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Reassessing the employment outcomes of higher education

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Higher education provision has expanded in recent decades. It is no longer an elite system preparing a select few for the traditional professions; instead it is a mass system educating ‘everyone for everything’. In addition, students are now required to contribute financially to their education in the UK. As more students enter the labour market, graduates’ employment outcomes are a key concern. This chapter concentrates on employment outcomes in the context of the expansion of higher education and the recent economic downturn. The issue of employment outcomes is separated into sub-issues: students’ entry into employment; the jobs in which graduates are employed; the graduate wage premium associated with those jobs; and the capacity of higher education to lever social mobility through those employment outcomes. In exploring these issues, the chapter focuses on developments in the UK though references to similar developments elsewhere are made.

In the UK graduate employment outcomes are a key policy concern. The recent government review *Securing a sustainable future for higher education* (BIS 2010), also known as the Browne Review recommended the removal of the cap on tuition fees; a recommendation subsequently adopted by the government¹. In the context of students having to pay to study, Browne argued that students would and should pay these fees if they provided the pathway into good jobs, or at least jobs appropriate for graduates and that the anticipated employment outcomes would shape the differences in the level of tuition fees set by institutions: the ‘charge’ for a university course “will become an indicator of its ability to deliver – students will only pay higher charges if there is a proven path to higher earnings”, Browne argued (p.31). As a consequence, it was assumed that this link between employment outcomes and institutional receipt of fees would also affect pedagogy in higher education, stating optimistically that if students are clearly informed about employment outcomes “the gap between the skills taught by the higher education system and what employers need”

¹. From the academic year 2012-13, students in England and Wales are charged tuition fees of up to £9,000 a year.

(p.31) would be closed, in a virtuous aligning of inputs (fees), process (pedagogy) and outcomes (jobs). In practice, this alignment is not so straightforward. Focusing on graduate transitions into employment, the types of jobs in which graduates are employed and the pay of those jobs, this chapter highlights the more complex situation empirically in which motivations and outcomes are more varied and less predictable. It also indicates the complexity of another graduate employment dynamic – the shaping of social mobility. This chapter draws on a range of secondary material, much of it conducted by staff at the Warwick Institute for Employment Research (IER) over the last thirty years, including several longitudinal studies of students and graduates – the Futuretrack studies.

This chapter draws on mainly UK based research undertaken variously by its authors, and supplemented by secondary material from other researchers. The first section examines the transition of graduates to employment and highlights the radical changes that have taken place over the past fifteen years. This section extends its coverage to include a brief international perspective on the employment outcomes of UK educated graduates. The following section analyses the jobs in which graduates are employed and again, indicates the changes in the pattern of that employment. It is followed by a discussion about the changes in the occupations. The third section identifies the role of educational credentials in salary outcomes and examines whether students' enhanced expectation about employability is materialising into graduates having higher paying jobs. The final main section discusses the diversity both of students and their distribution within HEIs, its implications for the employment of graduates and how this employment shapes the various possible trajectories of social mobility – downward as well as upward. Signals for future research issues and agendas both for researchers and for policy makers are identified in the conclusion.

Transition to Employment

Until very recently, when the question was raised about why students embark on higher education in the UK, a direct link to employment was salient for a minority of students such as those planning a vocational course such as medicine or civil engineering. The majority simply made the broad assumption that obtaining a degree would lead to an improvement of career opportunities. Although most undergraduate courses were implicitly concerned with development of 'employability skills', the marketing of courses as investment commodities is a relatively recent phenomenon (Naidoo and Jamieson 2005) and research indicated clearly that the majority of students did not approach higher education explicitly as a career investment (Purcell *et al* 1999, Elias *et al* 1999, Purcell *et al* 2005).

As recently as the early 1990s, in an analysis of the main reasons for higher education participation given by under-graduate students, only a minority had had clear expectations about what they would do at the end of their courses. Moreover, these expectations varied by subject of study, ranging from around half of law undergraduates to less than ten per cent of modern languages students (Purcell and Pitcher 1996:23). Instead, entry to higher education was seen as arrival at a destination, albeit a finite one, rather than the exit route to the next stage of life. Of the reasons final-year students in 1996 gave for their choices of course, well under a third gave 'pragmatic' reasons such as career development. Many more, around two-thirds, gave 'hedonistic' reasons such as enjoyment of the subject or course (pp.10-11).

Nevertheless, in most cases, students' expectations of better career opportunities were realised. Table 1 below shows the employment activities of graduates who completed under-graduate courses in 1995 and 1999. The majority of both male and female graduates had entered the labour market within the early-career periods for which they were tracked and less than a fifth entered non-graduate occupations. The proportion of the latter declined over the course of the longitudinal surveys (Purcell *et al.* 2005). Activity history analysis demonstrated clearly that early graduate career trajectories varied by undergraduate subject, gender, levels of achievement and regions of domicile. However despite the large increase in the supply of graduates onto the UK labour market and wide divergences in the extent to which graduates who had studied different subjects moved into jobs that required, used and rewarded their higher education qualifications, they were continuing to be integrated into the UK labour market as successfully as their predecessor 'elite' cohorts.

Table 1: Main activities of graduates, classes of 1995 and 1999

	Class of 1995		Class of 1999	
	c.42 months after graduation*		c.42 months after graduation**	
	Male	Female	Male	Female
Full-time employment 'related to careers'	73 %	71 %	70 %	66 %
Full-time employment 'not related to careers'	16 %	18 %	17 %	18 %

Self-Employed	5 %	3 %	3 %	4 %
Full-time postgraduate studies	7 %	9 %	7 %	8 %
Unemployed	3 %	3 %	3 %	2 %
Total	100 %	100 %	100 %	100 %

Sources: **Elias *et al.* 1999: 80-86, **Purcell *et al.* 2005.

In the course of the past fifteen years, funding of higher education in the UK has changed radically and applicants have been encouraged to think of an undergraduate course as a career investment to be evaluated in terms of predicted returns; outcomes focused on earning capacity and occupational attainment. Students should leave higher education with the ‘employability’ skills that give them the potential to achieve a well-paid graduate job and realise a return on their investment (Yorke, 2006). In particular, an increased emphasis on the explicit and measurable development of generic, transferable skills has been required of higher education providers (Atfield and Purcell, 2010; Mason *et al.* 2006 to help graduates access appropriate employment in an increasingly competitive graduate labour market (BIS 2013, CBI 2009) and protect them from fluctuations in demand for particular hard skills or from decline of particular professions (Tomlinson, 2008).

So what has been the impact of the increasing marketing of higher education as an investment commodity? Between 2005-2012, the Futuretrack survey tracked full-time UK higher education applicants through their study and into their early graduate careers for between 18-30 months after graduation (Purcell *et al.*, 2013). Unsurprisingly, in contrast to the graduate classes of 1995 and 1999, over 57 per cent gave an employment-related main reason for applying to higher education at the outset of their courses (Purcell *et al.* 2008:35ff) and 55 per cent had a clear idea of what they hoped to do after graduation in their final undergraduate term (Purcell *et al.* 2010:31).

In the event, the Futuretrack cohort could not have predicted at the outset of their courses that they would complete their study and face the transition to the next life stage during the worst global recession for more than sixty years. When surveyed around 30 months after graduation, 11 per cent of those who had completed a three-year course were unemployed and looking for work, 17 per cent were employed part-time in one or more jobs and three per cent were engaged in full-time study. Of the just under three-quarters in full-time employment, only 58 per cent regarded themselves as being in a job appropriate for somebody with their skills and qualifications (Purcell *et al.* 2013:8). Thus,

there had been a radical change in the structure of the graduate labour market since the 1990s.

In a global labour market for graduates (Brown et al. 2011), the analysis needs also to take into account international employment opportunities for UK educated graduates. The UK is one of the major destination countries in a growing competition for international students (OECD, 2013). After graduation, these students not only hold degrees from UK HEIs but also acquire mobility capital (Murphy-Lejeune, 2002) both of which are said to have provided them with the skills and knowledge to enter further study or employment both in the UK and elsewhere. In addition, many home-educated graduates move overseas after leaving higher education. Whilst there is a vast amount of research on exchange students (e.g. ERASMUS), there is lack of consensus on the actual labour market outcomes of degree mobile students and graduates and their transferability of skills, knowledge and degrees across borders. A small qualitative follow-up study of Futuretrack respondents revealed that whilst some mobile graduates struggle to transfer the skills and knowledge they gained at a UK HEI, the vast majority of them eventually manage to find entry to skill-appropriate employment (Behle and Tzanakou, 2014).

What is a Graduate Job?

Wherever and whatever they study, higher education is supposed to equip students with higher level or 'thinking' skills, such as the capacity to analyse and reason, problem solve, and organise and interpret information, and which enable graduates to perform more complex work (see Tholen et al. 2014). As was shown earlier, many graduates now work in jobs that previously would not have been regarded as appropriate for their qualification level and skill acquisition. This leads to the question of what can be defined as a graduate job. Are graduate jobs those which require skills acquired in higher education, or are they simply jobs done by graduates? Traditionally, higher education was the channel into the traditional professions such as medicine, law and the clergy. Universities were literally centres of vocational training. This channel still exists, with the route into these professions unchanged. Indeed current occupational 'professionalization projects' centre on graduatising entry routes into the occupations, as the new health care professionals exemplify (Anderson and Warhurst 2011). However as higher education has expanded graduates are now employed in a wider range of jobs.

In order to monitor change in the relationship between educational credentials and employment, Elias and Purcell (2004) analysed the changing distribution of

graduates in employment over 1980-2003 and found that, despite the increase in the supply of graduates and the increasing diversity of occupations in which graduates were employed, the majority continued to access occupations likely to use, require and reward their higher education. However, increasing numbers of graduates together with the recent global recession which further limited employment opportunities for new graduates, revealed the need for a revised classification. The revised classification, SOC(HE)2010 (Elias and Purcell, 2013a), distributes jobs among four categories; Expert, Orchestrator, Communicator and Non-Graduate; and assesses the extent to which the actual knowledge and skills developed by graduates on their courses are used in their current occupations. Expert occupations utilise the detailed knowledge and/or skills of an undergraduate degree course (for example pharmacists or solicitors) whilst Orchestrator occupations such as managers or directors require high-level competence. Occupations classified as Communicator require high-level competence in the communication and dissemination of knowledge which can be expected from journalists, for example.

Two and a half years after graduation from three year courses, and one and a half years from four year courses, 27 per cent of all Futuretrack respondents were employed in occupations classified as Expert, four per cent in Orchestrator positions and 11 per cent worked in Communicator occupations. Thus, well over half of graduates were in jobs unlikely to be requiring, using or rewarding their investment in higher education (Non-Graduate jobs). These jobs include estate agents, and catering, sales and care workers. Using SOC(HE)2010, the UK Government's Office for National Statistics (ONS, 2013) also notes that the number of recent graduates working in such jobs has risen from 37% in 2001 to 47% in 2013. These findings are supported by other research using different methods to measure the extent of graduate under-employment and examining graduates whose skills and knowledge were neither being used nor rewarded by employers (e.g. Green and Zhu 2012, Brown et al 2011). This under-employment is not unique to the UK. Research in Australia, for example, similarly finds that as much as 40 percent of its workforce now has more skills than are required for work (Skills Australia 2009).

A key issue in the UK is whether or not this shortfall in graduate employment opportunities is temporary – an outcome of the economic downturn and a tightened labour market. Whilst a 'recession effect' is clearly visible in the class of 2009-10, the overall trend of increasing under-employment of graduates cannot be explained by a temporary fall in labour demand (Purcell and Elias 2015, Elias and Purcell, 2013b; Green and Henseke 2014). Evidence from Futuretrack suggests that for many graduates under-employment is increasingly long-term. Compared to previous surveys in which the proportion of graduates

in non-graduates jobs decreased over time, the proportion of such graduates did not fall. Instead, the proportion of graduates in non-graduate jobs rose as the numbers in employment increased; though the numbers vary widely according to subject studied and regional location (Purcell *et al.*, 2013). There is little surprise then that employer surveys report almost half of all UK workplaces in 2011 as having over-qualified workers (Felstead and Green 2013). The increasing supply of graduates has outstripped demand from the traditional professions and other occupations that ordinarily employ graduates such that there is now a poor fit between the demand for and supply of graduates.

It might be argued that analysis of this kind is too backward looking, failing to take into account the recent additions of new higher education institutions and a changing employment structure. Many 'newer professions' such as primary school teaching, many engineering occupations and, more recently, physiotherapy and nursing (Anderson 2009), have only recently required higher education as an entry qualification. Reflecting these young people's entry now into the *new* universities, Chillas (2010) has proposed the idea of 'multiple matching', whereby different types of university provide employees for different types of occupations, with graduates from lower-ranked universities matched to the often less prestigious, newer graduate jobs such as environmental health officers. New links are thus being forged between higher education and employment with the new universities supplying for a new range of graduate jobs. Nevertheless, even with the emergence of new professions and this new form of multiple matching, supply has continued to outstrip demand. Alternatively, it is suggested that graduates entering non-graduate jobs will lead to many of these jobs changing, being adapted to take advantage of and better utilise the available graduate skills. These jobs would then be upgraded either permanently or temporarily to be more complex (UKCES 2014). Where technology or changes in organisational structure have provided the potential or even required changed human resource management and different ways of working there was some evidence of such change in industries and occupations (Mason 2002). Overall, however, opportunities for job upgrading were found to be limited, with most of the non-graduate jobs now employing graduates remaining unchanged (Mason 2002). It should come as little surprise therefore that graduates who are able to use of their skills (the expected problem-solving skills but also in this study other soft skills such as influence and communication) are more likely to do so by exiting their non-graduate jobs rather than by upgrading these jobs (Okay-Somerville and Scholarios 2013).

The broadening of the conceptualisation of graduates' skills in this way is both useful and problematic. It is useful because it can more accurately capture the skills graduates use in their jobs. One example of these skills can be seen in

research on graduates working in the non-graduate job of estate agency. (Tholen et al., 2014). Whilst this occupation was acknowledged by both employers and estate agents not to require graduate labour, graduates have been increasingly entering the occupation and over half of those surveyed felt that their skills were 'about right' for the job. The explanation Tholen *et al.* (2014) suggest is that the skills being used predominantly in the job are not graduate skills *per se* but more generic soft skills acquired first through familial and school socialisation but then developed through non-curricular activity at university. This is, however, also problematic precisely because, although possessed by graduates, the development of these skills does not necessarily occur in higher education but often prior to and alongside that education, in schools, paid employment or those non-curricular activities, for example. For this reason, Tholen et al. argue, it might be better to analyse the 'skills of graduates' rather than 'graduate skills'.

What tends to be overlooked as graduates enter non-graduate jobs is their impact on the existing non-graduate workforce (James *et al.* 2013). One empirical possibility is that graduates displace non-graduates, pushing them out of these occupations. There is some emerging evidence of this outcome. In retail and hospitality, for example, employers explicitly stated a preference for students and graduates over potential traditional lower-skilled applicants (Purcell *et al.* 1999). However, employers do so not because of a desire to hire distinctly graduate skills but because they again perceive graduates to have better soft skills (e.g. Nickson *et al.* 2004). Again this development is not unique to the UK but has been observed in the Netherlands too (Hofman and Steijn 2003). However, the fact that graduates and non-graduates now work alongside each other doing the same jobs, creates another possibility – occupational hybridity (Holmes 2010). Estate agency in the UK again provides an example of this hybridity as graduates and non-graduates work alongside each other doing the same job under the same terms and conditions (Tholen *et al.* 2014). Given that graduate occupational downshifting no longer seems to be transient, what is clear is that many graduates' under-employment in and over-qualification for these jobs will be consolidated.

Re-Assessing the Graduate Premium

As we noted earlier, the Browne Review (BIS 2010) had a keen interest in the diversification of higher education and its implications for the graduate earnings premium. This premium is a typical and recurring policy concern. According to human capital theory (Becker, 1962, Mincer, 1958), other things being equal,

additional units of education (e.g. years of study; qualifications gained) will be rewarded through increased earnings. However, increases in HE participation might be expected, other things being equal, to result in lower economic returns in labour markets where there is no concurrent increase in demand for highly-qualified labour. At the extreme, an over-supply of such labour market entrants would lead to diminishing returns to investments in education (Becker, 1962, 1964). Though there is some evidence of this development, in looking at *average* returns to qualifications it is difficult to separate distributional, structural and cyclical effects, not to mention the fact that ‘higher education participation’ and ‘a degree’ are not homogenous ‘assets’.

Nevertheless, that a wage premium currently exists between the earnings of graduates and non-graduates generally is well-established in the UK. However, comparing the premium that exists between graduates and those who could have gone to university but chose not to may provide a more useful comparison (Gambin et al., 2014). Walker and Zhu (2013) estimate the return to a degree relative to having two or more A-levels but no degree to be 23 per cent for men and 31 per cent for women. Purcell et al. (2013) confirm the existence of a graduate premium as such but also show that the growth of earnings of graduates in their early careers had slowed down in recent years relative to the increase in average earnings across the whole economy.

Whilst the evidence on returns to higher education which is rooted in human capital theory is well-developed and generally accepted in the economics literature there are some possible limitations. One alternative view is presented in the signalling theory which suggests that the returns to higher education are likely to be, at least in part, a consequence of signalling (Arrow, 1973, Spence, 1973, Stiglitz, 1975). Signalling occurs where possession of a higher educational qualification indicates to the employer that the individual is likely to be more productive than an individual who is alike in every other respect but does not possess such a qualification. This outcome is a significant break with human capital theory. If it was known how much of the return to higher education was due to signalling and not due to skills and knowledge learned in higher education, then, in theory, investments in higher education could be reduced to the soft and hard skills required for the specific occupation. This possibility is more a concern for public than private investment in higher education since an individual (where able) may knowingly choose to invest in the ‘signal’ that a degree will provide for them. There are however some benefits of the use of the ‘signal’ that higher education may provide to employers as it may help both in recruiting (e.g. enabling efficient shortlisting of candidates) and in matching individuals to employers in an efficient manner.

In theory, if qualifications only provide a signal about an individual's underlying abilities and do not indicate the value of the skills and knowledge they have gained from higher education then there may be overinvestment in education as the qualifications would lead to higher earnings, overvaluing the skills and knowledge from higher education. In practice it is exceedingly difficult to observe the relationships between the skills, aptitudes and abilities that (potential) recruits possess and those that employers require in order to test the validity of the signalling hypothesis. Where studies have considered and tried to test and quantify signalling effects the results are mixed – large effects have been found by some (e.g. Gibson, 2011); others find small effects (e.g. Chevalier et al. 2004). There is no consensus over the likely size of the signalling effect on wages though it is widely acknowledged that signalling effects likely play a part in the relationship between higher education and earnings.

Possible signalling effects are of particular importance with the massive expansion of participation in higher education in the UK. As the proportion of prospective workers who hold particular qualifications increases, the signal that such qualifications convey to employers about applicants' underlying productivity is likely to be diluted – it may be more difficult for employers to infer different levels of productivity amongst individuals with the same qualifications. Layard and Psacharopoulos (1974) challenge a number of the predictions of the so-called 'screening' hypothesis but do agree that the signalling or screening value of education has some impact on wage returns but question how much of an effect. They conclude that 'the theory of human capital is not after all in ruins' (p.995). This statement still seems to hold in the case of higher education and the application of the human capital model – forty years later there is no further persuasive evidence to conclude that the main way in which qualifications lead to higher labour market returns is through the signal it provides rather than conferring individuals with at least some additional human capital.

A further potential shortcoming of human capital theory – especially the standard Mincer wage equation (Mincer 1958) – is that levels of education are often treated as being homogenous, whereas it is evident that choice of course/subject and type of higher education institution is important (Purcell et al, 2013). Such heterogeneity can be accommodated within human capital theory, and analyses within this framework often factor in different subjects or subject groups (e.g. Walker and Zhu, 2013). However from a policy point of view, the fact that higher returns are associated with a particular 'high return subject' does not necessarily mean that those studying a 'low return subject' would obtain the same returns if they switched to the 'high return subject' instead, as many other factors such as interests or attitudes need to be taken

into account in the career decision making. Walker and Zhu (2013) highlight that there is an absence of studies that attempt to account for complex subject selection issues and that few (if any) studies allow for differences in self-employment behaviour by subject area, which also has implications for observed wage and employment returns for particular degree subjects. To all of which could be added the need to factor in graduate employment choices (e.g. Hurrell et al., 2011).

To summarise, the return to higher education is holding even though the financial gap between graduates and those who could have gone to higher education but choose not to is decreasing. The existing graduate premium thus confirms human capital theory, however, it remains unclear how much is explained by a signalling effect. Additional relevance need to be given to the heterogeneity of higher education: the diversification of the sector, as intended by Browne (BIS, 2010) has implications for the composition of the graduate premium.

Graduate employment outcomes and social mobility

With the expansion of higher education, the over-supply of graduates and the introduction of fees to study, policy focuses on graduate job destination and earnings as forms of return to individuals. Increasingly, however social mobility as an outcome of higher education has also become a policy issue. Policy-makers laud higher education as a lever of social mobility, with widening access to higher education for disadvantaged groups one consequence (e.g. HM Government 2011; for discussion, see James and Warhurst 2014). How widening access works to increase social mobility remains unclear (Milburn, 2012b), particularly in the context of an over-supply of graduates onto the labour market. Nevertheless, at the heart of the issue is whether the expansion of higher education is leveraging upward social mobility for hitherto social disadvantaged groups or, with occupational downshifting, leading to the downward social mobility of the middle class.

Prior to the expansion of higher education, the UK undergraduate population was predominantly from the middle classes and most young people from the working class did not progress to higher education. Tightly coupled to the traditional, middle class professions, higher education was thus the main way by which the middle classes reproduced their class position and advantage. With the 1960s' expansion of both higher education and the public sector, the small number of bright working class young people who did manage to enter higher education had a route into an expanding range of (then) new professions, such as teaching and social work, and, using occupation as a marker of social class, gained unprecedented upward mobility (Matthys 2012). As higher education

expanded further at the end of the 20th century, some further progress was made towards widening access, but graduates from working class backgrounds have largely continued to lack access to the highest paying jobs and remain substantially excluded from the traditional professions (Macmillan and Vignoles, 2013; Social Mobility and Child Poverty Commission, 2013; Milburn, 2012a).

The alternative opportunities facing new graduates reflect the increasing complexity of the labour market and changing demand for knowledge and skills in the face of technological change, along with the impact of global economic restructuring in organisations, industries and occupations. The effect of the increased graduate supply has led to employers' recruitment of graduates for previously non-graduate jobs that, where they subsequently predominate, reflects credential inflation. Consequently these graduates may well end up doing the same type of work to which their parents had access, but a degree is now required to do it. This development calls into question whether these graduates have achieved social mobility as a result of higher education participation. Students from socially-disadvantaged backgrounds are more likely to experience educational disadvantage from an early age and more likely than their more socially-advantaged peers to attend lower-ranked universities (Purcell *et al.* 2008) and there is evidence that, faced with increased numbers of graduates from which to select, employers in the traditional professions have narrowed their recruitment, focusing on a small number of 'top universities' (Milburn, 2012b). The institutional profile of higher education has become increasingly diverse with different groupings of the ancient (pre-19th century) universities, redbrick (the 19th century civic universities), plate glass (the old 'new universities' established in the 1960s) and the new 'new universities' established from 1992, reflecting their different histories, funding and missions. As discussed above, not all degrees are of equivalent value in labour market terms: subject of study and provenance (the university that awarded the degree) are important as signalling devices to employers of potential.

Although the boundaries between these types of universities are being eroded at the margins, their different access requirements in the selection of students, as classified by Purcell *et al* (2009), shows that the older universities remain selective according to criteria that disadvantage less socially-advantaged applicants, while the newer universities tend to be more accessible with missions established to target non-standard applicants – that is, the socially-disadvantaged. To extend Chillias' (2010) multiple matching concept, there are grounds for arguing that to a substantial extent, social class and university type, in addition to university type and occupational outcomes, are coupled and, consequently, the transmission from class origin to employment to upward social mobility via higher education is less likely than in the past, as recent

updating of longitudinal analyses of social mobility since the 1970s has clearly indicated (Goldthorpe 2003). It appears more probable that the relatively short-range intergenerational upward mobility of preceding generations will, at best, be sustained and for some families, reversed, unless the economic situation changes radically to create greater demand for highly-qualified personnel.

More generally, in terms of measuring social mobility, possession of a degree is not the clear proxy for class it once was in the UK. As the pool of young people with a degree has expanded, employers have sought other indicators to identify 'talent' and possession of particular types of educational, social and cultural capital *within* the graduate supply, with greater emphasis on 'soft skills' (Brown and Hesketh, 2004). These skills include leadership, team-working, communication skills and self-confidence. However, access to experiences that promote the development of these skills remains unequal even within universities. Students from socially-disadvantaged backgrounds are less likely to enter higher education already possessing such attributes and skills (Stuart *et al.* 2012) and less likely to engage in the kinds of activities in higher education that develop them. For example, the Futuretrack analyses revealed that socio-economic background had a greater influence than gender, age or ethnicity on the likelihood of students being office-holders in extra-curricular societies or student representatives. Those students who had done so were, on average, happier with their career development, less likely to be earning a low salary and less likely to be working in a non-graduate (Purcell *et al.*, 2013).

Conclusion

In the context of recent changes to the higher education system, widening participation in higher education, the increased supply of graduates onto the labour market and the recent economic downturn, this chapter has outlined the intended and unintended employment outcomes for graduates. Drawing on research undertaken by staff from the Institute for Employment Research and elsewhere, it has shown the shift in applicants' and students' expectations about the purposes and outcomes function of higher education study.

Whilst improving employment prospects has always been one of the main reasons for students to enrol in higher education; 'employability' has become a more explicit objective for students only recently. Students' increased financial commitment in terms of tuition fees has changed priorities: the previous assumption that higher education would automatically develop the skills that made a graduate employable – whether in domestic or international labour markets – has now become an explicit requirement that students should leave

higher education with the employability skills that allow them to achieve a well-paid graduate job and realise a return on their investment.

However, results from longitudinal studies over the last two decades show a radical change in graduate employment activities and indicate that, in general, a lower proportion of graduates have been accessing jobs previously thought of as appropriate for graduates. There are now more graduates in non-graduate jobs. The jobs which graduates entered, however, differed according to the institution in which they had studied and their chosen subjects. Nevertheless, even taking into account the economic downturn and the recent tightened labour market, it is clear that graduate entry into what were once non-graduate jobs looks set to be a structural feature of the UK labour market for the foreseeable future. The situation in the UK is unique within other European countries in terms of students' financial investment, however, the impact of an expanding higher education system in the context of a global recession is currently discussed in various other countries (e.g. Reisz and Stock, 2013, Barr and Turner, 2013). Current research indicates that graduate skills and knowledge are under-employed in these jobs although the longer-term impact on non-graduates and their employability in these jobs remains to be seen.

Despite concerns about an over-supply of graduates and the employability and jobs of some graduates, the wages of graduates are on average higher than for workers who could have accessed higher education but chose not to. However, many empirical studies reported a demand-driven decline in the graduate premium which is inextricably linked to the HEI attended, the subject and course studied, amongst other characteristics. Other higher education-related variables, for example, refer to the participation in extra-curricular activities, clubs and societies whilst other characteristics describe students' tariff points before entering higher education, their education pre-university or simply their gender and age. On the whole, however, much evidence suggests that graduate earnings premium still exists, though its existence and level will require monitoring.

Social mobility now also features in concerns about the function of higher education in the UK. Even though more students from lower social classes now access higher education they are still less likely than others to work in traditional graduate jobs. There is some evidence that working class students are more likely to enter lower ranked HEIs and work in occupations which previously did not employ graduates. The graduatisation of particular jobs, where graduates have displaced non-graduates potentially results in a downward mobility of both graduates and non-graduates. This is another issue that requires further research in the future.

The exploration of relationships between graduate job destinations, the measurable returns of earnings and occupational status show clearly that there is a need to identify new ways of evaluating higher education outcomes that take account of the wider range of inputs and expectations with which students enter higher education and move into the labour market. The requirement for researchers to identify, in increasingly clear detail, what their course provision entails, the knowledge and skills that they develop, and the activities of their graduates - along with the development of new ways of identifying the relationship between actual knowledge learned and skills developed in higher education and the knowledge and skills required in particular jobs, is providing an improved way to inform aspiring students, employers and policy-makers about the impact of higher education investment.

The overview of the current state of understanding and debate about employment outcomes as presented above has indicated some of the gaps in current research. There are limitations as to how detailed differences between individuals' characteristics, features of the university or HEI they attend and the subjects being studied can be controlled for in analyses of the returns to education. Both the Futuretrack analyses and recent work by Vignoles and her colleagues (c.f. Chowdry *et al.* 2013, Macmillan and Vignoles 2013) have made innovative contributions to understanding of the current diversity. There are practical limitations with respect to the sample sizes available in various data sets but also, as the costs of study to participants have increased and its benefits have become more diverse, there is an increasing need for robust analyses and accessible information about the findings to be made available to the stakeholder communities if Browne's (BIS 2010) informed world of study is to be realised. In particular, the level of disaggregation considered and presented needs to be based on what is of interest and value to individuals making decisions about future higher education participation and for those making decisions about the investment of public funds in different forms of education.

Other future research needs to address the question how the signalling effect, as described in this chapter, can be diminished, given that it is a crude mechanism. For employers' benefit it will be vital to identify individual graduates' level of generic and occupational skills and knowledge rather than using credentials to signal potential productivity. Future research needs to identify the signals employers use and value whether they can be linked to productivity gain and, thus, justify appropriate wages. Given that the UK is a major player in the global higher education market, this further research should envelop the higher education employment outcomes for both international students as well as for home graduates moving abroad after leaving UK higher education.

In the meantime it is already evident that expectations about graduate employment outcomes are changing and need to change. The empirics show that, whilst the established coupling of higher education and the traditional (and newer) professions still holds, so that graduate appropriate jobs are still being obtained, many more graduates are entering non-graduate jobs with implications for their pay, workplace deployment and social class position. The tools that we use to research these developments also need to change; our methodology and conceptualisations need to adapt to better understand these empirical developments now and as they further unfold in the coming years.

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