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*Access to post-compulsory education and training:
Economic, sociological and political determinants and remaining research gaps*

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Abstract: *This paper presents a review and assessment of existing theoretical accounts to explain differentials in access to education and training in advanced economies. These theories tend to focus on the analysis of the influence of a set of economic, sociological and political variables on access to education. Existing theories are criticised on two grounds. Firstly, they seldom take into consideration the crucial role of political-institutional factors, and in particular, Welfare States' actions through direct investment and regulation in shaping access levels. Secondly, they focus narrowly on the analysis of different stages of education and training and this does not reflect the current policy emphasis on lifelong-learning. The paper finishes with an outline of a future research agenda to address these gaps, and also calls for a more rigorous analysis of the weight of the different factors affecting access.*

1. Introduction

Levels of access to education and training have for long been of concern to policy-makers. In the European Union (EU) the topic has gained increased importance after “facilitating the access of all to education and training” was designated an overarching strategic objective for European education systems until 2010 at the European Council in Stockholm March 2001 (European Commission, 2001). Improving levels of access to education in Europe, in particular at the post-compulsory level, is proving more difficult than expected, and it is now clear that the access benchmarks set after Lisbon Summit for access to lifelong learning in Europe¹ will most likely not be achieved, at least at the current pace of improvement (European Commission, 2004). This may be partly to do with a relative lack of clarity over the precise factors that work to shape levels of access to education and training. Re-addressing this gap could help to improve policy-making in this area, and therefore improve access levels.

As presented below in this paper, the topic of access to education has attracted considerable academic interest in the last forty years, and there is no lack of

¹ “By 2010, the European Union average level of participation in Lifelong-Learning should be at least 12.5% of the adult working age population” European Commission, 2004. The current level is 8.5%.

explanations to variations on access levels. These, however, have often been presented as alternative or non-related, rather than complementary, and this has limited the understanding of the causal mechanisms at work behind access to education and training, in particular at the post-compulsory level. Moreover, some key variables have been systematically omitted from the literature on access to education.

As such, this paper presents a review and assessment of a wide set of variables used to explain differentials in access to education and training in advanced economies, and their theoretical roots. Existing theories are criticised on two grounds. Firstly, they seldom take into consideration the crucial role of institutional factors and, in particular, Welfare States' actions in shaping access levels. Secondly, they have focused too narrowly on the analysis of different stages of education and training which does not reflect the current policy emphasis on lifelong-learning. This is a fundamental shortcoming given the increasing importance of the lifelong-learning paradigm in educational policy-making. The literature reviewed in this paper nevertheless offers a number of insights that can be fruitfully used to guide and refine future research on access to education and training and this is elaborated on the final part of the paper.

2. Evaluation of existing theories: economic, sociological and political variables

This section outlines the main theories produced by economists, sociologists and political scientists in relation to access to education and training. The theories presented, in spite of their different methodological approaches, offer an explanation

of access levels in education and training. Often, however, they provide this explanation only indirectly; they refer to the mechanisms which determine demand and access to education to help to explain other phenomena. As a result important factors that shape education and training access levels are systematically omitted from analyses.

2.1 Economic variables

Since the 1960s, two main economic variables have been used to explain levels of access to education and training: firstly, the national degree of economic development and, secondly, levels of return to education. Indeed, human capital theorists argue that it is the returns to investment that shape levels of access to education, whereas convergence theorists argue that these individual choices should be put in the context of a more relevant variable, namely the degree of economic development of countries. Both theories, on the other hand, aim to explain levels of access to any kind of education and training, and this separates them from other theories reviewed in this paper, which have a narrower focus on specific areas of education and training, which, as we have already outlined, makes an analysis of access from a lifelong-learning perspective more difficult. We review the arguments on the relevance of each of these variables for determining levels of access to education and training in turn in more detail below.

2.1.1 Economic development

Convergence theories (Kerr et. al., 1960) primarily proposed themselves as an alternative to a body of sociological literature that, following Marx, had argued that technological progress would bring about the deskilling of workers. According to Marx (1970) capitalists compete by furthering the division of labour and through

increased application of machinery. The greater division of labour enables workers to become specialists and do the work that was performed by several workers in the past. As the division of labour and mechanisation increase, labour is simplified. The special skill of the worker, then, is reduced in value and (s)he becomes transformed into a simple, monotonous productive force that does not have to use intense bodily or intellectual faculties.

Convergence theories relate the degree of demand, access and level of skills in a given society to the demands of the economy in a very different fashion. According to Kerr et. al. (1960) and later writers (Reich, 1992; Thurow, 1994), the establishment of modern forms of production necessitates a number of other structural changes that follow as an *inevitable* consequence. These changes include the establishment of a workforce committed to the imperatives of industrial production. Such a workforce must be educated in order to fulfil its increasingly complex work roles (Bell, 1974). Hence, the need for an expanded education system is functionally related to the skills and professional imperatives of economic and technological development.

Convergence theories have value in that they help to understand trends in demand for education and training by explaining why education and training are becoming more important in today's society. Indeed, although there is some evidence of de-skilling tendencies in some industry sectors (Lloyd, 1997; Thompson et. al., 1995) due to the cost of employing highly-skilled workers, the de-skilling thesis has found little empirical support. In most industrialised countries the level of educational attainment has risen steadily over the last century and adoption of innovative technological productive techniques has been consistently correlated with higher demand for

education and training (Arnal et.al., 2001) since it leads to an accelerated process of skill obsolescence (Blechinger and Pfeiffer, 2000), most of which is in agreement with Kerr's seminal arguments.

Convergence theories, however, have suffered a number of difficulties in empirical tests. Firstly, we are still far from universal education at the highest levels. Moreover, some industrialised countries have developed their education and training systems only after less industrialised countries have done so, which questions the validity of convergence theories. The UK, for instance, expanded its higher education system only after less industrially developed countries, like Israel, had done so. Some industrialised countries may be "locked" in path-dependent low skills traps in various economic sectors, whilst providing training and higher skills levels for only a minority. They may "rationally" decide not to improve the skills levels of their population and use their low skills/ low pay population as a competitive advantage in international markets (Finegold and Soskice, 1988; Brown and Lauder, 1996).

Convergence theories, then, are not well equipped to explain the complexities of different competitive strategies and the implications that they have for the demand of skills in the economy and by individuals.

2.1.2 Returns to education

A second economic variable to explain levels of access has been suggested by human capital theory. The main concern of economists working within the framework of human capital theory has been with the analysis of the relation between education and training and individual earnings, firm competitiveness and national economic growth. Formalised in the 1960s and 1970s in the work of Schultz and Becker (Schultz, 1971;

Becker, 1964) human capital theory has established itself as one of the most prominent theoretical frameworks for the analysis of the interaction between education and training and labour markets. The theory proposes a straightforward link between investments in education and training, skills and productivity. Investment in education and training, according to human capital theory, can be analysed similarly to any other investment. Additional education and training leads to additional individual skills, which in turn can be transformed into additional labour outputs as well as individual and social economic returns.

The key question in Becker's seminal research was whether the level of investment in human capital in the USA in the 1960s was optimal or not, but since the theory assumes that increases in education and training will lead to increases in individual productivity which, in turn, will be reflected in higher wages, human capital theory also provided a theory for individual, and also household, demand for education and training.

Human capital theory infers demand for education from the rate or return to educational investments. Educational investment is worthwhile and will be selected if the rate of return exceeds the capital cost –in this case time and money- and the returns of alternative investment opportunities (opportunity cost to investment). Equally, employers will offer their employees possibilities for education and training if this results in higher productivity. Since their employees are subject to poaching, employers will only finance training which develops firm-specific skills. Employees will be willing to pay for training which enhances their general skills and makes them

marketable not only in the company where they work but also in other companies (Ashton and Green, 1996).

The empirical findings of a number of economic studies support many of the employment-based and education-based conclusions set out in this theory, including the belief that education and employment choices are subject to cost-benefit individual analysis. Several authors have, however, highlighted important limitations in the explanatory power of human capital theory. Firstly, in its neoclassical account, human capital theory sees workers as rational individuals who attempt to maximise their lifetime income by investing in their productive capacities. As Arum and Hout (1998:471) argue, however, that many of the assumptions behind human capital theory do not hold in reality. Higher socio-economic classes, for instance, have more information and more resources to invest in education as well as greater cognitive resources to use this information. Moreover, students are restricted in their choices by the curriculum offered in the schools they can apply for. The actual course of study depends on the choices that students make and the constraints set by educational institutions, including admission standards and enrolment limits imposed by the capacities of teaching staff, classroom sizes and budgets for supply and equipment. Particular industrial relations settings will also help to determine whether employers will be willing to provide access to training and pay for it –even general training (Barron et. al., 1999; Booth and Zoega, 2000). These shortcomings have led to the development of theories of “imperfect competition” (Stevens, 1994; Acemoglu and Pischke, 1999), which, without challenging the principal assumptions of human capital theory, have started to give a greater role to social institutions, in particular wage structures (Bassanini and Brunello, 2003).

Human capital theory assumes that the demand side is all that needs to be analysed to understand access to education and training. The difficulty is that whether one individual can invest in education and training depends on whether there is a supply of the education and training the individual desires and whether the individual can surmount different obstacles to: finding about the educational/ training opportunity, having the adequate funding for it, meeting admission criteria or geographic location amongst others, and not only levels of returns. Finally, having the right institutional settings to help individuals overcome uncertainty, risk-aversion and myopia in their educational investment, issues that tend to be poorly dealt with in individual rationalistic accounts such as Becker's, is also key. Some of these aspects are addressed more directly in the sociological literature reviewed below.

2.2 Sociological variables

About a third of all sociological research published is about social mobility (Wilensky, 2002); a considerable proportion of this material studies the relation between education, social class origin and social class destination. These complex interrelations and their consequences for access to education are explored in the last part of this sub-section. Firstly, I review social stratification as another sociological variable that has been found to affect access levels.

2.2.1 Social Stratification

In her influential work on the transition from school to work, Allmendinger proposed a typology of educational systems based on two dimensions: the standardisation of educational provision and the stratification of educational opportunity (Allmendinger,

1989). Allmendinger relates stratification of educational opportunity to the proportion of a cohort that attains the maximum number of school years provided by the educational system, coupled with the degree of differentiation within given educational levels (tracking). According to her, the less selective the education and training systems the higher the participation, or access, can be expected. Selection can take a variety of forms including demanding or class-biased examination procedures. Education and training institutions in some countries, for instance, will rely on previous diplomas alone when considering a candidate, whereas others will have their own aptitude tests. Other institutions will be more open and will also consider applicants with relevant professional experience, even if they do not have the appropriate diplomas.

Allmendinger discusses selectivity and its relation to access for primary and secondary education, higher education and vocational training (including on-the-job training). Her analysis gives the public sector –mainly through the regulation of admission criteria- a more prominent role in shaping access than most of the theories reviewed in this paper. However, it does not explore why in some cases supply of education is higher than demand (even in cases where admission criteria are very relaxed), nor the causes behind the existence of different stratification systems in different countries. In this central point, she takes the work of Hoper (1968) at face value.

Building on previous work by Turner (1960), Hoper tried to address a set of ambitious questions: how does educational selection occur, when are pupils selected, who should be selected, and why should they be selected. He adopts what is essentially an

“elitist” theory to explain why educational opportunities differ between countries.

According to him, educational stratification depends on the degree of social stratification already existing in a nation. Education is a sub-system directly influenced by the social system and its prevailing ideology. Ruling elites need to develop “ideologies of legitimisation” which justify their existence and their privileged position. These ideologies define the type of people whom the society values most highly, who should receive more power than others and determines who should be selected for higher education and training. In less stratified societies we should expect complete universalism in access to education and training whereas more stratified societies will be anchored in more particularistic selection.

Although Hoper concedes that most industrial societies contain several groups of elites with competing ideologies of legitimisation of educational selection, he does not explain what different types of elite groups we should expect to rule in different societies and what educational outcomes will be produced by the ruling of elite groups. This makes it difficult to test his theory empirically. Moreover his work neglects that although ideological positions are important there are also important structural factors that foreclose certain educational policy choices or facilitate others (Heidenheimer, 1981). Structural factors are more central in the work of political scientists, reviewed in section 2.3 in this paper.

2.2.2 Social inequality

Social and educational inequality research seeks to explain why various social groups do not have the same educational prospects, in spite of educational expansion. The

explanations explored have clustered around two, non-exclusive, approaches:

socialisation and the life-course.

Socialisation approaches have emphasised the importance of value transmission by peers or role models, typically the parents, to the child (Glend and Elder, 1965), and the different language uses of different social classes (Bernstein, 1971). Disprivileged social classes use a different language to that used by the favoured classes. They tend to use less subordinate clauses, their language is more direct and has little recourse to deal with abstract concepts and use complex linguistic techniques like innuendo, allusion, roundabout expression, insinuation, indirect speech or impersonal speech. These techniques acquired within the family circle are precious if the child is to succeed in the essays set by the school and access higher-level courses (Bourdieu and Passeron, 1977).

Different social classes also attach different values to education and training.

According to Boudon (1974) lower social classes tend to overestimate the costs and underestimate the benefits of education and training and therefore they attach a lower value to it. It may be that, in fact, education has less benefit for them than for better-off classes, who have social connections and other resources to transform educational qualifications in occupational status. Work by Blossfeld and Shavit (1993), Erikson and Goldthorpe (1992), Goldthorpe et. al. (1987) Breen and Breen and Whelan (1998) shows that strong links between class of origin and class of destination have persisted during the 20th century and suggests that links between educational attainment and occupation are not as strong as it was thought in the 1960s.

Regardless of whether benefits of education and training are “underestimated” or just lower for working classes, the effect will be the same in terms of low take up of educational and opportunities and school attainment. Working classes attach *lower value* to education than middle and upper classes, reducing comparatively their take up of educational opportunities. Consistency in the transmission of the same values by both parents is reinforced by high degrees of “educational homogamy”, or marriage of persons with like educational attainment (Nam, 1965).

This will not mean that there will not be any kind of demand for educational opportunities. When working class parents value education and training highly and have upwards mobility aspirations for their offspring, this can be a decisive factor in influencing whether their offspring will take up college education or not (Cohen, 1965), but this would not be the reality for the majority of children. According to Breen and Goldthorpe (1997) and Breen (2001), rational choice models of “risk aversion” can help to explain why class inequalities in educational participation rates have remained largely unchanged: young people have, as their major educational goal, the acquisition of a level of education that will allow them to attain a class position at least as good as that of their family of origin. Boudon (1974, 1981) provided a different analysis of the mechanisms which link social class background and access to post-compulsory education and training, linking social background, educational attainment and educational choice which reached qualitatively similar results.

Life-course approaches, on the other hand, highlight the importance of age in educational decision-making processes. Muller (1990) has argued that as students

grow older they will increasingly be able to make their own choices and will be less dependent on family background. The policy implication is that educational policy could reduce social inequality in terms of educational prospects by delaying the moment when educational decisions are to be made (Lauer,2002).

Sociologists of educational inequality, like economists, have focused on the mechanisms behind demand for education and training, and they have analysed differentials in demand and access to education by different social groups. Muller and others have shown, moreover, that education can bring different labour market outcomes for people from different social backgrounds. However, unlike economists, sociologists have focused largely on formal education and training only, and have explored to a much lesser extent the conditions for access to non-formal continuing education and training. Moreover, educational inequality sociologists have not studied sufficiently the ways in which political decisions on the supply of educational opportunities in different contexts can affect demand for education and training and can attenuate social class differentials in relation to access to education and training.

2.3 Political Factors

Political factors behind levels of access to education and training have been explored by both social policy students and political scientists. They have analysed political factors and their influence on access from two perspectives. Firstly, they have looked at the relation between education and training and economic performance, and have argued that, under particular institutional settings, limited take up of training may be a rational behaviour. Secondly, they have reviewed the relation between access to education and training and social opportunity/ equality. This stream of work has

highlighted that there is an inherent trade-off between education and social protection offered by welfare states. It argues that higher social protection levels are related to lower opportunities for access to education and training since welfare states can only provide one of these alternative “insurances” against poverty. This classical view, however, has been recently challenged.

2.3.1 Centralised bargaining and openness of the national economy

Political scientists have employed rational choice and game theory analyses to explain the degree of demand for, and access to, education and training. Finegold and Soskice (1998) and Finegold (1999) asked why policy-makers and other economic actors do not improve skills levels in those situations in which these are at a low level in a country or firm. Finegold’s work focused on the incentives for policy-makers and other economic actors not to expand the use of education and training when a “low-skills” equilibrium prevails and showed how, under certain conditions, it can be rational for individuals, companies and governments pressed by short-term constraints not to invest in education and training. In particular, a sub-optimal national or firm skills outcome can be preserved in the lack of co-operation (whether this is between firms, between employees and employer, between countries). He argued that only under a set of particular conditions- which include centralised bargaining over training coupled with a high degree of openness of the national economy- will in-company education and training expansion occur.

As Ahston and Green (1996) note, the attraction of Finegold’s “equilibrium” concept is its ability to shed light on the persistence of social outcomes, held in place by the “mutually-reinforcing” incentives facing individuals and by the “self-reinforcing”

social institutions (Ashton and Green, 1996). Finegold's notion of a "low skills equilibrium" however, has been strongly criticised by Jones et. al (2000), who highlight that the UK situation - Finegold's original example of "low skills equilibrium" - does not conform to Finegold's thesis. They argue that the UK's engineering sector cannot be considered to be trapped in a low-skills equilibrium, as demonstrated by the increase of graduate engineers' numbers after the 1960s (Mason and Wagner, 1994), even though this was accompanied by a decrease in the craft and intermediate skilled trainees. A marked increase in the graduate workforce, even if accompanied by a decrease in intermediate skilled workers, is clearly in conflict with the existence of a self-reproducing, stable, low skills equilibrium. Rather, it would support the hypothesis of an increasing "polarisation of skills" (Gallie, 1991) or the existence of a rather less stable "high skills disequilibrium" (Jones et. al. 2000).

Finegold's work provides a detailed explanation about why it may be rational for different economic actors to under-invest in skills, in particular when there are no established channels of co-operation between them. However, occupational and qualification trends point out that his work may be particularly useful explaining skill shortages in particular economic sectors or periods, rather than in providing an explanation of access and take up of continuing vocational training. Finally, its focus on continuing education and training and intermediate skills does not adequately incorporate the role of formal education and training in the formation of the skills profile of a given country. Low access to continuing education and training may not necessarily reflect a "low skills equilibrium", particularly if it is coupled with a strong formal education and training system.

2.3.2 Levels of social protection

Another set of political scientists, in particular Wilensky (2002, 1982, 1978, 1975), have focused on the relation between access to education systems and other functions of the welfare state and how this affects the degree of access to education. Wilensky argues that the extension of schooling in the twentieth century is a profound structural shift. In the course of this development, all modern societies first expanded primary and then secondary schools, gradually raising the level of compulsory attendance to around age 15. Moreover, according to Wilensky (2002) there is a deep and pervasive convergence in the educational systems of rich societies: educational expansion is inevitable and education will continue to be the main channel for social mobility.

However, higher education continues to be meritocratic and mass education necessitates a high degree of specialisation and stratification: with increased access comes greater diversity of curricula and standards. Rich democracies moved from elite to higher education and then move towards making it universal. They all developed a diversity of function and quality amongst colleges and universities.

Adding to this diversity is the proliferation of non-university forms of postsecondary education –vocational colleges, teacher training institutions, schools of music, art, drama, nursing, agriculture, management and other vocations, continuing education for adults, and “open” universities. The specialisation and stratification of modern education systems are necessary to meet the great variety of demands of the economic system and for people- whose relevant abilities (learned and innate) and interests vary- to be accommodated.

Wilensky, like Heidenheimer (1981), sees the degree of access to post-secondary education in contemporary societies as the result of a trade-off with social protection systems. According to him, the weaker national comprehensive social protection systems are (low equality of outputs) the higher access to education (high equality of opportunity) will be, and vice-versa. According to data presented in his latest book, which covers 19 rich democracies (Wilensky,2002), secondary school enrolment ratios in the period 1965-72 were not significantly correlated with either social security spending as a share of GNP or per capita social-security spending. The postsecondary enrolment ratios for these 19 countries, however, are negatively correlated with welfare effort, especially in the mid- 1960s. His conclusion is that the more meritocratic the education system the more it provides channels for mobility and the less support to the rest of the welfare state.

Wilensky explains the expansion of educational opportunities as a response to social demand, but does not analyse the mechanisms through which these demands are “filtered” by the State and other actors to shape different national education and training systems. His work, as a sociological “convergence” explanation, is therefore better suited to explain why education and training systems provide increasing opportunities for access than to explain why these opportunities continue to vary in extent and nature in countries with similar degrees of economic development.

3. Discussion: Existing research and a new research agenda for access studies

Access to education and training has been subject of analysis from a variety of disciplines. Although a substantial research body has touched upon this topic,

however, it is difficult to find literature that has addressed access to post-compulsory education as its central research area. In much of the work presented in this paper, the concern with access is only secondary and implicit, and needs to be unfolded by the reader. This is in spite of the high political profile of access to education and training, an imbalance that needs to be readdressed.

The theories presented in this paper put forward a number of very different explanations of access to education and training. Perhaps the most striking common feature within the diverse approaches reviewed is their consistent exclusion of the state from the centre of their analysis of education and training. Both streams of literature have largely ignored the importance of advanced welfare states in shaping the institutional incentives and barriers within which economic and social actors operate.

This is more surprising since education is directly shaped by welfare states. As such, welfare states spend an important part of national resources in education and training policies, they also regulate in this area intensively and are key providers in particular of formal, but also non-formal education and training. Politicians themselves often argue that they can mould this policy arena through their interventions to increase the skills of the population and national competitiveness –a topic often linked to maximising access and reducing the loss of potential talent. It is therefore reasonable to think that state activity and investment will shape access to education and training to some extent.

Some recent studies suggest that there is indeed a positive association between educational attainment and public expenditure in education. Using regression analysis over the Barro-Lee database on years of schooling and expenditure and enrolment indicators for primary and secondary education, Gradstein and Nikitin (2004) find a large positive association of government investment with average years of schooling in a sample of over 100 countries. The coefficient of public education spending in the fixed effects of their specification implies that a doubling in spending is associated with a 40% increase in the number of years of schooling over time.

There are also good reasons to believe, and some empirical evidence to support the view, that government regulations are important in shaping access to post-compulsory too. Firstly, the state is a large provider of formal education given that it defines conditions for access and students quotas, on occasions linked to government targets. The state can also adopt alternative strategies in the management of continuing vocational training policy, varying from strongly interventionist strategies to voluntary approaches which rely on individual initiatives for training take up and investment. Comparisons of both approaches suggest that certain types of regulations -like the existence or otherwise of training levies (Greenhalgh, 2001)- and institutional settings directly shaped by government – for instance a corporatist mode of decision-making in vocational training (Hall and Soskice, 2001)- are important in the determination of training levels. Amongst the scarce empirical studies available for European countries, Winter-Ebmer and Wirz (2002), Fredericksson (1997) and Huijsman et. al. (1986) used quantitative analysis over time in fourteen European countries, and found a positive and statistically significant relation between public expenditure in Higher Education and enrolment rates, although not for all countries.

Fredericksson and Winter-Ebmer and Wirz controlled for economic returns to education, graduation rates from secondary education, country effects and year effects, and also for the selectivity of the system as it would be recommended by sociological stratification theories (e.g. Allmendinger, 1989; Huijsman et. al., 1986) also control for per capita income, as it could it would be recommended by sociological convergence theories. Yet these studies have not controlled for other relevant variables, such as the degree of social inequality or levels of social protection.

A second gap in post-compulsory education and training research has been the current focus on the study of particular sections of education and training (in particular higher education), neglecting an integrated analysis of the different points at which education and training interact with labour markets. In short, research has lacked a lifelong-learning perspective, a perspective increasingly shaping education policies. It is true that the causal mechanisms determining levels of access to different streams of post-compulsory education and training are likely to be different between areas. This should not, however, preclude a systematic analysis of skills acquisition using a lifelong-learning framework. This framework should include all different types of education and training (formal and informal) that individuals can use at different stages of their life cycles to improve their economic well-being and life-chances.

The use of such a lifelong-learning framework would serve two main purposes. It recognises the need for continuing upgrading of work and life skills throughout the life-course in order to meet the challenges described in the first section of this paper. Continuous upgrading of skills, moreover, is not only a necessity but also a political

goal for most European countries, which explicitly aspire to the creation of “knowledge-societies” (European Union, 2000) and to establish connections between different levels and types of learning. This leads us to the second point. A lifelong learning framework emphasises the existence of alternative strategies for acquiring skills. Focusing only on access to formal education or training or on non-formal education and training is unsatisfactory. Assessing formal education or non-formal education opportunities provides only a partial view of national skills production systems. In some countries, greater use of continuing vocational education and training may be an appropriate mechanism to compensate for lower access levels to formal education and training, and vice-versa. It is therefore necessary for educational research to assess the full menu of learning opportunities available to individuals at different stages in their lives, regardless of the context within which they take place (be it formal or informal).

I have suggested in this paper that a first step towards incorporating the lifelong-learning approach into educational research is to better integrate research on access to Higher and Further Education, Continuing Vocational Education and Training, and training within Active Labour Market Policies. Although this focus is narrower than a genuine lifelong learning analysis would demand it covers three central elements of it, and those in which the importance of access is still paramount. In other areas, such as primary and lower secondary education, participation is compulsory in all European countries and this makes access –understood as the “overall volume of educational opportunity” - a non-issue.

In spite of the gaps highlighted in this discussion, the literature reviewed in this paper offers a number of conceptual and theoretical tools that can be fruitfully used in future research on access to education and training. These are summarised in the conclusions.

4.0 Conclusions

This paper has presented a review and assessment of the main variables and theoretical accounts used to explain differentials in access to education and training in advanced economies, focusing on the contributions offered by economic, sociological and political science literature. Existing theories are criticised on two grounds. Firstly, they seldom take into consideration the crucial role of institutional factors, and in particular, welfare states' roles in shaping access levels and in dealing with ever changing social risks. Secondly, they have focused too narrowly on the analysis of different stages of education and training and this does not reflect the current policy emphasis on lifelong-learning.

The literature reviewed in this paper nevertheless offers a number of insights that can be fruitfully used to guide and refine future research on access to education and training. Firstly, human capital theory can be used to make predictions –based on existing analysis of returns to education per country- of demand for education. When returns to post-compulsory education are high we would expect demand to increase, and vice-versa. In those countries and periods when this is not the case institutional factors, including welfare state intervention, may be of particular importance and would deserve further analysis.

Secondly, the sociological literature, chiefly theories of convergence and social stratification theories, emphasise the potential importance of two different macro-variables in explaining access to education. These are the degree of economic development and the degree of income inequality and class structure in a given country. These variables should therefore be controlled for in comparative studies of access to education and training in addition to demographic trends, country and year effects.

Thirdly, social policy literature suggests that further attention should be given to institutional factors, and in particular to the trade-off between social protection and post-compulsory education expenditure. Controlling for the different variables outlined above, and giving a central role to welfare state investment and regulation, will also help to unravel the relative importance of economic, sociological and political variables in the determination of access levels to post-compulsory education.

Finally, work on varieties of capitalism, such as that by Hall and Soskice (2001), can complement quantitative work such as that suggested above to produce an analysis of the political economy of skills formation. This literature could be used as a source of concepts and substantive data to frame subsequent analyses in this area and help understand more systematically the interplay between different levels and types of education than is currently the case.

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