PART III

COUNTRY-SPECIFIC CONTRIBUTIONS

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Publications:

Finland

Rita Asplund

in Colm Harmon, Ian Walker and Niels Westergaard-Nielsen (eds), Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, March 2001

Private Returns to Education in Finland: Back to Basics

Rita Asplund

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Inhimillinen pääoma ja palkat Suomessa: Paluu perusmalliin

Rita Asplund

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Earnings and Human Capital: Evidence for Finland

Rita Asplund

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

Returns to Human Capital in Europe. A Literature Review

Rita Asplund, editor together with Pedro Telhado Pereira

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Speeches based on PURE rates-of-return evidence:

Helsinki, Finland, November 1999 (2)
Jyväskylä, Finland, April 2000
Helsinki, Finland, April 2000
Helsinki, Finland, October 2000

Interviews:

Television, April 2000
Radio, April 2000
News-papers, November 1999, April 2000, January 2001

Other dissemination:

1st user-oriented seminar, Paris, October 27, 1999
2nd user-oriented seminar, Lisbon, October 28, 2000
PURE web-site at www.etla.fi/PURE

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Publications:

Human Capital and Earnings in Austria

Josef Fersterer and Rudolf Winter–Ebmer

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

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Josef Fersterer and Rudolf Winter–Ebmer

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Andrea Ichino and Rudolf Winter–Ebmer

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Josef Fersterer and Rudolf Winter–Ebmer

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Rudolf Winter–Ebmer and Josef Zweimüller

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Gauthier Lanot, Aniela Wirz and Rudolf Winter–Ebmer

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Work in progress:

What Do European Students Know About Wages

Rudolf Winter–Ebmer, Giorgio Brunello and Claudio Lucifora

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Are Austrian Returns to Education Falling over Time?

1st Austrian Workshop on Labour Economics at the Econometrics Seminar at the Institute for Advanced Studies, Vienna

Research Seminar, University of Linz

IZA-Summer School of Labour Economics in Ammersee

The Long-run Educational Cost of World War II
University of Munich
CREST-ENSAE, Paris

Public Funding and Enrolment into Higher Education
PURE project meeting in Warwick
Second PURE user-oriented seminar, Lisboa

What Do European Students Know About Wages
American Economic Association, New Orleans, January 2001

Smoking, Discount Rates and Returns to Education
Research Seminar, University of Linz

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Publications:

Wages and Human Capital: The Danish Evidence

Jens Jakob Christensen and Niels Westergård–Nielsen

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

Denmark

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Afkast til human kapital i Danmark, 1981–1995

Jens Jakob Christensen and Niels Westergård–Nielsen

submitted to Nationaløkonomisk Tidsskrift (in Danish)

Speeches:

Presentation at the first PURE user-oriented seminar in Paris.

Presentation at the second PURE user-oriented seminar in Lisbon.

Course for civil servants and Ph.D students on Economics of Higher Education with Professors Ian Walker, Ronald Ehrenberg, Paul Bingley and Niels Westergaard–Nielsen, CLS, Aarhus School of Business, June 1999.

1-day conference on Economics of Human Capital, CLS, Aarhus School of Business, June 1999.

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Publications:

The Returns to Human Capital: A Review of the French Empirical Literature

Marianne Guille and Ali Skalli

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

Economists agree upon the idea that the more individuals invest in human capital, the more they acquire skills and the higher are their earnings. This quantitative aspect is not sufficient to understand the relationship between human capital and earnings, however. Human capital includes components that differ in nature. Not only should one distinguish the skills that are of value for any employer from those that are of value for a single employer, but also those acquired before entering the labour market from those that are naturally enhanced through experience. Individuals who decide to attend extra years at school beyond compulsory schooling must find it preferable to delay their entry to the labour market and to acquire general human capital by raising their education level. Theoretically, an individual who seeks to maximise lifetime net income, will undertake the investment if it leads to a positive net present value and/or if the internal rate of return is greater than the market real interest rate. From an empirical point-of-view, it is also reasonable to argue that for the criteria of net present value or internal

rate of return to be satisfied, it is necessary that age–earnings profiles are higher for workers with more education throughout their working lives.

A very popular way to compare age–earnings profiles for individuals with different education consists in estimating Mincer-type equations using ordinary least squares techniques (OLS). The popularity of such an approach resides in its simplicity and in the existence of compatible data. Moreover, it is very flexible as it enables one to directly estimate the average wage differentials between individuals with different educational levels or simply the returns to an extra year of schooling.

The many analyses reviewed in this article highlight significant discrepancies in the estimated returns to schooling for France, varying from 4.2 to 19.2% with an approximate average of 8%. Of course, there are several explanations of these differences. The existence of important variations across worker groups is one of them. Analyses distinguishing between individuals according to their occupations unanimously highlight increasing and concave but differently shaped age–earnings profiles: they are steeper for white-collar than for blue-collar workers. Gender is also an important dimension. For instance, one question of interest is whether part of the gender wage gap might be explained by differences in returns to human capital. The French empirical literature suggests that although there is a persistent gender differential in the returns to education, most of the gender gap in wages results from other factors, such as segregation or different returns to mobility among others. Finally, employer characteristics might also yield important differences. For example, there seem to be significant inter-industry differentials in returns to education.

Another reason why there are such large differences in the estimated returns is that, depending on the data set used, they concern different time periods. This is an imprtant dimension since the returns to education are not necessarily constant over time. In the French case, evidence based on pseudo-panel analyses, shows that returns are declining over time. Moreover, this declining pattern is due to business-cycle effects as well as cohort effects. This suggests that, by making no difference between people born before World War II and those who entered the labour market in the nineties, cross-section based analyses might be misleading. This makes the use of panel data preferable as it allows a longitudinal approach to the relationship between human capital and earnings. Panel data also offer a means of measuring the importance of individual fixed effects. Although analyses based on French panel data are relatively scarce, they all conclude to the existence of significant individual fixed effects and to the rejection of the independence hypothesis between these and observable individual endowments. This, of course, underlines the importance of individual heterogeneity even though its potential sources are not identified since unobservables may include intrinsic ability as well as social origin or any unmeasured characteristic.

Yet, longitudinal analyses represent a way to overcome a serious source of bias related to individual innate ability. Ability biases have, indeed, given rise to a number of studies addressing the question of whether individuals that are characterised by factors that make them more likely to reach high education levels, would yield higher earnings even if they had stopped their education at earlier stages. If such a hypothesis holds, then the estimates of the returns to education would be biased upward as long as they ignore the reason why some individuals reach high education levels while others do not. Intrinsic individual ability is, however, not the only determinant of their education level. Social status and family background are also possible and perhaps more easily measured candidates. This means that education can no longer be treated as a simple exogenous variable if endogeneity biases are to be avoided. Cross-section as well as panel data for the French labour market show that neglecting the endogeneity of schooling systematically results in a significant downward bias in the returns to education.

One of the reasons why it is important to precisely measure the private returns to education is that they can be compared to the social returns, which include both private and public costs and benefits of education. Indeed, the more higher earnings of more educated people result from

education increasing their productivity, the more society or the government representing it will be induced to devote more resources on education, ceteris paribus. If, on the contrary, the estimated private returns do not reflect an increase in productivity, then it is likely that the social returns are smaller than the private ones. Thus, once private returns have been estimated, there remains the problem of the accuracy of their interpretation in terms of productivity. Indeed, the screening hypothesis argues that, if the decision to invest in education is affected by employers' willingness to offer higher wages to highly educated individuals, then education functions as a signal to employers of the applicants' ability. Unfortunately, there are only two studies attempting to estimate the signalling value of education using French labour market data. In addition, their approach is unsatisfactory since it simply consists in comparing the returns to individuals' actual number of years of schooling to the returns to the number of years of schooling typically required to reach their attained level. Both studies find that education has a positive signalling value.

If the returns to education reflect productivity, then there must be no significant bonus return to being successful in obtaining a qualification, as it is difficult to argue that such a bonus reflects higher accumulation of human capital. The French evidence reports, however, that such bonuses do exist. Called sheepskin effects, they probably reflect personal attributes valued by employers, such as the determination needed to finish tasks, rather than the greater human capital of graduates compared with that of dropouts.

Summing up, our review of the French empirical literature shows that most of the important questions addressed in the literature analysing the causal effects of human capital on wages have been examined empirically using French data. In the studies reviewed, topics like endogeneity bias, sheepskin effects and individuals' heterogeneity have been investigated. However, there remain topics where the evidence is not strongly convincing. Examples are the screening hypothesis and the ability bias. Still other topics have not been examined at all. For example, to what extent can one consider measurement errors in human capital variables as negligible? Does the legal length of compulsory schooling influence individuals' decision to invest in education or returns to education?

Unfortunately, researchers might find it difficult to explore new dimensions, simply because the available data are not necessarily appropriate. Thus, the question that remains is, how high would the returns to investment be when using detailed data sets and sophisticated methods. David Card concludes his survey of the literature, including recent studies of the earnings and schooling of twins and siblings, by arguing that the average return to education is not much different from the estimate that emerges from a standard human capital earnings function fit by OLS. This means that under the assumption that the various sources of bias have comparable effects from one country to another, international comparisons could reasonably be based on similar specifications of the earnings functions estimated using OLS.

France

Marianne Guille and Ali Skalli

in Colm Harmon, Ian Walker and Niels Westergaard-Nielsen (eds), Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, March 2001.

In this article, our main motivation is to obtain as precise as possible estimates of private returns to education. These can indeed be compared with social returns and, hence, serve as a basis to the determination of the public resources to be devoted to education. This is, however, true only if private returns measure the productivity individuals acquire through the human capital that education endows them with. By contrast, if education serves only as a screen for potential employers to judge individuals' innate ability, then student-centered funding policies might be justified.

For this purpose, we present a series of estimates of private returns to education using French labour market data. We distinguish between the public and private sectors, men and women and between part-time and full-time female employees. We also analyse changes in the returns to education between the early 1970s and the late 1990s. We have three main goals. First, we analyse the stability of the estimated returns to education and evaluate their sensitivity to different specifications of key variables, in particular earnings and measures of educational attainment. In the process, we update results of previous studies on returns to education in France. Second, we investigate two important sources of bias by providing new evidence for the endogeneity of schooling and by taking account of women's participation in the labour market. Third, we propose tests of predictions of the screening hypothesis.

The basic ingredient of our analysis is the estimation of Mincer-type equations. However, the recent literature highlights a variety of empirical problems that this approach leads to, such as those related to ability biases and the endogeneity of schooling. Fortunately, the extent of data availability allowed attempts to overcome these sources of bias to be made. Nevertheless, even in the absence of such biases, there remains the question of how to interpret the estimated returns to education. Indeed, since Arrow and Spence, the screening hypothesis argues that these returns reflect no productivity augmenting role of education, but only its role as a device of signalling to employers the innate capabilities of individuals. Empirical analyses have shown, however, that although signalling may play a role, the evidence is still in favour of the human capital theory. Therefore, the question is to evaluate that part of the returns that is due to signalling effects, if any.

Not all aspects of the earnings–schooling relationship have been thoroughly investigated in the French literature, mainly because of data limitations. For instance, no attempt has been made to evaluate the importance of ability biases, simply because no ability measures are available in French data sets. This article is no exception. Yet, it aims at giving the reader an overview of the French labour market outcome of education by exploiting the richness of the data sets available and by using several testing techniques for each hypothesis investigated. Two examples will make our approach clearer.

First, not only do we test the endogeneity hypothesis on the basis of different as well as more recent data sets, but we also use different instruments, the accuracy of which is validated by a severe testing procedure. Second, we propose a variety of tests of the existence of bonus returns for completing a degree (sheepskin effects) and, using detailed information on individuals' educational records, we examine several predictions of the screening hypothesis.

It is worth noting that the estimates of returns to education and, hence, the importance of any source of bias depend on a variety of parameters: earnings measure, human capital measures, specification, workers' groups, period of investigation, etc. A further new aspect of the article is its focus on the sensitivity of the estimated returns to these parameters before any attempt to purge them from bias. This approach allows us to show how the returns to education are sensitive to wage determinants other than education and experience and how they vary over time for different worker groups. In particular, our results suggest that there are important differences between men and women. They highlight a major break in the evolution of the gender gap in returns: while returns were higher for men prior to the 1990s, they became favourable to women. For instance, in 1993 the rate of return was 6.29% (5.66%) for women (men). Note, however, that during the whole period, they were systematically higher for men in the private sector. Evidence is also given on a declining trend for men as well as for women. Furthermore, though there is a remarkable change in women's attitude in the French labour market in terms of participation and part-time work, the returns to education change very little when their choice of labour supply is taken into account

While part-time and non-participation related selectivity biases for women seem to be very small, endogeneity of schooling turns out to be a much more serious source of bias. Indeed, the hypothesis of exogenous schooling is strongly rejected by various robust tests. When education

is treated as a choice variable and its determinants are accounted for, the resulting returns increase by 2 percentage points. Furthermore, while the exogeneity hypothesis suggests that the gender gap in returns is in favour of women, this is no longer the case when endogeneity is taken into account.

We also confirm the idea that the number of years of schooling is a rather crude measure of education in a country like France, where multiple education streams co-exist. Indeed, the returns to qualifications that require the same number of years of schooling differ according to whether the diploma is general or vocational, but also from one educational field to another.

Finally, a thorough examination is performed of the screening hypothesis, based on information on individuals' educational records and a variety of tests. The results indicate that although there are non-negligible bonus returns from completing a degree (sheepskin effects), the evidence for the screening hypothesis remains mixed. On the one hand, the returns to qualifications seem to decrease with the number of years it takes individuals to pass them. On the other hand, only for men do repeated (skipped) years have a negative (slightly positive) effect on earnings.

Working papers:

The Returns to Education in France: A Sensitivity Analysis

Marianne Guille and Ali Skalli

ERMES Working Paper n° 00-05 (Extended version of the publication "Chapter 5: France" presented above.)

The Role of Schooling: Screening versus Human Capital

Ali Skalli

ERMES, 1999. Mimeo.(A summary is included in Chapter 4 of this volume.)

Student Loans in Europe: An Overview

Marianne Guille

ERMES, 2000. Mimeo.(A summary is included in Chapter 10 of this volume. The full paper is available at the PURE web-site www.etla.fi/PURE)

A Note on the French Educational System

Marianne Guille

ERMES, 1999. Mimeo.

The French educational system is largely dominated by a public service that is laic and receives 80% of the pupils. We shall focus first, on the demographic and curricula aspects of secondary and higher education (HE) and second, on financial problems.

As schooling is compulsory since 1959 for all children living in France and aged between 6 and 16, they all attend primary and lower secondary schools. In addition, enrolment rates and schooling expectancy have soared since the mid-eighties. Hence, by 1991 France had joined the leading group of countries (together with Germany, Switzerland and Japan) with respect to the schooling enrolment rates of 17–18 year-olds, and more than three-quarters of the children now reach the upper secondary level. This level is composed of three main branches: general, technological and vocational education. The first two include three years in traditional *lycées*

(high schools), where successful students are then given the general or technological *Baccalauréat*. Vocational upper secondary education offers different qualifications, which require two or three years of schooling in apprenticeship training centres or in vocational high schools, where various specialisations are proposed and especially a vocational *baccalauréat,* since 1987.

In 1996, 85% of the pupils in age to pass these upper secondary degrees were successful. Some 70% of these had been given the *Baccalauréat.* These figures are the result of a spectacular rise in the number of *bacheliers*, since only 35% of a generation passed the *baccalauréat* fifteen years ago while 60% of a generation now reach tertiary education. Such a transition from *élite* to mass higher education (HE) has led to considerable diversification of the French HE system. One of its distinguishing features was the co-existence of an open and a closed sector. The former comprises universities where vocational and selective programmes have been progressively introduced in addition to the traditional long streams of general content. The latter comprises the old and prestigious *Grandes Ecoles,* but also more recent schools offering short vocational programmes.

While the *Baccalauréat* is sufficient to enter universities, the best *bacheliers* are selected for two further years in preparatory classes before application to enter a *Grande Ecole*. Students are then selected among those applicants who have had the highest scores in national competitive exams. If the access to *Grandes Ecoles* is selective, students meet no further selection process during their schooling career. Opposite to this, there is free entry to universities but access to either doctoral programmes or vocational ones depends on the scores students have had during their previous years in HE.

Apart from health training, where there is selection through a competitive exam at the end of the first year, all traditional long streams offered by universities (law, economics, science, humanities) have similar structures. Successful students are given a first qualification (*DEUG*) after two years, a second one (*Licence*) a year later and, finally, the college degree (*Maîtrise*), yet another year later. The only requirement to access any of these is graduation from the previous level. Opposite to this, admission is selective for the *third cycle* (post-graduate level), the first year of which provides an initiation to research intended for students who aim to attend doctoral programmes or, since 1973, a vocational degree which involves courses and within-firm placements. Other new vocational short programmes have been created within universities in recent years which last two to three years beyond the *Baccalauréat*. Though offered by universities, all vocational programmes are selective since they are open to limited numbers of students.

Grandes Ecoles are traditionally specialised in three major fields: administration, business and engineering. Schooling lasts between three and four years beyond preparatory classes. In addition there are specialised schools (arts, paramedical training, etc. and short programmes leading to vocational degrees, which require two or three years of schooling beyond the *Baccalauréat*. Though less selective than *Grandes Ecoles*, access to these short vocational streams requires success in an exam, a test or an interview. This seemingly high segmentation of the French system of HE is, however, only partial. Indeed, university graduates may choose to enter *Grandes Ecoles* though they still need to pass the admission process. Alternatively there are admission rules defining the level at which a *Grande Ecole* student may enter a university. Students having attended short vocational programmes, however, have to pass a special exam to enter a university beyond the first degree (*DEUG*).

It is worth noting that any pattern remains virtually permissible, except that entry to a given level requires graduation from the preceding level. Hence, the actual number of years of schooling of an individual holding a given qualification may be either lower or higher than the number of years which is typically required to attain that qualification. Individuals may skip one or more primary school classes or they may have to repeat a year at any step of their schooling career, if their scores are too low. They may also attend classes of a given level and drop out

before graduation at that level or choose an unusual pattern. Indeed, not all patterns that end up at the same level of certification are equally efficient. For instance, the "short secondary vocational–secondary general–university" pattern requires more years of schooling than the "secondary general–university" pattern but is rather frequently observed. Students try to avoid providing a signal of personal failure to achieve the higher academic levels, which are typically attended after completion of general secondary degrees.

Finally, as in many European countries, education is expensive and its financing is mainly due to the public sector. Not only did private and public funding of educational establishments represent 6.3% of GDP (OECD country average of 5.6%) in 1995, but the public source alone represented 5.8% of GDP (OECD country average of 4.9%). As a consequence of the spectacular rise in the number of graduates and students, education is now the first budget of the French public sector. And even though this financing is still more centralised than is the case in most other OECD countries, it is nowadays more decentralised towards regional and local authorities. Although the share of primary and secondary education is always dominant, the one allocated to HE has grown. Indeed, not only has the number of students increased sharply, but the growing number of vocational courses yielded new and higher costs.

The French expenditures per pupil are close to the OECD average, except that they are much higher for secondary education and clearly inferior for HE. Moreover, like in many European countries, qualitative efforts for students have decreased, especially since the seventies. Finally, expenditures vary largely from one student to another. The cost of a *Grande Ecole* student is much higher than the one of a university student, and within universities the student costs are higher in vocational and technical programmes (medicine, science) than in general courses, particularly in law, economics, management and humanities. This means that private financing of education is rather limited. Schooling is absolutely free of charge in public schools until the lower secondary level: no fees, no travelling costs, even books are provided for free. Assistance is also given to families for accessory expenses, such as school lunches, according to social criteria and by various means (prices rebates, education grants). For upper secondary education, the only difference concerns the books, which must be paid by the parents. In addition, HE requires student fees. However, if one considers that there is a clear trend towards higher fees in Europe, France is the only country between a minority, which still raises no fees (like Denmark and Germany), and a majority, which raises substantial fees (between €300 and €3000). The basic French fee was around €112 in 1995. Hence, contrary to several European countries, the State has not engaged in a reform to increase the financial participation of students by raising fees and developing loans, according to the World Bank's recommendations.

Finally, the public financial aid directly provided to students in France is limited to a programme of grants attributed according to social criteria to some 19% of the under-graduates. These grants dispense them from paying fees and serve to cover a part of their living costs. The amounts depend on different criteria, such as parents' income, number of siblings, distance between the university and the parents' home, etc. There are also other grants attributed according to merit criteria to *third cycle* students. However, the State also provides a subsidy to students' social security, tax deductions for the students' parents, and meals (canteens), price rebates for students' travelling costs and social housing. In general, these indirect subsidies are omitted in international comparisons.

Work in progress:

The Screening versus Human Capital Hypotheses: Evidence from France and Spain

Fernando Barceinas–Paredes, Josep Oliver–Alonso, José Luis Raymond–Bara, José Luis Roig–Sabaté and Ali Skalli (A summary is included in Chapter 11 of this volume.)

Comparing the Pay of French Civil Servants and Private Sector Employees

Ali Skalli

Comparison of the wage structures in the public and the private sector has been the subject of numerous empirical studies. Efficiency as well as employment conditions in the public sector are indeed important policy issues. Moreover, many analyses aiming at estimating the possibly positive signalling value of education are based on the idea that, compared to private-sector employees, those working in the public sector constitute a screened group.

A common feature of these empirical studies is the identification of determinants of the differences in the pay structure of the two sectors. However, the literature highlights large inter-country as well as intra-country variations in the conclusions. While cross-country variation might simply reflect institutional differences, divergent conclusions for the same country are more problematic. They certainly indicate how sensitive the results are to model specifications as well as to estimation methods. Besides variations in the effort researchers exert to overcome the various potential sources of bias, the modelling of the sector choice made by individuals seems to be a major issue. Indeed, this requires the availability of choice determinants influencing individual wages via the sectoral choice only. This means that the robustness of results depends on whether the data are rich enough to provide appropriate indicators.

This study aims at comparing the wage structures of the French private and public sectors. The data sets used allow robust estimation of sector-specific wage equations. Indeed, not only does the study propose various sectoral-choice specifications based on alternative choice determinants, but it also takes into account several potential sources of bias. The analysis focuses mainly on the role of unemployment. Indeed, French civil servants face no unemployment risk while private-sector employees do. Hence, the study tries to identify the importance of the unemployment risk as a determinant of self-selection into the private or the public sector. The structural model that the study is based on shows that wages in the private sector depend on the probabilities of unemployment durations, suggesting that there must be compensating wage differentials for the unemployment risk. It also aims at proposing an explanation of the rather well-known result according to which education has a strong positive effect on the probability of working in the public sector. Indeed, since the probability of unemployment is decreasing with the educational level, compensating differentials for the unemployment risk should be zero or at least significantly lower for highly educated people.

Private and Social Returns to Education: Evidence from France

Sandoss Benabid, Marianne Guille and Ali Skalli

The most popular means of measuring returns to education is to estimate so-called Mincer equations, where such returns are evaluated as the effect on an individual's earnings of an extra year of schooling. The resulting estimates are the internal rates of return given that the only costs of education are opportunity costs and that individuals earn nothing at school and, as such, give a measure of the incentives for an individual to invest a further year in education. Moreover, to the extent that the extra earnings due to an extra year of education reflect the effect

of the latter on productivity, the estimated returns might also serve as an indicator of whether society must devote more or less resources to education.

Obviously, these estimates should take into account not only the benefit side, namely the increase in earnings from an extra year or cycle of education, but also the cost side, that is, the earnings individuals forego while in school as well as the schooling costs incurred by individuals or their families. Two reasons might explain why such costs are so often ignored. First, the available data do not necessarily allow calculations of private costs of schooling. Second, it has long been admitted that the average global effort in favour of education is mainly due to the public sector.

However, because of the spectacular rise in the number of students since the late 1960s in Europe, the public budget on education has experienced a rapid growth at the same time as most governments have faced an extended period of financial stringency. Given that education is not a pure public good, a possible response to this funding crisis is to increase, on a significant scale, private funding of higher education, a strategy particularly supported by the World Bank, whose recommendations are relayed by numerous analyses. Indeed, several countries have raised their tuition fees, especially in Europe where such fees were very low until the 1980s, and/or have expanded their systems of student loans, although these are mostly publicly funded.

This strategy allows higher education to be funded while reducing the financial constraints that the transition from an élite to mass higher education leads to. It has a price, however: rising private costs of education. Yet, students are not the only recipients of the benefits from education; there are positive social returns as well. This implies that an efficient solution should consist of a mix of private and public funding. As a consequence, social returns must be evaluated not only to set priorities for future educational investments but also to allow comparison with private ones in order to choose an efficient mix of private and social funding.

Social rates of returns have been less widely analysed than their private counterparts. The literature proposes two major estimation methods. On the one hand, macroeconomic analyses try to link education to its cost as well as to countries' economic growth performance and, as such, are meant to shed light on the external benefits from education. These analyses seem to conclude to social profitability of investing in education. On the other hand, in microeconomic analyses, social returns are estimated in the same way as private ones, net of public costs. However, since the provision of education is often largely subsidised, this will tend to raise private returns above social ones. Obviously, at least part of the resulting private/social differential in returns should be offset if one accounts for fiscal benefits of education, i.e. taxation of private returns.

This study aims at estimating social returns to education in France using a microeconomic approach. Indeed, by exploiting individual data as well as detailed description of the cost structure of individuals' education according to the year they left school, their qualification and their educational records, we are able to analyse the impact of these costs on the returns to education. Moreover, the French case is interesting as it is one of the few European countries that seem to be reluctant to engaging in a policy reform of the funding of education. Indeed, like many other European countries, France has faced a spectacular rise in the number of *bacheliers* and students since the late sixties, accompanied, however, by a decreasing trend in private returns to education. Yet, although there is a clear trend towards higher fees in Europe, these have remained rather low in France. Moreover, public financial aid provided directly to students in France still comprises no loans and is limited to a programme of grants, which are attributed to some 19% of undergraduate students according to social criteria. The State also provides a subsidy to students' social security, social housing and canteen meals, tax deductions for students' parents as well as price rebates for travelling costs.

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Ali Skalli
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Marianne Guille and Ali Skalli
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Student Loans in Europe: An Overview
Marianne Guille
PURE 2nd user-oriented seminar, Universidade Nova de Lisboa, Lisbon, October 2000.

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Charlotte Lauer and Viktor Steiner

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Charlotte Lauer

ZEW Discussion Paper 00-07

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Charlotte Lauer
ZEW Discussion Paper 00-59 (also available at the PURE web-site www.etla.fi/PURE)

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European Economic Association, Bozen, August 2000

German Economic Society, Berlin, October 2000

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Joop Odink, Jeroen Smits and Panos Tsakloglou

Working Paper

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Ioannis Cholezas

The structure of hourly earnings inequality in the European Union

Panos Tsakloglou

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Who benefits from public education in Greece? Evidence and policy implications

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Private returns to education in Greece

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Labour Economics 6(4), November 1999, 543–550

Literacy and Education in the Ireland
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Economic and Social Review 30(3), July 1999, 215–224

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European Society of Population Economics Congress, Bonn, 17th June 2000
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Selective Schools

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Education and Earnings Growth. Evidence from 11 European Countries
Giorgio Brunello and Simona Comi
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The college wage gap in 10 European countries: evidence from two cohorts
Claudio Lucifora
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Erik Plug and Wim Vijverberg

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Differences among Countries, Trends, and Decompositions of Earnings Inequality in 15 European Countries
Joop Odink and Jeroen Smits

The Explanation of Trends in Earnings Inequality in 14 European Countries
Jeroen Smits, Joop Hartog and Joop Odink

Speeches:

PURE project meeting in Barcelona, January 2000 (Joop Odink)
PURE project meeting in Warwick, July 2000 (Joop Odink)
Second PURE user-oriented seminar in Lisbon, October 2000 (Joop Odink)

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Publications:

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Return to education – variations between countries and over time

Erling Barth and Marianne Røed

Søkelys på arbeidsmarkedet 1/00, ISF, Oslo, 2000 (in Norwegian)

Return to education in Norway 1980–1995

Erling Barth and Marianne Røed

Søkelys på arbeidsmarkedet 1/99, ISF, Oslo, 1999 (in Norwegian)

Work in progress:

External Effects of Education? Evidence from the Wage Structure

Erling Barth – manuscript available at the PURE web-site www.etla.fi/PURE

This paper explores the idea that there are spillovers from education within establishments. Establishments with a higher share of educated workers are more productive. The theoretical analysis explores the consequences of this for the wage structure. Two sources of matched employer–employee data are used to investigate this idea empirically. The empirical evidence shows that there is an independent effect of the average educational level of the employees, in addition to the individual's return to education. This result is valid even after controlling for individual heterogeneity.

The Market for Higher Education in Europe
Erling Barth, Arnaud Chevalier, Gauthier Lanot, Marianne Røed and Josef Zweimüller
ISF, manuscript.(A summary of the study can be found in Chapter 8 of this volume.)

Returns to education for Europeans in the US labour market
Erling Barth and Bernt Bratsberg

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Marianne Røed
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External Effects of Education? Evidence from the wage structure
Erling Barth
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Erling Barth and Bernt Bratsberg
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Marianne Røed
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Erling Barth
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The market for highly educated workers in Europe
Marianne Røed
User-oriented seminar in the Norwegian Ministry of Labour and Administration, November 14th, 2000.
User-oriented seminar for all government departments, Oslo, December 1st, 2000.

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Publications:

Wages and Human Capital: Evidence from the Portuguese Data

Pedro Telhado Pereira and Francisco Lima

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

Objective and method: To analyse applied research on wage formation in the Portuguese labour market, in particular the robustness of the results, by surveying previous published and unpublished research.

Results and policy implications: The estimated coefficients associated to education, total work experience and tenure are positive and rather robust. Individuals with over-education earn less, if they are assigned correctly, but earn more than their co-workers with less education. Wages in the Lisbon region are higher than in other regions. As the results seem to be robust it is correct to assume that returns to education in Portugal are high, therefore more investment (either private or public) in education is justified.

Returns to Education in Portugal, 1982–1995: High and Rising

Pedro Telhado Pereira and Pedro Silva Martins

in Colm Harmon, Ian Walker and Niels Westergaard-Nielsen (eds), Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, March 2001.

Objective and method: To present a thorough and robust analysis of Mincer returns to education for Portugal. We covered a long time period (1982–1995), different data sets ('Quadros de Pessoal' and 'European Community Household Panel'), different econometric methodologies (Ordinary Least Squares, Instrumental Variables, Heckman Selectivity Correction), and different equation specifications (linear and non-linear schooling, simple or extended, gender separated or pooled, etc). Another objective was to describe the evolution of the education system as well as of the labour market in Portugal.

Results and policy implications: We have uncovered high and increasing rates of return to education in Portugal. These are consistently above 9% and reach up to 13% by the end of the period considered. No substantial gender differences were found. Strong differences were detected in terms of the payoff to different educational levels: the higher ones (secondary and tertiary education) are associated with much higher (and increasing) returns, whereas the lower ones are characterised not only by lower but also by falling returns. Results from non-linear specifications also suggest that the decision of the mid-70s to drop the intermediate technical branches led to a subsequent increasing payoff to those workers who had previously benefited from that school training. Finally, these estimates proved robust to a number of sensitivity tests performed. The evidence on high returns to education may have ambiguous policy implications. More specifically, they may suggest that governments should spend more on schooling given the high returns that individuals receive. Alternatively, governments should spend less on schooling given that the perception of high returns should *per se* make individuals engage in further schooling and provided that liquidity constraints are dealt with by means of credit markets. However, given the large evidence on market failure in these respects (e.g. the impossibility of taking schooling attainment as collateral, or the supposedly large externalities of education) we subscribe to the first type of policy implications. In a different dimension, our historical analysis of returns to education suggests that the above-mentioned mid-70s decision to abolish the technical streams in secondary education was misguided given that it probably led to a shortage of such type of human capital. In prospective terms, this result recommends education policy decisions to be grounded also on labour market concerns. Moreover, a strong outlook as regards future skill needs be put into practice.

Does Education Reduce Wage Inequality? Quantile Regression Evidence from Fifteen European Countries

Pedro Telhado Pereira and Pedro Silva Martins

Faculdade de Economia da Universidade Nova de Lisboa Working Paper 379; Institute for the Study of Labour (IZA, Bonn) Discussion Paper 120; ETLA (Helsinki) Discussion Paper 709. (The paper is also available at the PURE web-site www.etla.fi/PURE. A summary of the study appears as Chapter 6 of this volume.)

Objective and method: This works aims at shedding light on a little researched topic, that is, the link between schooling and wage inequality. Whereas the common view is that further schooling gives rise to a more balanced distribution of earnings, a more thorough approach would conclude that this is not necessarily the case. We address this topic empirically using comparable individual data from all fifteen PURE countries, and for two to four points in time during the 1980–1995 period. More precisely, we use Quantile Regressions, a more sophisticated and insightful method than the more common Ordinary Least Squares (OLS) technique. Unlike OLS, QR does not force researchers to assume the same contribution of explanatory variables across the distribution of the dependent variable. We applied this technique to Mincer equations, where earnings are seen as a function of schooling and experience, and where the coefficient on schooling can be interpreted as a rate of return. In this way, we examine whether the contribution of schooling to earnings is different across the wage distribution. This amounts to assessing the role of schooling for individuals whose unobserved characteristics place them in a given relative section of the wage distribution. The empirical part of the study uses

Results and policy implications: We find that the most representative pattern across PURE countries is that of a more important role of schooling for those individuals whose unobservables award them higher wages. In a looser sense, the “better paid” are the ones who benefit the most from schooling. Imposing the same return to education to the entire wage distribution thus seems to miss some important information concerning the features of each

country's wage-setting systems. The few exceptions to this pattern were found for Denmark, Germany, Greece and Italy, where the return to education is either stable or falling across the wage distribution. The study also presents comparable, panel-data-type information on each country's schooling attainment levels, wage inequality, experience levels, average returns to education, and the data sets used. The obtained results suggest that the link between schooling and inequality might be positive rather than negative: education might lead to further inequality if within-educational-level wage inequality is not compensated for by a reduction in between-educational-level wage inequality. A possible explanation for this is that some individuals might draw more insight from their schooling, which then translates into higher earnings and a more unbalanced wage distribution. Policies aiming at less wage inequality, which have so far depended quite considerably on schooling, should henceforth regard education in a more suspicious manner. Policy-makers, together with researchers, should also attempt to pinpoint the reasons that contribute to the different results across countries.

Educação, Salários, e Desigualdade: A Situação Europeia e o Caso Português
(Education, Wages, and Inequality: The European Situation and the Portuguese Case)

Pedro Telhado Pereira and Pedro Silva Martins

Economia Pura, April 2000 (also available at the PURE web-site www.etla.fi/PURE)

Schooling, Wage Risk and Inequality

Pedro Telhado Pereira and Pedro Silva Martins

submitted to an economics journal (The paper is also available at the PURE web-site www.etla.fi/PURE. A summary of the study appears as Chapter 6 of this volume.)

Objective and method: To shed further light on the link between schooling and wage inequality and to introduce the concept of wage risk (i.e., the wage uncertainty of further schooling). The method is based on Quantile regressions applied to Mincer equations.

Results and policy implications: We find a stylised fact across the 15 PURE countries, implying that returns to education are higher at the top of wage distribution. Individuals who, conditional on their characteristics, do better at the labour market receive higher returns to their schooling. This suggests that higher educational levels are associated with an increasing spread in wages, which means that within-levels inequality increases with the educational level. This result holds for all countries except for Germany, an outlier as its returns to schooling are similar both at the bottom and the top of the wage distribution. Moreover, we uncover a strong positive correlation between average (OLS) returns to education and our measure of educated-related wage risk (the difference between returns to schooling at the top and the bottom of the wage distribution). This indicates that there may be country-specific mechanisms that equate the average return and its spread. The specific characteristics of the German education system and the fact that this country breaks the pattern uncovered for all other PURE countries may imply that German-specific features attenuate the forces that drive an increasing spread in wages for the higher educated. Among these features are little variation in school quality, a strong vocational component and a relatively low number of university graduates. More generally, the results suggest that increasing schooling attainment may have the drawback of trading between-levels inequality by within-levels inequality, which would lead to an ambiguous final outcome in terms of overall wage inequality. On a different note, the wage risk result (and its very concept) suggests that the link between schooling and earnings should not be interpreted in a straightforward manner, as the process involves what in some countries is a substantial amount of uncertainty.

Educação e Desigualdade (Schooling and Inequality)

Pedro Telhado Pereira and Pedro Silva Martins

forthcoming in Nova Economia, January 2001

Avaliação e Reforma do Sistema Educativo Português
(Evaluation and Reform of the Portuguese Education System)

Pedro Silva Martins

Newspaper "Diário Económico", November 28, 2000 (available at the PURE web-site www.etla.fi/PURE)

Objective and method: To put in perspective the resources spent in the Portuguese education system and some of its implications. To apply some simple tools of economic analysis to a matter of great public importance in Portugal, which involves the allocation of a sizeable share of the government's budget. To suggest some lines of reform, towards a more cost-effective education system, thus contributing to the current on-going debate in Portugal. This is done by reviewing international results on students' outcomes and education system characteristics, mainly drawn from international institutions such as the European Commission (e.g. the 'European Report on Quality of School Education'), the Organisation for Economic Cooperation and Development (e.g. 'Education at a Glance') and the International Monetary Fund (e.g. 'The Efficiency of Education Expenditure in Portugal'). Data collection from national sources, including the Ministry of Education and the Ministry of Finances.

Results and policy implications: Evidence is found to suggest a reasonable amount of inefficiency in the Portuguese education system. The relationship between the amount of resources spent (e.g. the share of GDP) and the proficiency displayed by Portuguese students in international exams is rather unfavourable for the country. The system may be liable to bottlenecks at several levels, including the incentive mechanism designed for teachers. Moreover, a serious degree of lack of transparency is uncovered as regards the financial allocation within the different sub-levels of the system. International results also suggest that the human capital endowment of the Portuguese working population is substantially lower than that of both current and prospective European Union countries. A set of reforms is suggested in order that future generations could draw on better (higher quality and/or less costly) publicly-provided schooling. Among these are: updated incentive systems for teachers (including rewards for student performance), defining clear performance goals for public schools, setting minimum students-teachers ratios, and raising university fees (while increasing scholarships for students from poorer backgrounds).

Rendibilidade da Educação na Europa (Returns to Education in Europe)

Pedro Telhado Pereira and Pedro Silva Martins

Economia Pura, December 2000

Work in progress:

A Meta-Analysis of Returns to Education in Portugal

Pedro Telhado Pereira and Pedro Silva Martins

Quantile Regression Evidence on Non-Linear Returns to Education in Europe
Pedro Telhado Pereira and Pedro Silva Martins

Explaining Quantile Regression Returns to Education: Portuguese and Swedish Evidence
Mahmood Arai, Christian Kjellström, Pedro Martins and Pedro Pereira

Financial Expectations of Portuguese Undergraduate Students
Pedro Telhado Pereira and Pedro Silva Martins

Returns to Education and Educational Policy in Portugal
Pedro Silva Martins and Pedro Telhado Pereira

Speeches:

Does Education Reduce Wage Inequality? Quantile Regression Evidence from Fifteen European Countries

Pedro Telhado Pereira and/or Pedro Silva Martins

Seminars at PURE Barcelona project meeting (January 2000), Banco de Portugal (March 2000), Faculdade de Economia da Universidade Nova de Lisboa (March 2000), Ministério das Finanças (March 2000), University of Oxford Young Economists' Meeting (March 2000), Portuguese Ministry of Finance (March 2000); IZA Summer School (June 2000), European Society for Population Economics (June 2000), Instituto Superior de Economia e Gestão (June 2000).

Schooling, Wage Risk and Inequality

Pedro Telhado Pereira and/or Pedro Silva Martins

Seminars at the European Science Foundation Euresco Conference 'European Society or European Societies' (September 2000), European Education Research Association Meeting (September 2000), Faculdade de Economia da Universidade Nova de Lisboa (September 2000), second PURE users-oriented seminar in Lisbon (October 2000), Warwick University Economics PhD seminar (November 2000)

Avaliação e Reforma do Sistema Educativo Português (Evaluation and Reform of the Portuguese Education System)

Pedro Silva Martins

Seminars at Instituto Francisco Sá Carneiro/Hotel Tivoli Lisboa (June 2000) and Confederação da Indústria Portuguesa/Feira Internacional de Lisboa (October 2000)

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Publications:

Los rendimientos de la educación en España (Returns to education in Spain)

Fernando Barceinas, Josep Oliver, José Luis Raymond and José Luis Roig

forthcoming in Papeles de Economía Española (available at the PURE web-site www.etla.fi/PURE)

The article analyses from the beginning of the eighties up to mid nineties the temporal evolution of returns to education in Spain. Here after, the returns to education by educational levels as well as by university degrees are studied, considering also the effects that education has on the unemployment probability. It is concluded that educational investments are profitable and that this profitability has experimented a certain increase from 1990, in spite of the strong increase that in the Spanish human capital stock. This is indicative of a more intensive rhythm of growth of demand than supply of human capital, which can be a by-product of technological change in a wide sense.

Hipótesis de señalización frente a capital humano. Evidencia para el caso español (Signalling hypothesis vs. human capital. Evidence for the Spanish case)

Fernando Barceinas, Josep Oliver, José Luis Raymond and José Luis Roig

forthcoming in Revista de Economía Aplicada (available at the PURE web-site www.etla.fi/PURE)

In this paper a set of procedures is employed to test the signalling hypothesis versus the human capital hypothesis, as the more adequate explanation of wages in Spain. We use information from different sources (Household Budget Survey 1990/91, Continuous Household Budget Survey 1985–1996, European Household Panel 1994 and Wage Structure Survey 1995). The general conclusion is that, despite that a weak impact of signalling should be considered, the human capital theory explains the lion part of wage differentials in Spain.

Rendimiento público de la inversión educativa y restricción presupuestaria
(Public returns to educational investment and budget constrain)

Fernando Barceinas, Josep Oliver, José Luis Raymond and José Luis Roig

forthcoming in Papeles de Economía Española (available at the PURE web-site www.etla.fi/PURE)

The work analyses the role of public expenditure in education as a human capital investment. It is proved that the human capital investment is not only profitable from an individual point of view, but also the public sector obtains a high return from such expenditure. This return for the public sector comes from the increase of the tax revenues that the increase in the individual educational level implies. So, in the long term, for these kinds of expenditure, the budget constrain disappears.

Work in progress:

Rendimientos de la educación y efecto tratamiento. El caso de España
(Returns to education and treatment effect. The Spanish case)

Fernando Barceinas, Josep Oliver, José Luis Raymond and José Luis Roig

(available at the PURE web-site www.etla.fi/PURE)

OLS estimations of returns to education may be inconsistent due to the endogeneity of the "schooling" variable. Estimating returns by instrumental variables techniques has turned out to be a popular way to solve the problem. However, it has been demonstrated that these assessments may be reflecting the returns of a specific group of the community, which is known as the "treatment" effect. Considering this, returns to education related to the "treatment" effect caused by the 1970 Educational Reform in Spain have been estimated. The main result is that the group that might supposedly have benefited from the Reform (talented individuals with financial restrictions) obtained a very much higher average return on their investment in education than the rest of the population, mainly because of the impact over worked hours.

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Publications:

Returns to human capital in Sweden

Mahmood Arai and Christian Kjellström

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

Sweden

Mahmood Arai and Christian Kjellström

in Colm Harmon, Ian Walker and Niels Westergaard-Nielsen (eds), Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, March 2001.

Work in progress:

Variations in returns to education across the income scale. Evidence from data for 1968, 1974, 1981 and 1991

Mahmood Arai and Christian Kjellström

Explaining Quantile Regression Returns to Education: Portuguese and Swedish Evidence

Mahmood Arai, Christian Kjellström, Pedro Martins and Pedro Pereira

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Publications:

Wages and Human Capital: Evidence from Switzerland

Bernhard A. Weber and Stefan C. Wolter

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

Returns to Human Capital in Switzerland

Bernhard A. Weber, Stefan C. Wolter and Aniela M. Wirz

in Colm Harmon, Ian Walker and Niels Westergaard-Nielsen (eds), Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, March 2001.

Wage Expectations: A Comparison of Swiss and US Students

Stefan C. Wolter

Kyklos 53(1), 2000, 51–69.

Working papers:

Unemployment and returns to education in Europe

Fernando Barceinas–Paredes, Josep Oliver–Alonso, José Luis Raymond–Bara, José Luis Roig–Sabaté and Bernhard A. Weber

Working Paper 2000, available at the PURE web-site www.etla.fi/PURE. A summary of the study is included in Chapter 7 of this volume.

Public Funding and Enrolment in Higher Education

Gauthier Lanot, Rudolf Winter–Ebmer and Aniela M. Wirz

Working Paper 2000. A summary of the study is included in Chapter 9 of this volume.

How Rewarding was the Swiss Labour Market in the 90s? Evidence on Returns to Schooling

Bernhard A. Weber

Working Paper 2000

Correcting returns to education for unemployment: Evidence for 14 European countries

Bernhard A. Weber

Working Paper 2000

Wage Differentials, Fixed-effects and Schooling: An Analysis with Linked Employer–Employee Data

Aniela M.Wirz and Josef Zweimüller

Working Paper 2000

Firm-specific Training: Consequences for Job Mobility

Josef Zweimüller and Rudolf Winter–Ebmer

University of Zürich and University of Linz, Working Paper 2000, available at the PURE web-site www.etla.fi/PURE

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The distribution of educational returns in Switzerland: Quantile Regression Evidence

Bernhard A. Weber

Wage expectations of Swiss Students

Stefan C. Wolter

Education Returns and the Segmentation of the Labour Market

Aniela M.Wirz

Speeches:

How Rewarding was the Swiss Labour Market in the 90s? Evidence on Returns to Schooling
Bernhard A. Weber
Annual Congress of the Swiss Society of Statistics and Economics, Solothurn, 23–24 March, 2000

What do Students Expect from the Labour Market? Wage Expectations in Switzerland and the United States
Stefan C. Wolter and Bernhard A. Weber
Annual Congress of the Swiss Society of Statistics and Economics, Solothurn, 23–24 March, 2000

Rendements de formation: les attentes des étudiants
Stefan C. Wolter and Bernhard A. Weber
Congrès International de Association Francophone d'Education Comparée, Genève, 25–27 May, 2000

How Rewarding is Education? – Expectations of Students
Stefan C. Wolter
4th B&ESI Conference, Los Angeles, 22–26 July, 2000

Are Wage Expectations of Students Rational? – Evidence from Switzerland and the US
Bernhard A. Weber and Stefan C. Wolter
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Rates of Return to Education: What Do Students Expect?
Stefan C. Wolter
Annual Conference of the European Educational Research Association, Edinburgh, 20–23 September, 2000

Returns to Education and Unemployment – Evidence for 14 Countries
Bernhard A. Weber
Annual Congress of the Swiss Society of Statistics and Economics, Geneva, 15–16 March, 2001

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Publications:

The Returns to the Quality and Quantity of Education: Evidence for men from England and Wales

Colm Harmon and Ian Walker

Economica, April 2000

The Marginal and Average Returns to Education

Colm Harmon and Ian Walker

European Economic Review, May 1999

Returns to Education: Evidence from 28 countries

Ian Walker and Paul Woolley

Keele Working Paper 1999, forthcoming Labour Economics

Returns to Education: UK evidence

Arnaud Chevalier, Gauthier Lanot, Ian Walker and Paul Woolley

in Rita Asplund and Pedro Pereira (eds), Returns to Human Capital in Europe: A Literature Review. ETLA, B 156, Helsinki, 1999.

"overview chapter"

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in Colm Harmon, Ian Walker and Niels Westergaard-Nielsen (eds), Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, March 2001.

Working papers:

Education and Hours
Philip Trostel and Ian Walker
Warwick Economics Working Paper 2000, submitted to Journal of Political Economy

Sheepskin effects in earnings, hours and wages
Philip Trostel and Ian Walker
Warwick Economics Working Paper 2000, submitted to Review of Economics and Statistics

Wages, Health and Smoking
Arnaud Chevalier and Ian Walker
mimeo 1999

The Returns to Education: A Review of Evidence, Issues and Deficiencies in the Literature
Colm Harmon, Hessel Oosterbeek and Ian Walker
Centre for the Economics of Education Working Paper 2000, submitted to the Journal of Economic Surveys

Financial transfers and educational achievement
Arnaud Chevalier and Gauthier Lanot
Keele Working Paper, submitted to European Economic Review (available at the PURE web-site www.etla.fi/PURE)

Early School Leaving and Parental Incomes and Backgrounds
Ian Walker and Yu Zhu
Centre for the Economics of Education Working Paper 2000

Are UK graduates over-educated?
Arnaud Chevalier
CEE Discussion Paper 5/2000

Work in progress:

The market for higher education in Europe
Erling Barth, Arnaud Chevalier, Gauthier Lanot, Marianne Røed and Josef Zweimüller
A summary of the study is included as Chapter 8 of this volume.

Speeches (based on the above papers):

PURE meeting, Athens 1999
PURE meeting, Amsterdam 1999
PURE meeting, Barcelona 2000
PURE meeting, Paris 1999
PURE meeting, Lisbon 2000
PURE meeting, Warwick 2000
Centre for Economics of Education, LSE, London, October 2000
Institute for Fiscal Studies, London, June 2000
IZA, Bonn, September 2000
Warwick Summer Research Workshop, Warwick, July 2000
Department for Education and Employment seminar, January 2000
Policy Studies Institute seminar, March 2000
Cite Universitaire, Paris, seminar, April 2000
Department for Education in Northern Ireland, seminar, June 2000
Society of Labor Economics World Congress, Milan, May 2000
Royal Economic Society Annual Conference, St-Andrews, July 2000
Centre for the Economics of Education seminar series, July 2000
Education and Employment Economics Group workshop, Sheffield, February 2000
IZA Summer School in Labor Economics, Buch am See, June 2000

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