

The value of a university education: Human capital and the signalling theories one more time

Abstract

This paper looks at the debate on the contribution of Higher Education (HE) to the economy. For many years this debate has been contested territory, dominated by human capital theory and signalling theory. Human capital theory contends that HE contributes to the performance of the economy by adding to the potential productivity of graduates in employment. Signalling theory, by contrast, asserts that HE contributes to economic performance by enabling employers to differentiate potential employees who will, on average, be more productive from those who will be less productive. Attempts to differentiate between these two theories by empirical testing have proved inconclusive. The tests have mostly looked at earnings and particular variables related to HE. In this paper we use recent advances in our understanding of the graduate employability to reassess the two theories. Most graduate job vacancies are open to graduates of any subject and the key to employment in such jobs appears to be the graduate propensity to learn in employment. HE both increases students' propensity to learn in employment and signals to employers that graduates are people with a high propensity to learn in employment. The choice between human capital and signalling theories therefore appears to be a false dichotomy as HE both develops students' powers of learning in employment and also signals this to employers.

Keywords: human capital, signalling, propensity to learn, graduate employment, graduate unemployment, graduate employability.

Introduction

This paper is about the economic role of higher education (HE). For many years there have been two competing theories: human capital theory and the signalling hypothesis. Human capital theory contends that HE increases the productivity of students, which explains, inter alia, why graduates earn more than non-graduates. Signalling theory contends that HE identifies high productivity individuals without necessarily raising their future productivity to employers. This too explains why graduates earn more, on average, than non-graduates. The aim of this paper is to re-examine these two theories in the light of recent gains in our understanding about graduate employability.

Why is this an important issue? It is important for at least the following three groups: government, universities and the university students themselves. It is important to government because government seeks to increase the material well-being of the population so it is interested in the nature of the relationship between HE and productivity. It is important to universities because these theories have different implications for funding and for the curriculum including the weight that should be attached to assessment, subject balance and employability in the curriculum. And it is important to students because it affects what they should do in their own best interests.

In this paper we review the debate between advocates of the two approaches and then offer an alternative perspective which we term 'new vocationalism', based on recent studies of

graduate employment, employability and unemployment. Our conclusion is that for most graduates the economic value of a university education can best be explained with the concept of 'graduate propensity to learn' i.e. graduate capacity and disposition to learn. The main economic significance of a university education is what it tells potential employers about graduates' propensity to learn. HE develops students' capacity and disposition to learn and it also certifies student ability and disposition to learn. In other words, it is possible through new vocationalism to integrate human capital and signalling theories within the single concept of graduate propensity to learn.

Background

A strong relationship between education and labour income has been observed repeatedly in empirical studies. Mincer's (1958) seminal work estimated log-linear earnings equations on cross-sectional data from the US Census and found that an additional year of "schooling" is associated with a net increase of 11.5 percent in annual earnings. A more recent study in the UK reported a 6 percent increase in earnings associated with each additional year of full-time education which is broadly consistent with results in many OECD countries (Kirby and Riley, 2008; Walker and Zhu, 2001).

Subsequent investigators have explored the relationship between earning and education with a variety of data sources and estimation techniques and have consistently found the same strong correlation (Mincer 1970). Economists offer two major theories to explain this correlation: human capital and signalling. Both the human capital and signalling theories contend that people obtain education up to the point where the marginal benefit given by the earnings function (or wage schedule) just equals the marginal cost of education. The theories, however, differ in the explanation of why it appears that employers pay a premium for education (Kroch and Sjoblom, 1993).

According to Schultz (1962, 1971) and Becker (1962, 1975), education augments the student's productive capacity directly. According to this human capital approach, wages paid to workers reflect their productivity and this explains the correlation between earnings and time in education.

A challenge to human capital theory was posed by the signalling models. According to Arrow (1973) and Spence (1973, 1974), employers use educational attainment to identify individuals with certain valuable 'innate' traits that cannot be observed directly. It is argued that education per se does not enhance productivity, rather it is used by employers as a signal about an applicant's potential productivity, including their ability to learn on the job. From this perspective, it is argued that wages rise with education, because more capable individuals experience less disutility from education and thus obtain more of it. This is particularly relevant to higher education where it is contended that students with higher cognitive ability reach higher levels of education (Spence, 1973).¹

Moreover, the HE system provides other signals that are relevant to employer preferences, including the perceived quality of the institution where a degree is obtained (e.g., from a 'Russell Group' University or from a former polytechnic college that became a University post-1992), the course studied (e.g., a "traditional" or "vocational" degree; "hard" or "soft" degree (see Bowers-Brown and Harvey, 2004, for further discussion)), and the class of the degree obtained (e.g., a first or a third). Arguably, these provide further signals to employers about an applicant's potential productivity.

¹ It should be noted that Chevalier *et al.* (2004) analysis of UK data finds evidence for the human capital explanation of returns to education and minimal support for the signalling theory in the UK.

As recently as the early 1980s, degrees obtained from within the UK higher education system could have been viewed as selecting an elite group of highly capable individuals. The attainment of a University degree would send a strong signal to employers that the graduate applicant was highly capable and thus that their initial and subsequent productivity, enhanced by on-the-job training, would be utilised efficiently, due to the employees' assumed high capability.

The number of participants in higher education in the UK has almost doubled in the past two decades from 1.2 million students in 1990/91 to 2.4 million in 2006, representing approximately 42% of 18-30 year olds (HEFCE, 2006). By the mid-2000s, the UK's stock of graduates aged 25-64 was broadly similar to that of Japan and South Korea, higher than for Germany or France, but lower than the US and Canada (Work Foundation, 2005).

This increased access to higher education has many implications for the signalling model, in particular, because of the new and presumed heterogeneous quality of human capital. Thus, the perceived risk to employers of hiring graduates is likely to have increased. This is likely to be particularly pertinent for graduates of "new" Universities, for graduates with "new" types of degrees (e.g., media studies) and most significant for graduates from new Universities with new types of degrees (perceived "high-risk" graduates) (see Brown and Scase, 1994 for further discussion).

Given the factors described above, it is predicted that a pattern will emerge where "high-risk graduates" will initially be unemployed or employed in non-graduate level jobs and move to jobs that match their human capital over time (that is a "matching" of human capital to occupation). It would be expected, however, over-time - assuming that there are not widespread divergences in the capability of University graduates - that the perceived risk of hiring "high risk" graduates will decline, as the signals about their actual productivity become clearer to employers.

On the macroeconomic side of the debate, a key justification for investing more in a nation's human capital is the argument, made perhaps most strongly in the UK context in the Leitch (2006) and Dearing (1997) reports. The following quote was representative of this view: "Skills are the simplest, best, most direct way to boost productivity...Skills investment is the quickest way to maintain productivity. Skills investment is the only way to maintain productivity" (Mark Fisher, chief executive of the Sector Skills Development Agency, addressing the SSA Scot Conference, St Andrews, 2 October 2006).

The evidence, however, on the returns to the UK national economy from this increase in human capital, is mixed. This, in part reflects a lack of suitable data and methodological difficulties in assessing the impact of human capital accumulation on business performance and national competitiveness (Blundell, *et al.*, 1999). One of the most significant empirical challenges to the assumption of a "virtuous cycle" between increased human capital, firm productivity and national competitiveness is made by Keep *et al.*, 2006. These authors conclude that: "...the role of skills as a 'magic bullet' that can address issues of productivity and competitiveness is still being over-played, and policy continues to operate at levels of aggregation that render interventions clumsy and expensive" (2006: p. 554).

Perhaps the most significant barrier to maximising the potential rate of return on an increased supply of human capital is if the demand for graduate level jobs does not keep pace with the increased supply (Kivinen and Nurmi, 2003). If the demand for graduate level jobs falls short of the supply, we can indeed expect to see an increase in the rate of graduate unemployment and underemployment which will be exacerbated further when issues pertaining to signalling and perceived "high-risk" graduates are added into the analysis.

The remainder of this paper draws on evidence of unemployment and underemployment of graduates in the UK labour market and how the concept of 'new vocationalism' can help to resolve the issues pertaining to signalling and occupation downgrading.

Graduate employability

The debate between human capital and signalling explanations was never really resolved. It proved impossible to devise empirical tests that could discriminate between them. This is not to suggest that there is, in reality, little difference between them. It is quite easy to envisage situations where they make contradictory predictions: a young person who is undecided about whether to apply for university or whether to seek a job hears government forecasts of a significant rise in applications to university next year. Will this news make them more or less likely to apply to university? Signalling theory predicts that the young person will conclude that more graduates will push them further down the jobs hierarchy and so will increase the incentive (and likelihood) of applying for university. HC theory predicts that the rise in the number of graduates will depress the 'graduate premium', thereby reducing the incentive (and likelihood) of applying for university. It has, however, proved difficult to turn such clear differences in predictions into empirical tests using the sort of data that has traditionally been used for this purpose. For this reason, what was a fiercely contested debate by leading academics in the 1960s, 1970s and 1980s subsequently went relatively quiet.

When academics encounter this sort of difficulty in differentiating between rival theories then both are left on the table as contenders available as the basis for further theorising. This makes sense from a Popperian epistemological perspective since neither have been convincingly falsified.

Evidence from the behaviour of graduate employers as reflected in the data on graduate employment, unemployment and employability offers a new perspective on the HC and signalling theories, which we term 'new vocationalism'.

Two bits of evidence are particularly telling. First, most graduate vacancies are open to graduates of any subject. This suggests that whatever it is that most employers want from graduates, it is not subject knowledge. Second, many employers also take A-level results into account in selecting graduates. At first glance it would seem that these facts shift the balance of evidence away from the HC explanation and towards the signalling explanation. However, this is a misconception based on only part of the story. When we look at the full picture a different conclusion emerges.

In order to avoid taken-for-granted assumptions we start at the most basic level with the naïve observation that graduate employers do advertise vacancies that specify that applicants must be graduates. We also observe that in most years most graduate job vacancies are open to graduates of any subject². And we observe that, on average, employers are prepared to pay a premium to recruit graduates. This raises the question, what do graduate employers get from graduates that they don't get from non-graduates? What is the difference about graduates that makes the difference?

The defining difference between graduates and non-graduates is that the former have acquired the knowledge, skills and attitudes of a university education and a proven ability and willingness to learn. Our next step is to unpack that definition to look for the difference that makes the difference to graduate employers.

² The percentage of new graduates finding employment in jobs open to graduates of any subject is, moreover, likely to be under-represented as the data are drawn from vacancy advertisements by graduate recruiters. This means they underestimate sectors where the figure is likely to be higher such as SMEs, jobs obtained as a result of speculative enquiries and promotion of graduates out of entry-level jobs.

The knowledge What knowledge have graduates acquired from their university education that employers value? New graduates should have up-to-date knowledge of the subject of their degree. How important is it that this knowledge is as up-to-date as possible? Clearly it is valuable to some employers. However, it is only a small minority of graduate employers who really seek the most up-to-date knowledge of an academic subject (e.g. universities seeking academic staff and organisations with research labs) and they are more likely to be recruiting graduates with Masters degrees (or even PhDs) than graduates with first degrees only.

Most employers of most graduates are not very concerned about how up-to-date is the academic knowledge of the students they recruit. It turns out that most employers of graduates are not even very concerned about the subject of the degree. Most vacancies for graduates each year (around two-thirds in some years) ask for graduates of any subject at all.

"Of course, there are many students who find employment in an area directly related to their degree courses. Engineers become engineers, medical students become physicians, some linguists become interpreters and translators ... But it is also true that every year between 40 percent and 70 percent of all graduate vacancies ask for a degree in any discipline because the knowledge content of the student's degree is immaterial to the position." (Roberts. 2006, p. 12)

The skills The skills that are particularly associated with a good university education are: (1) the ability to think critically, (2) the ability to write for an academic audience and (3) subject-specific skills that support a particular academic discipline such as maths to support a degree in physics, Old English to support some degrees in English literature and so on.

The skill that is most prized within most universities is the ability to test assumptions, assertions, arguments and conclusions i.e. the ability to think critically. In the words of Sir Douglas Hague, long-time chair of the Economic and Social Research Council:

"Academics must believe that acquiring the ability to test ideas and evidence is the primary benefit of a university education." (Hague, 1991, p.64)

There is no evidence, however, to suggest that most employers of graduates place as much value on the skill of critical thinking as university academics. In a large study of what graduate employers look for in graduate recruits *Enhancing Employability, Recognising Diversity. Making Links between Higher Education and the World of Work* (Harvey et al, 2002), the employers were asked to assess the importance they attached to each of a list of 62 graduate attributes and 'critical ability' ranked 32 behind such items as dependability, co-operation, drive, self-management, flexibility, initiative, time management, self-confidence, persistence, planning ability and ability with information technology. Even the rhetoric of graduate employers assigns a relatively low position to critical thinking. Faced with choice between a graduate recruit who could make the best business case for a graduate employer's policy, project or product and one who could mount the best challenge to a graduate employer's policy, project or product it is not obvious that most employers would prefer the latter.

The ability to write for an academic audience is a skill that is vital to those going on to become professional academics. Students spend time, for example, learning how to structure an academic paper and reference sources correctly. However, most graduate employers do not particularly value the ability to write in an academic way. In fact, some see this as something to be 'unlearned' as new graduate employees acquire alternative communication skills such as writing business reports, executive summaries and other forms of organisational communication which require rather different abilities.

That leaves the subject-specific skills i.e. skills that support an academic subject (such as statistics to underpin a degree in economics or lab skills to support a degree in Chemistry). As the majority of graduate employers place little value on knowledge of any specific graduate subject they are not very likely, in most cases, to place too much value on the subject-specific skills that support the knowledge of a specific academic subject.

Graduate attitudes A good university education seeks to develop a questioning attitude, disinterested enquiry and objective impartiality. Again, the belief that these attitudes are prioritised by graduate employers has not been supported by studies of what employers look for in graduate recruits. In fact, if anything, they seem to prefer attitudes towards the other end of the 'disinterested observer' spectrum such as commitment and proactivity.

What's left? If it's not the knowledge, skills and attitudes that graduates bring with them by virtue of their university education then what is it that the majority of graduate employers value in graduate employees enough to pay them a 'graduate premium'?

What's left is their proven ability to learn and their willingness to do so. There are many terms that express the aptitude of graduates for learning: 'graduates are quicker learners', 'graduates know how to learn', 'graduates find it easier to learn', 'graduates are better at learning' and so on.

Why do graduate employers expect that, on balance, graduate recruits will be better than non-graduates at learning? Because they have had to demonstrate an aptitude for learning to be accepted onto a university degree course i.e. they have had to satisfy entry requirements that test their ability and willingness to learn at school. Also, they have spent the whole of their undergraduate years, at least three years of full-time study (or full-time equivalent), in which they are required to do little else than learn: they are specialists in the practice of learning.

Not only have graduates spent at least 3 years more than school-leavers honing up their learning faculties but the processes of learning at university are different from school in ways that develop students' capacities to plan and manage their own learning.

Universities tend to provide most academic direction and support to first year students as most of them are making the transition from school to university (or from work to university, in the case of mature students). The amount of academic direction is normally reduced at intermediate levels and at the final level of undergraduate education students often have to undertake a dissertation unit which they are expected to plan and manage from start to finish. At Masters level, they are expected to require even less supervision of their learning than at undergraduate level. And at the highest level of all, doctoral level, students not only plan and manage their own learning they also determine the intended learning outcomes i.e. what they aim to discover through their research. In other words, a university education is intended to develop the capacity to plan and manage their own learning without supervision by teachers. If a university has done its job well then its graduates are able to plan and manage their own learning.

"...our ultimate goal in higher education must be to encourage students to be responsible for, and in control of their own learning ..." (Zuber-Skerrett, 1992, p. 24)

In summary, graduate employers can reasonably expect that on average university graduates will be better at learning than non-graduates for three reasons: (1) graduates have had to satisfy university entry requirements that test their ability and willingness to learn at school, (2) graduates have spent 3+ years specialising in learning and honing up their learning faculties and (3) university degrees are usually structured in a way that develops students' capacity to plan and manage their own learning.

Graduate employers are looking for graduates who are prepared to learn and the term 'prepared to learn' can be unpacked into 'able and willing to learn'. Ability to learn and willingness to learn go together. People who are good at learning tend to be more willing to learn because the cost (mostly in terms of time and effort) of learning is lower for them and because people tend to enjoy doing what they are good at. The correlation is not, of course, perfect; not everyone who is good at learning is disposed to do so and not everyone who enjoys learning is brilliant at it. The bottom line, however, is that graduate employers can be reasonably sure that, on balance, graduate employees are more able to learn and more willing to learn than non-graduates and that is the difference that makes the difference.

Discussion

In reviewing the role of higher education in employment we have staked out three positions. Two are established in the literature and are often treated in a highly dichotomised way, the third, new vocationalism, is being explored here, in part for its capacity to integrate these arguments. In the following discussion some of these possible resolutions are discussed.

The debate over why graduates earn more

Why is there a debate about the reasons graduates earn more? Both signalling and human capital advocates accept that graduates earn more. Both theories differentiate between levels of productivity, that is, both theories consider some workers to have higher productivity and some workers to have lower productivity. New vocationalism considers what constitutes this difference in productivity.

Advocates of signalling propose that higher education allows employers to differentiate between how high or low the productivity of a potential employee will be. Advocates of human capital contend that participation in higher education actually raises a student's productivity. Neither position gives much insight into the detail of this higher productivity. One contribution offered by the new vocationalism is to make explicit what this enhanced productive capability is. New vocationalism proposes that graduates have demonstrated and developed the willingness and capacity to learn. Employees who are quicker to learn are likely to be more productive. They will learn what is required in their work rapidly. When changes to their role arise they are able to learn what the changes entail. Graduate jobs often require assimilating information and communicating the meaning of that information. These jobs are easier for those who are good at learning. This helps explain why a graduate is considered a highly productive worker. Here the contribution of the new vocational perspective includes acknowledging that people may well have a different potential for learning. The process of completing A-levels and gaining a place at University may provide a signal of those who like or excel at learning. Thus entry to University is a signal of certain aptitude and ability to learn. And that participation in higher education will develop the skills and attitudes of a student, enhancing their ability and willingness to learn.

What productivity does going to university add?

New vocationalism has a more significant contribution to offer in explaining the impact of higher education on the employment prospects of graduates. This contribution is in identifying what potentials of productivity are signalled, and what aspects of human capital are developed, through attainment of a university education.

Employers want to know if they are choosing an employee who will be productive. Signalling theory suggests choosing a graduate makes this more likely. Why are graduates more productive? We suggest it is because they have both the ability and willingness to learn, and have developed that ability through the process of their education. Higher education specifically develops the powers of learning. For example, through the three years of an undergraduate degree, graduates increasingly manage their own learning. So much so, that in their final year, most will do a dissertation. The dissertation will be almost entirely self managed learning, requiring highly developed learning skills.

The process of higher education develops the productive capability, of self managed learning, rather than just signalling its potential. Thus employers can consider it more explicitly. They can examine job applicants for signals that the graduate did well at learning how to learn, and value self managed learning. This highly developed skill in learning, and increased capacity to manage learning, *is* the human capital that is developed through the experience of higher education.

New vocationalism acknowledges the impact on productivity of learning about learning, and managing one's own learning. In the context of signalling if this is made explicit then employers, educators and students all stand to benefit. Employers by appreciating more clearly what they might look for (for example in a transcript or interview), for signs of self managed learning. Educators can consider ways to signal the capacity to learn as they design and assess courses. Students can consider how to signal their readiness and willingness to learn, in the course options they take, and how they report them in their CVs and at interviews. In the context of human capital, the goal of developing the willingness and capability to learn rises in priority. Among the other aims of higher education, such as subject knowledge and critical thinking, learning how to manage learning increases in importance. This re-prioritising need not mean that other academic aspirations cease to matter, but that the means of achieving them might be approached, through an increased awareness of the process of learning about learning.

How does all this relate to increased participation?

Signalling An increase in the numbers of students going through higher education may indicate that the signalling process has become more sophisticated and effective. Prior to this increase, in the last two decades, many who had the potential to be productive, may have been screened out. This may have been for not having signalling pre-conditions relating to class or cultural non-conformity. These may have been taken as correlates of the productivity which higher education signals, rather than a legacy of hegemonic power structures. On the other hand, the massification of higher education may increase the cost of signalling, as it may now require a masters or Ph.D., to indicate a very advanced learning disposition. Research involves learning at its highest level because it involves learning that which is not already known.

Human Capital Since the start of the 1990s, the importance of the knowledge economy has been identified (Teece 1998). With the pace of technological change, and the need for knowledge workers, the benefits of a higher proportion of the workforce having a university education has been widely accepted. The human capital case suggests this relates to the increase in knowledge and skills that this fosters. The new vocationalist analysis emphasises the value of having graduates who are motivated and able to continue to learn. This suggests, higher education can help to prepare a workforce equipped to participate in the knowledge economy, and benefit from life-long learning.

Some implications for the nature and content of higher education

The new vocationalist position allows the reconciliation of the signalling and human capital perspectives. What does this mean for the nature and content of higher education? The increase in the number of universities and students, has been accompanied by a growth in the range of content studied. Some suggest that these new, more vocational courses, will produce “high-risk” graduates. A new vocationalist approach to signalling suggests that the greater number of students is evidence of signalling productive workers more effectively to include those with the potential to learn, and the range of courses helps to appeal to this wider range of able people. This has the benefit of reducing wasted human productive potential. A new vocationalist consideration of human capital would advocate a reduced concern for the specifics of what is studied, and embrace the development of a learning workforce, even where the topics of studied might be dismissed as 'soft' in a previous paradigm or 'vocationally focused' in a later paradigm. It also supports the case for independent study where students have more say in determining their intended learning outcomes and how they will be achieved.

Concluding remarks

In this section, we explore implications of the foregoing for a series of stakeholders, namely, government, students, universities, and employers, all of whom are concerned with the economic value of Higher Education.

Theoretical outcomes

We contend that it is unhelpful to see human capital and signalling theories in opposition to each other, and the stalemate which ensues as each is found to offer convincing explanations of the economic value of Higher Education, is unhelpful. It would be more helpful to find a way in which the two theories could provide a coherent assessment of the value of a degree for the different stakeholders. By using the lens of new vocationalism, we can see how both economic theories can contribute to graduate employability and thus lifetime economic value.

“Old” vocationalism offered a way to add vocational value to a university degree by adding specific employability skills to the curriculum, thus increasing productivity from the investment in the graduate. This approach came about through the expressed needs of graduate employers for certain skills in addition to subject knowledge .

New vocationalism directs our attention away from the knowledge acquired through university education and its application in employment, a key component of the human capital theory and signalling theory, (though the latter takes a “black box” approach to the knowledge acquired), towards the skills and attitudes associated with a degree. New vocationalism is mostly about the acquisition of new skills of learning and a positive attitude towards learning rather than the application of knowledge gained. While it can be argued that there will be a number of careers in which foundational knowledge will be essential (such as medical, legal and engineering careers), there is a clear distinction here between this foundational knowledge and specific current knowledge gained which is likely to have a short-lived or non-existent impact on the graduate’s career. If, in the long term, the requirements for graduate knowledge cannot be known, then a propensity to learn, as advocated by new vocationalism, will be more valuable as a career tool than subject knowledge which rapidly becomes outdated.

Given this focus on learning skills and attitudes, human capital theory is supported as an investment in future productivity because of the graduate’s increased propensity to learn, having spent three or four years learning how to learn and becoming more effective in doing so. Signalling theory is also appropriate according to new vocationalism in that as a proxy for

skills of learning and positive attitudes to learning, as distinct from a set of knowledge bundles, it is a useful and efficient allocation system for identifying productivity potential.

Therefore rather than the stalemate of competing theories in relation to graduate employability, we have an outcome through new vocationalism in which both theories have their place if we focus on the right thing, i.e. learning skills and attitudes.

Outcomes of this discussion for stakeholder groups

Government From the perspective of Government, the theoretical outcomes from new vocationalism offer the reassurance that investment in Higher Education will result in economic return for society; we are no longer in the position of needing the human capital theory to win out over signalling theory to justify such investment. The investment in Higher Education is shown to result in learning skills and attitudes which are of value to employers and society in terms of increased productivity, and this investment becomes more worthwhile as turbulence in the economy increases, since a capacity to adapt to rapid change is implied by a propensity to learn among graduates.

Students For students the theoretical debate means that they need to explore how best to signal their propensity to learn to potential employers. However it also means that students should check out careers and employers in terms of their needs for specific foundational subject knowledge at degree level in advance. For some careers eg medicine, dentistry and engineering, there will be subject-specific knowledge which will be assumed from a degree in that subject and which may be of great relevance to an employer. These careers are, however, in the minority, but if they are targeted by the student, then an appropriate degree choice will be highly relevant. For other graduate careers, the majority, which require transferable skills and learning attributes but not necessarily specific subject knowledge, evidenced by those employers who do not require a specific subject degree in their recruitment information, any degree may do. However, the student must attend, during their degree studies, to how they will build a portfolio of examples of their ability and willingness to learn.

Employers For graduate employers, this debate suggests that they need to recognise that for most jobs it is not the knowledge that graduates bring but the learning skills which are the key value in a graduate. The fact that most graduate vacancies are explicitly open to graduates of any subject discipline indicates that employers are well aware of this need. This affects the induction, selection and development of that graduate resource in employment. It also answers the debate about whether graduates lack relevant knowledge for the business. There is to some extent some unlearning to be done by the graduate in order to fit the organisation's strategic imperatives. This too is consistent with new vocationalism theory.

Universities New vocationalism offers a perspective of economic value-added in the process of Higher Education which differs from the espoused theoretical perspectives adopted by many universities, particularly non-Russell Group universities. These institutions are tending to adopt an old vocationalism-style debate of what skills employers really want and how they can be added to traditional subject-based curricula. Research on graduate destinations (Bourner, Rospigliosi and Greener 2011) suggests that enhancing students' powers of learning gives universities a role in both advancing subject knowledge and improving student employability and lifelong learning.

Our conclusion is that for the four key stakeholder groups, the economic value of a university education can best be explained with the new vocationalism concept of 'graduate propensity to learn' i.e. graduate capacity and disposition to learn. Employers, Government, existing students and potential students and universities benefit from this propensity to learn, which is the most important economic outcome of a university education. This conclusion is supported

by the integration of human capital and signalling theories with the graduate propensity to learn.

References

- Arrow, K. (1973), 'Higher education as a filter', *Journal of Public Economics*, Vol. 2: 193-216.
- Bachan, R. and Sheehan, M. (2010) 'On the Labour Market Progress of Polish Accession Workers in South-East England', *International Migration*, no. doi: 10.1111/j.1468.
- Becker, G. (1962), 'Investment in Human Capital: A theoretical analysis', *Journal of Political Economy*, Vol. 70 (5, Pt 2): 9-49.
- Becker, G. (1964) *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. Chicago, University of Chicago Press
- Becker, G. (1975), *Human Capital*, 2nd edition. New York: NBER.
- Blundell, R., Dearden, L., Meghir, C. And Sianesi, B. (1999), 'Human Capital Investment: The returns from education and Training to the Individual, the Firm and the Economy', *Fiscal Studies*, Vol. 20, No. 1: 1-23.
- Bowers-Brown, T. And Harvey, L. (2004), 'Are there too many graduates in the UK?: A literature review and an analysis of graduate employability', *Industry and Higher Education*, August: 243-254.
- Brown, P. And Scase, R. (1994), *Higher Education and Corporate Realities*. London: University College.
- Chevalier, A., Harmon, C., Walker, I. And Zhu, Y. (2004), 'Does education raise productivity, or just reflect it?', *The Economic Journal*, Vol. 114 (November): 499-517.
- Cranmer, S. (2006), 'Enhancing graduate employability: best intentions and mixed outcomes', *Studies in Higher Education*, Vol. 31, No. 2: 169-184.
- Harvey, L., Moon, S. and Geall, V. with Bower, R. (1997) *Graduates' Work: Organisation change and students' attributes*. Birmingham Centre for Research into Quality (CRQ) and Association of Graduate Recruiters (AGR).
- Harvey, L., Locke, W, and Morey, A (2002) *Enhancing employability, recognising diversity. Making links between higher education and the world of work*, London: Universities UK.
- Hawkins, P and Winter, J. (1995) *Skills for Graduates in the 21st Century*. London: Association of Graduate Recruiters (AGR).
- HEFCE (2006), "Engaging employers with higher education", available at: www.hefce.ac.uk/learning/employer/strat/Board_strategy_plus_annexes.doc (accessed 4 August 2011).
- Hinchliffe, G. and Jolly, A. (2010) *Employability and graduate identity*, *Graduate Market Trends (GMT)*, Spring 2010, pp 8-13, Manchester: Higher Education Careers Services Unit (HECSU).
- Keep, E., Mayhew, K. And Payne, J. (2006), 'From Skills Revolution to Productivity Miracle – not as easy as it sounds?', *Oxford Review of Economic Policy*, Vol. 22, No. 4: 539-559.

- Kivinen, O. And Nurmi, J. (2003), 'Unifying higher education for different kinds of Europeans: Higher education and work: a comparison of ten countries', *Comparative Education*, Vol. 39, No. 1: 83-103.
- Kirby, S. And Riley, R. (2008), 'The external returns to education: UK evidence using repeated cross-sections', *Labour Economics*, Vol. 15: 619-630.
- Kroch, E. and Sjoblom, (1993), 'Schooling as Human Capital or a signal', *The Journal of Human Resources*, Vol. 24, No. 1: 156-180.
- Mason, G., Williams, G. And Cranmer, S. (2006), 'Employability Skills Initiatives in Higher Education: What Effects do they have on Graduate Labour Market Outcomes?', National Institute of Economic and Social Research, working paper. [Published somewhere?]
- Mincer, J. (1958), 'Investment in Human Capital and Personal Income Distribution', *Journal of Political Economy*, Vol. 66(4): 281-302.
- Mincer, J. (1970), 'The distribution of Labour Incomes: A survey with special reference to the human capital approach', *Journal of Economic Literature*, Vol. 3(1): 1-26.
- Schultz, T. (1962), 'Investment in Human Beings', *Journal of Political Economy*, Vol. 70 (5, Pt 2).
- Schultz, T. (1971), *Investment in Human Capital*. New York: The Free Press.
- Spence, M. (1973), 'Job Market Signalling', *Quarterly Journal of Economics*, Vol. 87: 355-74.
- Spence, M. (1974), *Market Signalling*. Cambridge: Harvard University Press.
- Sumption, M. (2009), *Social Networks and Polish immigration to the UK*, Economics of Migration Working Paper, 5. London: Institute for Public Policy Research.
- Teece, D. (1998), *Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets*. *California Management Review*, Vol. 40(3), pp.55-79.
- Walker, I. and Zhu, Y. (2001), 'The returns to education: evidence from the labour force surveys'. Department of Education and Skills Research Report, No. 313.
- Work Foundation (2005), *Where are the Gaps? An analysis of UK Skills and Educational Strategy in Light of the Kok Group and European Commission Midterm Review of the Lisbon Goals*. London: Work Foundation.

--	--

Material not used in the paper ... so far

