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## **Rethinking education, work and 'employability'**

Foundational problems of human capital theory

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### **[title slide]**

Thank you Helen for inviting me to speak today. Happy 50<sup>th</sup> to SRHE. It is a pleasure to be here, good morning colleagues!

### **[Contents slide]**

Today I will in part diverge from the keynote outlined in the programme, because since I prepared the abstract, most of that paper has been given elsewhere, and people here have heard it. What I will present is a new paper that develops on a theme in my address at the SRHE colloquium in June. I will reflect on how economic policy thinks about the relations between higher education and work, about 'employability'. My argument is that while there are good intentions, and rigour in the social science, the core assumptions and methods are out of whack with the reality they seek to describe. I will focus on the foundational social science, which is human capital theory, and cite research on education and work in support of my argument. The conclusion sketches elements of an alternative political economy of higher education and work.

### **[Road runner]**

With your cooperation I'll move through the argument at a good pace and keep the slides to a minimum. Lucky this paper is early in the day!

### **[Human capital theory and employability]**

There are few domains more important to us than graduates and work. Since its founding at the beginning of the 1960s by Mincer and Schultz and fuller development by Gary Becker in 1964, human capital theory has been *the* social science of relations between higher education and work.

Human capital theory assumes that education determines the marginal productivity of labour, and that marginal productivity determines earnings. With some caveats, the value of individual and combined investment in education can be understood as a function of the lifetime earnings of educated labour. This has underpinned many thousands of quantitative empirical studies in economics and thoroughly institutionalised in policy. In many countries HEIs and their programmes are held to account on the basis of graduate employment rates and/or earnings in the early years. In some countries rates of return calculations affect tuition fee levels, as Chapman and colleagues note. However, the impact of human capital theory is larger. Assumptions that intellectual formation constitutes a mode of economic capital, and higher education is essentially preparation for work and careers, are now commonplace, reinforcing ‘a pervasive belief in the power of degrees to both allocate individuals in the labour market and to serve as job requirements throughout the occupational structure’, as Baker puts it (p. 62).

Let’s step back for a moment and think about what that ‘pervasive belief’ means. We know for example that social origins shape access and success in higher education when all other influences are held constant, for example as Sullivan and colleagues (2014) showed recently in the *Oxford Review of Education*. Becker’s premise is that via the intermediary of human capital, and with other forms of capital playing a minor role, *higher education* determines the position of graduates, their ‘employability’—not their families and social origins, or networks, or their later on-the-job learning, or the regional demand for labour, or economic policy. The premise that education determines graduate outcomes is the abiding myth about education and work. It is remarkably optimistic about the social power of higher education. It is also remarkably reductive about economics as a tool of policy. It is extraordinary really, but governments believe *they can reverse engineer educational efficiency and quality on the basis of rates of return to graduates*, despite all of the other factors at play, and the fact these factors are context specific.

Human capital theory evolved amid the building of the first mass higher education system in the United States (US) in the 1960s. It rapidly became general to policy at the same time as another meritocratic discourse, social not economic, that of equality of opportunity through education. Becker believed that when educated students acquired the embodied productivity required by employers, the portable human capital, graduate earnings and collective economic growth would follow—that education, work and earnings were in linear continuum. Higher education was a marvellous tool for upward social mobility. It was a long way from, say, Bourdieu’s notion of education embedded in a zero-sum competition for social position in which the prospects of each person are limited by the position and trajectory of

each other. But as Piketty shows in *Capital in the twenty-first century*, the 1960s in the United States was a time of unusually high social mobility. Income from inherited capital was at low levels. Income from work was the main source of wealth. Amid high economic growth the size of the middle class was expanding rapidly, there was excess demand for educated labour, and it was believed all graduates could obtain a professional job. There was also widespread optimism about the potential of higher education to create a society fairer and more efficient, in which educated merit and hard work determined individual success, not inherited wealth. Piketty remarks that Becker's mathematisation of human capital theory is permeated by the belief that all forms of capital other than human capital had lost their importance.

We now know that not all graduates carrying human capital enter professional jobs. The power of other forms of capital is clear, and American social mobility is at a low ebb. Nevertheless, the myth once installed has not been dislodged. And human capital theory retains its original economic and political efficiency for states in a capitalist society, transferring responsibility for outcomes from government to universities and to graduates themselves; and legitimating unequal outcomes, now including the exceptional salaries of super-managers, who can claim that super-salaries they set themselves are based on super-productivity in the workplace, as Hanley notes.

### **[Claim to truth]**

Human capital theory also makes a continuing claim as social science truth about higher education and work. In doing so it disrupts the possibility of other kinds of social science knowledge about the education/work assemblage. The notion of 'employability' also disrupts the possibility of other kinds of government of education. Arguably, the human capital equations impose an illusory unity on higher education and work, at the cost of suppressing much that is distinctive and interesting in each. Work and higher education are different kinds of social site, their own histories, daily practices, subject-positions, requirements, rhythms and drivers. This does not mean work and higher education are unconnected. Graduation is associated with higher employability and earnings as the OECD shows each year in *Education at a Glance*, some higher education is in direct continuum with work (for example the training of doctors), and many programmes have occupational contents. Students and graduates, educational institutions, professions and employers make often-strenuous efforts to bring education and work together. However, the transition between the two sites is also fraught. Relations are multiple, context-bound, fragmented, uneven and must be continually worked on.

My topic is human capital theory's claim to truth. I argue that human capital theory fails the test of realism, and that its limitations can be understood in terms of certain problems method in social science.

### **[Problems of method]**

Human capital theory is embedded in four problems of method that impair the capacity of social science to provide realistic explanations. In sum, these problems are: universal theory using a single lens, closed system modelling of contextualised social relations, the extensive of mathematical tools beyond their reach, and the multivariate analysis of interdependent variables. Because of time I will pass over these briefly. The full paper contains a longer argument. I will then discuss how these problems are manifest in human capital theory, drawing on a range of recent research touching on higher education and work.

### **[Single and universal lens]**

As Dow remarks, human capital theory's use of the single and exclusive lens rests on the dualistic proposition that there is only one possible truth about social phenomena and it has absolute authority. The alternative is that we acknowledge the partial character of the truth we see through any one lens, opening up social science to 'the possibility of a range of approaches' (p. 82). This also means, as noted by Carabelli and Cedrin, that theories 'can vary according to changed times and circumstances'. If no single discipline, theory or method has universal reach, no one explanation excludes, cancels out or invalidates the potential of all other explanations. This is challenging, because for each research problem and site it calls up the need to identify the appropriate theoretical lens, or combine and match the appropriate lenses.

### **[Closed system]**

Related to the single lens is closed system modelling to preserve the universal reach of that lens. Human capital imagines the economy as a closed system operating on the basis of deductive logic. Lawson argues that this derives from deductivism, 'the thesis that closed systems are essential to social scientific explanation'.

### **[The extension of mathematics]**

Mathematical reasoning in social science is a powerful tool, but if the test is that of truth, mathematics is hostage to the quality of the initial assumptions. Once a certain degree of complexity or indeterminacy is reached, the role of mathematics

necessarily diminishes. The first human capital equations were developed by the Cambridge economist Alfred Marshall, but he was wary about their application. Marshall railed against econometricians who took no technical responsibility for the indeterminate, uncertain character of the empirical material they worked with, material inadequate to bear the strains of the powerful analytical machinery that they used.

### **[Variables: Independent, or interdependent?]**

Statistical analysis depends on the universal validity of assumptions, and can be valid in application to real world problems only when the variables used in the analysis are wholly independent of each other. This was Maynard Keynes' argument in economics.

### **[Bourdieu quote]**

Bourdieu and Passeron make a similar point on the interdependent character of factors affecting education and social inequality:

It is the *system of factors*, acting as a system, which exerts the indivisible action of a structural causality on behaviour and attitudes ... so that it would be absurd to try to isolate the influence of any one factor, or, a fortiori, to credit it with a uniform, univocal influence at the different moments of the process or in the different structures of factors (Bourdieu and Passeron, 1990/1977, p. 87).

This is controversial, I know, but I argue that multi-variate analysis of the relationship between higher education and work requires that all relevant variables are independent of each other, each separately interacts with the other variables, and all interactions are governed by a common law. This can hold only in a closed system governed by one universal logic. So multivariate human capital analysis can only fly if the closed system premise holds.

### **[Problems in the application of human capital theory]**

Let us turn then to the way these flaws in method are associated with problems in the application of human capital theory.

### **[Other factors affect rates of return]**

The OECD is more nuanced than is pure human capital economics. In *Education at a Glance* it notes that 'a host of education-related and context-related factors' other than learning itself 'affect the returns to education' (p. 151). In *Aspiring Adults Adrift*, sociologists Arum and Roksa are more sceptical, arguing that 'colleges have little control over wage outcomes' (p. 125). There is a very long literature on factors that affect earnings, additional to higher education.

Different research studies have found that graduate earnings vary with family income; by whether children are read to at a young age; by measured intellectual ability; by type of secondary school attended; by social and family networks at the point of entry to higher education; by family/parental influence and social networks in the choice of, and the transition to, work (on that point there are good recent studies by Bingley and colleagues, Hallsten, and Borgen); by social nesting and networks through the career; by level of qualification; by the differential status and resources of higher education institutions ('college quality' in the US literature); and by field of study. Earnings are affected by varying customs and hierarchies in professions and workplaces; by wage determination, by the industrial balance of power; and by the configurations and fluctuations of national and regional economies.

Given this empirical setting, it must be said that it is delusional to measure or compare the quantity, quality or productivity of education programmes, institutions or systems, on the basis of the private rates of return to, or the rate of employment of, those graduates. Statistical methods design to eliminate the effects of all factors other than higher education flounder given the number of variables, and the interdependency between them, and thus the impossibility of isolating each separate causal factor from all the others.

### **[Non-homogeneous and non-linear material]**

The real world materials under study are also often non-homogeneous and non-linear in form. Average graduate returns are often misleading. There is important heterogeneity across the wage distribution, a point made by Borgen in his study this year. As student participation expands the dispersion in graduate outcomes increases. While early graduate returns are superficial, and long-term careers encompass the fuller effects of higher education, in the later years, factors other than education such as on-the-job learning and workplace networks have a ever-growing influence, and earlier effects become elusive. Social and educational stratification affect relations between higher education and the labour market at many points, via complex feedback processes. All of these effects are both

contextualised and subject to changes over time that are non-homogeneous across graduate populations and their fields of study.

Economists frequently detect non-linear graduate returns in the form of a spike at the upper end of the wage distribution and note that the spike is getting larger. The question is what is the driver of the non-linear variation. Until half a decade ago some still clung to the human capital assumption that the crucial factor in the blow-out of top end wages is higher education. But the broad consensus in the economic literature now is that the blow-out in managerial salaries, particularly in the last two decades, is much more a price effect than an education effect. It is grounded in tax cuts for high income earners, and salary deregulation, de-unionisation and performance-pay regimes.

Likewise human capital theory has been unable to explain substantial variations in graduate incomes over time, nor differences in patterns of income distribution, and top-end earnings, in countries with similar higher education. Piketty notes that a major problem facing 'marginal productivity theory', human capital theory, is that 'the explosion of very high salaries occurred in some developed countries but not others. This suggests that institutional and policy differences between countries play a central role.

### **[Students are not always so calculating]**

Just as human capital theory's close system assumption and claim to universal explanation has broken down at the outcomes stage, it also breaks down at the input stage. Many studies, more in sociology than economics, find that students do not behave like the investors in the self-as-enterprise that are imagined in human capital theory. Thomsen and colleagues report that at the point of enrolment some do not take forgone earnings into account. Robst notes that often students know earnings only in their chosen occupation, not related fields. Some students believe contacts and networking are more important than skills or credentials. Research often finds that many students, and graduates, especially those from selective HEIs, see occupational status as more significant than earnings, though this varies by field of study.

### **[Arum and Roksa quote]**

Arum and Roksa (2014, p. 57) emphasise: 'Rewards to occupations are related not just to income but also to occupational status and prestige. In social settings, individuals are typically asked about what they do, not how much money they earn'.

Some students are not concerned about either money or vocational status, but choose their programmes of study on other grounds. As you know, students have many interests in addition to securing credentials, careers and earnings, including social capital networks, accumulating cultural capital, immersing themselves in fields of knowledge, engaging in intellectual formation as an end in itself, and social or political activism. They mix their goals, practices and modes of reflexivity. There are many ways to student self-formation.

### **[Imagined higher education and work continuum]**

As I mentioned, the human capital narrative implies that higher education and employment are in lock-step progression, that jobs and earnings follow automatically from education—and if it is not so, something is wrong with the education, or the graduate. But the real world transition is often not lock-step, and for graduates in many fields job allocation lacks precision, though more so in the US with its high number of generic degrees. The study by Schneider and Stevenson finds that only 44 per cent of students had ‘aligned’ educational ambitions, meaning that they planned to complete the amount of education required by their intended occupations. Robst notes that ‘the eventual match between degree field and occupation is uncertain when selecting a major’ and that only 55 per cent of respondents report a close relation between their work and their field of study.

### **[Re-imagining higher education and work]**

How might we re-imagine relations between higher education and work? There are many theoretical resources from which we might draw. In his 1978-1979 lectures on liberal governmentality at the College de France, in the series published in English as *The Birth of Bio-Power*, in the lecture on 17 January 1979, Michel Foucault made an interesting remark about how we might join together two different social sites. He argued that there are two kinds of dyadic relationship. One is a dyad in which the two different parts have disparate qualities, and they are joined by what he called a ‘strategic logic’. The other is a dyad in which the two parts are joined by a ‘dialectical logic’. In the dialectical kind of dyad the two parts are ultimately homogenous, because they are combined and resolved in a dialectical synthesis.

### **[Foucault quote]**

But a logic of strategy, he said ‘does not stress contradictory terms in a homogeneity that promises their resolution in a unity. The function of strategic logic is to establish possible connections between disparate terms which remain disparate.’



I think this is helpful. As I see it, higher education and work are joined on a strategic rather than a dialectical basis (and certainly not joined together as a singular unity as implied by human capital theory). Higher education and work are not always contradictory. But they *are* separated and different. Their relations are never wholly resolved. When a resolution is attempted something can be lost, such as the generic or liberal component of intellectual formation.

In addition, like all semi-bounded systems, the strategic dyad of higher education and work is connected to other systems or 'fields', the term used by Bourdieu, and Fligstein and McAdam. For example, relations between education and work are affected by incomes and wealth, power and politics, labour markets, taxation, public spending and programmes, urban development and multiple global flows, to name some elements. A new theorisation of the education and work dyad should incorporate connections between the 'inner' field and these other fields.

### **[That's all folks]**

In this paper I have set out to persuade you that the conventional understanding of the relation between higher education and work, that underpins our thinking of and practices of 'graduate employability', is flawed on conceptual grounds and has a weak purchase on social relations. It is a guide to nothing. No wonder 'employability' is such a difficulty for HEIs, and graduates. I hope you will agree that a better social science of higher education and work is possible, and it is something that many people can work on together.