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The Flexible Professional in the Knowledge Society
– new demands on higher education in Europe
(Report 2)

The context of higher education and employment: comparisons between different European countries

**Report to HEFCE by Centre for Higher
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Executive summary

This report is one of a series of six reports commissioned by the Higher Education Funding Council for England (HEFCE) which draw on a recent European Commission Framework Project, 'The Flexible Professional in the Knowledge Society' (the REFLEX project). The project – undertaken in 11 European countries – was an investigation into the employment experiences of European graduates over the five years since graduation in 2000. By design, the UK sample comprised graduates who had completed a bachelors degree in 2000. In most of the other countries, the samples comprised wholly (or mainly) those with a masters degree.

This second report in the series describes some of the contextual differences in the higher education systems and economies of the countries which participated in the project. It includes information on the different histories and traditions of higher education, differences in current economic and political circumstances and differences in the role traditionally assigned to higher education in recruitment and preparation for the labour market.

Distinctions between the 'Humboldtian', the 'Napoleonic' and the 'Anglo-Saxon' traditions of higher education are drawn. Higher education in the UK has traditionally emphasised a fairly broadly based academic education, whether expressed in a nineteenth-century vocabulary of personality and leadership or a twenty-first century vocabulary of generic skills and team work. In continental Europe, on the other hand, the emphasis has traditionally been, and still is nowadays, on subject specialism and professional expertise.

In many parts of Europe, entry to jobs is legally regulated through quite precise qualification requirements. Since the employment outlets are thus quite predictable, it is feasible and desirable to shape the content of courses around the vocational requirements of the jobs. However, in the UK, the labour market is more 'open', with alternative credentials – or none at all – often acceptable. This provides both graduates and employers with greater flexibility, but makes it more difficult to shape the curriculum according to employment needs.

Other contextual differences include the length and level of courses (with the three-year English bachelors degree comparing with a typically five-year masters degree), a greater frequency of work placements in continental Europe, a different subject mix (more humanities students in the UK), younger graduates in the UK, and a steeper reputational hierarchy among higher education institutions in the UK.

While pressures towards change and possible convergence can be discerned – around the features of the so-called 'global knowledge society' as well as in response to the political pressures towards harmonisation encapsulated in the Bologna process – differences in history and context are likely to remain relevant to an understanding of European higher education systems for a long time to come.

1 Introduction

This report is part of a major international study of graduate employment, 'The Flexible Professional in the Knowledge Society – new demands on higher education in Europe (REFLEX)', which was funded by the European Commission as part of its 6th Framework programme, Priority 7, 'Citizens and Governance in a Knowledge Based Society'. Details of the study are contained in the Appendix to this report.

The report is one of six commissioned by the Higher Education Funding Council for England to draw out the main differences and similarities between the experiences of UK and European graduates. The focus of this report is on contextual differences in the higher education systems and economies of the countries which participated in the project. Other reports in the series deal with the effects of age, graduate competences, graduates' retrospective views of their higher education and the effects of subject differences. There is also an overview report.

Notwithstanding the trends towards harmonisation of national higher education systems in Europe, driven in part by the Bologna process and in part by broader global economic trends, the 11 countries which participated in the REFLEX project represent different histories and traditions of higher education, differences in current economic and political circumstances and differences in the role traditionally assigned to higher education in recruitment and preparation for the labour market. It is these differences which lie behind the differences in the experiences of graduates described in the other reports of this series.

It is the purpose of this report to set a context for these other reports by describing some of the differences in educational, social and economic contexts within which students make the transition from higher education into the world of work. It will consider some of the characteristics of the higher education systems, of the economies and labour markets, and of the relationships between the two. First, however, some differences in history will be observed.

2 Histories

Educational historians have traditionally referred to the 'Humboldtian', the 'Napoleonic' and the 'Anglo-Saxon' traditions within European higher education (and exported around the world during the colonial period). Writing about these different traditions some years ago, Claudius Gellert referred to them as the 'research', the 'training' and the 'personality' models. While these models refer effectively to the elite higher education systems of more than a century ago, we might be tempted to agree with Gellert that:

'the university systems of many countries have in the past shown an astonishing degree of inertia and continuity. This explains why some of the leading systems in the world still display major structural components of some centuries ago.'

(Gellert, 1993, p.238)

Thus, then and now, professional training at a Grande École provides entry to French elites far more effectively than does going to university. Whereas in England (let us not speak for all of the UK), it is the 'character formation' or 'liberal education' provided by the 'collegiate ideal of education' (Halsey, 1961) that has been prized and provides a similar route to elite entry. In Germany, education through research was seen as central to the Humboldtian tradition, whereas for Newman and others research was not even a necessary attribute of university life.¹ The Humboldt traditions embrace notions of freedom to teach and research and, from the students' perspective, to study at one's own pace – which explains why many students in continental Europe and the Nordic countries have traditionally taken much longer to complete their studies than students in the UK. The UK system with its concentrated bachelors degree is perceived by many Europeans as 'spoon feeding', although it is more efficient in terms of student throughput and speedy transition to the labour market.

The term 'employability' itself has different cultural meanings. In the Anglo-Saxon sense, employability today carries the implication that graduates should be flexible workers who can operate in a variety of different settings with ease. With some important exceptions, higher education does not prepare for entry to a particular profession, or provides only the initial stages of that preparation. In many other European countries, 'employability' refers to preparation for a profession or similar high-level work roles with a defined set of competences and social status. In other languages the term 'employability' can, therefore, be associated with occupation-led vocational education and training, as in Germany for example. There is, of course, a further sense of employability as simply implying the 'likelihood of being employed', for whatever reason and reflecting a mix of labour market and higher education characteristics at any particular time.

The term profession is equally complex since in the Anglo-Saxon meaning it often refers to qualifications accredited by and providing entry to professional bodies, while in many other countries this accreditation role is assigned to the universities. Again, such differences need to be borne in mind when looking at the data obtained from the graduate survey in the other reports.

Today, of course, research, professional training and personality development are features of all higher education systems. But there remain differences in emphasis. It is interesting that there has not been as much debate and concern expressed about 'employability' and 'graduate skills' in continental Europe as in the UK. One explanation for the large amount of attention recently given in the UK to the relationship between higher education and employment is that it has been necessary to compensate for the historical 'character formation' tradition of higher education. As higher education has expanded and consumed ever more public funds, it has been forced to justify itself in terms of economic pay-off. This was perhaps more difficult to do for the 'personality' focused English model than for many of its European counterparts.

¹ The Humboldtian research tradition reached the UK circuitously via its initial export from Germany to the US.

All of this can be related to larger sociological questions concerning social structures and their reproduction. Is success determined by 'what you know' or by 'who you are'? It is not, of course, an either/or question, but answers to it reveal differences in meaning and balance between the two at different times and place. Another way of putting it is whether the emphasis of higher education is placed on 'selection' or 'socialisation/training' functions. Here we can connect with the larger higher education and labour market literature, where 'screening' and 'human capital' theories have competed for attention, although with the latter assuming dominance in recent years.

For the graduates in the REFLEX surveys, these differences in emphasis and tradition have implications for the range of employment situations that are theoretically open to them, for the extent to which they have been prepared for these during their first degrees in higher education, for the range of long-term career options that are available to them, for the likelihood of a need for further employment-related education and training once in employment, and for much more.

For employers, these differences have implications for how they make their graduate recruitment decisions and for the kinds of training and supervision they must give to their new graduate recruits. They may also have implications for longer-term human resource issues, for example concerning flexibility, leadership and worker mobility. For higher education, these differences are likely to influence the content and design of curricula – especially the place assigned to workplace learning – as well as the nature of the pedagogic role of academic staff. They may also affect the kinds of relationship that exist with employers and the amount and nature of explicit career preparation, guidance and support that higher education institutions provide to their students. And for society, these differences may affect not just economic performance but also the life chances and opportunities available to individuals. It is as much a question of equity as about efficiency.

Higher education in the UK has traditionally emphasised a fairly broadly based academic education, whether expressed in a nineteenth-century vocabulary of personality and leadership or a twenty-first century vocabulary of generic graduate skills and team work. Within this tradition, a higher proportion of students has always taken – and continues to take – courses in the humanities which have few direct outlets in the labour market, other than teaching. Yet an English humanities degree, especially if awarded by the 'right kind of' institution, can lead directly into high-level positions in the civil service and public administration which, in other traditions, would be reserved for people with degrees in law or public administration. In continental Europe, on the other hand, the emphasis has traditionally been, and still is nowadays, on subject specialism and professional expertise.

Today, these differences within European history and traditions face a number of pressures towards convergence, some economic and some political. The economic pressures lie in the features of the so-called 'global knowledge society' and the increasing international economic competition which that 'society' heralds. They include the role played by multinational companies and increasing trends of labour mobility, both within Europe itself and between Europe and other parts of the world.

At the political level, the processes set in train by the Bologna Declaration are occurring too late to have immediate consequences for the REFLEX graduates, but there are potential consequences for their long-term careers as well as for the survival of the many national historical policies and practices that are the focus of this report. For the UK, Bologna convergence has so far been regarded as having few national implications, as the proposed qualifications structure fits reasonably well with the UK bachelors/masters tradition. For many continental countries, radical reforms are needed in order to meet Bologna requirements. Thus, in many parts of Europe, this is a time of change – and some controversy – in higher education structures and qualifications.

Even if the rest of Europe eventually adopts and implements all aspects of the Bologna model – thus making them more like the 'Anglo-Saxon' tradition – they will not be adopting the historical and cultural baggage which accompanies it on its native soil. Thus, differences in

history and context are likely to remain relevant to an understanding of European higher education systems for a long time to come.

In the next section, a number of features of the higher education systems are described which may have implications for the labour market experiences of graduates.

3 Higher education systems in the participating countries

Size

Size matters. Countries with a small number of higher education institutions can avoid some of the complexities of mass higher education faced elsewhere. Employers are not required to screen out two-thirds of the higher education system in order to reach a perceived elite group of institutions and graduates. Informal knowledge and contacts will be more reliable. Choices are fewer.

Of the REFLEX countries, Norway, Switzerland, Finland and Austria are all countries with populations of fewer than 10 million inhabitants, the Czech Republic has just over 10 million, the Netherlands has 16 million, Spain has 42 million, while Germany, the United Kingdom, France and Italy all have populations in excess of 57 million (European Commission, 2005, 2007). Such variation in population size translates itself into differences in the number of higher education institutions in each nation. In Norway, there are six universities, 26 private higher education institutions and a further 26 state university colleges. Austria has 24 institutions, divided between 12 universities and 12 vocational colleges. In Finland there are 20 universities and 29 polytechnics, while in Switzerland there are 13 universities or university-level institutions and seven universities of applied science. The Czech Republic has 27 public and 40 private institutions. The Netherlands, a slightly larger country, has 14 universities and 60 universities of applied science. As can be seen below, this number is almost equivalent to the number of universities in much larger countries such as Spain and Italy.

As one would expect, the larger countries have a greater number of institutions, but also show great variation between each other. Spain and Italy have respectively 74 and 75 universities. In the United Kingdom there are 165 universities and Germany has some 333, while there are 4,364 institutions in France spread between university and non-university types. Of course, these figures tell us nothing about the size and nature of individual institutions, which also differ between national traditions.

Expenditure

There are considerable differences between countries in how much governments spend on higher education. Definitions vary and the figures in table 1 provide details of expenditure per student for all 'tertiary' education in the relevant countries.

Table 1: Annual expenditure on educational institutions per student (2003) (US dollars)

	All tertiary education (ISCED** 5A, 5B and 6)
Switzerland* (CH)	25,900
Norway (NO)	13,772
The Netherlands (NL)	13,444
Austria (AT)	12,344
Finland (FI)	12,047
United Kingdom (UK)	11,866
Germany (DE)	11,594
France (FR)	10,704
Spain (ES)	8,943
Italy* (IT)	8,764
Czech Republic (CZ)	6,774

* Public institutions only.

** International Standard Classification of Education.

Source: OECD (2006a) *Education at a Glance*, p.170

The amount spent on educational institutions per student in Switzerland is almost double that of the second highest-spending country, Norway. Among other countries, the Netherlands is at the higher end of the spending spectrum, with Austria, Finland, the United Kingdom, Germany and France spending median amounts, and Italy, Spain and the Czech Republic all spending less than this median group.

Differentiation

Binary or unitary system

Higher education in several European countries is organised in terms of a binary structure of academically oriented institutions and vocationally oriented institutions. Germany, the Netherlands, Austria, Finland, Norway, Belgium, the Czech Republic and Switzerland all have a binary system. Higher education institutions in these countries can be divided between those in the more scientifically/academically oriented university sector and those that are in the more vocationally oriented 'non-university' sector. Institutions within the non-university sector have various titles and missions, just as there are many different types of institutions within the university sector. The university and the non-university institutions are subject to separate laws, regulations and policies in terms of finance, admission and teaching. In most countries, the so-called binary divide implies that there are structural barriers to the transfer of qualifications between educational sectors. It is still not easy for students, and also for teaching staff, to move between types of institution. Many of the vocationally oriented colleges enjoy good relationships with local employers, who have regard for their expertise, particularly in the skills sectors.

In Austria, for example, higher education provision is divided between the university sector, comprising 12 universities and six schools of music and art, and the non-university sector, comprising 12 vocational colleges (CHEPS, 2005). Higher education provision in Finland is divided between universities and polytechnics (AMKs). There are 20 institutions of university status, which comprise 10 multi-faculty universities, four art academies, three schools of economics and business administration, and three universities of technology. Most of the country's polytechnics were upgraded from upper-secondary vocational schools in the 1990s (CHEPS, 2005). This included the amalgamation of hundreds of specialised vocational institutions into larger institutions which provide a range of courses.

The Dutch higher education system is divided into *wetenschappelijk onderwijs* (WO), the university sector, and *hogere beroepsonderwijs* (HBO), which provides professional higher education. The former comprises 14 universities and the latter 60 *hogescholen* (universities of applied science). Although there is a degree of overlap between the Dutch universities and the HBO institutions, one key official difference is the status of research. In the universities, research is given a key role and is seen as being interwoven with teaching. On the other hand, in the HBOs research is only permitted when it is contracted by firms or where it aims to further develop the field or discipline (Allen, van der Velden and de Weert, 2005). The German binary higher education system is divided between universities (including colleges of art and music) and the non-university *Fachhochschulen*. In Norway there are four universities, six specialised higher education institutions, 26 state university colleges and two national university colleges of art (NOKUT, 2006). In addition, there are 26 private higher education institutions.

There are seven distinct types of higher education institution in France. Within the university sector there are universities, *instituts universitaires de technologie* (IUT) and *instituts universitaires de formation des maîtres* (IUFM). There are the *Grandes Écoles*, special classes or programmes offered by lycées – *sections de technicien supérieur* (STS) and *classes préparatoires aux Grandes Écoles* (CPGE) – and other *écoles* (CHEPS, 2005).

The French system combines what has sometimes been referred to as 'horizontal' and 'vertical' differentiation of its higher education institutions, the former implying functional differences – generally along an academic/vocational divide – and the latter implying differences in terms of reputation and prestige. With the partial exception of the French

system, UK higher education is generally regarded as providing the best European example of vertical differentiation.

Reputational hierarchy and selectivity

While a number of countries may have a small number of high-prestige institutions such as private business schools, only in the United Kingdom and in France do we witness a system where reputation creates a clear dividing line between institutions. In these countries, it may be more significant 'where' one studies than 'what' one studies. This in part reflects the degree of institutional selectivity over admissions, providing employers with clear signposts on where to find the 'best' graduates.

There is great variation between countries in the degree of selectivity in higher education admissions. One way in which we can look at this is in terms of the degree to which institutions can set their own admission policies. In the UK and Finland, a *numerus clausus* system operates whereby institutions restrict the number of places on each course and set the relevant selection requirements themselves. In the Czech Republic, public universities are also responsible for setting selection criteria, and in Spain the allocation of students to programmes is based on the results of national entrance examinations that are taken after secondary education (Allen, 2006). In contrast, higher education in Germany, the Netherlands, Austria and France has historically been open to all those who have completed the relevant secondary school diploma, although in France, the *Grandes Écoles* do apply strict admissions policies. The *numerus clausus* also operates in Germany for many subjects in high demand. Clearly, such differences affect how far employers can use higher education institutions as an effective selection or 'screening' device for the recruitment of new employees.

Table 2 gives a broad indication of the extent of the horizontal and vertical differentiation in the REFLEX project countries. It indicates both the existence and size of a binary system (horizontal differentiation) and the existence of a strong reputational hierarchy (vertical differentiation).

Table 2: Binary or unitary structure of the higher education system, proportion of students in non-university sector, and existence of a strong reputational hierarchy

	UK	IT	ES	FR	AT	DE	NL	FI	NO	CZ	CH
Binary system	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% students in non-university sector	--	--	--	--	5	30	64	43	58	6	30 ^b
Reputational hierarchy	Yes	No	No	Yes	No	No	No	No	No	No	No

^b Figure for 2006. Source: Allen (2006)

One further difference among European higher education systems is the degree to which secondary-level education is itself a diversified system whereby secondary-level students attend different types of institution and study mainly either academic or vocational qualifications. This will ultimately affect the range of choices they face with regard to higher education. Table 3 shows that the earliest age at which students first face selection in the school system is about 10, in Austria and Germany; the latest is 16 years old, in Finland and Spain.

Table 3: Stratification, selectivity and standardisation

	UK	IT	ES	FR	AT	DE	NL	FI	NO	CZ	CH
First age for selection	--	14	16	15	10	10	12	16	16	11	15
Selectivity of HE	Yes ^b	No	Yes	Yes ^a	No	No	No	Yes	No	Yes	No

Note: ^a only for Grandes Écoles; ^b in particular for 'old' universities. Source: Allen (2006)

In many European countries there is a well-developed system of post-secondary vocational education and training. This is not the case in the UK, where any post-school learning

provided by employers or colleges remains ad hoc, job-related and function-oriented rather than occupation-oriented as in Germany, for example, where transition to work usually follows a period of simultaneous training in a company and attendance at a vocational school, the so-called 'dual system'. However, and perhaps paradoxically, this has also led to structural and individual inflexibility and is perceived by many to be in need of reform.

Participation rates

Table 4: Tertiary graduation rates (2004)

Percentage of tertiary graduates to the population at the typical age of graduation, by programme destination and duration

	UK	IT	ES	FR	AT	DE	NL	FI	NO	CZ	CH
All programmes	39.3	36.8	32.6	26.0	19.6	20.6	40.2	47.8	45.4	19.7	25.9
3 to under 5 years	38.3	13.3	14.1	8.6	4.0	8.0	X	29.6	36.1	4.9	25.9
5 to 6 years	0.9	23.6	18.5	16.4	15.6	12.6	X	17.6	6.0	14.8	7.9
More than 6 years	0.1	a	m	1.0	a	a	a	0.6	3.3	a	4.0

Source: OECD (2006a) - a, data not available category does not exist; m, data not available; x, data not separated by duration

Table 4 shows that participation in higher education is the highest in Finland, where nearly half the population of the typical age of graduation participate in higher education, and the lowest in Austria and the Czech Republic, where only 20% of the same population participate. While UK participation rates are among the highest, it is also worth noting the predominance of the relatively short bachelors programme, although a proportion of the students on these programmes will subsequently go on to undertake masters programmes.

Summary

Summing up the salient characteristics of the UK higher education system in comparison with those of other European countries, we can say that the UK has a large higher education system, differentiated rather more by institutional reputation than by formal type, that expenditure per student is close to the European average, and that participation rates are towards the higher end, although programmes tend to be of shorter duration. There is considerable selectivity in admissions by institutions (reflecting and maintaining reputational differences), but unlike some other countries secondary education is not divided between academic and vocational sectors.

Many UK policy reports refer to the lack of skills in the labour market, often with reference to other European countries and the excellence achieved in, for example, Germany and France. While this is the case, it needs to be noted that there remains structural tightness in these countries, with comparatively little mobility upwards or transfer across various educational sectors and institutions. A further point to note is that many European countries do not share the UK's concerns for widening participation and access, and the concept of 'mature students' in a structural sense is not well recognised. Most graduates are entering the labour market at a similar age, roughly mid to late twenties, whereas the UK produces large numbers of both younger and older graduates.

4 Labour markets in the participating countries

Social welfare policies

There are considerable differences in both the economies and the welfare policies of the various European countries. While there have been various EU economic directives, these have been limited to issues such as equal treatment of workers, the free movement of workers, and health and safety legislation. Nation states have so far refused to cede power to the EU on issues such as taxation and minimum-wage legislation. The result is distinct variations in the labour markets and welfare policies of different European countries.

The nature of social policies on welfare provision has a clear impact on the structure of a society and the levels of social equity. In the neo-liberal countries, such as the UK, we find relatively high levels of inequality; in the corporatist countries, including Austria, Germany, Italy and France, median levels; and in social democratic countries – Norway, Finland and the Netherlands – the high level of state welfare provision guarantees the lowest levels of inequality among European nations (Esping-Anderson, 1990). The structure of inequality in European society has clear implications for variations in graduate career paths and, in particular, the earnings premium of possessing a degree or other educational credential. Graduates will enjoy greater positional advantage – other things being equal – when income differentials are high.

In terms of women's labour market participation, Lewis (1992) argues that the welfare policies which governments adopt in the area of care have a clear impact on female participation rates in paid work and on whether any such work is primarily full-time or part-time, as women generally face additional difficulties in reconciling work and family life. Broadly speaking, while the relatively generous parental leave and universalistic affordable childcare in countries such as Finland enable both partners to remain in full-time employment after having a family, the market-oriented approach in the UK means that while employment rates among women are relatively high, a greater proportion of women are working part-time than many of their European counterparts (Taylor-Gooby, 2004).

Economic performance and labour productivity

Tables 5 and 6 show the economic performance of each country through gross domestic product (GDP), annual growth rate and labour productivity.

Table 5: Economic performance, 2004

	GDP (US\$ billions)	GDP per capita (PPP* US\$)	Annual growth rate (%) 1990-2004
Norway	250.1	38,454	2.5
Switzerland	357.5	33,040	0.2
Austria	292.3	32,276	2.0
The Netherlands	579.0	31,789	2.1
United Kingdom	2,124.4	30,821	2.2
Finland	185.9	29,951	2.2
France	2,046.6	29,300	1.7
Germany	2,740.6	28,303	1.5
Italy	1,677.8	28,180	1.3
Spain	1,039.9	25,047	2.3
Czech Republic	107.0	19,408	2.7

* Purchasing power parity. Source: United Nations Development Programme (UNDP) (2006), p331

The levels of GDP per capita among the different European countries ranged from \$19K to \$38K in 2004 (table 5), and the UK fell in the medium range. Most nations grew between 1.5% and 2.5% over the period 1990-2004, with the Czech Republic being an outlier at 2.7%,

Italy growing at 1.3%, and Switzerland at 0.2%, where growth has been considerably slower than in the other European countries in the project. The concern with slow economic growth and the need to reverse this has been a source of concern among both the European Commission and the national governments themselves and was a key driver in the development of the Lisbon Agenda.

On productivity rates (table 6), Norway is clearly far above the other European nations. Aside from Norway, it is the Netherlands, France and Germany that have the highest levels of productivity, with Austria, the UK, Finland and Switzerland approximately \$40 per hour, which is the medium productivity level. Italy and Spain are slightly under this medium level, with the Czech Republic holding up the group with a labour productivity of just \$21.7 per hour.

Table 6: OECD estimates for labour productivity, 2005

GDP per hour worked, US\$	
Norway	63.5
The Netherlands	50.1
France	49.0
Germany	44.0
Austria	40.1
United Kingdom	40.1
Finland	40.1
Switzerland	39.0
Italy	38.1
Spain	36.9
Czech Republic	21.7

Source: OECD (2006b)

Types of employment

Table 7 shows that part-time and temporary employment rates are relatively low in the UK compared to other European countries. It also shows that Italy has a particularly high rate of self-employment.

Table 7: Part-time, temporary and self-employment work (as % of employment) 2000

	UK	IT	ES	FR	AT	DE	NL	FI	NO	CZ	CH
Part-time	9.0	12.2	7.8	14.2	12.2	17.6	32.1	10.4	20.3	3.3	24.4
Temporary	7.0	10.0	32.5	14.2	8.1	12.5	13.5	17.5	9.0	8.1	11.0
Non-agricultural self-employment ^a	11.4	22.7	17.6	8.2	7.4	9.4	9.7	10.0	5.4	13.2	M

^a1998. Source: OECD, 2001 in Allen (2006). M, data not available

Composition of the economy

In most countries (except the Czech Republic), 'community, social and personal services' is the largest employment sector (table 8). Compared to other European countries, the UK has bigger 'wholesale and retail trade; restaurants and hotels' and 'finance, insurance, real estate and business services' sectors and one of the smallest proportions of the labour force in the 'manufacturing' sector.

Table 8: % of people employed by sector

	UK	IT	ES	FR	AT	DE	NL	FI	NO	CZ	CH
Agriculture, hunting, forestry and fishing	1	3	3	2	1	1	2	2	1	5	--
Mining and quarrying	0	0	0	--	0	0	0	0	1	2	--
Manufacturing	15	25	21	16	19	22	15	22	14	29	--
Electricity, gas and water supply	0	1	1	1	1	1	1	1	1	2	--
Construction	5	5	11	6	8	7	6	6	5	7	--
Wholesale and retail trade; restaurants and Hotels	24	15	18	16	21	19	21	16	17	15	--
Transport, insurance, real estate and business services	6	5	5	6	8	6	6	7	9	8	--
Finance, insurance, real estate and business services	19	12	10	17	14	14	20	11	12	9	--
Community, social and personal services	30	33	31	35	28	29	29	35	39	23	--

Source: OECD, 2001, in Allen (2006)

Employment rates

As expected, graduates of tertiary education, or post-initial education, are significantly more likely to be in employment than those who have either completed secondary-level education or left before completion of secondary education (table 9). However, what is interesting is that those countries which have the highest employment rates among higher education graduates also display the highest levels for individuals who have completed secondary education and those who have not. Thus, with the exception of the UK and the Czech Republic – which have high graduate employment rates but two of the lowest employment rates for people without secondary education – countries with high employment rates exercise this advantage over countries with lower rates, regardless of the level of education obtained.

Table 9: Employment rates by educational attainment, 2003

Number of 25-64 year olds in employment as a percentage of the population aged 25-64, by level of educational attainment.

	Below secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education
Switzerland	68	81	91
Norway	61	81	89
United Kingdom	53	79	88
The Netherlands	59	80	87
Austria	55	75	86
Czech Republic	44	75	86
Finland	58	74	85
Germany	51	70	84
France	58	77	83
Italy	50	72	82
Spain	56	72	81

Source: OECD (2006a), p.111-2

In most countries we see that the female unemployment rate is marginally higher than that for males (table 10). Italy offers one exception, where it is double the male rate, and Spain has the highest female unemployment rate of the 11 countries, as well as a high differential between the male and female rates. In Norway, Switzerland and the UK, on the contrary, the female rate is slightly lower than that for males.

Table 10: Gender differences in unemployment rates among graduates (ISCED 5A)

	Males – ISCED 5A	Females – ISCED 5A
Spain	5.6	9.2
Italy*	3.6	7.2
France	6.7	7.5
Germany	4.5	5.4
Finland	3.3	3.8
Switzerland	3.7	3.4
The Netherlands*	2.1	2.4
Norway	2.6	2.3
Czech Republic	1.7	2.3
Austria	1.9	2.2
United Kingdom	2.7	2.0

*Reference year is 2002. Source: OECD (2006a), p.110

The pattern of unemployment rates by educational attainment (table 11) is similar to that of employment rates. In each, relatively high unemployment rates for higher education graduates tend to be mirrored for those who completed secondary education and those who did not. For each of the three categories, the poorest performers are the same. Spain has the highest rates for both graduate unemployment and unemployment among upper secondary qualifiers.

The UK and the Czech Republic are interesting cases as a degree can be seen to be more 'valuable' in avoiding unemployment than in other countries. For example, those who have failed to complete higher education in the UK and the Czech Republic or who have completed upper secondary education but have no higher education qualification are almost twice (for the UK) or three times (for the Czech Republic) as likely to be unemployed as their counterparts in the Netherlands, Norway and Switzerland.

Table 11: Unemployment rates by educational attainment (2002)

Number of 25-64 year olds in unemployment as a percentage of the labour force aged 25-64, by educational attainment.

	Below secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education
Austria	6.9	3.4	1.9
Czech Republic	19.8	6.1	2.0
The Netherlands	3.8	2.2	2.1
Norway	3.4	2.9	2.1
Switzerland	4.6	2.4	2.2
United Kingdom	8.5	4.1	2.4
Finland	12.2	8.8	4.5
Germany	15.3	9.0	4.5
France	11.8	6.8	5.2
Italy	9.0	6.4	5.3
Spain	11.2	9.5	7.7

Source: OECD (2006a), p.113-4

While the unemployment rate of a country may at first glance appear to be the mere inverse of its employment rate, it in fact measures something quite different. While the employment rate measures the percentage of the *total age cohort* who are in employment, the unemployment rate, as understood by the International Labour Organisation, measures the proportion of this cohort who are both out of work *and are actively seeking employment*. Thus, individuals who are not looking for work (typically women who are rearing children or caring for family members) will not appear in these figures.

Research and development

In signing the Lisbon Agenda, EU nations agreed to work towards increasing their investment in research and development to 3% by 2010. As table 12 shows, there is a wide variation between countries in expenditure per student on research and development. This ranged from \$11.5K in Switzerland to \$1K in the Czech Republic (2003). The UK was at the lower end of the table, spending \$2.7K on research and development.

Table 12: Annual expenditure per student on research and development, 2003 (US\$)

Switzerland*	11,565
Netherlands	5,106
Finland	4,510
Norway	4,462
Germany	4,331
Austria	4,228
France	3,374
Italy*	3,106
UK	2,735
Spain	2,379
Czech Republic	1,076

* Public institutions only. Source: OECD (2006a), p.188

Summary

On many indicators, the UK is among the more successful European economies. Employment rates are high, and especially so for graduates. On some indicators, however, performance is more modest, for example on productivity and investment in research and development. In terms of the labour market, the breakdown by economic sector has its distinctive features (although the continuing size of the manufacturing sector should not be underestimated).

What is clear from these international statistics is that European averages on most things disguise considerable differences between individual countries. In terms of comparator countries likely to be of interest to the UK, the Nordic countries may have many features to aspire to (although other features would probably render comparisons somewhat misleading) and the Mediterranean countries features to probably avoid. Thus, the most relevant comparisons for the UK are probably countries such as Austria, France, Germany and the Netherlands.

5 Conclusions: relationships between higher education and the labour market

The role of credentials

In most parts of Europe beyond the shores of the UK, entry to most jobs is likely to be legally regulated through quite precise qualification requirements. This is the case for all educational levels. Professional qualifications – generally obtained *within* the education system – constrain the choices available to workers and employers alike. This has a number of implications.

First, within higher education, all concerned can proceed with rather firmer knowledge of employment destinations than is the case in the UK. Teachers 'know' the kinds of jobs their students will enter. Thus, there is rather less emphasis placed on transferable and generic graduate skills and competences and rather more on subject knowledge.

Second, graduates are less easily substitutable and so factors such as institutional reputation, social and cultural capital have less space in which to operate. The key thing is that the applicant has the 'right' qualification.

Third, it might be expected that all this would mean that the transition from higher education to employment would be shorter and smoother, with a higher proportion of graduates knowing where they were heading from a much earlier stage in their educational careers.

And fourth, as graduates are generally older and with a longer period in higher education *and* with a greater amount of work experience when they enter the labour market in other countries, the 'new' graduate is more fully formed professionally than in the UK. Thus, we find rather more investment by UK employers in training their new graduate recruits.

The positive side of all this from a UK perspective is that the labour market is more flexible. Alternative credentials – or none at all – are often acceptable. The downside may be graduate workers who possess less by way of relevant subject-specific knowledge than would be found among their continental counterparts.

While all of this indicates a somewhat different division of labour between higher education and employers – in terms of both selection and training functions – in the UK and the rest of Europe, this should not be taken to imply that one model is superior. Data reported in the other REFLEX reports will have a bearing on this interesting and important issue.

Convergence?

A substantial literature on the characteristics of 'global knowledge economies' might suggest that many of the differences in the educational and economic traditions of different European countries may be about to change. As well as changes being brought about in the wake of the Bologna process, debates can be discerned in several countries about the need for greater flexibility and a greater emphasis given to the need for the more 'transferable' skills and competences. These are very familiar debates to UK audiences. Nevertheless, it is important to remember the very different contexts and traditions in which these debates are taking place. In other reports of this series, we refer to a greater 'looseness of fit' between higher education and employment in the UK. For today's graduates, that looseness has considerable implications, both good and bad. These implications are the focus of the other reports of the REFLEX project.

References

- Allen, J. (2006) *REFLEX Country Study* (draft version 17 December).
- Allen, J., van der Velden, R., and de Weert, E. (2005) *Description of the Dutch Higher Educational System* (prepared for the REFLEX project team).
- Arthur, L. (2006) 'Higher Education and the Knowledge Society: issues, challenges and responses in Norway and Germany', *Research in Comparative and International Education*, Vol.1, no.3.
- Brennan, J., Johnston, B., Little, B., Shah, T. and Woodley, A. (2001) *The employment of UK graduates: comparisons with Europe and Japan*. London: The Open University.
- CHEPS (2005) *Lining Up Higher Education*. The Netherlands: Universiteit Twente, Center for Higher Education Policy Studies.
- Esping-Anderson, G. (1990) *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.
- European Commission (2005) *EU25 population rises until 2025, then falls*. News Release: 48/2005.
- European Commission (2007) *Europe in figures. EUROSTAT yearbook 2006-2007*. Luxembourg: European Communities.
http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-CD-06-001/EN/KS-CD-06-001-EN.PDF
- Gellert, C. (1993) *Higher Education in Europe*. London: Jessica Kingsley.
- Halsey, A.H. (ed) (1961) *Ability and Educational Opportunity*. Paris: Organisation for Economic Co-operation and Development.
- Lewis, J. (1992) 'Gender and the Development of Welfare Regimes', *Journal of European Social Policy*, Vol. 2, no.3, pp.159-73.
- NOKUT (National Agency for Quality Assurance in Education) (2006) *Norway: The System of Education*. Oslo: NOKUT.
http://www.nokut.no/graphics/NOKUT/Artikkelbibliotek/Brosjyrer_Publikasjoner/SUSA.pdf
- OECD (2006a) *Education at a Glance*. Paris: OECD.
- OECD (2006b) *Labour Productivity Levels and GDP per capita*. Paris: OECD.
- Schomburg, H. and Teichler, U. (eds) (2006) *Higher education and graduate employment in Europe: results of graduate surveys from twelve countries*. Dordrecht: Springer.
- Taylor-Gooby, P. (2004) 'New Risks and Social Change', in Taylor-Gooby, P. (ed) *New Risks, New Welfare: The Transformation of the European Welfare State*. Oxford: Oxford University Press.
- Teichler, U. (2004) *Diversity in Higher Education in Europe: Concepts and Developments*. Conference paper. <http://www.unesco.org/iau/conferences/SaoPaulo/confsaopaulo3.rtf>
- Teichler, U. (ed) (2007) *Careers of University Graduates*. Netherlands: Springer.

UNDP (United Nations Development Programme) (2006) *Human Development Report*.
Hampshire: Palgrave MacMillan.
<http://hdr.undp.org/en/media/HDR06-complete.pdf> (accessed 9 October 2008).

Appendix: Background to the REFLEX study

This report is based on the results of a major international study of graduate employment. The study, 'The Flexible Professional in the Knowledge Society – new demands on higher education in Europe' (REFLEX) was funded by the European Commission as part of its 6th Framework programme, Priority 7, 'Citizens and Governance in a Knowledge Based Society' (and by several national funds). The study was carried out collaboratively by research groups in 13 European countries (Austria, Belgium-Flanders, Czech Republic, Finland, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, Switzerland and the UK) and Japan. It was co-ordinated by the Research Centre for Education and the Labour Market of Maastricht University in the Netherlands. The UK part of the study was undertaken by the Centre for Higher Education Research and Information at the Open University.

The study had three strands:

- a country study highlighting the main structural and institutional factors that shape the relationship between higher education and work;
- a qualitative study on graduate competences in the knowledge society;
- a survey of higher education graduates five years after graduation.

The results of the survey which are presented in this report covered graduates from 11 of the countries involved in the study, viz. Austria, the Czech Republic, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Switzerland and the UK. The graduates were selected from the 1999/2000 graduating cohort and were contacted by means of a mailed questionnaire (with the option of completing a web-based questionnaire) in the spring of 2005. Overall, 33,832 questionnaires were returned from these 11 countries, including 1,578 from UK graduates. For the UK sample this represented a response rate of 23%. The overall average response rate was 30%, varying from 20% in Spain to 45% in Norway.

The samples were selected to be representative of the various national higher education populations of students enrolled on 'first degree' or equivalent programmes considered to be the main 'exit' qualification with which graduates left higher education in 2000 and entered the labour market in that country. In the case of the UK, this was taken to be a bachelors degree, but in very many other countries the 1999/2000 graduating sample comprised wholly (or mainly) those with a masters degree. The UK sample also included a (very) small number of graduates from taught masters programmes who had previously completed a first degree in the same broad subject area, had enrolled on a taught masters programme (at the same institution) without loss of time and graduated from that programme in 1999/2000.

Owing to data protection issues in the UK it is generally not possible to contact graduates directly. Hence, broad population data for graduates in the year 1999/2000 were provided by the Higher Education Statistics Agency (HESA). The sample itself was drawn either by HESA or the institutions themselves, and was broadly representative of the first degree graduating population.

Key sampling variables were field of study and type of institution. The UK sample was drawn from 43 higher education institutions covering a range of types of institution and locations. The achieved sample (i.e. those responding to the survey) was also broadly representative of the graduating population, though females were slightly over-represented, as table A shows.

Table A: Comparison of graduating population, initial sample and achieved sample

	Population, %	Initial sample, %	Achieved sample, %
Full-time	90	89	88
Female	55	53	61
Non-white	12	12	8
23 and under	70	69	64
24-27	12	12	14
28 and over	19	19	23

The extensive questionnaire comprised 11 sections, as follows:

- A Study programme completed in 1999/2000
- B Other educational and related experiences
- C Transition from study to work
- D First job after graduation
- E Employment history and current situation
- F Current work
- G Work organisation
- H Competences
- I Evaluation of study programme
- J Values and orientations
- K Socio-biographic data

A copy of the UK questionnaire is available to download from the HEFCE website.

This study followed on from an earlier study, Higher Education and Graduate Employment in Europe (CHEERS), also funded by the European Commission (see, for example, Brennan et al., 2001;² Schomburg and Teichler, 2006; Teichler (ed) 2007).

As in the previous study, the data collected have gone well beyond the topics usually covered by national surveys of this kind. For example, they included questions about the higher education experience and attitudes, values and competences in relation both to employment and to other areas of life. Extensive and complex data-checking and cleaning processes have been time-consuming. However, given that the research teams involved were already highly experienced and most had been involved in the earlier CHEERS study, the project was able to build on previous work. Once again, this large-scale European study of graduate employment used a common cross-national research methodology.

The survey results were supplemented by country reports prepared by the national research teams and by a qualitative report on graduates' competences as seen through the eyes of employers and higher education leaders.

This report is one of six reports commissioned by HEFCE. The full set of reports comprises:

- 1 The employment of UK graduates: comparisons with Europe
- 2 The context of higher education and employment: comparisons between different European countries
- 3 Subject differences in graduate employment across Europe
- 4 Competences possessed and required by European graduates
- 5 Age differences in graduate employment across Europe
- 6 Graduates' retrospective views of higher education.

² Brennan, J., Johnston, B., Little, B., Shah, T. and Woodley, A. (2001) *The employment of UK graduates: comparisons with Europe and Japan*. London: The Open University.