total %	Total N
Religious work	50	33	17	100	1300	56	20	23	100	2700
Court lawyers	99	0	1	100	500	96	0	4	100	900
Other legal work	97	0	3	100	1100	90	3	7	100	2900
Arts and literature	30	37	34	100	4900	30	34	36	100	8300
Journalists	28	32	40	100	2200	49	30	21	100	4700
Auditing experts	51	42	8	100	1300	57	32	11	100	3500
Social welfare workers	47	30	23	100	3700	89	17	15	100	17300
Librarians, museum staff etc.	60	19	21	100	1600	60	23	18	100	3700
Economists and statisticians	89	3	7	100	600	55	30	15	100	8400
Psychologists	96	0	4	100	600	92	2	6	100	2000
Personnel officers	29	36	35	100	3000	47	33	20	100	9100
System analysts, programmers	35	44	21	100	2700	56	29	14	100	12300
Bank clerks	8	45	47	100	3000	7	69	24	100	9400
Company managers, controllers	20	44	36	100	3700	33	35	32	100	3900
Other public or corporate adm.	7	38	55	100	61600	13	55	33	100	128800
Insurance, estate agencies etc.	4	46	50	100	2000	17	50	33	100	4000
Wholesale and retail entrepreneurs	0	24	76	100	5600	5	40	55	100	9800
Advertising	34	38	28	100	2300	39	35	26	100	5300

continued

Table 10 (continued)

	Educational level 1970					Educational level 1985				
	Higher education	Upper secondary	Other	Total %	N	Higher education	Upper secondary	Other	Total %	N
Other marketing and commercial occupations	0	27	72	100	53400	10	43	47	100	58900
Agriculture, forestry and fisheries	2	24	74	100	39800	5	35	60	100	32500
Transport and communications	2	22	76	100	46700	3	49	48	100	59400
Manufacturing etc.	0	23	77	100	213300	1	38	61	100	232100
Service professions etc. (police, fire services, armed forces, property management, hotels etc.)	6	26	68	100	84700	10	40	50	100	194400
Grand total	12	29	58	100	705900	22	36	39	100	1089500

Source: Forneng and Andersson, op. cit., p. 155.

- social welfare workers (47%/69%),
- journalists (28%/49%),
- system analysts and programmers (35%/56%),
- pre-school teachers (71%/91%),
- company managers, controllers (20%/39%), and
- personnel officers (29%/47%) (cf. Table 10).[30]

Table 11
Ratio of Earnings on University-Trained Persons as Compared to Persons Having Completed Upper Secondary Education

	Early 1970s	Late 1970s	Early 1980s	Middle/late 1980s	Early 1990s
a) Men					
Denmark	.	.	1.39	1.42	1.31
France	1.88	2.38	.	2.42	.
Norway	.	.	1.35	1.25	1.26
Sweden	1.44	.	1.22	1.30	1.36
United Kingdom	1.52	1.32	.	1.47	1.53
b) Women					
Denmark	.	.	1.33	1.27	1.21
France	1.67	2.02	.	2.13	.
Norway	.	.	1.19	1.26	1.26
Sweden	1.44	.	1.22	1.30	1.36

Source: Selected from OECD, *The OECD Job Study: Evidence on Explanations. Part II: The Adjustment Potential of the Labour Market.* (Paris 1994), pp. 160-161.

An average loss of status and tasks for the rising number of graduates as compared to their predecessor generations does not necessarily lead to a relative loss in comparison to persons without a degree of the same generation. For example, available statistics on earnings of all university-trained persons in comparison to those without a degree (see Table 11) do not suggest any consistent trend in Europe towards a relative decline of income differentials.

Also, data on unemployment (already briefly discussed above) do not show any consistent trend, as far as the relative advantages of the higher education-trained

[30] S. Forneng and D. Anderson, 'Sweden', in OECD (ed.), *From Higher Education to Employment*, Vol. IV, op. cit., p. 155. One should bear in mind that some semi-professional training provisions in Sweden had partly remained in upper-secondary schools until the early 1990s, for example 4-years engineering courses.

persons are concerned. Up to about 1973, graduate unemployment was not seen as a serious issue. Since then, unemployment of university-trained persons is on the agenda in market-oriented European countries, whereby the ratios varied substantially: in the late 1980s from 1% in Sweden and Switzerland to 14% in Spain.[31]

Experts observe three continuous phenomena, namely that unemployment of higher education-trained persons changes over time more or less in accordance with the general change of unemployment, that higher education-trained women are more likely to be unemployed than higher education-trained man, and finally, that higher education-trained persons in almost all Western European countries faced lower risks of unemployment than persons not holding a degree.[32]

In one respect, however, we note divergent developments: the relative advantages of higher education-trained persons as compared to those without a degree. In the 1970s, for example, this relative advantage in terms of a lower unemployment ratio declined in the Federal Republic of Germany and the Netherlands, while it increased in France and newly emerged in Italy.[33] Again in the 1980s, the relative advantages in this respect for graduates declined in some countries, for example in the Federal Republic of Germany, the Netherlands, Spain, and Sweden, while it remained more or less constant in some other countries, for example Norway, and increased in other countries, for example France and Italy.[34]

5.3 The Issue of Suitable Employment

One of the most controversial debates, as far as graduate employment and work in Western Europe is concerned, focused on the issue of 'vertical substitution'. It is a widely shared view that since the 1970s the number of graduates surpassed substantially the positions and job tasks for which a degree and the respective level of knowledge is more or less indispensable. As measurements based on occupational categories or designation of functions within enterprises did not turn out to be valid indicators for middle-level occupations, most graduate surveys undertaken since then address the issue of suitable employment in one way or the other by means of graduates' self-ratings.

The questions raised in those surveys vary markedly. In most countries, surveys were not regularly repeated in a similar way. Thus, change over time can hardly be

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[31] See OECD, *From Higher Education to Employment: Synthesis Report*, op. cit., p. 108; Ogay, op. cit., p. 206; A. Casanueva de Luis, 'Spain', in OECD (ed.), *From Higher Education to Employment*, Vol. II (Paris, 1992), 87-128.

[32] OECD, *From Higher Education to Employment: Synthesis Report*, op. cit., pp. 103-104.

[33] Teichler, 'Higher Education and Work in Europe', op. cit., p. 127.

[34] OECD, *From Higher Education to Employment: Synthesis Report*, op. cit., p. 104.

analyzed. The variety of questions posed, however, provides interesting insights into the diversity of underlying conceptions.

Few surveys refer to a multitude of dimensions of appropriate employment and work. A British survey undertaken in the late 1980s might serve as an example (see Table 12). Other surveys, in contrast, opt for one or two dimensions only.

Table 12
British Graduates' Perceptions of the Level and Status of their Current Jobs 5 Years after Graduation (multiple reply possible; percentage)

Present job "graduate level" in sense that:	All	University	Polytechnic
i) Traditionally regarded as such	28	35	27
ii) A degree is an essential requirement in this area of work	26	30	26
iii) Nature of work requires graduate education	46	54	44
iv) Becoming graduate	15	14	16
v) Degree needed for this particular job	57	63	59
vi) Graduate possesses work expertise based on "knowledge and skills" from degree	51	41	53
vii) Job requires possession of professional qualification	27	28	28

Source: Brennan et al., op. cit., p. 282.

Asked to state whether the training they had received in higher education was suitable for their present work assignment, 70% of Swedish 1984 graduates employed about one year later responded that their education was completely suitable. 24% conceived it as partially suitable, and 5% replied that their education did not fit their work assignment at all.[35] Similarly, 3% percent of German graduates from select fields of study stated two years after graduation - in the mid-1980s - that their employment did not correspond at all to their education, and a further 11% noted little correspondence.[36]

Some surveys asked about the credentials of the respondents' predecessors. For example, 7% percent of recent Swiss graduates surveyed in 1985 reported that they had taken up positions previously held by non-graduates.[37] Varying according to

[35] Statistika centralbyran, op. cit., pp. 9 and 28.

[36] U. Teichler, 'Zum Zusammenhang von Studium und Beruf in der Einschätzung der Absolventen', in U. Teichler and H. Winkler (eds.), *Der Berufsstart von Hochschulabsolventen* (Bad Honnef: Bock, 1990), p. 154.

[37] Morgenthaler, op. cit., p. 75.

field, country and year, we note a respective ratio of up to one third in similar surveys.

Other surveys asked the graduates to state the level of education they consider appropriate for their successors: accordingly, 33% of Polish graduates surveyed in 1979 one year after graduation considered non degree-holders as appropriate.[38] In comparison, 17% of the German graduates stated two years after graduation that the most suitable education for their jobs would have been lower than a degree from an institution of higher education.[39] The comparative data confirm the view widely held that 'underemployment' was a relatively frequent phenomenon in planned economies.

In the German survey, 18% considered their position as 'inappropriate' for a degree-holder, whereby two-thirds stated that they had chosen such a position voluntarily. 19% reported that they could hardly make use of the competences and knowledge they had acquired in the course of study on the job.[40] Surveys undertaken in other countries suggest as well that up to 20% of the graduates do not call their job as appropriate or requiring a degree, if asked to respond to a single question.[41] Less than half of the German respondents, however, considered both their position as inappropriate and their competences as hardly useful. For example, some social workers perceived their knowledge useful in relatively low positions, while some graduates from economic fields considered their positions appropriate though they noted hardly any use of their knowledge.

If a combination of responses to various questions is taken into consideration, the ratios of those graduates which could actually be characterized as being not appropriately employed might vary dramatically. In a study undertaken in 1982, recent graduates from select fields of study of Italian and French universities were asked two questions: 'Does your current job correspond to your university training?' and 'Do you know of people without degrees who do the same job as yourself?'. Those not responding affirmatively to the first question were categorized as 'underutilized', and those, who did not know persons without degrees in those jobs, but considered their job as not corresponding to their university training were categorized as 'partially utilized'. The researchers came to the conclusion that 34% of recent graduates in both countries were 'underutilized', and 8% of the Italian and

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[38] A. Buttler, 'Probleme von Hochschulabsolventen im ersten Jahr der Berufstätigkeit', in J. Kluczynski, A. Neusel and U. Teichler (eds.), *Forschung zu Hochschule und Beruf in Polen und in der Bundesrepublik Deutschland* (Kassel: Stauda, 1984), pp. 178-179.

[39] Teichler, 'Zum Zusammenhang von Studium und Beruf in der Einschätzung der Absolventen', op. cit., p. 153.

[40] Ibid., p. 154.

[41] For example, 17% of the Swiss graduates stated that their employers had not required a degree (see Morgenthaler, op. cit.).

22% of the French graduates only 'partially utilized' the competences they had acquired in the course of their study.[42]

In contrast, only those Swiss graduates were rated as 'inadequately employed', who not only stated that their employers had not necessarily required a degree, but who also reported that they had faced difficulties in finding a job, and on top had either 'accepted a job hardly related to their training for financial reasons' or 'turned instead to a job hardly related to their training and not matching their monetary expectations'. According to this definition, only 3% of Swiss recent university graduates were 'inadequately employed' in 1985.[43]

The options chosen in these surveys are obviously extreme. On the one hand, many occupational areas have to be viewed as requiring university-based competences as a rule, even though a few persons perform well without a respective qualification. On the other hand, many jobs might be viewed as not suitable, even if they are not inappropriate in any conceivable dimension.

Based on a cluster analysis of responses to various questions, six types of links between higher education and employment were established in the German study referred to above on graduates from select fields two years after graduation:

- privileged graduate job (25%),
- normal graduate job (26%),
- graduate job with substantial routine tasks (21%),
- academic job (8%),
- socio-political engagement (8%), and
- dissatisfying job (12%).[44]

Obviously, the majority of graduates experience a link between their status and the substantive quality. There are few graduate jobs well remunerated but hardly requiring competences fostered through study. On the other hand, demanding tasks are taken over which are not well rewarded. Some graduates opt for a junior position in a university or a research institute, thereby taking into account fixed-term employment and the risk of having to leave this professional area at a stage of their biography when their fellow-graduates are professionally well-established. Also, some students pursue socio-political aims and opt for tasks they consider relevant, even if the material rewards leave to be desired.

Many graduate surveys only refer to a potential discrepancy between a high level of competences and a moderately demanding job. By definition, they exclude the reverse relationship. A group of Polish scholars, however, avoided such a bias

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[42] Jarousse and de Francesco, op. cit., pp. 108 and 227.

[43] Morgenthaler, op. cit., pp. 74-79.

[44] Schomburg and Teichler, op. cit., p. 47.

in their typology of 'match between qualification and job' by measuring possible underqualification as well. In 1979 university-trained economists in Poland were asked to state whether their jobs corresponded to the profession and its areas of specialisation, whether higher education was necessary for taking over the respective job, and to what extent the knowledge they had acquired the course of study was actually utilized (cf. Table 13). In combining the responses, they rated a

- good match for 35% (28% of women and 42% of men),
- surplus of qualifications for 18% (15%/22%),
- lack of qualifications for 12% (16%/8%),
- partial match for 13% (16%/8%),
- waste of qualifications for 12% (14%/9%),
- loss of qualifications for 7% (8%/5%), and a
- bad match for 3% (3%/5%).[45]

Table 13
Match Between Qualifications and Job in Poland by Sex (percentage)

Sex	(1.) Good match	(2.) Surplus of quali-fications	(3.) Lack of qualifca-tions	(4.) Partial match	(5.) Waste of quali-fications	(6.) Loss of quali-fications	(7.) Bad match
Women	28.3	15.0	16.0	15.7	13.9	8.2	2.9
Men	42.8	22.1	8.0	8.5	8.9	4.7	5.0

$p<0.001$, $C_{cor}=0.282$
Source: Kluczynski and Sanyal, op. cit., p. 144.

Similarly, an employers' survey conducted in the Federal Republic of Germany in the late 1970s had shown that, according to the employers' assessments, the number of positions held by non-graduates that would have been better held by graduates was as large as the number of positions held by graduates that could have been held by non-graduates.[46]

Most graduate surveys address former students when they are in a very early stage of their career. The relationships between study and work might change, though, in the course of the career. This can be expected among other things, be-

[45] J. Kluczynski and B.C. Sanyal, *Education and Work in Poland* (Warsaw: PWN, 1985), p. 144.

[46] F. Stooss, 'Ausgewählte Befunde zur Situation der Hochschulabsolventen in der Bundesrepublik Deutschland im Jahre 1979', *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* 12 (1979), 607-624.

cause the mobility of young graduates tends to be high; according to the German survey mentioned above, more than half of the graduates changed their employers in the first four to five years after graduation. This survey, however, suggests that changes as far as suitable employment and work of the graduates is concerned occur on average at a moderate pace. Four to five years after graduation, the proportion of those stating that they hardly use their knowledge acquired during the course of study, had increased from 19% to 22%, while the proportion of those considering their position as inappropriate had declined from 18% to 15%.[47]

Altogether, research in this area suggests, first, that the distinction between suitable jobs and jobs not viewed as suitable is most clearly made in professional areas shaped by very pronounced hierarchies of status and job tasks. This holds true most often for the public sector and for the offices of free professionals, while these distinctions are blurred in many areas of industry and private services. Second, there are obviously distinct cultures in the various disciplines and occupations as regards the perception of what is a desirable career and what are desirable work tasks.

Third, a substantial proportion of graduates taking over jobs which in the past had not been the domain of graduates consider them appropriate, demanding and satisfying. Certainly, a historical process of adaptation to more modest goals in the process of expansion of higher education comes into play. But obviously, lowering of expectations is not the only response: some are disappointed, some place value on certain interesting dimensions, others see a high relevance or the need for complex knowledge in certain middle-level occupations, others experience new divisions of labour where complex and less complex work tasks are combined in a single position, others again are active in re-shaping their job. Many of these observations suggest that the static and defensive view which had fuelled the 'mismatch' and 'overqualification' debate of the 1970s has faded in the meantime.

5.4 Field of Study and Occupational Area

When the debate about the changing relationship between higher education and employment gained momentum during the 1970s, the view prevailed in most European countries that a relatively clear link had existed in the past both vertically, i.e. between a university degree and a respective level of occupation, and horizontally, i.e. between the specialization of study and subsequent professional tasks.

In fact, in most European countries we note that more than 90% of professionally active graduates from medicine are medical doctors. In some other fields, we note more than three quarters of graduates being active in the occupations viewed

[47] J. Brennan et al., 'The Experiences and Views of Graduates: Messages from Recent Surveys', *Higher Education Management* 6 (1994), 297.

as corresponding. Altogether, however, the relationships between fields and occupational areas had already been less close, or - expressed positively - more flexible than the few examples of close links suggest.

The links between field of study and occupation might be exemplified by respective statistics of the university-trained labour force in Finland in 1985 (cf. Table 14).[48]

Table 14
Destinations of Finnish Degree Holders by Sex (percentage)

(A) Arts Degree Holders

Profession	Total	Men	Women
Master level			
Rectors, class and subject teachers	66	57	69
University teachers	5	7	5
Librarians, archivists & museum curators	5	5	5
Editors	4	6	3
Senior research & planning posts in public administration	2	4	1
Managerial posts in enterprises & organizations	2	4	1
PR & tourism officers, cultural functions	1	2	1
Junior clerical & manual jobs	6	4	6
Including secretaries	2	0	2
Others	9	11	9
Total (%)	100	100	100
N	11,678	2,798	8,880

[48] See A. Haapakorpi, 'Academic graduates in the Finnish Labour Market', in Ministry of Education (ed.), *Higher Education and Employment: the Changing Relationship* (Helsinki, 1990), 71-90.

Table 14 (continued)

(B) Law Degree Holders

Profession	Total	Men	Women
Master level			
Court lawyers, prosecutors & senior police officers	20	20	22
Legal councels	20	18	25
Senior research & planning posts in public administration	16	1	22
Managerial posts in enterprises & organizations	13	16	4
Practising lawyers	12	14	7
Senior managerial posts in public administration	4	5	3
Bank & insurance department chiefs	3	3	1
Junior clerical & manual jobs	5	4	9
Others	9	20	14
Total (%)	100	100	100
N	8,118	6,035	2,083

(C) Social Science Degree Holders

Master level			
Managerial posts in enterprises & organizations	16	23	6
Senior research & planning posts in public administration	14	16	10
Financial, statistical etc. research & planning	11	11	10
Social work	9	3	19
Editors	7	7	8
Rectors, class and subject teachers	6	5	8
ADP managers, planners & programmers	2	3	2
University teachers	2	2	2
Junior clerical & manual jobs	11	8	16
including secretaries	4	2	7
Others	12	12	10
Total (%)	100	100	100
N	9,648	5,832	3,816

Table 14 (continued)

(D) Business Administration Degree Holders

Profession	Total	Men	Women
Master level			
Managerial posts in enterprises & organizations	35	44	22
Rectors, class and subject teachers	11	7	16
Senior research & planning posts in public administration	5	5	6
ADP managers, planners & programmers	5	5	5
Sales & advertising managers	5	5	4
Financial, statistical etc. research & planning	4	4	5
Bank & insurance department chiefs	3	4	3
Auditors	3	5	2
Training directors	3	3	3
Junior clerical & manual jobs	15	10	22
including sales & advertising	4	4	4
including secretaries	3	0	7
Others	11	8	12
Total (%)	100	100	100
N	6,398	3,695	2,703

(E) Psychology Degree Holders

Master level			
Psychologists	67	56	71
Rectors, class and subject teachers	9	7	10
Social work	4	2	5
Senior research & planning posts in public administration	3	6	2
Training directors	3	8	1
Managerial posts in enterprises & organizations	3	7	1
Junior clerical & manual jobs	3	3	4
Others	8	15	6
Total (%)	100	100	100
N	2,406	605	1,801

Table 14 (continued)

(F) Science Degree Holders

Profession	Total	Men	Women
Master level			
Rectors, class & subject teachers	37	32	45
ADP managers, planners & programmers	14	17	10
Chemists	10	8	12
Managerial posts in enterprises & organizations	6	8	2
University teachers	5	5	5
Biologists	3	2	3
Engineers	3	3	1
Geologists	2	3	1
Financial, statistical etc. research & planning	2	2	2
Junior clerical & manual jobs	6	5	7
Others	12	15	12
Total (%)	100	100	100
N	10,252	6,167	4,085

(G) Engineering and Architecture Degree Holders

Master level			
Engineers	42	43	33
Managerial posts in enterprises & organizations	21	23	6
Architects	7	5	20
ADP managers, planners& programmers	5	5	6
Rectors, class & subject teachers	3	3	3
Sales & advertising managers	2	2	2
University teachers	2	2	4
Junior clerical & manual jobs	8	8	8
including technicians	4	4	4
Others	12	12	22
Total (%)	100	100	100
N	19,730	17,666	2,064

Source: Haapakorpi, op. cit., pp. 83-89.

At that time, the proportion of university-trained persons in the Finnish labour force was almost 10%.

- 66% of graduates from humanities were employed as school teachers, and the remaining ones were spread over a wide range of cultural professions, public services and private services.
- Graduates from social sciences were most widely dispersed, with 16% in private management, 14% in public administration, 11% in financial, statistical etc. research and planning, 9% in social work and 11% in junior clerical or manual jobs.
- 67% of graduates from psychology were professional psychologists and 9% teachers.
- 35% of those trained in economic fields were in managerial careers in the private sectors, 11% were teachers and 15% in junior clerical and manual positions.
- 52% of graduates from law were active in legal professions and the judicial system, 16% in higher careers of public administration and 13% in higher ranks of the private sector.
- 37% of science graduates were school teachers and about one third scientific professionals in the private sector.
- Finally, about half of the university-trained engineers were classified as respective professionals - 'engineers' (42%) or 'architects' (75%), while 21% held managerial posts in enterprises and other non-public organizations.

It is widely assumed that recent generations of graduates were eventually expected to be more flexible as far as the links between the field of study and occupational area are concerned. Available data, however, do not consistently confirm this view. On the one hand, we note a substantial increase of recent British university graduates from arts taking over positions in the commercial sector, from 4% on average of the graduation years 1961/2 to 1973/4 to 11% on average of the graduation years 1974/5 to 1986/7 (cf. Table 15).[49] As already shown above, however, the links between field of study and area of employment traditionally tended to be more open in the United Kingdom than in most other European countries.

[49] Bee and Dolton, op. cit., p. 36.

Table 15
British University Graduates' First Employment: 1961/2 - 1986/7 (average annual percentages, by discipline)

search	training		Teacher service		Public Industry		Commerce		Re-	
	1961/2 -73/4	1974/5 -86/7	1961/2 -73/4	1974/5 -86/7	1961/2 -73/4	1974/5 -86/7	1961/2 -73/4	1974/5 -86/7	1961/2 -73/4	1974/5 -86/7
Social sciences	12	7	13	6	8	8	8	7	9	19
Tech-nology	14	10	2	1	6	5	52	47	2	4
Science	27	21	15	9	5	6	19	18	5	12
Arts	12	7	29	16	5	6	4	4	4	11
All	17	10	16	7	8	12	18	14	5	12

Source: Bee and Dolton, op. cit., p. 36.

On the other hand, we note examples of some students shifting in the direction of structural trends without changing the links between subject and occupational area in general. This might be demonstrated by the change of employment of recent university graduates in Switzerland (cf. Table 16) and Norway (cf. Table 17).

Table 16
Employment Sector of Swiss University Graduates 1981 - 1989 (percentages of graduates being employed)

(A) All Graduates

	Univer-sity	Teaching	Law	Health	Industry	Private Services	Others
1981	22.7	14.8	8.7	17.3	14.0	9.5	13.0
1983	23.4	13.7	7.5	18.2	12.1	10.2	14.9
1985	21.8	11.3	6.9	14.1	13.1	13.0	19.8
1987	22.7	10.1	8.0	15.7	12.5	14.5	16.5
1989	22.6	8.0	8.5	12.2	14.8	16.2	17.7

Table 16 (continued)

(B) Graduates from law

	University	Teaching	Justice	Culture	Industry	Private Services	Public Services	Others	N
1981	8.9	4.2	55.3	0.9	2.8	11.1	11.3	5.5	530
1983	9.8	1.7	51.7	2.5	2.5	16.1	11.9	3.8	478
1985	11.0	0.4	45.3	1.9	2.6	17.5	15.1	6.2	536
1987	7.9	2.1	55.7	1.5	1.7	17.6	11.6	1.9	585
1989	8.4	0.6	57.5	1.5	1.5	15.1	13.0	2.4	616

(C) Graduates from economics

	University	Teaching	Culture	Health	Private Services	Public Services	Others	N
1981	11.7	10.3	2.0	17.1	43.8	8.8	6.3	409
1983	15.5	6.4	1.7	14.9	50.3	6.4	3.8	328
1985	14.4	5.8	2.0	14.0	53.1	6.4	4.1	450
1987	13.1	6.5	1.4	15.9	56.5	4.2	2.4	504
1989	11.3	4.2	0.2	16.3	58.1	6.6	3.3	577

(D) Graduates from social sciences

	University	Teaching	Culture	Health	Social Services	Private Services	Public Services	Others	N
1981	23.8	19.2	2.7	6.9	29.1	6.5	4.2	7.6	261
1983	23.0	13.2	3.5	10.5	34.6	5.8	2.3	7.1	257
1985	16.5	13.7	6.7	5.5	32.9	8.2	6.7	9.7	328
1987	20.4	15.5	4.4	9.3	30.2	10.6	2.9	6.7	407
1989	21.0	11.1	6.6	8.1	28.8	10.8	3.3	10.2	333

(E) Graduates from medical fields

	University	Health	Industry	Others	N
1981	10.1	84.7	1.1	4.1	645
1983	12.3	84.0	0.9	2.7	673
1985	12.9	81.1	1.9	4.2	583
1987	13.7	82.8	1.5	2.0	732
1989	17.1	75.5	3.2	4.2	621

Table 16 (continued)

(F) Graduates in literature

	University	Teaching	Culture	Industry	Private Services	Public Services	Others	N
1981	11.6	59.5	15.1	2.0	3.5	1.5	6.4	404
1983	16.7	57.3	13.1	0.7	5.9	2.1	4.2	426
1985	13.8	46.2	18.0	2.1	8.5	1.7	9.8	472
1987	15.1	41.3	22.5	1.5	9.3	4.3	6.0	537
1989	15.7	39.5	23.6	0.8	10.0	6.3	4.3	522

(G) Graduates in natural sciences

	University	Teaching	Industry	Private Services	Public Services	Others	N
1981	50.5	18.9	14.0	4.1	4.6	7.8	715
1983	51.4	20.3	13.5	5.9	3.3	5.6	660
1985	50.9	16.0	16.6	6.7	2.8	7.1	676
1987	55.0	10.8	13.5	10.8	3.3	6.6	756
1989	50.0	7.0	17.3	12.9	5.9	7.0	854

(H) Graduates in technological sciences

	University	Industry	Private Services	Public Services	Others	N
1981	26.5	57.2	5.3	4.9	6.1	472
1983	25.5	54.0	3.9	5.9	10.7	439
1985	24.7	55.5	4.6	4.2	11.0	454
1987	25.9	54.2	6.8	3.2	10.0	557
1989	23.9	57.0	8.6	3.2	7.0	595

Source: Ogay, op. cit., pp. 198-202.

Altogether, the proportion of Swiss graduates employed at universities (23% each in 1981 and 1989), the legal system (9% each) and industry (14%/15%) remained more or the less constant.

Employment in the health system (17%/12%) and in the school system (15%/8%) declined, while that in the private services (10%/16%) as well as in public service and other areas (13%/18%) increased.

Only the Swiss graduates from humanities lost the school system as their principal area of employment (from 60% to 40%), and instead moved more often to cultural activities (15%/24%) and to private services (4%/10%). Graduates from medical fields lost some assignments in these fields (85%/76%), but gained employment at universities (10%/17%) - a development which does not suggest a loss of professional focus. Graduates from engineering (57% each in industry in 1981 and 1989), law (55%/57% in the legal system), natural science (50% each in universities), and social science (29% each in social services and 24%/21% at universities) kept their professional key areas more or less unchanged. Economists concentrated more strongly in their key area, i.e. the generally growing private services (44%/58%) (cf. Table 16). Across almost all disciplinary groups, we note a decrease of those going into the school system and an increase of those going into the private services.[50]

In Norway, employment of recent graduates remained more or less constant in industry (10% in 1981 and 9% in 1989), in private services (18% each) and in health and social services (7% each). It increased in universities and research institutes (19% and 27%), while it declined in the school system (14%/10%) and in the public administration (25/21%).

The majority of Norwegian graduates from humanities continued to find employment in schools, universities and research institutes (64% in 1981 and 67% in 1989). The number of graduates from health fields finding work in the medical sector remained high (63%/61%) and increased in universities and research institutes (7%/21%). The proportion of scientists becoming employed in universities and research institutes (41%/58%) grew slightly more than that of those employed in schools (21%/12%). The number of graduates from economic fields being active in private services remained constant at around 70%. The proportion of law graduates moderately declined in the sector of public administration (80%/71%). Social scientists moved away from public administration (32%/16%) and schools (27%/18%) to universities and research institutes (25%/34%) as well as to health and social services (7%/17%) (cf. Table 17).[51] Thus, only the graduates from social sciences experienced far-reaching changes, and not a single disciplinary group was forced to be more 'flexible' in terms of moving away in large quantities from occupational areas to which their competences are closely linked.

Over the years, students' selection of fields of study changed in Europe to some extent in the direction of the respective growth of employment opportunities. Some experts interpreted this as a sign of growing 'vocationalism' on the part of the students.[52] However, the continuity of above-average employment problems on the

[50] See Ogay, op. cit., pp. 198-202.

[51] Naess and Aamodt, op. cit., p. 311.

[52] See, for example, Williams, 'Graduate employment and vocationalism in Higher Education', op. cit.

part of graduates from humanities and from those social sciences not clearly linked to certain occupational areas in various European countries suggests, on the contrary, that a considerable proportion of students kept an intrinsic interest in these areas. Besides, the structural change of graduate employment during the 1970s and 1980s was not so dramatic that the majority of students were forced to dissociate intrinsic and extrinsic motives.

The distribution of employment problems during the 1970s and 1980s according to field of study does not correspond consistently to the conventional wisdom. Certainly, graduates from the humanities and from some social sciences experienced above-average or serious employment problems in many European countries. It is less known, though, that graduates from natural sciences in some countries - the respective disciplines varied by country - faced considerable employment problems as well.[53] For example, among recent university graduates from British universities those graduating from biology frequently faced unemployment, and those graduating from civil engineering and business studies were close to average across fields, as far as the unemployment rate six months after graduation was concerned.[54]

The clearest link between university study and professional work in post-war Europe exists in the health system.[55] Medical doctors are required to have completed a qualification in the respective areas, and medical study places had been controlled in most countries - partly reflecting professional pressures and partly the high costs incurred by study places. Study provisions for medical fields in Europe are mostly provided by medical faculties of universities and sometimes by separate medical universities, whereby most course programmes require six years of study. The intertwined practical training is offered in hospitals which in some countries are an integral part of the universities and in others separate entities associated to the universities. The institutional basis of the training for paraprofessional work was upgraded in various countries, but remained heterogeneous: in 1990, it is provided by universities in some countries, in others in the non-university sector, and again in others partly or completely in vocational schools outside the higher education sector.

In most European countries, the public service has a clear articulation between educational credentials and career paths. A university degree tends to be the prerequisite for high-level civil service careers. In some countries - for example Germany, France, some Southern European countries - a law degree is the most com-

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[53] See Teichler, 'Higher Education and Work in Europe', op. cit., pp. 126-133.

[54] Bee and Dolton, op. cit., pp. 27-31.

[55] Cf. W.G. Rothstein, 'Medical Education', in Clark and Neave (eds.), op. cit., 1163-1174; J. Vang, 'The Case of Medicine', in T. Becher (ed.), op. cit., 60-75.

mon prerequisite for a public administration career, while in others the link between field of study and public administration is less pronounced. In various countries, entry requirements for second rank careers were upgraded in the wake of higher education expansion. For example, a Fachhochschule degree in Germany became the prerequisite for the so-called 'gehobener Dienst' in the 1970s.

Entry to free legal professions - lawyers etc. - requires respective study and degrees. In the United Kingdom, Ireland and a few other countries, experienced administrators without respective university study might qualify through shorter courses and examinations, while in others university study has to be completed. If the number of law graduates increased beyond the presumed demand, many graduates still could opt for a lawyers' career while confining themselves to smaller numbers of clients and a smaller income.[56]

Teacher training for academic secondary schools was undertaken in most European countries during the 1950s and 1960s by means of studying the respective subjects at university and take some professional training for teachers either parallel to these studies at university or in a teacher training period for mostly one year subsequent to university study. The practices vary as regards the extent to which professional insertion training is undertaken in close co-operation with universities or apart from them. Training for elementary school teachers and possibly for those teaching non-academic types of secondary education traditionally was provided in most European countries by teacher training colleges, whereby the course programmes were shorter than those customary at universities. Over the years, teacher training colleges were upgraded in various countries and became part of the university sector. In some countries, a regular university degree became a prerequisite also for an elementary school teacher career. Differences of training between teachers for different stages and kinds of schools diminished in some countries. In all European countries, a degree from an institution of higher education is nowadays a prerequisite for a public school teaching position, and pre-school teachers in many countries are trained nowadays at universities or other institutions of higher education as well.

[56] See C. Hommerich, 'Die Anwaltschaft unter Expansionsdruck', in *Anwalts Blatt* (1988) 5, Beilage, 1-35.

Table 17
Employment Sector of Norwegian University Graduates by Field of Study[1] 1981 - 1989 (Percentages)

Field	Total					Humanities					Social sciences					Law					Admin. & econ.				
Year	81	83	85	87	89	81	83	85	87	89	83	85	87	89	81	83	85	87	89	81	81	83	85	87	89
Agriculture and forestry	1	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Secondary sector	10	12	12	11	9	2	6	2	3	4	0	3	5	4	0	1	1	3	3	2	26	37	17	19	14
Trade and communications	5	3	3	4	3	0	0	2	0	1	0	1	2	1	1	2	1	1	1	0	8	4	11	13	10
Finance & business services	13	14	14	18	15	2	1	3	0	2	2	10	4	6	5	16	20	21	16	21	43	44	48	50	37
Public administration	25	22	20	25	21	27	22	7	7	4	32	23	33	33	16	80	73	68	78	71	13	9	8	10	16
Schools	14	14	17	7	10	52	47	63	39	46	27	25	22	17	18	0	0	0	0	0	1	4	0	1	4
Universities, colleges and research institutes	19	19	22	22	27	12	12	9	24	21	25	16	24	21	34	0	2	3	2	3	8	1	10	6	10
Health and social services	7	8	5	6	7	2	1	0	1	2	7	18	8	13	17	0	1	0	0	1	0	0	0	0	1
Other private/public services	5	6	4	4	4	24	30	13	23	17	6	2	1	5	6	1	1	4	0	2	2	0	4	1	5
Unknown	1	1	2	2	3	1	2	3	4	2	2	1	1	0	2	0	0	1	0	1	0	1	3	1	5

continued

Table 17 (continued)

	Natural sciences					Engin. & architec.					Health care					Agric. & forestry				
	81	83	85	87	89	81	83	85	87	89	81	83	85	87	89	81	83	85	87	89
Agriculture and forestry	0	0	2	2	0	1	0	0	1	0	0	0	0	3	0	0	3	2	14	7
Secondary sector	14	13	18	13	9	20	27	32	26	20	5	1	4	2	3	8	1	12	9	10
Trade and communications	2	4	1	2	2	4	2	1	3	3	14	15	5	0	0	8	5	4	3	3
Finance & business services	4	5	12	14	8	36	32	31	29	22	1	2	0	0	0	3	6	5	6	4
Public administration	8	11	11	17	6	10	6	2	4	10	10	15	16	19	13	34	31	37	39	34
Schools	27	19	16	4	12	0	0	0	0	2	0	0	0	0	0	8	13	7	7	11
Universities, colleges and research institutes	41	45	37	44	58	28	33	32	33	40	7	8	12	11	21	23	26	23	16	25
Health and social services	1	1	1	1	2	1	1	0	2	1	63	57	62	52	61	0	1	0	0	0
Other private/public services	4	1	1	3	1	0	0	1	2	1	0	2	1	0	0	8	17	6	3	7
Unknown	0	1	2	1	4	0	0	0	0	4	0	0	1	13	1	1	0	5	4	1

Source: Naess and Amodt, op. cit., p. 311.

[1] The classification is compatible with SIC - the Standard Industrial Classification, which is based on ISIC - the International Standard Industrial Classification of all Economic Activities.

The teaching profession was most strongly affected in many European countries by the quantitative ups and downs of job offerings. In many countries, the number of students in humanities and in teacher training increased in the 1960s and for some period in the 1970s when the school system in many European countries expanded. However, when the number of teaching positions did not increase anymore substantially, and when the replenishment demand ratio dropped substantially as the consequence of the preceding expansion, a serious 'mismatch' surfaced in the 1970s between the number of teaching positions and the supply of respective graduates. Over the 1980s, the proportion of students in humanities and in teacher training declined in many European countries, thus reducing again this discrepancy. In addition, an increasing number of graduates from teacher training and the humanities became professionally active in cultural activities, public administration, non-profit organisations and private enterprises.

Theology disappeared as a relevant category in most descriptions of higher education and of graduate employment after World War II. Theology students nowadays tend to be counted as a statistical sub-category of the humanities, and many universities merged the theology faculty with that of humanities. Courses tend to be offered in units of humanities departments, in theological faculties, or in separate theological seminaries. As a rule, professional control of study and of professional work continues to be high: the respective churches tend to supervise curricula, academic staff appointment and initial professional training.

Students of science fields might typically go to research and development laboratories in industry, to universities and research institutes, or become school teachers in the respective areas. Careers of scientists tend to be clearly distinct from those of laboratory technicians being trained in short-cycle programmes in higher education in some countries or in higher vocational schools in other countries. In various countries, a transfer of scientists to managerial posts after some years of laboratory assignment is a frequent pattern in private industry.

University-level training of engineering is undertaken in the majority of European countries in specialized institutions ('Technische Hochschulen', 'Politechnica', etc.). In other countries, respective faculties are partly faculties of multidisciplinary universities. The number of types and ranks varies among European countries both regarding the training of engineers and technicians and regarding typical careers. In a substantial number of countries, we note a hierarchy in the production sector of, first, university-level engineers; second, engineers trained either in non-university institutions or course programmes, or in higher vocational schools; third, technicians trained in higher vocational schools or upgraded from manual workers. The practices differ in respective countries as regards promotion of non-degree holders to ranks corresponding those of engineers. Overlaps of the different career paths are less common than in the administrative and trade sector

of private industry and services, but more common than in the area of scientific research and development.

Administrative, trade and service activities in industry and services are least regulated by law, professional control and established routines. This sector, however, possibly changed most since World War II. Typical managerial careers spread for which graduates tend to be recruited, whereby some promotion opportunities tend to be preserved for talented non-graduates. Only in a few European countries and there in a few fields, professions emerged aiming to control qualifications and standards of professional practice in this sector. Customs vary in industry as regards the extent to which managerial positions are also filled by scientists and engineers; this practise was most pronounced in the planned economies.

Fine arts education is most heterogeneous in Europe, as far as types of higher education institutions and duration of studies are concerned. Artistic practice is not restricted to credentials. One does not note a trend of credentialism, but certainly a trend of scholarisation in terms of having a growing proportion of artists and other professionals in cultural activities who had been students at universities, art colleges or other institutions of higher education.

5.5 Women's Employment and Work

The equalization of women's educational opportunities is certainly one of the significant social changes since World War II. According to UNESCO statistics, the share of women among students at institutions of higher education in 1950 was slightly less than 30% on average across European countries; this ratio hardly changed on average until 1960.[57] It increased thereafter to 37% in 1970[58] and 43% in 1980[59], and eventually reached 48% on average around 1990.[60] In this process, the East European and Nordic countries preceded the other European countries.

A similar trend can be identified for the share of women among graduates. Also, the ratio of women increased who became gainfully employed and continued to be employed. The labour force participation rate of women increased over the last few decades from less than 50% on average in the European countries to about 70%, and in most countries, the labour force participation rate of higher education-trained women tends to be more than 10% higher than the average for women. Thus, the proportion of women among all higher-education trained and profession-

[57] UNESCO, *Access to Higher Education in Europe*, op. cit. p. 28.

[58] UNESCO/CEPES, *Statistical Study on Higher Education in Europe 1970-1975* (Bucharest, 1978), pp. 19-20.

[59] Nicolae, Smulders and Korka, op. cit., p. 53.

[60] Calculation based on UNESCO, *Statistical Yearbook 1993* (Paris, 1993), p. 3/266-3/273.

ally active persons in European member states reached about 40% on average in the early 1990s.[61]

Inequities of career opportunities surface notably in two aspects:

- First, women - as a consequence of sozialisation, assumed career prospects and other factors - tend to select fields of study which, on average, are less promising, as far as future careers are concerned. For example, in 1987 only 9% of Austrian graduates in engineering were women, 32% of those in economic fields and 42% in medicine, but the majority in humanities and teacher training.[62] While only 5% of British female university graduates as compared to 14% of men had been awarded a degree in physics and the respective proportions in engineering (4%/15%) differed similarly, the proportion among women having completed social sciences (15%/8%) and languages (8%/4%) was about twice as high as among men.[63]
- Second, in addition to the choice of field of study, women, face inequities in the course of their career in terms of obvious differences in employment, i.e. higher proportion of part-time employment and interruptions of career - and in terms of subtle discriminations. Thus, for example, microcensus data in the Federal Republic of Germany show, that university-trained female employees earned only 57%, self-employed women 62% and female civil servants 66% of the income of their male counterparts in the mid-1980s.[64]

Compared to men graduating from the same field of study women experience, however, relatively small disadvantages, in the process of transition to employment and in their early career. Three to five years after graduation, full-time employed university-trained women in the United Kingdom and in the Federal Republic of Germany in the late 1980s earned, on average across fields, slightly less than 90% of the income which was earned by university-trained men from the same field.[65] Differences according to field were so striking however (from less than 5% to more than 20%) that any generalization across fields seems to be questionable. Overall, equity of graduate careers by gender is far from being achieved.

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[61] Own estimate based on OECD, *OECD Education Statistics 1985-1992*, op. cit., pp. 194 and 199.

[62] Lassnig, Spreitzer and Schedler, op. cit., p. 129.

[63] Tarsh, op. cit., p. 125.

[64] M. Tessaring, 'Germany', in OECD (ed.) *From Higher Education to Employment*, Vol. I, op. cit., p. 24.

[65] Cf. Brennan et al., 'The Experiences and Views of Graduates', op. cit.

5.6 Expectations, Recruitment and Work

Whereas ample information is available about changes of graduate employment, in terms of employment status, economic sector of employment, income and eventually unemployment, analyses of the substance of work and its possible links to study are undertaken only occasionally and methodologically so distinct, that they hardly allow for any comparison within a country over time or between countries. Only a few research findings can be named which illustrate the available state of knowledge.

In the late 1970s, a survey was undertaken on students' motives and attitudes in five European countries (Austria, Federal Republic of Germany, the Netherlands, Poland and Yugoslavia). The students surveyed in all countries showed a considerable degree of intrinsic attitudes. Most had preferred to choose a field of study on the basis of interest rather than on the basis of career prospects. When it was analysed what factors reinforce the concrete learning process, intrinsic factors such as aiming for intellectual ability, knowledge and performance were underscored as well as concern about examinations and grades, and finally expected careers. A detailed analysis shows that academic and career motives are not contradictory for most of the students of those countries included in the survey.[66]

Also, surveys of graduates suggest that independent and demanding work, the opportunity to make use of one's competences and to realize one's own ideas as well as a good working environment are high on the agenda. In the above previously mentioned survey of German graduates four to five year after graduation, 'high income' is only ranked 8th on a list of 22 possible goals and prospects for promotion 11th. However, status expectations have become more important for the graduates at this stage of their life than when being surveyed in the last year of study or two years after graduation.[67] The survey shows that graduates adapt their expectations to a moderate extent to the working conditions they actually experience, but altogether the motives remain relatively stable and lead a substantial proportion of graduates to be professionally mobile in order to ensure a better match of expected and actual work.

Recruitment criteria and employers' expectations were surveyed in the early 1980s in a very similar manner in the United Kingdom[68] and in the Federal Re-

[66] B. Dippelhofer-Stiem et al., 'Students in Europe: Motives for Studying, Expectations of Higher Education and the Relevance of Career Prospects', *European Journal of Education* 19 (1984), 309-325.

[67] H. Schomburg, 'Berufliche Orientierungen und Berufszufriedenheit', in Teichler and Buttgereit (eds.), op. cit, 207-242.

[68] J. Roizen and M. Jepson, *Degrees for Jobs: Employer Expectations of Higher Education* (Guildford: SRHE and NFER-Nelson, 1985); see also M. Kogan, 'The 'Expectations of Higher Education' Project', in D. Jaques and J. Richardson (eds.), *The Future for Higher Education* (Guildford: SRHE and NFER-Nelson, 1985), 99-109.

public of Germany.[69] Both studies are based on interviews of persons in charge of recruiting graduates.

The authors of both studies emphasize the great variety in terms of selection criteria across the employing organisations. Firms seem to develop their own styles and strategies of recruitment, rather than being predominantly driven by the logic of technology or the economy. Higher education and students are much less pressed to meet the single best set of curricula and skills in order to be employable than popular debates tend to suggest. Both studies suggest that employers are much less interested in the details of higher education curricula and specific elements of graduates' knowledge than those in the higher education system believe.

According to these studies, the United Kingdom's employers differ from German employers. First, they place more emphasis on the particular institution graduates come from and they view the higher education system as being stratified by the quality of teaching and learning. Second, a higher proportion of German personnel managers involved in graduate recruitment question the validity of grading in higher education than their British counterparts. Third, German employers highly regard the type of knowledge acquired, the specific qualifications, and the cognitive skills in general as a basis of problem solving. British employers even in technical areas are more likely to search for the generally trained mind and to put substantial weight on attitudes and social skills. This corresponds to the finding, that the proportion of graduates from fields of study considered unrelated to the private sector such as the humanities, sociology, and political sciences who are employed in private firms is higher in the United Kingdom than in Germany. In general, British respondents seemed to assess education and training in higher education more positively than their German counterparts.

Finally, research projects deserve interest in this context which put an emphasis on the respective job roles and the division of labour within enterprises. For example, a comparative study undertaken in the 1970s analyzed qualification and work in a few French and German enterprises which were similar regarding products and company size.[70] The researchers came to the conclusion that a system (Germany in this case) which places strong emphasis on vocational qualification is more likely to develop complex occupational roles for manual workers and for employees of similar ranks and to allocate higher responsibilities on this level. In

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[69] U. Teichler, M. Buttgereit and R. Holtkamp, *Hochschulzertifikate in der betrieblichen Einstellungspraxis* (Bad Honnef: Bock, 1984); see also M. Buttgereit, 'Certificates and Recruitment', in R. Avakov et al. (eds.), op. cit., 217-230.

[70] M. Maurice, F. Sellier and J.-J. Silvestre, *Politique d'éducation et organisation industrielle en France et en Allemande* (Paris, 1982); B. Lutz, 'Bildungssystem und Beschäftigungsstruktur in Deutschland und Frankreich', in H.-G. Mendius et al. (eds.), *Betrieb - Arbeitsmarkt - Qualifikation*, Vol. 1 (Frankfurt: Aspekte, 1976), 83-151; B. Lutz, 'Education and Employment: Contrasting Evidence from France and the Federal Republic of Germany', *European Journal of Education* 16 (1981), 73-86.

contrast, a system placing lesser emphasis on vocational qualification is more likely to increase the number of supervisory positions and to allocate decisions on a high level in the enterprise hierarchy. This project suggests that enterprises are relatively flexible in adjusting the organisation of work to the supply of qualification. Therefore, a policy allowing for a far-reaching expansion of higher education is unlikely to create serious employment problems for graduates, but such a policy is criticized notably by the German authors as undermining the quality of work for persons not holding a degree.

In contrast, other experts in this area take the view that the expansion of higher education might contribute to a division of labour in which an increased number of persons take over a mix of complex and less complex tasks.[71] Accordingly, expansion of higher education more likely contributes to a reduction of the previously existing steep hierarchy in the division of labour. Both positions can claim examples of evidence. Available information does not allow, however, to provide evidence on a large scale. This theme is obviously among the most crucial in assessing the impact of the expansion of higher education in Europe during the last few decades and would certainly deserve more attention.

[71] See the summary of arguments and observations in M. Baethge and U. Teichler, 'Bildungssystem und Beschäftigungssystem', in M. Baethge and K. Nevermann (eds.), *Organsation, Recht und Ökonomie des Bildungswesens* (Stuttgart: Klett-Cotta, 1984; Enzyklopädie Erziehungswissenschaft, 5), 206-225.

6

The Universities' Responses to Changing Graduate Employment and Work

6.1 Major Debates and Activities

Universities in Europe after World War II have been constantly confronted with the question of how they should respond to the changing careers and work assignments of their graduates. The specific issues changed over time, but the basic themes remained; for example

- the extent to which teaching and learning should be inwardly directed towards academic knowledge or outwardly directed towards the expected tasks of the graduates,
- the extent to which curricula should be structured by disciplines or by professional areas,
- whether the university should focus on the provision of knowledge or, in addition, try to shape the personality of the students,
- whether professional preparation should be pursued in a general way, thus trusting the transfer of knowledge, the students' abilities to apply this knowledge and the subsequent training process, or whether it should be addressed directly,
- the extent to which a critical and innovative function of the universities should be emphasized and best ways to ensure such a critical and innovative role. Universities have various modes of addressing the relationships between study and graduates' career. Respective debates during the last few decades notably referred to
- the institutional patterns (for example, the integration of specialized institutions into the universities and the establishment of non-university institutions of higher education),
- curricula, teaching and learning (for example, the conceptual thrusts of the course programmes or work experiences related to study),

- staffing (for example, the recruitment of professionally experienced academic staff),
- governance (for example involvement of externals in university administration, formal and informal communication with professions and employers etc.),
- support services (for example, career guidance, placement, co-operation with alumni/ae, etc.).

Efforts to summarize respective debates and activities face serious difficulties. First, we note different national philosophies about the educative functions of universities. It is generally assumed that French universities have a more positive view as regards professional preparation and the value of specialization than universities in many other countries[1], that German universities focus on knowledge and scholarship[2], and that British universities more strongly have the well-rounded personality in mind.[3] Second, we perceive different links between study and career in the various disciplines. In the humanities and some social sciences, academic values are highly appreciated and tend to be viewed as potentially conflicting with professional demands. In the natural sciences, academic paradigms prevail and are predominantly interpreted as not conflicting with the professional demands which tend to be largely isomorphic with the modes of scientific discovery. In medical fields, engineering, law and business, the professional demands have a tremendous impact on curricula and the norms underlying research, teaching and learning. Third, the concepts underlying teaching and learning, the modes of decision-making and various support provisions for students tend to be less well documented than the quantitative and structural developments of higher education or than the legislative rules of governance. Therefore, this chapter will refer to some general trends, to a range of typical activities and to select examples rather than trying to be comprehensive.

6.2 Structural Responses

First, as already noted, a substantial proportion of previously specialized colleges in Europe with a strong emphasis on professional preparation were integrated into multi-disciplinary universities in the course of the last decades. This took place most frequently during the 1960s and 1970s in a context of general expansion - either by merger of existing institutions or by extension of hitherto specialized colleges into new multi-disciplinary universities.

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1 See A. Bienaymé, 'France', in P.G. Altbach (ed.), op.cit., 657-670.

2 See L. Huber, 'Hochschuldidaktik als Theorie der Bildung und Ausbildung', in L. Huber (ed.), op. cit., pp. 118-120.

3 See G. Squires, *The Curriculum Beyond School* (London, Hodder and Stoughton, 1987).

These structural transformations, on the one hand, led to an increase within multi-disciplinary universities of the proportion of disciplines closely linked paradigmatically to the application of knowledge and accustomed to care for the professional preparation of their students and, thus, were a factor which possibly reinforced a professional emphasis in the universities in general. On the other hand, these transformations might have contributed to an 'academic drift' of those professionally oriented disciplines exposed to an institutional environment in which pride about the academic emphasis prevails. Obviously, a cross-fertilization through neighbourship took place.

Second, higher education in the majority of European countries was institutionally diversified in the process of growing student enrolment.[4] In many countries, a dichotomic institutional model was opted for with universities on the one hand emphasizing the pursuit of knowledge beyond visible demands of the employment system and on the other those institutions of higher education which were expected to serve professional preparation in a more direct manner. The emphasis of the latter institutions frequently was called 'vocational' in order to underscore, in a somewhat pejorative way, their relevance for second-rank professions - for applied engineers, nurses etc. - while professional training for lawyers, medical doctors etc. remained an undisputed domain of universities.

The institutional divide was meant to allow for different educational concepts each dominating the respective sector of higher education. This institutional dichotomization of the relationships between higher education and employment proved to be less stable in Europe than intended.[5] Non-university institutions showed many signs of 'academic drift' by trying to raise their status through typical elements of universities, for example low teaching loads of academic staff, involvement in research, establishment of relatively long course programmes, and severing close links of communication with the employment system. On the other hand, universities over the years became more inclined to reflect the future professional tasks of their graduates in their study provisions - in some cases up to a point which called for the term 'vocational drift' of the universities or 'professionalization' of the higher education sector in general.[6]

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4 Cf. the overviews in OECD, *Short-Cycle Higher Education*, op. cit.; Teichler, *Changing Patterns of the Higher Education System*, op. cit.; G. Neave, 'Foundation or Roof? The Quantitative, Structural and Institutional Dimension in the Study of Higher Education', *European Journal of Education* 24 (1989), 211-222; J.P. Jallade, *L'enseignement supérieur en Europe: Vers une évaluation comparée des premiers cycles* (Paris: La documentation francaise, 1991).

5 See G. Neave, 'The Dynamics of Integration in Non-Integrated Systems of Higher Education in Western Europe', in Hermanns, Teichler and Wasser (eds.), op. cit., 263-276; U. Teichler, 'Structures of Higher Education Systems in Europe', in Gellert (ed.), op. cit., 23-36.

6 See 'Professionalisation: Recent Trends in European Higher Education' (special issue), *European Journal of Education* 27 (1992) 1-2.

Phenomena of an 'academic drift', were more frequently observed at times of relatively favourable employment prospects for graduates and phenomena of a 'vocational drift' under conditions of bleak employment prospects. We also note developmental changes: in various countries, a long and relatively successful existence of non-university higher education institutions seemed to support a blurring of the function of the various institutional types. Finally, the overall educational and professional philosophies prevailing in a respective country had an obvious impact on the patterns of the higher education system: a strong emphasis on specialized knowledge and professional competence seems to reinforce a dichotomic structure of higher education, while a strong general and personality-development oriented approach seems to favour a blurring of the institutional divide. This might explain that British polytechnics were named 'universities' in 1992[7], German *Fachhochschulen* have remained relatively stable while concurrently striving for 'academic components', and French IUTs and Grandes Écoles remained clearly distinct from universities.

Diversification through the establishment or extension of different types of higher education institutions harbouring distinct education and training philosophies, did obviously not necessarily serve effectively as a 'buffer' against professional pressures on the universities. On the contrary one might even argue that the co-existence of various institutional types exerted stronger pressures on the universities to be professionally oriented than the growing student numbers in countries in which the university-type institutions remained the only official type of higher education institution.

Universities in Europe or a certain clear segment of them, thus, did not remain an 'elite' sector protected from the pressures to prepare a growing number of students in a somewhat more deliberate manner for their professional work than, for example, the European universities of the late 19th and early 20th century. They had to cope with a persistent tension of introducing to and socializing for a non-utilitarian pursuit of knowledge, caring for innovation and critical thinking, and preparing students to cope with undetermined work tasks on the one hand and on the other providing more immediate and useful knowledge for students of whom a growing number would possibly be taking over positions including less independent as well as innovative tasks.

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[7] M. Kogan, 'The End of the Dual System?', in Gellert (ed.), op.cit., 47-58.

A third major structural change of European universities is their increasing involvement in the fostering of the competences of adults. This might comprise a broad range of different activities, as an overview of the respective developments until the 1990s shows[8], notably

- advanced academic study,
- advanced professional training for graduates,
- short professional training courses (for updating and extending knowledge),
- public lectures and other open forms of dissemination of knowledge to adults,
- regular degree programmes for adults (possibly as part-time and distance learning arrangements),
- remedial or second-chance provisions for adults, notably courses leading to entry qualifications for regular course programmes,
- short study provisions for adults (for example special-status enrolment in regular course programmes and one-semester or one-year study programmes),
- in-service training of university staff.

In addition, one might mention the introduction of special admission schemes of adults not having completed the typical secondary school qualifications.[9] Almost all of these activities are bound to strengthen the professional emphasis of the universities. The adult students entering regular programmes, as a rule, expect a more direct confrontation of academic learning with professional application and most provisions for graduates explicitly aim to serve those purposes.

In many European countries, notably during the 1960s and 1970s, adult and life-long education was incorporated into higher education legislation as a core function of universities. The universities, however, differ strikingly in terms of their involvement in this area.[10] Most noteworthy is that most adult education provisions are clearly dissociated from the regular affairs of research and the dominant degree programmes for the relatively young full-time students. At many universities, adult education is administered in separate units and taught predominantly by academic staff exclusively in charge of adult education.[11] The tradi-

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8 U. Teichler, 'Challenge of Lifelong Learning for the University', *CRE-action* (1990) 92, p. 59.

9 OECD (ed.), *Adults in Higher Education* (OECD, 1987).

10 See R. Sayegh, *The Diversification of Post-Secondary Education in Relation to Employment* (Paris: Unseco, 1990; International Yearbook of Education, 16), chapter 6.

11 Cf. the overviews in K. Abrahamson, K. Rubenson and M. Slowey (eds.), *Adults in the Academy: International Trends in Adult and Higher Education* (Stockholm: Almquist & Wiksell International, 1988); Bayerisches Staatsinstitut für Hochschulforschung und Hochschulplanung, *Wissenschaftliche Weiterbildung in sieben westlichen Industrieländern* (Bad Honnef: Bock, 1989); D. Colardyn, 'The Challenge of Continuing Professional Education', *CRE-action*, (1990) 92, 69-78; T. Becher, *Meeting the Contract: The Role of Universities in Continuing Education and Training* (Brussels: European Centre for Strategic Management of Universities, 1992).

tional functions of the universities tend to be protected from adult education and from its professional emphasis.

In contrast to this universities did not move in the direction of the concept of 'recurrent education'.[12] This concept, emerging in the 1960s and gaining widespread attention in the 1970s, called for a reduction of pre-career study to the basic foundations, thus leaving professional training to later intervals of professional work and learning. While frequently voicing reservation against professional demands, universities were obviously not inclined to get rid of the traditional tasks of professional training which had emerged and to focus on a concept of basic qualification.

6.3 Curricular Responses

Curricular reforms, i.e. revisions of the structure of study provisions and the substance of what students are expected to learn, might be triggered by various factors. In an analysis of curriculum reforms at British universities in the 1980s, the authors categorized the reforms as system-led, institution-led, resource-led, discipline-led, academically-led, educationally-led, profession-led and consumer-led.[13] Reflections of the future work of graduates might directly enter the development of the curriculum, but might play a role as well when other concerns prevail.

The variety of curricula at universities might be described in terms of emphasis on preparation for research work and the creation of knowledge on the one hand and on the other the reproduction and dissemination of existing knowledge. Study programmes might be highly specialized or relatively broad. They might be fully embedded in a discipline or cut across disciplines. They might exclusively focus on knowledge and cognitive skills, or they might aim to address the non-cognitive dimensions of personality as well. Last but not least, curricula might differ in terms of their deliberate links to professional work, ranging from being closely geared to occupational preparation to not being intentionally related to job roles at all.[14]

Shortly after World War II, debates in many countries centred on the task of the university to contribute to culture, personality and responsible citizenship. With

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[12] See OECD, *Recurrent Education: A Strategy for Lifelong Learning* (Paris, 1973); see also M. Blaug and J. Mace, 'Recurrent Education - the New Jerusalem', *Higher Education* 6 (1977), 277-299.

[13] C.J. Boys et al., *Higher Education and the Preparation for Work* (London: Kingsley, 1988), pp. 66-68.

[14] See U. Teichler, 'Higher Education: Curriculum', in T. Husén and T.N. Postlethwaite (ed.), *The International Encyclopedia of Education* (Pergamon: Oxford, 1985), pp. 2199-2200.

reference to US higher education, the question was raised whether various forms of a 'studium generale' should be introduced or extended.[15]

Since the late 1940s, the universities in Eastern European countries moved towards a more instrumental approach than the European universities had traditionally pursued. The normative dimension of learning became the focus of compulsory courses in 'Marxism-Leninism'. Course programmes eventually became highly specialized, possibly dividing, for example, physics into half a dozen separate programmes and degrees. An 'integration of education, research, and productive work'[16] was striven for, notably by requiring students to spend about two month every year in productive work which might range from harvesting to work closely linked to future professional occupation.[17] Since the late 1970s, however, efforts were made to broaden curricula again to some extent.[18]

Since the second half of the 1960s and most pronounced during the early 1970s, the role universities should play for the preparation of professional work became a major issue in Western European countries as well. First, one of the major claims of the student movement of the late 1960s was that curricula and teaching at universities lacked 'societal relevance'. According to the critique voiced the 'ivory tower'-attitude of the professoriate had led to a neglect of the economic, social and cultural consequences of research and professional work, whereby universities had lost their critical function and had eventually become a backbone of negative consequences of the prevailing socio-political system.[19] Second, the increasing professional functions of the universities became anyway an issue as being one of the implications of higher education expansion during the 1960s. Third, the growing concern about graduate unemployment since the early 1970s fuelled debates about the links between higher education and employment. Also, many governments came to the conclusion that their planning approaches had paid insufficient attention to the content of knowledge and its implications for professional competence.[20]

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[15] See notably the debates in Germany documented in R. Neuhaus (ed.), Dokumente zur Hochschulreform 1945-1959 (Wiesbaden: Steiner, 1961); C. Oehler, Hochschulentwicklung in der Bundesrepublik Deutschland seit 1945 (Frankfurt/New York: Campus, 1989), pp. 24-26; see also Comparative Education Society in Europe (ed.), *General Education in a Changing World* (The Hague: Nijhoff, 1967).

[16] See for example, J. Mericka 'Integration of Education, Research and Productive Work of Students in Czechoslovakia', *Higher Education in Europe* 4 (1979) 3, 7-10.

[17] Cf. the literature named by J. Kluczynski, 'Research on Higher Education in European Socialist Countries', in P.G. Altbach and D.H. Kelly (eds.), *Higher Education in International Perspective: A Survey and Bibliography* (London and New York: Mansell, 1985), 55-86

[18] Cf. Sayegh, op.cit., chapter 5.

[19] See 'Student Activism' (special issues), *Higher Education*, 8 (1979) 6; 9 (1980) 2.

[20] See Fulton, Gordon and Williams, op cit., p. 102.

In summarizing various curricular activities aiming to change the links between study and professional competence[21], we can identify two major directions among efforts to increase the occupational relevance of higher education.[22]

First, changes in fields of study and in the content of courses were undoubtedly the main thrust. This might affect the basic understanding of the functions of the university in general. For example, the Framework Act for Higher Education enacted in 1976 in the Federal Republic of Germany called for an explicit link between academic learning and professional practice. It defined the functions of higher education institutions in the following way: "According to their specific functions, the institutions of higher education shall contribute to the fostering and development of the sciences and the arts through research, teaching, and studies. They shall prepare students for occupations which require the application of scientific findings and scientific methods or creative ability in the artistic fields." And it defined the purpose of study similarly: "Teaching and study are to prepare students for a profession in a certain field of activity, imparting to them the particular knowledge, skills and methods required in a way appropriate to each course so as to enable them to perform scientific or artistic work and to act responsibly in a free, democratic, and social state governed by the rule of law."[23]

The substance of learning might be reconsidered within the existing disciplines and study programmes. For example, a study summarizing reform efforts towards a 'Praxisorientierung des Studiums' (orientation towards practice) in the Federal Republic of Germany came to the conclusion that these efforts called for a deliberate and 'systematic confrontation' of academic ways of thinking in the respective disciplines and professional problem solving within the individual courses taught at university.[24]

Many course programmes were eventually restructured and many completely new courses were established. On a national scale, all Swedish curricula were expected to have some professional emphasis to serve the following professional sectors: technical occupations; administrative, economic and social professions; health occupations; educational occupations; culture and information occupations.[25] Only almost ten later, i.e. in 1987, an 'academic' degree ('filosophie kandi-

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[21] See Boys, op. cit.; N. Kluge, A. Neusel and U. Teichler, *Beispiele praxisorientierten Studiums* (Bonn: Bundesminister für Bildung und Wissenschaft, 1981); B. Jonsson et al., *Kompetensutveckling pa framtidens arbetsmarknad: Huvudrapport* (Stockholm: Universitets- och Högskoleämbetet, 1991); cf. also A. Jaumotte, 'The Purpose of University Training', in CRE (ed.), *The European University 1975-1985* (Oxford: Pergamon, 1975), 51-61.

[22] See Teichler, 'Occupational Structure and Higher Education', op. cit., pp. 980-981.

[23] HRG, sections 2.1 and 7, quoted from H. Peisert and G. Framhein, *Higher Education in Germany* (Bonn: Federal Ministry of Education and Science, 1994), p. 11.

[24] Kluge, Neusel and Teichler, op. cit.

[25] See Jablonska-Skinder and Teichler, op. cit., p. 230.

dat', abbreviated fil. kand.' or 'F.K.') was reintroduced, thus allowing for the combination of various individual courses.

In other countries, this curricular shift was less pronounced but affected many students. New cross-disciplinary course programmes emerged. For example, the study of foreign literature often was combined with social sciences or business studies for degree programmes in business. Or new specializations became separate study programmes, such as information science for the health system.

During the 1980s, however, the pendulum swung back again. Professional relevance was less often supposed to be achieved by new specializations and other means of close substantive links between study and prospective work tasks. Notably, employers stated frequently that universities should aim to lay the foundations for further learning rather than to provide a more or less complete body knowledge, and that they should play a stronger role in shaping the students' personality.[26]

Second, systematic efforts were increased to combine studies with practical work experience. As already stated, university students in Eastern European countries were required to spend two months a year undertaking practical work. In most countries, medical studies are enriched by short visitation programmes and extended internships in hospitals. School visits and teaching internships are a frequent phenomenon in teacher training. Varying according to country[27] and institution, we note a wide range of work arrangements, for example mandatory work experience arranged by the students themselves, practical phases co-supervised by a university professor, site visits or on-campus activities simulating practical problem-solving, for example 'learning in projects'.

Available research suggests that efforts to link work experience and the substance of curricula tend to be less successful than usually hoped for.[28] However, students tend to appreciate the contribution of a practical period to the development of social skills. British graduates, for example, stated most often that work experience benefited their communication skills and their self-confidence.[29]

A systematic incorporation of practical experience into study programmes tends to be more pronounced in the non-university sector than within universities. Dutch Hogescholen require all students to spend up to one year of their four-year study

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[26] See for example the documentation of the dialogue between the European Roundtable of Industrialists and the European Rectors Conference documented in *CRE-action*, (1990) 92.

[27] See the elaborate schemes at German universities referred to in U. Teichler and H. Winkler, Praxisorientierung des Studiums (Frankfurt and New York: Campus, 1979); U. Lindner et al., *Higher Education, Industry and Human Resources: The German Experience* (Milano: Fondazione Agnelli, 1992).

[28] See for example the respective analyses named in Teichler and Winkler, op. cit.

[29] J.L.Brennan et al., *Students, Courses and Jobs* (London: Kingsley, 1993), p. 132.

programme on the job. British polytechnics called the interchange of study and work phase 'sandwich' programmes. German Fachhochschulen had different regulations according to field of study and region. In the late 1980s, a general agreement was reached that one year of study should be devoted to practical phases and examinations. In contrast, German universities, though requiring practical experiences in various fields of study, tend to discount extended practical phases as part of their course programmes, irrespective whether students arrange them before embarking on or after completing their studies, during their vacation periods or while interrupting their studies for an extended practical period.

Views vary as regards the extent to which curricula at universities differ in their professional relevance from those in non-university higher education. In the late 1980s, surveys undertaken in the United Kingdom and Germany show contrasting evidence. Table 18 shows that British graduates from polytechnics faced more problems in the transition to employment, but a higher proportion of them (32% as compared to 23% of the university graduates) reported five years after graduation that their work 'benefits a great deal' from knowledge and skills gained from their degree course.

Table 18
Extent to which: a) Quality of Work Benefited from Knowledge and Skills Gained from Degree Course, b) Further Qualifications Would be Necessary for Career according to British Graduates 5 Years after Graduation (percentage)

	All	University	Polytechnic
Work benefits			
i) A great deal	30	23	32
ii) A fair amount	38	39	38
iii) Very little	14	20	13
iv) Not at all	5	6	4
Further qualifications			
v) Essential	12	15	12
vi) Useful	43	38	44

Source: Brennan et al., op. cit., p. 282.

Table 19
Graduates' Perceptions Two Years and Four to Five Years after Graduation of the Appropriateness of Position and the Utilisation of Competencies Acquired during the Course of Studies by Field of Study and Type of Higher Education Institution (percentages)

	Mechanical engineering			Economics business			Social work			Total
	Uni[1]	FH[2]	Total	Uni[1]	FH[2]	Total	Uni[1]	FH[2]	Total	
Utilisation of competencies										
Mostly										
2 years after graduation	35	12	23	28	25	25	41	27	30	26
4 to 5 years after graduation	30	8	20	26	15	23	29	20	22	22
Partly										
2 years after graduation	51	62	57	51	64	54	44	63	59	56
4 to 5 years after graduation	52	61	57	53	61	55	53	62	60	56
Hardly										
2 years after graduation	14	26	20	20	22	21	15	10	11	19
4 to 5 years after graduation	18	31	24	21	24	22	18	17	18	22
Appropriateness of position										
Appropriate										
2 years after graduation	74	54	64	61	55	59	28	56	51	58
4 to 5 years after graduation	73	64	69	67	55	64	29	54	49	62

continued

Table 19 (continued)

	Mechanical engineering			Economics business			Social work			Total
	Uni[1]	FH[2]	Total	Uni[1]	FH[2]	Total	Uni[1]	FH[2]	Total	
Not fully appropriate										
2 years after graduation	14	32	23	23	26	24	35	22	23	24
4 to 5 years after graduation	13	23	18	20	26	22	33	29	30	22
Inappropriate										
2 years after graduation	11	15	13	16	19	17	37	23	25	18
4 to 5 years after graduation	14	13	13	12	18	14	39	17	21	15

Source: Brennan et al., op. cit., p. 295.
[1] University
[2] Fachhochschule

In contrast, German graduates from both types of higher education had similar problems in the transition to employment, but a smaller proportion of graduates from Fachhochschule (about one sixth as compared to more than one quarter of the university graduates) stated four to five years after graduation that they could make use of the competences they had acquired in the course of study on the job (cf. Table 19).[30]

It is obvious that the professional relevance of courses is only in part determined by the intentions of those responsible for the programme to gear it to job requirements. In a survey undertaken in the 1980s in the United Kingdom, the researchers classified the course programmes according to their professional emphasis into four categories ranging from 'occupational specialists' on the one hand to 'generalists' on the other. Surprisingly the proportion of graduates considering their studies useful for the quality of work varied only between 71% and 54%.[31]

6.4 Other Responses

Universities might strike a better balance between the different functions if their academic staff is not only competent in the respective disciplinary knowledge but also versatile as regards its professional use. This might be reinforced, if academic staff is recruited who have acquired respective experience, and if the academic staff already employed are encouraged to gain and reinforce respective experiences in the course of their career.

A comparative survey conducted in 1992 shows, for example, that on average German university professors have spent about four years, British professors five years and Swedish professors six years of their professional life outside higher education. The respective figures for those teaching in non-university institutions of higher education were about twice as high.[32]

The involvement of part-time teachers is another means of strengthening professional preparation within higher education institutions. In the Federal Republic of Germany, for example, the number of part-time teachers per 10 full-time academic staff increased from three in the early 1970s to four around 1990 and at Fachhochschulen even from 7 to 18.[33]

It is frequently claimed, though, that only a minority of part-time teachers are themselves capable of systematically confronting academic approaches and pro-

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[30] See Brennan et al., 'The Experiences and Views of Students', op. cit., pp. 282 and 297.

[31] J. Brennan and J. McGeevor, *Graduates at Work* (London: Kingsley, 1988), p. 103.

[32] J. Enders and U. Teichler, *Der Hochschullehrerberuf im internationalen Vergleich* (Bonn: BMBF, 1995), p. 16.

[33] Bundesministerium für Bildung und Wissenschaft, *Grund- und Strukturdaten 1993/94* (Bonn, 1993), pp. 202-205.

fessional practice. Most part-time teachers tend to be either closely linked to the institutions of higher education themselves and research institutes, or they are practitioners providing knowledge in their area of expertise without being expected to strike the balance of academic and professional expertise.

Since about 1970, various means have been established to involve external persons in curriculum development and in the governance of individual higher education institutions. Representatives of enterprises, of professional bodies or of the various branches of the civil service might be members of national or regional commissions for curriculum development. Practitioners might be members of university boards, senates or participate in faculty meetings.

Reports suggest that these modes of co-operation might lead to a better understanding of the professional requirements within universities. The potentials of such communication, however, tend to be overshadowed in many cases by the fact that they were introduced not for the sake of open communication, but as part of the efforts to change the power structure within the universities, notably aimed at reducing the power of the professoriate, thus provoking resistance to such kind of communication as well.

Finally, universities might be involved in direct services to help students understand the world of work and transfer easily to the employment system after graduation. Academic student counselling was substantially extended in many European countries in the process of increasing enrolment[34], and these services were frequently broadened to include occupational counselling as well. Practices vary strikingly between countries as regards the extent to which universities are actively involved in the professional placement of graduates and to which they keep in touch with alumni/ae, i.e. former students of the respective institution of higher education, possibly seeing this a means of placing students. Obviously, many universities opted for the establishment of those services in the 1970s and 1980s in spite of financial constraints, because they considered these direct means of support as widely appreciated by the students.

6.5 A Trend toward Vocationalism?

Experts differ in assessing the changes in the attitudes and activities of universities as regards professional preparation. Some suggest that pressures to consider their graduates' work and career increased along with the expansion of higher education, i.e. already in the 1950s and 1960s. Accordingly, the trend towards scientification of society and towards growth of the proportion of highly qualified persons forced the universities to gear their programmes more closely to the needs of the em-

[34] cf. R.W. Dawes, 'The Role of the Counsellor in Mass Higher Education', *Higher Education* 2 (1973), 267-270.

ployment system. Other experts consider the labour market constellation as crucial: universities are inclined to adapt themselves to employment needs if graduates face substantial employment problems. Both views, however, correspond in observing that universities felt more hardly pressed to reflect their graduates' future employment and work in the 1970s and 1980s than in the preceding decades.

Obviously, pressures on the university to consider graduate employment increased in various ways. Resource allocation within European universities became more strategic over the years, thereby strongly reflecting the number of students and, in part, presumed manpower requirements even if they contradict student flows. However, experts' views, differ as regards students' field of study and career choice and research evidence is ambivalent. Obviously, a second factor came into play: since about the late 1960s steps were taken in many European countries to diminish the power of the 'academic guild'; it is generally assumed that all other actors gaining power - governments; junior staff, students and other staff; the university administration; representatives of employers or of the public in general - tend to favour stronger direct links between higher education and employment.

Claims continue to be expressed that academics are too inward-looking and resist to consider the professional demands in their teaching. A research project undertaken in the 1980s in the United Kingdom, however, challenges the widespread view that higher education was too slow and reluctant to change curricula and teaching to prepare students for future work.[35] On the contrary, signs of an 'epistemic drift' of teaching and research towards utilitarian views were observed.

In a summary of structural and curricular developments around the 1990s, the author comes to the conclusion that - after a strong emphasis on culture and thereafter on equity - institutions then became strongly preoccupied with ambitions to be professionally useful.[36] What remains open for future observation, though, is not so much the question whether more fields of study and more academics are involved in reflections about the professional relevance of teaching and study, for an increase of pressures and of respective responses is obvious. Rather, the question remains to be solved, whether the university being more pressed to consider its professional function tends to loose its balance and undermines its possible contributions to complex indeterminate tasks and challenges for innovation, because it wants to provide evidence of professional utility by adapting to presumed immediate training needs.

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[35] Boys et al., op. cit.

[36] G. Neave, 'On Instantly Consumable Knowledge and Snake Oil', *European Journal of Education* 27 (1992), 5-27.

7

Concluding Remarks

Universities in Europe experienced a substantial expansion after World War II. Available statistics suggest that, while less than one out of twenty among the respective age group was enrolled at around 1950, the respective average quota of beginner students in European countries has already surpassed 30% in 1990. The proportion of degree holders in the labour force increased from less than 5% on average around 1950 to almost 15% in 1990, and it is bound to rise further because the respective proportion is about twice as high among the younger cohorts than among those nearing the end of their career.

These data imply a second major change. Studies published shortly after World War II tended to include multi-disciplinary universities and some specialized colleges characterized by a visible research function. Two decades later, the terms 'higher education', 'third-level education', 'post-secondary education' or similar became popular, and thereafter analyses tended to address both the universities and the other institutions of higher education newly established or upgraded since the 1960s. In fact, the goals and functions of universities and those of other institutions have become in some respects similar and in some respects equivalent or at least sufficiently close to each other that a clear demarcation in the analysis of the relations between study and career does not make sense any longer.

These two observations could be challenged as intolerable generalizations. Enrolment and graduation ratios varied among European countries at any time after the World War II at a rate of more than three to one. Among Western European countries the proportion of recent university graduates in 1950 ranged from 3% to more than 9% and around 1990 from less than 10% to more than 30%. Enrolment in non-university higher education comprises more than 70% in one extreme and is hardly existing in the opposite extreme. 'Alternatives to universities' are vital institutions with contrasting educational philosophies in some cases, and in one case recently disappeared after a period of 'academic drift' of the non-university institutions and of 'vocational drift' of many of the universities. This notwithstanding some generalizations are justified, because the prevailing perceptions of the tasks

and conditions of the universities have undergone surprisingly similar developments across Europe in the last few decades.

Expansion of enrolment in higher education is undoubtedly the key issue in any analysis of graduate employment and work after World War II. A substantial increase of university-trained persons does not allow all of them to be among the 'chosen few' by definition. In the 1950s and 1960s, however, the quota of graduates among the professionally active persons could grow without serious problems. First, we noted a secular trend of high-level positions in societies traditionally open to any qualification, i.e. notably in industry and private services, to be filled increasingly by graduates. Second, the structural shift of the economy towards a growth of the service sector provided more openings for graduates, even though the composition of qualifications had not changed within the respective sectors. Third, a general trend towards scientification increased the proportion of demanding tasks and job roles within the various sectors.

Thus, universities in the 1950s and 1960s felt hardly pressed by the process of expansion. The relative loss of 'Einsamkeit und Freiheit' ('loneliness and freedom') as well as of exclusivity was a cause for concerned reflection, but not for political outcry at times of growing resources, significant public respect and at most latent conflicts between the goals of serving the pursuit of knowledge without any utilitarist perspective, of stimulating economic growth and of contributing to the reduction of inequality.

When student protests upset the belief in the intact academic world in the late 1960s, when governments began to rethink their long-term funding strategies for an expanding education system and when economic growth slowed down and even significant unemployment emerged, a further increase of the quota of graduates among the labour force was regarded to become a major problem. Fears were expressed that graduate unemployment would dramatically rise and that an increasing number of graduates would face positions and job tasks far away from those traditionally believed to be the domain of graduates. Even if scenarios were less bleak, a substantially growing number of graduates was expected to take over middle-level jobs, displacing other persons better prepared for the respective work tasks and becoming dissatisfied with this state of affairs.

The Eastern European countries following the socio-political model of the Soviet Union seemed to avoid respective complications. In most of these countries higher education expanded substantially in the 1950s and early 1960s, but thereafter grew only moderately at most. Study programmes became more highly specialized and in most of these countries were closely geared to the presumed manpower requirements. However, the transfer of the status conflicts to the secondary schools, the many signs of misallocation and underutilization of graduates as well as the various infringements as regards the freedom of academic inquiry did not make this option attractive.

Graduate employment and work, in fact, developed during the 1970s and 1980s in various Western European countries less comfortable than in the preceding decades, but less miserable than the pessimism of the mid-1970s predicted. Most graduates were absorbed by the employment system thereby taking over positions and tasks traditionally perceived as graduate assignments or at least not clearly demarcated from them. The proportion of graduates registered in positions of manual labour, simple services or routine white-collar jobs doubled at most. According to available surveys, about three fifths of the graduates considered themselves invariably to be in graduate jobs, about a further fifth made some question marks in this respect, and one fifth at most noted considerable limitations and disappointments. Gradual shifts in the fields of study, in drop-out and prolongation, in the efforts undertaken for the transition to employment and the time span it lasted, etc. softened and dispersed the potential problems.

Ample statistics, surveys and experts' assessments are available on the relationships between higher education and employment emerging since the 1970s. Valuable as they might be in many respects, they still leave room for divergent interpretation. This holds true even for the description of general trends: whether university-trained persons keep their relative advantages of lower unemployment risk, higher income and more interesting and demanding job tasks as compared to other persons or whether these advantages are eroding. The views vary even more if condensed to general interpretations. Some continue to consider the increased numbers of students as a costly oversupply which, though not having caused the turmoil initially anticipated, is absorbed by the employment system in a hardly productive manner. Others consider the increase of graduates among those professionally active as a contribution to a modern economic system not relying anymore on a few powerful leaders but, rather, on decentralized responsibilities and on a wide diffusion of relatively complex knowledge as a chance for the reduction of status differentials and as a step forward in the democratization of society.

Views changed markedly over the years as regards expectations about who is to ensure a balance between higher education and employment. In the 1960s, the view was widely held that wise governmental planning based on forecasts of manpower requirements and of supply trends was crucial. In addition, changing career rewards of the graduates' competences were expected to help avoid serious imbalances. In the 1970s, the view spread that the number of graduates endemically surpasses the presumed demand of the employment system if the education system is open and many students aim to be well educated both for intrinsic and instrumental reasons. Belief in any macro-structural balance faded.

It became obvious during this period that differences of career prospects were on the rise according to type of higher education institutions, the field of study and the individual institution. Thus, more attention was placed on the students' individ-

ual choice and the role the individual institution of higher education could play in improving their students' career prospects.

During the 1980s governments in various European countries began to loosen their supervisory activities, thereby expecting the individual universities to take strategic options as regards their specific profile, to be more managerial and entrepreneurial and to be held visibly accountable to society through elaborate evaluation. As a matter of procedure, the individual universities and departments paid more attention to the relationships between study and subsequent employment and work as one of the various criteria for effective action, and this led not infrequently to what is pejoratively called vocationalism.

Around 1990, macro-social scenarios, in principle, could provoke as heated debates on the links between higher education and employment as we had observed around the mid-seventies. Unemployment has further risen in the early 1990s, the supply of graduates is expected to increase further because a substantial proportion of European countries already experienced a considerable increase of the Enrolment quota. Various experts predict a growth of demand for qualified labour, but these predictions are more vague than the grand euphoric and pessimistic scenarios of the 1960s and the 1970s. Undoubtedly there is an increased awareness of the complexity of the state of affairs.

How will the universities respond to this state of unpredictable dynamism? There is obviously no recipe of how to strike the balance between the academic, cultural and professional functions of higher education. Debates on the relationships between study and employment tend to suffer from the tension that systematic reflection of this theme is generally met with some suspicion in a university where the pursuit of knowledge for its own sake is held in high esteem and reflection of the professional function might be viewed as being a step in the direction of yielding to external pressure. This tension cannot be avoided because the university plays a double role in this respect. On the one hand, the university is the legitimate key defender of its detachment from society in order to allow a pursuit of knowledge for its own sake which through innovation, critical thinking, and cultural enrichment eventually might turn out to be more fruitful for society than any effort of steering the universities' activities in a targeted manner. On the other hand, as a consequence of its relative autonomy, the university has to be a or even the key actor for creating a reasonable synthesis between its own inward-looking academic preoccupation and the legitimate professional demands on graduates - demands which do not only comprise the handling of indeterminate tasks as well as the strive for innovation and critical thinking, but also the learning of some - admittedly complex - tools and rules. Reasoning under these tensions often remains below the reflective capacity of those involved.

One could take a historian's position: how will future generations view the current times? Is the university yielding to an overwhelming vocational drift? Is there

an acceleration of a trend towards diversification to the extent that common elements are more or less lost and a division emerges in between academic universities, vocational universities and a few institutions in between succeeding in keeping a creative tension between the conflicting functions of higher education? Or is there a step forward towards a self-conscious handling of the difficult relationships between the university and graduates' work and career?

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European universities are expected to contribute to a general enhancement of the students' knowledge and possibly a cultivation of values, attitudes and the personality in general. They are also the training ground for the - minority of - students who eventually will become scholars and teach future generations of students. Finally, universities are expected to provide a foundation of knowledge and skills relevant for occupations typically taken over by graduates.

The survey of the changing relationship between higher education and graduate employment in Europe presented here provides an account of quantitative changes in enrolment and graduation in Europe between about 1950 and the 1990s and gives a summary of major political and research debates about the balance between higher education and employment. Furthermore an overview is provided of the modes of graduation and award of degrees. Their relevance to professional practice and changes in graduate employment and work is demonstrated in detail by analyzing statistical material and empirical surveys. Finally, the author refers to various ways the universities themselves address the changing relationships between higher education and employment.

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