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**DRAFT**

**“WHAT DO POLICY MAKERS NEED TO KNOW  
ABOUT THE SKILLS OF YOUNG PEOPLE AND THE SCHOOL TO  
WORK TRANSITION?”**

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## **“WHAT DO POLICY MAKERS NEED TO KNOW ABOUT THE SKILLS OF YOUNG PEOPLE AND THE SCHOOL TO WORK TRANSITION?”**

### **1. Introduction**

1. As preparation for the OECD skills assessment project entitled Program for the International Assessment of Adult Competencies (PIAAC) some perspective is required relating to the skills of young people and the school to work transition process. Most important is – what are the key issues for policy makers in this area? This short paper attempts to investigate these issues and provide such a perspective. The main questions to be addressed in this short paper are:

- What should be the main economic questions of interest to policy makers?
- What do we know and what we don't know about skills of young adults?
- What do we know and don't know about the factors which relate to a smooth transition from school to work? How will a Skills Assessment of Young Adults address what we don't know? (This section can be very specific, for example focusing on skills in ICT, interpersonal skills, soft-skills, etc.)
- What is the most important kind/type of skills that we would like to extract from a Skills Assessment of Young Adults? Why? How? What are the difficulties expected in extracting such information? What policy questions can be addressed from the information of such skills? Why was this not addressed in past surveys of adult skills?
- Why is a new survey necessary? How can an assessment of skills of young adults help improve the understanding of the school to work transition, and thus policy design? How can we take into account the good dimension in the school to work transition?
- Specifically, what kind of survey should be prepared? (skills to be assessed, age-groups to be surveyed? Employer-based versus household or individual based surveys? How to ensure international comparability, while still being relevant to employment policy makers?)
- What might be the pros and cons of assessing young adults vis-à-vis other groups (e.g., older individuals, etc.)?

2. Since each of these issues themselves could be the topics of major research projects I will attempt to provide only a brief and selective subjective policy perspective. This perspective is heavily reliant on evidence from the UK partly because this data is readily available and most of the issues have been well researched. This will provide a good context for framing the policy questions which are relevant for the whole OECD but at the same time it should not be taken as necessarily applying to any other country.

### **2. What should be the main economic questions of interest to policy makers?**

3. The main policy questions of interest in the area of young people's skills and their transition from school to work can be grouped in three broader headings: How do we explain the diversity of unemployment and other outcomes and skill mismatch in the OECD countries? What types of skills are

needed to overcome labour market challenges? How can policy affect the development of skills and ease the school to work transition process? We examine each of these areas in turn by posing more detailed questions:

***How do we explain the diversity of unemployment and other outcomes and skill mismatch in the OECD countries?***

- How much do we know about the great differences in the prospects for people in different countries and in addition how do these prospects differ within a country?
- What is the optimal proportion of young people staying on in full time education in any cohort? What is the evidence on overeducation? What are the proportions of people who are educated well above the level they will every use in their job? Do we have any long run evidence that overeducation is really a waste of resources? There have been dramatic changes in the autonomy of young people in OECD countries. More and more young people live with their parents to a much older age. How has this affected skill acquisition and the movement into independent living?
- To what extent are the labour market prospects for young people dependent on the location where they grew up and went to school? Specifically there is a role for social exclusion and deprivation in urban areas in terms of educational and social provision but equally there are problems of young people growing up in rural areas. (see Bynner and Parsons 2002) We know that this makes a huge difference for young people in the UK. (See Dolton et al 2000). The interesting question is to what extent are the prospects for young people determined by:
  1. Factors beyond their control – region, year they were in school
  2. Their family background
  3. Their innate abilities.
  4. Their acquisition of skills and educational qualifications
  5. Their effort, motivation energy, personality.
  6. Luck, chance and random events.

4. Empirical studies tend to focus on factor 4 above and condition for a limited amount of information on 2. Often we cannot measure 4 properly. Usually we leave out the analysis the influences of factors 3, 5 and 6. There are relatively few studies which can take account of these factors in a lifetime context. See Dolton et al (2004) what evidence we have suggests the enduring importance of family, region of upbringing, school characteristics and other factors beyond the control of the individual.

- A huge number of studies on human capital theory attest to the importance of years of schooling in earnings determination. What is less clear is exactly what factors are proxied for by the blanket use of years of schooling as a regressor. Typically such a variable will capture some of the influence of skill acquisition, education quality and achievement.

***What types of skills are needed to overcome labour market challenges?***

- For those who do not stay in full time education do they have the necessary skills to enter the world of work?
- Why is there such a high proportion of young people who leave school with no qualifications to their name? McIntosh (2004) suggests that in the UK up to as much as 20% of male school leavers and 17% of female school leavers do not have any qualifications.
- What is the economic return to different types of skills in the labour market?
- What is the appropriate balance of skills and what are the minimum set of skills that a young person should leave school with.
- What is the appropriate amount of breadth in any school curriculum and how much should be taught at school rather than left to the labour market or post school training? The scant evidence which exists (see Dolton and Vignoles 2002b) suggests that there is no return to curriculum breadth.
- How do we appropriately assess and test for skills? Should there be one national system for the categorization of skills and qualification standards? Should any system of qualification awards have standards which remain absolute or should there be the politically attractive possibility of allowing grades to rise over time? If the latter is deemed inappropriate then how do we ensure the continuity of standards over time? In the mean time how do we deal with the practical problems posed by grade inflation?

***How can policy affect the development of skills and ease the school to work transition process?***

- How effective are state run training schemes compared to training given in private firms at the workplace?
- How much do we know about the long run effects of training programs? There is a large amount of fairly negative research evidence relating to the possible outcomes in the short run from training programs (see Dolton (2004) and Bradley and Nuygen (2004) for a review)– but little research exists which relates to the long run outcomes of such training. Crouch (1992) and Dolton et al (1999) are two of the few studies which looks at training outcomes in the long run. Dolton et al (1999) find that the negative short run effects found by other authors are either neutral or positive after this period of time.
- It is clear that across the OECD countries there is a wide variety of approaches and provision of training in different types of institution. In the UK there is a strict dichotomy between work based training and academic training whereas in many other countries there is a much clearer integration of the work based training system with provision for further education. In addition there are marked differences in vocational qualification systems between different countries.
- What would be the conclusion of a systematic cost-benefit study of state intervention in training schemes? A framework for the analysis is provided in Dolton (2004) but would be extremely complex.

- How do we induce young people to stay on at school and go to university? What role is there for the state in the form of financial aid to young people from disadvantaged family backgrounds. In Belgium additional funding is awarded to schools with at least 10% of students with social or cultural problems. In the UK the Excellence in Cities program is similarly targeted and new 16-19 Educational Maintenance Allowances are to be introduced after piloting. In France additional staff are awarded in zones d'éducation prioritaires. It is too early to say whether such policies will be successful.
- Is there a market failure in the provision of vocational training or key skills? What is the rationale for state intervention in the provision of training? Are there people who want such courses and cannot get on them? This raises the question of who pays of general training as opposed to firm specific training. (See Hashimoto (1979), Stevens (1994)). Clearly firms have an incentive to provide the latter but not necessarily the former.

### **3. What we know and what we don't know about skills of young adults?**

5. We do not know much about the skills of young adults. Although there are many studies on the rate of return to education generally (see Blundell et al 2000) there are relatively few papers which explicitly model the rate of return to particular skills in any reliable way. Those that there are, provide us with scant reassurance that the return of further education and adult skills is significant. For example, McIntosh, S. and Vignoles, A. (2000) suggest that the return to basic skills is very low.

6. We do now have some limited evidence of the role of skills in a lifecycle context from the work of Bynner (2004) based on the NCDS cohort data but this work relies on the limited set of information on skills in that survey. Also it is constrained to look only at the cohort of people born in 1948. We need to have more up to date information on the skills of younger people and to hopefully track them over time in each country.

7. Recent evidence has investigated the role of ITC and Maths skills. These papers suggest that there is a rate of return to investment in studying mathematics from 16-18 which persists no matter what additional qualifications are taken after this point. See Dolton and Vignoles (2002).

8. There is also good evidence that the use of computers and other forms of ICT provides a return See Dolton and Makepeace. (2004). What is less clear is exactly what skills are used in this use of ICT. Dolton et al (2004) use British data from cohort studies and the European E-living survey to investigate the extent to which the impact of computer skills depends on how computers are used. They examine the importance of activity and frequency of use in a variety of data sources and find that the impact on earnings depends on which group of workers is examined. There are differences over time but the most consistent finding is that the use of computers for internet access and for email is positively significant, although there are differences by gender. A much more careful analysis of exactly what role ICT skills play in a person's life time work profile and what is the impact on earnings is necessary.

9. It is clear that the institutional structure and family practice have a large impact on the differences observed in different member countries on the proportion of young people who live at home with their parents. Transitions to adulthood are embodied in organisations and institutional structure. A part of the differences between countries will be explained by these factors and hence carefully designed questions to illicit a respondent's family and personal circumstances are a priority.

10. There is a variety of evidence relating to the most important kind/type of skills and what are the realistic prospects of extracting this kind of information from a Skills Assessment of Young Adults. This

evidence, and the difficulty in extracting it from surveys, is well summarized in Green (2004). The policy questions which can be addressed from the information on such skills are summarized in the policy questions we have listed in section 2 above in this paper.

11. What has not been addressed in past surveys of skills of young people has been:

To clearly calibrate their ICT skills.

To assess their communication skills

To assess their interpersonal and social capital skills

To distinguish workplace competences.

To understand personality influences on the ability to develop and utilize skills.

12. The main reason that these skills have not been assessed in past surveys of skills is that it is extremely difficult to do so.

13. There is a lot more we do not know about the role of skills in life progression. We do not have a clear picture of exactly what skills different people have and how to calibrate and compare them across countries. We also have very little knowledge about how different specific skills are useful in the labour market. The work of Dickerson and Green (2003) is a good start in this regard but it relates only to the UK. We have even less idea about what skills make people good citizens and good parents and what are the long-term social returns to a good education.

#### **4. What do we know about the factors that facilitate a smooth school to work transition process?**

14. The econometric assessment of the effects of training programs is complex. The above discussion has highlighted the potential importance of attempting to derive reasonable estimates of the wage and probability of employment effects induced by training. However the practical estimation difficulties involved are considerable.

15. Bearing in mind the difficulties associated with the econometric analysis of the assessment of training it is premature to attempt to reach definite conclusions on the basis of the available research. However there are certain empirical findings which seem to be relatively robust to studies across different countries as well as studies within the same country that use different data sets. Such findings also seem to bear up to different treatments of selectivity bias and therefore these findings merit a brief review:

1. Employment and training programs have their greatest impacts and largest social returns for those who have the least previous labour market experience. This includes women and the disadvantaged. Such a finding may prompt the conclusion that more training funds should be spent on women and older workers.
2. There is some evidence that the short term earnings effects of training are relatively small but more research on the long term effects of training is needed. In particular it would be instructive to know what are the effects of skill and educational acquisition throughout the lifetime. A start has been made in this direction by Dolton et al (2004b) again using the NCDS data. The Annex to this paper gives a flavour of these results.

3. There is some accumulated evidence that the rate of return to private vocational training is positive, especially in the case of off-the-job training and firm specific training lowers the quit rate with general training inducing more turnover.
4. Much of the empirical evidence concerning mass state-run training schemes indicates that such programs have very limited effects on earnings and employment probabilities. However part of the problem is that many of the recipients of this state training would otherwise be unemployed due to aggregate economic conditions. It is not surprising that the most favourable results of these programmes are derived when the unemployed are accordingly used as the control group for comparisons.
5. Some recent evidence from applied work suggests that the estimates of training effects can be significantly affected by the estimation model used to derive their effects. This suggests that the alternative identification conditions used to obtain the estimates need to be carefully tested. In addition it means that any estimates of program effects must be cautiously interpreted as conditional on the identification assumption(s) used in their derivation. Many early studies in this area did not do this. However applied econometricians working in this area should henceforth be careful to explain that the nature of their conclusions are conditional on their assumptions (which wherever possible will have been tested.)
6. There is good evidence that a person's likely success in moving from school to work will of course be affected by their own skills and qualifications – but it is also likely to be affected by the person's: parents, home background, where they grew up, their school and many other factors outside their own control. Dolton et al (1999) provide some clear insight into the relative importance of these factors in the UK but we do not in general have a clear insight into how these factors operate in different OECD countries.
7. Margolis et al (2004) examine some comparative evidence on various measures of labour market success: time to first job, earnings growth, share of time employed, and employment probability. They compare the USA, France, Germany and the Netherlands and suggest that the appropriate model of any labour market is context dependent and that more attention need to be devoted to 'explicitly examining the interplay between institutions and the functioning of the labour market'. This makes a genuine international comparison of what helps young people to succeed in the labour market a difficult task.
8. Segundo and Petrongolo (2004) in a comparison of 2 countries: Spain, the UK, and a review of evidence of other countries (Germany, the Netherlands and Sweden) conclude that high youth unemployment rates may explain some of the rise in post compulsory educational enrolment but that the main determinant of the staying on at school decision has been family background and specifically parents' education.
9. The most comprehensive inter-country comparison of the education and early career success of young people is the survey by Muller and Shavit (1998). In they assess the institutional context of school to work transition process in 13 countries: Australia, Britain, France, Germany, Ireland, Israel, Italy, Japan, Netherlands, Sweden, Switzerland, Taiwan and the USA. Their conclusions are worth recapping in some detail. They suggest the following communalities:
  - i. For both men and women educational qualifications enhance the attainment of prestigious occupations.

- ii. The marginal returns to education at the tertiary level are higher than returns at the lower levels of education.
- iii. Educational qualifications are important determinants of whether one enters high or low occupational classes but not so important in intermediate occupations classes.
- iv. The odds of becoming a skilled worker depend on having a vocational qualification but not on the level of the qualification.
- v. The odds of labour force participation are related to educational attainment, more so for women than men.
- vi. The risks of unemployment are attenuated by education.

16. They suggest the most striking differences between countries as:

- a) The magnitude of the effects of qualifications on occupational outcomes vary greatly.
- b) The effect of vocational education on the odds of becoming skilled varies greatly – it is between 10-30 times higher in Germany, Switzerland, Israel or Australia but only 2-4 times higher in Britain and Sweden.

17. One of the most recent studies of the pathway between education and work is that by Raffe (2003). He summarizes all the findings from most of the surveys which have been written on the subject of the school to work transition by Ryan (2001), Muller and Shavit (1998) and others. He suggests that:

- a) In all countries, vocational pathways, and especially apprenticeship-type pathways, are more likely than general pathways to lead directly into the labour market.
- b) For labour market entrants, neither general nor vocational pathways are consistently associated with better labour market outcomes.
- c) Vocational pathways are better for employment than income outcomes.
- d) Most positive vocational programmes are associated with:
- e) programmes in certain areas
- f) programmes linked to the labour market
- g) pathways that are not stigmatized.
- h) Vocational pathways may divert people from high status occupations and provide a 'safety net' to protect them against unemployment or unskilled work.
- i) Compared with males, females enjoy more positive labour-market outcomes of school-based vocational pathways and more negative outcomes of apprenticeship-type pathways.

- j) School based and apprenticeship-type vocational pathways have similar outcomes on average; apprentices tend to have higher initial employment rates but often find lower level work, and their opportunities for career advancement or mobility may be more restricted.
- k) All the above conclusions vary across both countries and within countries by using different datasets.

18. Much of the evidence reported in the surveys by Muller and Shavit (1998), Ryan (2001), Raffè (2003), Dolton (2004), and Bradley and Nguyen, (2004) relating to the school to work transition in different countries reports the results and synthesizes conclusions from micro-economic studies. There has been little attempt to make sense of the pattern of the school to work transition process across countries. There are several key publications which provide the raw data from on the most crucial variables to begin such an analysis. This data is collated in Muller and Shavit (1998), CEDFOP (2001), OECD (2002), De la Fuente and Ciccone (2002), Trostel et al (2002) . We have collected some of this data for as many countries as possible in Table 1. The key variables for any assessment of the school to work transition are the outcomes of the process namely: the rate of return to education and the average youth unemployment with the inputs to the process namely: educational attainment, educational expenditure per head and the average number of years of schooling, One would hope to find a statistical relationship between these outcomes and the inputs or characteristics of the educational process across countries. The figure 1 scatter plots quickly dispel such an assertion. Indeed regression analysis cannot find one significant determinate of these labour market outcomes from those listed inputs.

19. For a strictly limited set of 12 countries we also tabulate the Muller and Shavit (1998) variables which attempt to characterise the educational structure of the country in terms of vocational specificity, standardisation and stratification. None of these variables were significant in a regression analysis of the determination of the labour market outcomes for young people. I would conclude that there is little evidence of a cross-country pattern of what determines a successful school to work transition process in terms the outcomes as measured by the rate of return to education or youth unemployment.

20. Throughout this paper the focus has been the assessment of the effects of the supply side response to the introduction of a government training scheme. No mention has been made of the macro-economic demand side conditions which may impinge on the impact of a training programme. These aggregate macroeconomic conditions will dramatically affect the employment and earnings prospects of training recipients as they enter the labour market. Although a direct study of these effects is difficult, it may be possible to partially control for changes in aggregate market conditions by cross cohort studies, the aim of which might be to disaggregate the differences in the prospects of the cohorts into differences in the cohort characteristics and effects of different market conditions. This will be an important area for future research.

21. In policy terms the OECD (2000) identified six key ingredients of successful transition systems:

- A health economy
- Well organised pathways that connect initial education and further study.
- Widespread opportunities to combine workplace experience with education.
- Tightly knit safety nets for those at risk.
- Good information and guidance

- Effective institutions and processes.

22. The issue of how the PIACC will help to address our knowledge of the school to work transition process depends on the right kind of questions being asked in the questionnaire and that the data be collected from a suitably young cohort and then followed over time.

### **5. Collecting a future survey of OECD skills for the Program for the International Assessment of Adult Competencies (PIAAC)**

23. There is little systematic knowledge about the data that is available to research training and skills in different countries. What is required is a survey of the available data in each country and its strengths and weaknesses. Although dated, a survey like Elias (1994) for each country would be an excellent starting point to work out what training is provided and what are its effects. Such a survey would help to inform us as to what data collection is successful and what kinds of questions illicit the most informative responses.

24. The main issues in the collection of new data relating to skills, qualifications and outcomes are:

- What is the appropriate form of data to collect? Is it better to aim for a longitudinal data set which has the advantage of tracking the same individuals over time so netting out for unobserved heterogeneity in panel estimation – but at the same time incurring many potential problems with sample non-response and attrition in repeat survey waves. Alternatively a cross section of individuals sample once does not give much scope for the econometric modeling of outcomes because the sample is only observed once.
- How does the data collection agency overcome the problems associated with standardization across countries? This is particularly important with respect to understanding differences in qualifications etc.
- Is it appropriate to attempt to set IALS/PISA like standardized tests for each person? Can the IALS type tests be repeated? Green (2004) provides a clear discussion of the survey issues and this need not be repeated here.

### ***What is the most important kind/type of skills that we would like to extract from a Skills Assessment of Young Adults?***

25. Ideally we would like to know for each person:

- Their formal educational qualifications, particularly in Maths, literacy, modern languages, science, ICT etc.
- Their skill level in key skill areas.
- Their competences and level of social capital.
- Their knowledge and use of ICT skills.
- We would also ideally like to know their true ability in Maths and Literacy.

26. The reasons why this information is sought is that we would wish to understand the process of human capital acquisition and how this relates to future earnings and employability.

27. The difficulties in extracting such information from a survey are well known but need some brief recapping:

1. Issue of reliability of self reported data on skills and qualifications
2. The problem of different people's perceptions of their skills.
3. The difficulty of inter-country comparisons.
4. The problem of devising culturally valid tests which are truly comparable across different countries.
5. The inherent difficulty of assessing skills and especially gauging the level of a person's social capital.

28. The policy questions which can potentially be answered with such information are those listed in section 2 of this paper including establishing the value of skills and qualifications in terms of the returns in the labour market.

### *Why is a new survey necessary?*

29. The motivation for a large scale new study of the relationship between skills and labour market outcomes is relatively clear in that there is now a large literature on the relationship between aggregate levels of human capital in the economy and the productivity and growth in the economy. (See Gemmell (1997) for a summary of the endogenous growth literature.)

30. Another important motivation for this new study is to facilitate the benchmarking of skills and outcomes. That is, it will allow countries to observe and document best practice and learn what institutions and practices will best facilitate the continued education and training of young people.

31. A new survey is necessary because:

- We do not know much about the skills of young people in the OECD countries. Many different member countries have their own cross section or panel data on young people – e.g the YCS in the UK – but there has been no systematic attempt to collect the same data for each country.
- In making cross country comparisons the most useful way to proceed with research is to have identical data collected from each country. Otherwise if different data is collected for each country we will never be able to identify the effects of institutions and market forces in shaping the prospects of these young people.
- There are big gaps in the TIMMS, IALS and PISA data. IALS only compares adults, TIMMS only examines 13 year olds, PISA only samples 15 year olds in different countries. There is no modern survey of adult skills for the OECD countries.
- There have been radical new developments in the use of ICT and the knowledge based economies of the OECD. The only other data which exists to map these changes is the E

living survey but this only has 6 countries and a limited sample size. In addition this data does not collect data on a whole host of family and household characteristics.

- We do not adequately understand the link between skills and human capital acquisition and the role of education and skills in economic growth and development. If we are to understand the relationship between the education system, the labour market and a countries prosperity then we must be more systematic in the collection of comparable data across countries.
- The skills of labour in each OECD country is changing at a rapid rate and in particular the ICT skills necessary to modern living are moving on vary rapidly. We need to understand the process by which people acquire such skills and what their value is in different countries. The E-living survey of 6 European countries establishes the importance of these skills and how different they are in different countries – such information is necessary for the OECD countries as a whole.
- Because the evidence we have on the school to work transition suggests that cross country differences are so large that the only meaningful analysis which can be performed relates to microeconomic data on individuals with countries.
- Understanding the role that different skills and competences play in the labour market will help to guide key policy relating to investment decisions vis-à-vis the appropriate role for state intervention in the provisions of courses and other types of training.

### *What kind of survey should be prepared?*

32. It is clear that not all the objectives of the PIACC will be realized with one survey for each country.

33. There are good grounds for having a survey of people:

- within a fixed age range say 25-35 as:
  - a) the skills and qualifications of these young people will have been more recently acquired and more accurately remembered.
  - b) At the same time by the age of 25 most people have acquired most of the qualifications they will use in their working lives.
  - c) the formal qualifications of these people will more relevant than those of older workers.
  - d) And the skills of the younger workers are correspondingly much more important to the future of a knowledge based economy in the next 20 years than those of workers who are already over 40.
- Via an individual questionnaire but with a matched survey of their employer if they are employed. A matched survey of employers could provide alternative objective and accurate information relating to occupation, skills, grade, earnings, hours of work and responsibilities

than that recorded from individual responses which could be prone to memory bias and other distortion.

- Along the lines of the Green and Felstead survey of work skills.
- Ideally the data would be of a panel nature as this would allow a more informed approach to netting out for unobserved heterogeneity. It is clear from the huge literature on modeling using longitudinal data that there are massive advantages of collecting repeated observations from the same individuals if we want to learn about how changing skills and qualifications impact on earnings and unemployment and other life course outcomes. A major technical advantage of repeated observations is that it potentially allows for the more efficient estimation of structural parameters relating to the dynamic relationship between characteristics, their changes and the change in outcome variables. A second major advantage is that such data allows us to net out (via fixed or random effects estimation) of unobservable attributes like personality, ability, motivation etc. Such factors naturally drop out of first difference or fixed effect models and allow us to estimate the effects of changing observables on changing outcome variables free from the possible effects of such omitted regressors.

***What might be the pros and cons of assessing young adults vis-à-vis other groups (e.g., older individuals, etc.)?***

34. The main drawbacks of assessing older workers are:

- The human capital they acquired is much further back in time and therefore a less relevant snapshot of today's educational system.
- The older the worker surveyed the more likely it is that their memory relating to early labour market experiences is much more dated and less reliably remembered.
- Older workers are more likely to have qualifications which have been superseded and skills which are now obsolete – hence looking in detail at these skills is much less relevant than looking at more modern skills and qualifications.
- Comparing older workers across countries is even more problematic: the older the workers considered, the more heterogeneous the institutional and qualification structure is back over time.
- Surveying older workers means there is less scope for following them up to find out what impact new skills have.
- In addition if we assess the skills of older workers we are not sure how much the performance has been determined by the deterioration of human capital as opposed to it not being there in the first place.
- The gender differences of older workers are likely to be greater as older women are more likely to have had their labour market interruptions for family reasons.

35. The main advantages of collecting data on older workers are:

- They are more likely to have completed their education and training.
  - They may have a less subjective view on their skills and qualifications borne of experience.
  - More of their co-variables in terms of family characteristics will have been determined.
36. Set against this there are other disadvantages of surveying younger workers:
- They may be more likely not to respond to the survey or to be more geographically mobile.
  - Many of them may not have finished acquiring their skills and qualifications.
  - They may have less idea about the realistic valuation of their skills if they do not have much labour market experience.
37. The main advantages of a sample of younger workers was discussed above.

## **6. Some Conclusions and Recommendations**

1. The proposed PIACC survey is needed and would help to understand many of the important policy issues relating to human capital, skills and the role of education in the modern economies of the OECD.
2. In the new survey I would favour the sampling of predominantly younger workers as the advantages of doing so outweigh the disadvantages.
3. If possible the study should have at least the possibility of a longitudinal component.
4. A full review of existing data sources in different OECD countries should be identified to enable us to understand what data is available and what is not.
5. Detailed analysis of existing questionnaires and other data sets should reveal what questions have worked and what ones have not.
6. Careful scrutiny needs to be focused on the gaps in our knowledge relating to PISA, IALS, E-living, ECHP etc.
7. Special attention needs to be devoted to ICT, people, communication and social capital skills. We still know relatively little about how these skills impact and why.
8. There should be an open mind and a careful review about the options of appraising social and other softer skills – indeed the possibility of personality testing should perhaps be investigated.
9. One of the most important gaps in our knowledge in the long run consequences of skill acquisition and training. A new PIACC study should help us to understand what these long run effects are.

**Table 1. Key Measures of Outcomes and Characteristics of the School to Work Transition Process.**

Country	(A) Ave Years of Sch, 2001	(B) Rate of Return to Educati on	(C) Education al Expend	(D) Age25- 34 attainme nt	(E) % of 15- 19 males not in Ed or work	(F) Vocation al specificity	(G) Nationa l Standar d isation	(H) Strati f icatio n	(I) % Post secon d qual
Sweden	119.13	0.024	87.75	114.74	6	1	1	0	23.8
Finland	106.33		88.47	112.83	12				
Denmark	105.81		126.62	114.98	5				
Germany	102.24	0.036	83.16	112.3	5	2	1	2	15
UK	98.05	0.127	84.04	86.89	10	1	0	0	18.9
Netherland s	96.89	0.031			4	0	1	2	23.2
Ireland	94.59	0.085	119.53	87.93	4	0	1	0	13
Austria	92.28	0.038	112.34	109.65	13				
Belgium	91.55		99.79	96.23	6				
Greece	89.24		93.49	93.81	6				
France	87.77		97.98	100.68	3	1	1	1	17.2
Spain	76.03	0.046	81.31	71.87	9				
Italy	73.4	0.037	110.14	73.1	12	1	1	1	9
Portugal	51.49		101.06	40.18	6				
USA	128.46	0.07	83.33	115.67	7	0	0	0	25.7
Norway	124.37	0.023	121.85	123.81	3				
New Zealand	120.8	0.033	86.94	104.53	18				
Canada	119.86	0.038	96.44	114.89	7				
Australia	110.84	0.051	113.61	86.23	8	1	0	0	19
Switzerlan d	108.95	0.045	108.75	117.01	6	2	1	2	22
Japan	101.93	0.075	103.39	122.67		0	1	0	28
Slovenia	77.07	0.052							
Hungary	92.38	0.075	82.41	105	9				
Latvia	100.04	0.067							
Czech Rep	99.2	0.035		121.98	6				
Bulgaria	102.14	0.04							
Poland	103.82	0.073	89.04	81.73	6				
Israel		0.053				1	1	1	33.5
Slovakia	96.37	0.052			28				

## Sources:

(A) - de la Fuente (2002), Column 2 of Table A4.2, p.77.

(B) – Trostel et al (2002) Table 2 p5 – male rates of return

(C) – Expenditure in Education Total as measured by the Expenditure per student relative to GDP as in de la Fuente (2002), last Column of Table A4.5, p.80.

(D) – de la Fuente (2002), Column 3 of Table A4.4, p.78.

(E) – OECD (2002) p263.

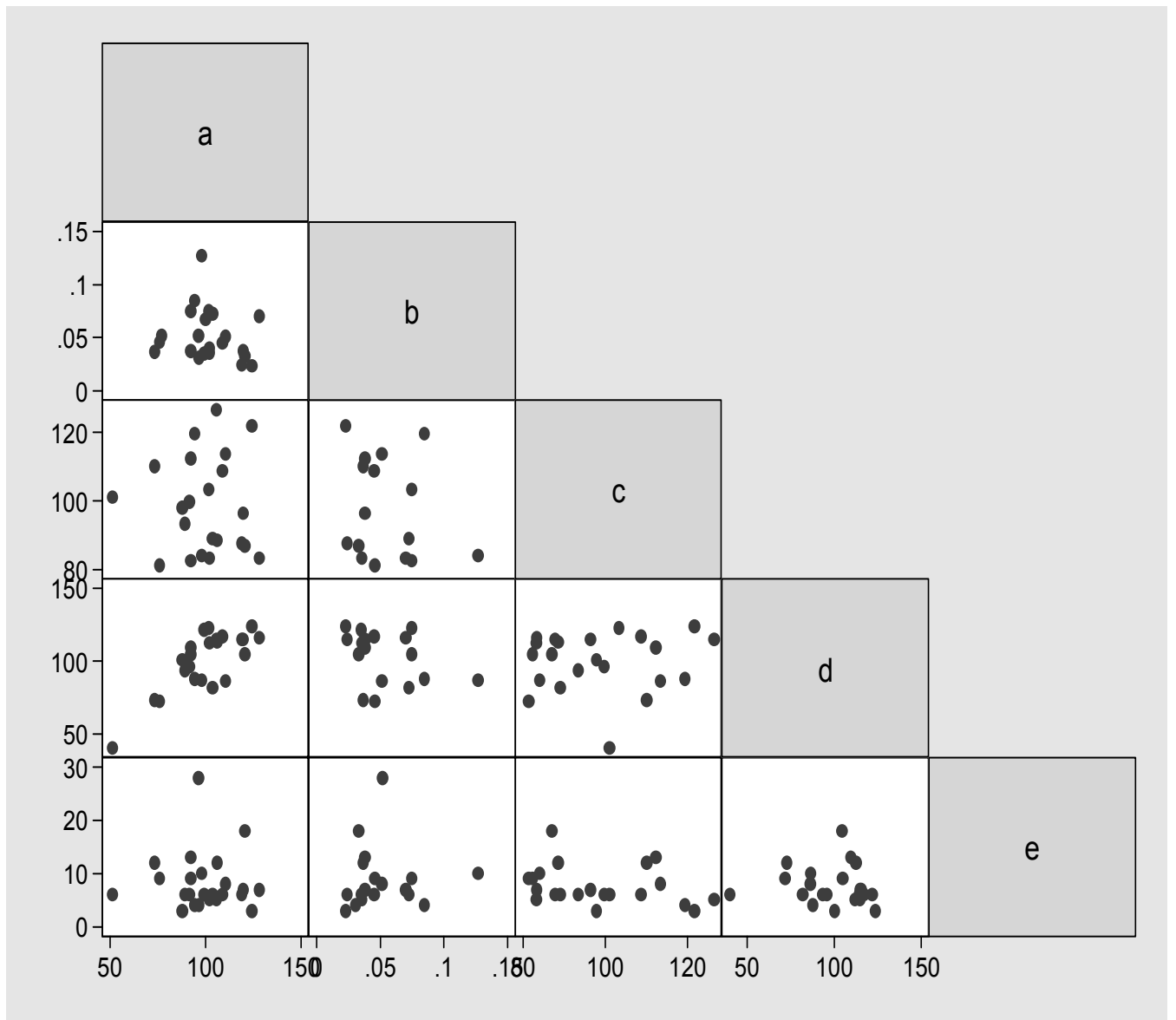
(F) – Muller and Shavit (1998) Table 1.1a , p12, column 3.

(G) - Muller and Shavit (1998) Table 1.1a , p12, column 4.

(H) - Muller and Shavit (1998) Table 1.1a , p12, column 5.

(I) - Muller and Shavit (1998) Table 1.1a , p12, column 6.

**Figure 1. Scatterplots of the Key Measures of Outcomes and Characteristics of the School to Work Transition Process.**



## **ANNEX – A PERSPECTIVE ON THE SCHOOL TO WORK TRANSITION FROM THE UK.**

A1. It is difficult to study the process of school to work transitions. It is only by studying people over the long run that we can understand what has happened and how inequitable the process of education and the early labour market experiences are. In Figures A1 and A2 we try to do this for men and women in the UK.

A2. The idea of these graphs is that we wish to examine the distributions of: natural ability, achievement at 16 in school, and then examine the distribution of earnings in the labour market at age 33 and 42. The idea is that if we do this for the same people then we will be portraying the extent of inequality in: initial endowments, achievement after the education system has done its work and then the distribution of outcomes or rewards in the labour market. These diagrams were first used by Thurow (1969) to illustrate the nature of the process of inequality. The distinction is that in his graphs the underlying distributions of the relevant variables were derived from aggregate data on different samples. Here we are using the same individuals to construct these diagrams.

A3. In Figures A1 and A2 we use Reading scores at age 11 to proxy for the distribution of underlying ability prior to much of the process of the education system. Clearly it would be preferable to have the distribution of IQ scores for these people measured prior to attending any school. Unfortunately this was not possible with our data. Nevertheless this does give us an idea of the level of ability of these people when they were relatively young. Our second variable measures their score in public examinations at age 16 as derived from GCSE results. Our score is derived from the knowledge of their grades in these examinations and we add all the grades together to form a score where an A\* in any subject is worth 7 points and an A – 6 points a B -5 points, C- 4 points, D- 3 points, E – 2 points, F – 1 point. In these graphs we have used weekly earnings to represent the outcome measure which is a reward in the labour market for a specific set of educational achievements.

A4. The idea of our graph is that if we centre each of these distributions at the median person with respect to each variable then the difference in the distributions will measure the extent of inequality. The Reading scores measure (to a large extent) the innate ability of these people prior to much formal schooling. The Age 16 score distribution measures the effect of the educational system on the outcome measure of education at the end of compulsory schooling. Then the wage distribution measures the way in which the labour market will differentially reward the same individuals after some years of working.

A5. Figures A1 and A2 show us that the effect of the educational system is to radically alter the distribution of ability which approximates Normality to one which is highly skewed. We see that most markedly the educational system in 1974 rewarded around 25% of young people with no formal educational achievement at all. The effect of the labour market is to perpetuate this uneven distribution of reward to the remuneration of them well into adulthood. Indeed the distribution of earnings goes on getting more unequal as the cohort members get older.

Figure A1

Distribution of wages and ability proxies in NCDS, men

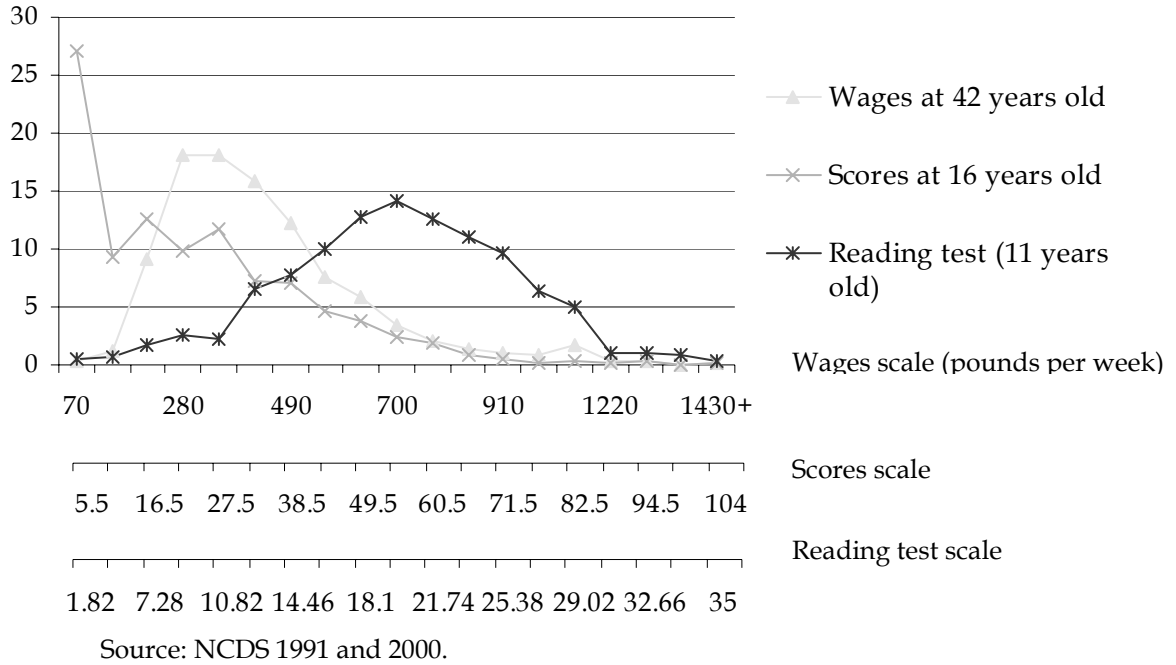
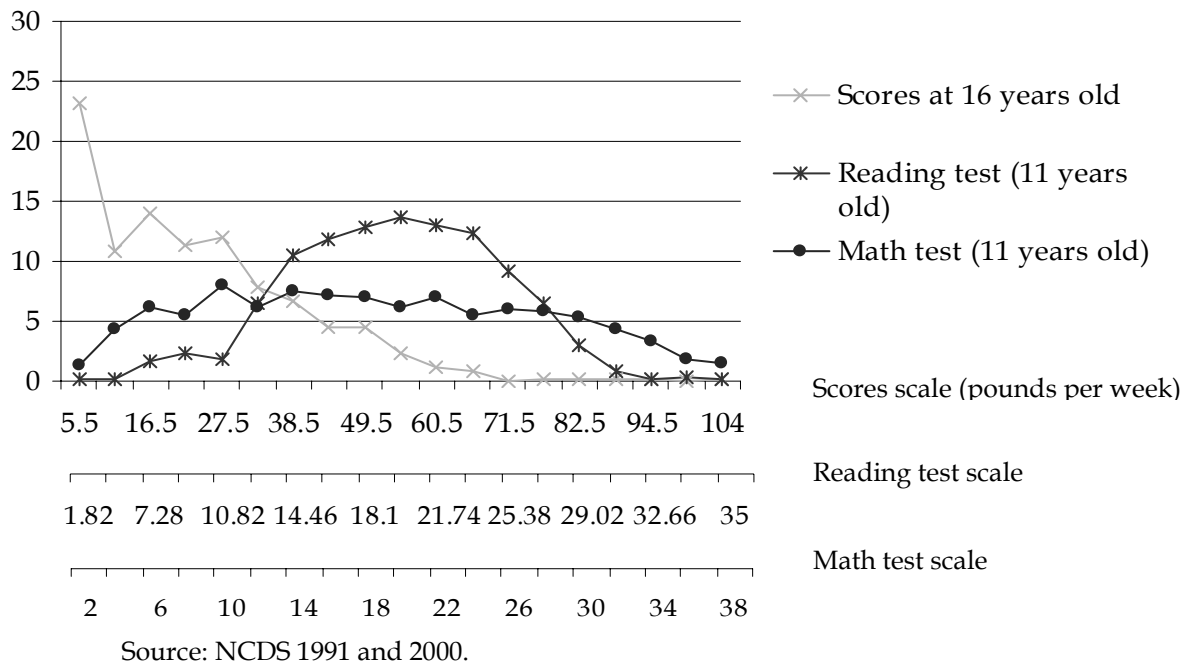


Figure A2

Distribution of different proxies for ability in NCDS, women



## REFERENCES

- Blundell, R., Deardon, L. Goodman, A. and Reed, H. (2000) 'The returns to higher education in Britain: evidence from a British cohort', *Economic Journal*, vol.110, pp.82-99.
- Borghans, L, Green, F. and Mayhew, K. (2001) 'Skills measurement and economic analysis', *Oxford Economic Papers*, vol.3, pp.375-384.
- Borghans, L. and ter Weel, B. (2004) Are computer skills the new basic skills? The returns to computer, writing and math skills in Britain, *Labour Economics*, 11(1) pp 85-98
- Bradley, S. and Nguyen, A.N. (2004) 'The School to Work Transition' chapter 14 in 'International Handbook of Education Economics', forthcoming, Edward Elgar.
- Buchel, F., de Grip, A, and Mertens, A. (2003) 'Overeducation in Europe', Edward Elgar, Cheltenham.
- Brynin, M. and Bynner, J. (2003) 'Why Leave School? Why Stay on?', ESRC Seminar Series.
- Bynner, J. (2002) 'Successful Pathways to Work Life: an International Comparison', Youth and Work Conference, Helsinki.
- Bynner, J. (2004) 'Participation and Progression: use of Birth Cohort Study Data in Illuminating the Roles of Basic Skills and Other Factors', Nuffield Foundation Review.
- Bynner and Parsons, S. (2002) 'Social exclusion and the transition from school to work: the case of young people not in education, employment or training, NEET', *Journal of Vocational Behaviour*, vol.60, pp.289-309.
- CEDEFOP (2001) 'The transition from education to working life: Key data on vocational training in the European Union', CEDEFOP.
- Couch, K.A. (1992) 'New evidence on the long-term effects of employment training programs', *Journal of Labor Economics*, 10(4), 380-88.
- De la Fuente, A, and Ciccone, A (2002) 'Human capital in a global and knowledge-based economy', European Commission, Employment and Social Affairs.
- Dickerson, A. and Green F. (2003) The Growth and Valuation of Generic Skills, University of Kent mimeo, *Oxford Economic Papers*, forthcoming
- Dolton, P.J. (1992) 'The market for qualified manpower in the UK', *Oxford Review of Economic Policy*, 8(2), 103-129.

- Dolton, P.J. (1993) 'The economics of youth training in Britain', *Economic Journal*, 103, 1261-1278
- Dolton, P.J. (2000) 'Does the New Deal Match Up?', University of Newcastle-upon-Tyne, mimeo.
- Dolton, P.J. (2004) 'The economic assessment of training schemes' chapter 3 in 'International Handbook of Education Economics', forthcoming, Edward Elgar.
- Dolton, P.J. and Y.Balfour. (2001) 'Youth Unemployment, Government Training and the New Deal in the UK', Appendix 8 in 'New Deal: An Evaluation', House of Commons, Education and Employment Committee, 64-80, HMSO, London.
- Dolton, P.J. and Kidd, M. (1998) 'Job Changes, Occupational Mobility and Human Capital Acquisition : An Empirical Analysis', *Bulletin of Economic Research*, 50 (4), 265-295.
- Dolton, P.J., Makepeace, G.H. and B. Gannon. (1999) 'The Earnings and Employment Effects of Young People's Vocational Training in Britain', *The Manchester School*, 69 (4), 387-417.
- Dolton, P., Makepeace, G, Hutton, S and Audas, R. (1999) 'Making the Grade: Education, the Labour market and Young People', Joseph Rowntree Foundation, York.
- Dolton, P.J., Makepeace, G. and Treble, J.G. (1994a) 'The Wage Effect of YTS : Evidence from YCS', *Scottish Journal of Political Economy*, 41 (4), 444-453.
- Dolton, P.J., Makepeace, G. and Treble, J.G. (1994b) 'Public and private sector training in Britain', in NBER conference 'International Comparisons of Private Sector Training', in Lynch, L.(ed) University of Chicago Press, Chicago.
- Dolton, P.J., Makepeace, G. and Treble, J.G. (1994c) 'The Youth Training Scheme and the School to Work Transition', *Oxford Economic Papers*, 46 (4), 629-57.
- Dolton, P. and Makepeace, G. (2004) 'Computer Use and Earnings in Britain', *Economic Journal*, 114, C117-129
- Dolton, P, Makepeace, G and Robinson ,H. (2004a) 'Use IT or lose IT? The impact of computers on earnings', University of Cardiff, mimeo.
- Dolton, P. Makepeace, G. and Marcenaro, O. (2004b) 'Career Progression: Getting on, getting by and going nowhere', LSE mimeo.
- Dolton and Silles, M. (2003) 'The determinants and consequences of graduate overeducation', in Buchel, F., de Grip, A, and Mertens, A. (2003).
- Dolton, P. and Vignoles, (2002a) 'The return to post compulsory school mathematics study', *Economica*, vol.69, pp.113-41.
- Dolton, P. and Vignoles, (2002b) 'Is a broader curriculum better?' *Economics of Education Review*, vol.21, pp.415-429.

- Elias, P. (1994) 'A review of data available for research on training issues in the UK', Chapter 6 in 'The Market for Training', eds McNabb, R and Whitfield, K., Avebury Press, Aldershot.
- Felstead, A, Gallie, D and Green, F. (2002) 'Work Skills in Britain 1986-2001', mimeo.
- Gemmell, N. (1997) 'Externalities to higher Education: A Review of the New Growth Literature', The National Committee of Inquiry into Higher Education, Report 8.
- Green, F. (2004) First thoughts of Methodological Issues in the International Assessment of Adult Skills, paper prepared for the OECD.
- Hashimoto, M. (1981) 'Firm specific human capital as a shared investment', *American Economic Review*, 71(3), 475-482.
- Jensen, P. and Westergaard-Neilson, N. (1987) 'A search model applied to the transition from education to work', *Review of Economic Studies*, 54, 461-472.
- Margolis, D, Plug, E, Simonet, V and Vihuber, L. (2004) 'Early Career Experiences and later career success: an international comparison', Chapter 5 in 'Human Capital over the Life Cycle: A European Perspective', edited by C. Sofer, Edward Elgar.
- McIntosh, S. (2004) The Impact of Post-School Vocational Qualifications on the Labour Market Outcomes of Low-Achieving School Leavers in the UK', CEP discussion paper.
- McIntosh, S. and Vignoles, A. (2000) Measuring and assessing the impact of basic skills on labour market outcomes', CEE discussion paper, no.3.
- Mealli, F., Pudney, S. and J Thomas. (1996) 'Training duration and post-training outcomes : A duration-limited competing risks model', *Economic Journal*, 106. 422-433.
- Muller, W. and Shavit, Y. (1998) 'The Institutional Embeddedness of the Stratification Process', Chapter 1 in Shavit, Y and Muller, W. (1998)
- OECD (2000) From Initial Education to Working Life: Making Transitions Work', Paris, OECD.
- OECD (2002) Education at a Glance. OECD, Paris.
- OECD (2003) 'Beyond Rhetoric: Adult Learning Policies and Practices', OECD, Paris.
- OECD (2003b) 'Longer Term Perspectives for the Assessment of Adult Competences', Directorate for Education.
- Prais, S. (2001) 'Developments in education and vocational training in Britain: Background note on recent research', *National Institute Economic Review*, p73-4.
- Raffe, D. (2003) Pathways linking education and work: A Review of Concepts, Research and Policy Debates', *Journal of Youth Studies*, vol.6, 3-21.
- Ryan, P. (2001) The school to work transition: a cross national perspective, *Journal of Economic Literature*, vol. 50(20), pp.34-92.

Segundo and Petrongolo (2004) School-leaving and unemployment: evidence from Spain and the UK. Chapter 4 in 'Human Capital over the Life Cycle: A European Perspective', edited by C. Sofer, Edward Elgar.

Shavit, Y and Muller, W. (1998) 'From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations', Clarendon Press, Oxford.

Stern, D. and Ritzen, J.M. (1991) (eds) 'Market Failure in Training', Berlin, Springer-Verlag.

Thurow, L. C. (1969). 'Poverty and Discrimination', Brookings Institute.

Trostel, P. Walker, I and Woolley, P. (2002) 'Estimates of the economic return to schooling for 28 countries', *Labour Economics*, vol.9(1), pp.1-16.

Wolpin, K. (1987): 'Estimating a structural model: The transition from school to work' *Econometrica*, 55, 801-818.

Wossmann, L. (2002) 'Schooling and Quality of Human Capital', Kieler Studien, Keil., Springer-Verlag, Berlin.