

Returns to Education in Different Labor Market Contexts

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Abstract

Labor market contexts shape the returns to education to a great deal. Beyond the known positive effects of higher education to yield higher returns to education, there is ample evidence that supports the view that labor market institutions shape the returns as well as cohort and period effects. Additional returns to education consist in faster career progression and less frequent early retirement for higher educated employees. Part of the positive returns is the close link of higher education and continuous participation in further education and training, which tends to widen the differences between high investors in education and persons with few qualifications. Occupational and industry sector contexts largely shape such differential learning and work trajectories. Temporary high demand for specific professions such as engineers, medical doctors, or care personnel create cycles of exceptionally high returns to special fields of education, but as soon as the wider economic, demographic, or institutional factors vanish, returns shrink again. Context specific skill mismatches allow above average returns for some professions, whereas they can make fields of education also obsolete. Nonmonetary returns to education such as increases in happiness, subjective well-being, job security, or health have gained more attention in recent work. Differential returns due to labor market contexts encourage labor market agents to switch between contexts to increase returns. Job mobility, further training, and migration appear to be common strategies to ensure above average monetary and nonmonetary returns to education.

INTRODUCTION

Ever since the initial publication of the theory of human capital by Becker (1993 [1964]), there has been a sociological reaction to this theory by numerous scholars either proposing alternative theories (Arrow, 1973; Bourdieu, 1986; Collins, 1979), or estimating different sizes of returns to education according to industrial sectors (Stinchcombe, 1979) or labor market segments (Dickens & Lang, 1988). The Mincer-type estimation of returns to full-time education (Mincer, 1974) became a standard form of measuring the returns

to education by calculating a rate of return based on the current labor earnings with respect to the number of full-time years spent in education.

Psacharopoulos (1985) highlights the broad range of returns to investment in education in his global overview. Returns range from 19% (in Brazil in 1970), 20% (in Cote D'Ivoire 1986) to 3.7% (in China 1986) for a single year of education. In the United States of America, the estimates reported around 10% in 1985 and 1990 according to the same source. The further update (Psacharopoulos & Patrinos, 2004) demonstrated consistently positive returns to education albeit still varying broadly between countries and for the same country over time (Schömann, 1994). Hence, there is reason to investigate the differential returns due to specific country contexts and reference periods. Meanwhile, it is standard to investigate the returns to education across birth cohorts and changing returns during the individuals' life course (Mayer, 1997).

The topic of returns to education has moved beyond the research of returns to full-time education in the human capital tradition following Gary Becker and Jacob Mincer to include returns to further education and training on the micro-level (Schömann & Becker, 1995). Further education and training yield returns in the labor market in the form of increased earnings after completion of courses although rates of returns to investment in further training are considerably lower than returns to full-time education.

Additionally, several authors (Becker & Hecken, 2011 for an overview) report faster career advances, mostly for younger employees, or prolonged employment for older employees (Blossfeld, Buchholz, & Kurz, 2011; Fasang, Aisenbrey, & Schömann, 2013) as a form of return to investment in education and further training. Career advancement is sufficiently different from monetary returns to education, but may coincide in several instances. In organizations with flat hierarchies, career advancement might not be of high importance. However, within public administrations advancing to higher status positions constitutes a much more plausible motivation to invest in education and further training (Becker, 2007).

A further extension on returns to education in the context of labor markets constitutes the inclusion of nonmonetary returns to education. Fasang, Geerdes, and Schömann (2012) for example, include job satisfaction as an additional outcome measure of investment in education, which incorporates returns well beyond the traditional monetary focus. Similarly, returns to education in terms of life satisfaction beyond satisfaction with one's current job plays a prominent role in additional forms of returns to education (Kalleberg & Loscocco, 1983).

FOUNDATIONAL RESEARCH

Sociological research on returns to education in the context of labor markets has a tradition to take context as a major determinant of inter-individual differences of returns. We distinguish the literature in contributions from a (i) theoretical or conceptual perspective and (ii) empirically demonstrated context effects. In the 1960s and 1970s many innovative approaches were formulated as alternative theories to human capital investment. We present some of the major advances and add recent innovations. The theoretical contributions spurred a wealth of empirical studies both on returns to initial education and further education and training, which we summarize in a subsequent section.

THEORY CONTRIBUTIONS

Although it is not a standard reading of human capital theory, the Mincer-type estimation of returns to education contains a reference to context specific acquisition or valorization of human capital through work experience. The returns to education are calculated holding constant the number of years of work experience, which persons have accumulated over their professional career. Through this statistical procedure an independent estimate of pure returns to education is constructed which acknowledges that different work context and years of work experience yield different returns. The human capital rationale has been challenged due to the presence of market failure (Acemoglu & Pischke, 2001) which causes substantially higher rates of returns to education, for example in a monopoly holding industry.

Bourdieu (1986) highlights the context effects of family social background, academic, or in terms of socio-economic status, on the reproduction of holding a higher degree of children in a family. The returns to education for parents seem to spill over to their children to a large degree. Bourdieu's merit consists in shedding light on the family context and the importance of the wider cultural background (De Graaf & Kalmijn, 2001).

The assessment of returns to education as context specific returns is supported in the view that a person's social capital is influential in realizing returns to education. The analyses in the field of social capital, demonstrating the strength of weak ties (Granovetter, 1973) in securing a job show that the broader family context can largely determine access to jobs in general or better jobs with career potentials.

Credentialism (Collins, 1979) and signaling theory (Arrow, 1973) have also contributed alternative perspectives to support the view that returns to education are context specific in the sense that the value of a degree depends to a relatively high amount on the reputation of the awarding institution. This perspective on returns to education supports the view that particularly the

perception of an educational institution in the eyes of major labor market actors such as firms and associations matters.

Segmentation theories (Dickens & Lang, 1985) stress the context effect of, for example, dual labor markets, whereby the returns to education depend largely on the labor market segment a person enters into. The primary segment offering good returns to education and career opportunities, whereas the secondary labor market segment offers only unstable jobs which do not reward higher education and this sector might employ larger numbers of overeducated persons (Boll, Leppin, & Schömann, 2014).

Countries provide very specific context to achieve returns to education. International migration of university graduates is an obvious example of this. Medical doctors or IT-professionals trained in one country might seek higher returns in another country due to existing shortages of highly skilled persons in that profession (Neugart & Schömann, 2002). Green card immigration, that is, immigration in specific occupation fields, is a well-known phenomenon of industrialized countries. Additionally, the labor market context changes itself not only due to industrial restructuring in longer time intervals, but is subject to rapid and very much unforeseeable changes as became obvious in the recent financial crisis (Reinhart & Rogoff, 2009).

EMPIRICAL CONTRIBUTIONS

The controversy on theories of the returns to education and training spurred a huge body of empirical assessments of returns to education and training. We focus here on the monetary returns as this has yielded the largest differences in the debate. We approach the topic from a life course perspective, which means we analyze returns first at entry into the labor market, then at labor market and job changes, over job durations and at exit from the labor market or retirement decisions.

Starting with the influence of institutional features on the entry into the labor market, Shavit and Müller (1998) have demonstrated how institutional differences like the availability of an established apprenticeship system determine the access to the labor market for youth. Returns to general education, just as much as returns to professional education hinge on the access to a first job. Labor market contexts understood as institutional settings with long path dependencies shape this entry process and returns to a great deal. Entry into the labor market specifically for graduates and their returns to education have been studied under the label of “over-education” (Boll *et al.*, 2014). Over-education is the educational level achieved in excess to what is necessary in the current job.

In moving from a short-term assessment of over-education to a longer-term evaluation of over-qualification from a gender perspective, Gangl and Ziefle

(2009) demonstrated the wage penalties for motherhood to be substantial. They estimate this penalty to be between 9% and 18% per child depending on the country's labor market context. The wage losses were substantially higher for German mothers than for American and British mothers. Hence, the institutional context or society's support for parental care shapes the returns to education. Employers remunerate the duration of labor market experience as a crucial element of wage determination (Mincer, 1974).

Similar in direction to the wage penalty effect of motherhood, Gangl (2004) demonstrated the scar effect of unemployment. Results on the United States and 12 European countries show that post-unemployment earnings are permanently lower for high-wage employees and older workers and women. The institutional settings like a more generous unemployment benefit systems can mitigate the negative effects of unemployment on workers earnings through more generous unemployment benefits or stricter employment protection regulation (Schömann, Rogowski, & Kruppe, 1998) which reduces dismissals at least in the short run. The way in which labor markets, family work, or parental leave are organized in a society have a lasting effect on monetary returns to education.

In the same realm, differences between full-time and part-time work as they are more common in some labor markets than others continue to impact on returns to education. Not only do part-time employees have lower earnings, but the spread among part-timers is substantially larger. However, the decision to work part-time seems to be driven in large parts by labor market contexts like the provision of child care by employers or availability of public or private infrastructure for child care or elderly care in a society. Such institutional arrangements codetermine returns to education, as they are responsible for differential remuneration of educational qualifications mainly between women and men, but also within gendered groups.

Labor market contexts vary systematically between public and private sectors of the economy. Returns to education in terms of monetary returns are generally lower in the public sector compared to the private sector (Schömann, 1994). In terms of the career progression or status attainment, the public sector seems to be an attractive alternative for employees. The attractiveness of the public sector for higher educated persons seems to persist (Becker, 2007) despite the monetary penalty. Job security in form of higher employment protection, even after nowadays longer periods of fixed-term entry positions in the public sector, remains an alternative non-monetary return to education. At times of higher risk of unemployment due to economic crises (Reinhart & Rogoff, 2009) and industrial restructuring, this form of life course security or job stability constitutes an added value to higher education.

Returns to further education and training have received a rather mixed empirical assessment varying not only between labor market contexts but different authors, based on different data sets, have found contradicting evidence. In terms of monetary returns the summary finding seems to indicate that there are small positive returns to further training, but not necessarily for persons who have previously been unemployed and they take at least a medium term perspective to materialize. However, major nonmonetary returns consist in higher job security for incumbents, that is, reducing the risk of losing one's current job, only specific targeted programs for the unemployed work to bring them back into a job. Schömann and Becker (2002) demonstrated differences according to the regional labor market conditions for East and West Germany.

AREAS OF CUTTING-EDGE WORK: CURRENT CHALLENGES

In this section, we want to highlight a few areas where important fields of research have been identified. We focus on areas that have been addressed only recently and in most instances, only some first results are available which address major current challenges in terms of research as well as policy issues.

The first issue is the adequate distinction of context effects to be due to age, period, or cohort effects (Schömann & Becker, 1995). The monetary or nonmonetary returns to education are dependent on specific time periods most easily identified as economic cycles and their impact on, for example, the returns to education for persons graduating in an economic recession or due to societal restructuring like the discontinuity of the German Democratic Republic. Some sociologists even label such periods as a "lost" or disadvantaged generation at a specific historic period of time which is expected to have lasting effects on the person's life course (Diewald, Goedicke, & Mayer, 2006).

Cohort effects may consist in cohort effects of large cohort sizes graduating at the same time from high schools and then experiencing continued crowding in the labor market for their entire working career, as it was demonstrated so forcefully for the baby boom generation of the 1960s and 1970s. Beyond cohorts of graduates there seems to be mainly evidence from sociology that cohorts due to year of birth have an impact on future returns to education. This indicates that in addition to individual education attainment belonging to a group that shares the same context like the birth cohort has measurable effects on labor market success.

In addition, the propensity to take risks is one of the elements, which has received higher attention recently (Siarov, 2012). There is evidence that the basic feature to be more ready to accept labor market risks pays off in forms

of returns. Men appear to be also more willing to enter into risky areas of education and more risky jobs, but the labor market is likely to reward such risk taking with a higher wage premium. The early analyses of distinguishing between jobs in the public versus the private sector of the economy have probably identified a similar outcome, although not being able to address the underlying causal or behavioral mechanism.

The returns to education depend on skill matches or mismatches in the labor market. There are fields of education and professional training that are, either temporarily or even over extended periods of time, in over-supply or under-supply on the labor market. Returns to education are expected to reflect such a disequilibrium on the labor market, particularly if it turns into a persistent feature of the labor market. A great deal of labor market studies have analyzed returns only in a general fashion for all graduates of professional education or university-level education, but the returns to specific fields of study have only recently become more feasible due to better provision of large size representative samples of the population to estimate such effects (Stark, 2007). Such studies can trace the returns to specific professions, such as engineers or medical doctors, that have high education costs, but also the potential to yield persistent above average monetary returns to education (Neugart & Schömann, 2002).

Some professions seem to be subject to specific “hog-cycles” of employment and earnings, which means in periods of high demand and high wages many students are attracted to this field. Once these students graduate after about 4 years with a degree from universities in one country the labor market demand for these graduates might have changed drastically. Where a shortage has occurred before 4 years, later we might find already an oversupply which the labor market is not capable to absorb in the short run. Hence, careful assessment of the overall aggregate labor market situation is indicated in addition to own individual preferences for a field of study.

Among the current challenges is the continuous increase in longitudinal data which allows not only to look into the returns to education with a snap-shop perspective but to study the unfolding of careers. Some first evidence suggests that there are indeed very different trajectories of positive feedback loops with higher education and continuous further training, much in line what is coined as lifelong learning trajectories, and stagnant trajectories with low levels of general education and hardly any participation in further training (Schömann & Becker, 2002). Whereas the former type of trajectory can reap high returns on education the latter ones fail to secure such returns. It remains to be investigated to what extent these very different education and earnings trajectories are due to a person’s characteristics, self-selection into education and careers or, whether teacher and employer selection of persons for higher education and job careers are the driving

mechanism. Evidence on returns to education of second generation migrants suggests that a large share of the variance in returns is not explained through individual differences in human capital endowment.

Returns to education while staying on the same job for longer durations indicate that higher human capital allows persons to enter earnings trajectories that grow further apart as time continues (Becker & Schömann, 1996). Better general education allows persons to (self-) select into more favorable labor market contexts. For example, context effects of high unemployment regions, which depress monetary returns, are more pertinent to lower and middle level qualified persons as they find geographic and job mobility more difficult to achieve. In the same vein, higher general education allows persons to shift between industrial sectors more easily compared to persons with sector-specific professional skills.

Nonmonetary returns to education are also rather context specific. In analyses of three major components of job satisfaction (Fasang *et al.*, 2012) show that lower qualified persons are less satisfied with their work-life balance in the European Union. Both the lowest and the highest education groups are less satisfied with their current work contract than middle-level education groups. No significant differences exist for the satisfaction with career prospects. This probably indicates that different education groups across European labor markets have different career orientations. This study was able to demonstrate the impact of welfare regimes as an “ensemble” of regulations defining the labor market context.

KEY ISSUES FOR FUTURE RESEARCH

Among the key issue for future research, we identify the difficult to disentangle process of sorting into education tracks and ensuing labor market careers. Labor market contexts and institutional arrangements create welfare and labor market regimes, which structure careers. General education has some promise to allow persons to escape from strong context effects, but empirically this works only to a limited extent. Demonstrating “escape routes” and evaluating best practice that allows to impact career trajectories in a sustained fashion will remain high on the agenda. Further progress is needed to disentangle in a more precise fashion the self-selection into careers from the structural effects as careers evolve over longer durations or even the entire life course well into retirement. In short, self-selection or other selection processes vary according to the context.

More research is needed to address the phenomenon of persons switching between contexts and to find out what this means for returns. Switching between contexts may mean to grow up in one country and its specific labor market context, but then to move to a different labor market. There are studies

that address such labor market changing behavior as international migration or brain drain but considering return migration and moves within the European Union, but between countries is hardly researched with respect to labor market outcomes. Transnational careers and migrant workers are an increasing group of people, yet we have little evidence to support policy making in the area.

The research in this area is dominated by supply side arguments that individuals' characteristics are the primary determinant of returns, yet the demand side of the labor market has a crucial role to play as well. Not only labor market segments and the size of firms provide very specific context but also within firms and teams' labor organization in firms and the role of supervisors create unique contexts (Baron, 2011). Personality traits as well might be co-influenced by family background if we subscribe to Bourdieu's theoretical statement that "habitus" matters just as much as own educational credentials.

In the current labor market, crisis in many countries we witness a revival of occupational (context specific) skills to secure jobs. This is primarily affecting young labor market entrants, but it is not restricted to them. Apprenticeship systems provide short-term solutions to such occupational skill gaps, but we lack evidence that supports the long-term potential of such educational tracks to outperform the returns to general education qualifications.

The returns to education are broader in scope than just monetary returns. However, the returns in terms of job satisfaction (Allen & Van der Velden, 2001), happiness or self-realization seems to be underexplored. Post materialism might require research to shed more light on nonmonetary returns to education and further training. Hereby we return to basic questions, whether education is solely to be seen as an investment expected to yield monetary returns. Returns such as higher job or life satisfaction due to higher education are a topic with continued relevance.

Finally, we would like to emphasize that the long lasting educational expansion since the 1950s and 1960s in most industrialized countries has not resulted in decreasing returns to education across the life course and in different labor markets (Müller & Jacob, 2008). In contrast to the hypotheses, which claim that "inflation of credentials," "individualization of educational careers and work biographies," or "de-standardization of transitions from school to work" have reduced returns there is a little evidence to support such claims. The empirical evidence suggests that in modern societies, education and social capital are still the most important resources to achieve returns to education in the labor market. Even independent of the labor market context, significant positive returns to education and further training can be achieved in both monetary and nonmonetary fashion. Different contexts only tend to widen the spread of such returns.

REFERENCES

- Acemoglu, D., & Pischke, J. S. (2001). Beyond Becker: Training in imperfect labour markets. *The Economic Journal*, 109(453), 112–142.
- Allen, J., & Van der Velden, E. (2001). Educational mismatches versus skill mismatches: Effects on wages, job satisfaction, and on-the-job search. *Oxford Economic Papers*, 53(3), 434–452.
- Arrow, K. J. (1973). Higher education as a filter. *Journal of Public Economics*, 2, 193–216.
- Baron, S. (2011). *Workplace learning*. Wiesbaden, Germany: VS Verlag für Sozialwissenschaften.
- Becker, G. S. (1993). *Human capital*. New York, NY: Columbia University Press.
- Becker, R., & Hecken, A. E. (2011). Berufliche Weiterbildung - bildungs- und arbeitsmarktsoziologische Perspektiven und empirische Befunde (Further education and training. Perspectives of educational and labor market research and empirical findings). In R. Becker (Ed.), *Lehrbuch der Bildungssoziologie* (pp. 367–410). VS Verlag für Sozialwissenschaften: Wiesbaden, Germany.
- Becker, R., & Schömann, K. (1996). Berufliche Weiterbildung und Einkommensdynamik. Eine Längsschnittstudie mit besonderer Berücksichtigung von Selektionsprozessen (Further training and income dynamics). *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 48, 426–461.
- Becker, R. (2007). State and Private Sector Employees. In G. Ritzer (Ed.), *Blackwell encyclopaedia of sociology* (pp. 4734–4737). Oxford, England: Blackwell.
- Blossfeld, H.-P., Buchholz, S., & Kurz, K. (Eds.) (2011). *Aging populations, globalization and the labor market – comparing late working life and retirement in modern societies*. Cheltenham, England: Edward Elgar.
- Boll, C., Leppin, J. & Schömann, K. (2014). *Who is overeducated and why? Probit and dynamic mixed multinomial logit analyses of vertical mismatch in East and West Germany*, HWWI Research paper149 Hamburg.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). New York, NY: Greenwood Press.
- Collins, R. (1979). *The credential society*. New York, NY: Free Press.
- De Graaf, P. M., & Kalmijn, M. (2001). Trends in the intergenerational transmission of cultural and economic status. *Acta Sociologica*, 44(1), 51–66.
- Dickens, W. & Lang, K. (1985). *Testing dual labor market theory: A reconsideration of the evidence*. NBER working paper.
- Dickens, W. T., & Lang, K. (1988). The Reemergence of Segmented Labor Market Theory. *American Economic Review*, 78(2), 129–134.
- Diewald, M., Goedicke, A., & Mayer, K. U. (2006). *After the Fall of the Wall. East German Life Courses in Transition*. Stanford: Stanford University Press.
- Fasang, A. E., Aisenbrey, S., & Schömann, K. (2013). Women's retirement income in Germany and Britain. *European Sociological Review* online first.
- Fasang, A. E., Geerdes, S., & Schömann, K. (2012). Which type of job mobility makes people happy? A comparative analysis of european welfare regimes. *International Sociology*, 27(3), 349–383.

- Gangl, M. (2004). Welfare states and the scar effects of unemployment: A comparative analysis of the United States and West Germany¹. *American Journal of Sociology*, 109(6), 1319–1364.
- Gangl, M., & Ziefle, A. (2009). Motherhood, labor force behavior, and women's careers: An empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography*, 46(2), 341–369.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–1380.
- Kalleberg, A. L., & Loscocco, K. A. (1983). Aging, values, and rewards: Explaining age differences in job satisfaction. *American Sociological Review*, 78–90.
- Mayer, K. U. (1997). Comparative political economy of life courses. *Comparative Social Research*, 16, 203–226.
- Mincer, J. (1974). *Schooling, experience, and earnings*. New York, NY: Bureau of Economic Research.
- Müller, W., & Jacob, M. (2008). Qualifications and the returns to training across the life course. In K. U. Mayer & H. Solga (Eds.), *Skill formation. Interdisciplinary and cross-national perspectives* (pp. 126–172). Cambridge, England: University Press.
- Neugart, M., & Schömann, K. (2002). *Forecasting labour markets in OECD countries: Measuring and tackling mismatches*. Cheltenham, England: Edward Elgar Publishing.
- Psacharopoulos, G. (1985). Returns to education: A further international update and implications. *Journal of Human Resources*, 20(4), 583–604.
- Psacharopoulos, G., & Patrinos, H. A. (2004). Returns to investment in education: A further update. *Education Economics*, 12(2), 111–134.
- Reinhart, C. M., & Rogoff, K. S. (2009). *This time is different: Eight centuries of financial folly*. Princeton, NJ: Princeton University Press.
- Schömann, K. (1994). *The dynamics of labor earnings over the life course. A comparative and longitudinal analysis of Germany and Poland*. Berlin, Germany: edition sigma.
- Schömann, K., Rogowski, R., & Kruppe, T. (1998). *Labour market efficiency in the European Union: Employment protection and fixed-term contracts*. New York, NY: Routledge.
- Schömann, K., & Becker, R. (2002). A long-term perspective on the effects of training in Germany. In K. Schömann & P. J. O'Connell (Eds.), *Education, training and employment dynamics: Transitional labour markets in the European Union* (pp. 153–185). Cheltenham, England: Edward Elgar.
- Schömann, K., & Becker, R. (1995). Participation in further education over the life course. *European Sociological Review*, 11, 187–208.
- Shavit, Y., & Müller, W. (Eds.) (1998). *From school to work*. Oxford, England: Clarendon Press.
- Siarov, L. (2012). *The economics of lifelong learning and skill formation: Risk, return and individual choice* (PhD Thesis). Jacobs University Bremen.
- Stark, A. (2007). *Which fields pay, which fields don't? An examination of the returns to university education in Canada by detailed field of study*. Ministry of Finance Canada. Working Paper 2007–03.
- Stinchcombe, A. S. (1979). Social mobility and the industrial labor process. *Acta Sociologica*, 22, 217–245.

FURTHER READING

- Hadjar, A., & Becker, R. (Eds.) (2009). *Expected and unexpected consequences of the educational expansion in Europe and the US*. Bern, Switzerland: Haupt.
- Kogan, I., Noelke, C., & Gebel, M. (Eds.) (2011). *Making the transition: Education and labor market entry in central and eastern Europe*. Palo Alto, CA: Stanford University Press.
- Mayer, K. U., & Solga, H. (Eds.) (2008). *Skill formation: Interdisciplinary and cross-national perspectives*. New York, NY: Cambridge University Press.
- Müller, W., & Gangl, M. (Eds.) (2003). *Transitions from education to work in Europe. The integration of youth into EU labour markets*. Oxford, England: Oxford University Press.
- Schömann, K., & O'Connell, P. J. (Eds.) (2002). *Education, training and employment dynamics: Transitional labour markets in the European Union*. Cheltenham, England: Edward Elgar.

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