Social inequalities in education
from a
cross-national comparative perspective –

What do we know, and how can we explain?

Work in progress – do not cite.
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Preliminary remarks

This paper is a draft introductory chapter of a doctoral thesis. It mainly consists of a literature review on the explanation of cross-national differences in educational inequality, but also includes a basic review of micro-level theories for the explanation of social differentials in education. The proposed study aims at describing and explaining similarities and differences between countries in educational inequality with respect to social background, especially parental education. One theoretical objective is to provide micro-foundations for common contextual hypotheses on cross-national differences in social differentials in education. Building on a systematic research review, substantive hypotheses will be developed and tested using internationally comparable data. The major theoretical and empirical interest lies in macro-level factors influencing social inequality in educational attainment. The results of the study will contribute to our theoretical and empirical knowledge about contextual influences on social stratification processes and may be used to explore policy implications for specific countries.

1 Context of the study

For different reasons, the concept of equality of (educational) inequality is interesting for political philosophers, economists, and sociologists. From all three perspectives, social differentials in education can be conceptualised as the association between parental characteristics and an individual’s education. As membership in social categories relates to ascribed, not achieved, characteristics, ideally it should not correlate with an individual’s life chances. Equality of opportunity is widely discussed in Political Theory and Political Philosophy from a normative point of view (Rawls 1999 [1971]; see e.g. Arneson 2002; Roemer 1998). Lower educational opportunities for children from lower classes (or other specific groups) are considered to be a “major injustice” (Erikson & Jonsson 1996a: 2), which is on of the main motives behind political and educational reforms aiming at reducing social inequalities in life chances. This thesis will take this perspective as a starting point, but will not embark upon a philosophical justification of it. However, the distinction between equality of opportunity (the liberal ideal) and equality of outcomes (the socialist or egalitarian ideal) will be important when different concepts of educational inequality are to be discussed (chapter 2).

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1 This is not part of this paper.
In economic terms, the fact that participation in education depends on social and ethnic origin or gender (instead of ability alone) means that the existing human resources and talents are not developed and used efficiently, leading to reduced overall societal efficiency. For modern knowledge-based societies, this “waste of talent” (Erikson & Jonsson 1996a: 2) can have adverse effects on overall economic and social development.

From a more sociological perspective, social differentials in education “can be expected to help reproduce and generate differences in incomes and other aspects of living standards in later life” (Micklewright & Schnepf 2004). As an extreme example, segregation of the social classes between schools could lead to a “deleterious sense of class” and thereby social discord (Erikson & Jonsson 1996a: 2). Class inequality in education thereby impacts on general social inequality and social cohesion. Social differentials in education also play a central role in the intergenerational transmission of social status and class membership, i.e. in social reproduction and the social (im)mobility process (e.g. Blau & Duncan 1967; Erikson & Jonsson 1996a; Goldthorpe 2003). Social inequalities in education can be conceptualised as the “filtering process” involved in the first stage of the social mobility process, i.e. the origin-education link, as visualised in Figure 1 (the “OED triangle”). The fact that the individual’s educational and thereby later occupational attainment, as well as the returns to education, to a certain degree depend on the level of education, occupation and income of his or her parents is a sign of lacking social fluidity. There is a growing body of literature trying to explain these effects and their change over time as well as differences between countries (Breen & Jonsson 2005; Shavit & Blossfeld 1993; e.g. Breen 2004; Shavit & Müller 1998; König & Müller 1986; Shavit, Arum & Gamoran forthcoming).

Figure 1: the social mobility process

The terms “inequality of educational opportunity” (IEO), “educational inequality” and “educational stratification” are often used interchangeably and without any conceptual clarification, which is part of the reason why there is some debate on the measurement of educational differentials (chapter 2). Educational inequality in the broadest sense means variability or dispersion of educational attainment, as derived from the univariate distribution of education (Mare 1981; Treiman, Ganzeboom & Rijken 2003; Jencks et al 1972).
The general concept of educational inequality thus refers to the simple fact that not every individual has received or achieved the same amount or form of education, which does not yet imply any association between social origin and opportunity (i.e. it could be the result of a process of random allocation).

Educational inequality and IEO are however more importantly also umbrella terms that refer to unequal educational chances and outcomes for people from different social groups or categories. Several forms of specific educational differentials can be distinguished, e.g. gender, ethnic, or class differentials in education. This thesis will focus on social differentials in education, by which I summarize differences in educational attainment with respect to parental occupation (or class) and education.\(^2\) As between-country differences in social inequality in education have not yet been explained satisfactorily (as will be shown in the review below), cross-national differences in social differentials in education deserve to be a major focus of research. Thus, the general research question of this thesis will be: Why does an individual’s social background have a stronger influence on the individual’s educational attainment in some countries than in others, i.e. how can between-country differences in social differentials in education be explained?

In terms of measurement, absolute or gross measures of IEO can be differentiated from relative or net measures. Absolute measures gauge the association between social origin and final attainment, that is, absolute differences (e.g. in terms of years of schooling) between social groups. Relative measures, in contrast, gauge the association between social origin and propensity of educational transitions, i.e. the differences in chances of attaining a certain educational level between social groups, conditional upon having completed the previous level. This latter group of measures are often called “margin-insensitive”, as they tackle the association between social origin and education, given a certain degree of dispersion or general educational inequality (see e.g. Mare 1981). Relative measures of IEO model educational attainment as a process of passing through a number of educational transitions (e.g. from primary to secondary education and from secondary to higher education), with socially differential attrition rates at each level. I will also refer to both kinds of measures as “gross” and “net” measures of social differentials in education, respectively.

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\(^2\) In case of heavy meagreness of results, I could add certain other aspects to the study: gender, parental employment status, presence of both parents at age 14, and ethnic origin (by continent of birth of his/her parents).
2 Descriptive results: changes over time and differences between countries in social inequalities in education

Research on IEO as well as educational attainment and achievement has resulted in large amounts of descriptive results, focusing on change over time in the association between social class background and educational attainment in different countries. Concerning change over (historical) time, following a pathbreaking 13-country study coordinated by Shavit and Blossfeld (1993), it was assumed until quite recently that, despite massive educational expansion in all countries, social differentials in education were pretty stable over time in all countries except Sweden and the Netherlands (Blossfeld & Shavit 1993). Similar results were found by Ganzeboom and Treiman (1993). It thus seemed that “only” women, but not the lower classes, gained from educational expansion, as in contrast to social inequalities, gender differences had declined substantially in all countries.

However, the finding of persistent social inequalities in education contradicted some earlier findings and was challenged again and again since 1993. Younger studies working on larger samples and with improved statistical methods were able to show a slight decrease of class inequalities in education in a number of countries (Breen & Jonsson 2005), e.g. Germany (Müller & Haun 1994; Henz & Maas 1995; Jonsson, Mills & Müller 1996; Sieben, Huinink & De Graaf 2001), France (Vallet 2002; Brauns 1999), Italy (Shavit & Westerbeek 1998), Japan and the United States (Kikkawa 2004), but not in Ireland (Whelan & Layte 2002). In the case of Great Britain, there are contradictory results, mostly however pointing into the direction of no equalisation (Heath & Clifford 1996; Jonsson & Mills 1993; Jonsson, Mills & Müller 1996; with respect to income inequality in education: Blanden & Gregg 2004; Blanden & Machin 2004). The results for Sweden and the Netherlands have been corroborated (Sieben, Huinink & De Graaf 2001; Jonsson, Mills & Müller 1996). A recent comparative study by Breen et al. (2005) showed decreasing class effects for Germany, France, the Netherlands and Sweden and also to some degree in Great Britain and Poland, and increasing class differentials in Ireland and unclear fluctuation in Italy.

Concerning the effect of parental education instead of social class on educational attainment, much less work has been done, and prime interest was always in social class inequalities. Blossfeld and Shavit (Blossfeld & Shavit 1993) found that the effect of father’s education decreased in five countries, remained unchanged in seven countries, and fluctuated in Czechoslovakia. Furthermore, the effect of parental education is slightly more important than the effect of social class (Erikson & Jonsson 1996a).

Therefore, we know quite something about change over time in class-related IEO, and similarities and differences between countries therein. In terms of the state of IEO
from a comparative perspective, the most general result of empirical studies is that social inequalities in education are a matter of fact in most if not all countries, and that the pattern of higher opportunities for people from higher social backgrounds and lower opportunities for people from lower social backgrounds is the same over many different countries, no matter how social background or education are measured (see e.g. Müller et al 1990; Müller & Karle 1993; Blossfeld & Shavit 1993; Ishida, Müller & Ridge 1995; Müller 1996; OECD 2004, chapter 4; OECD 2002, chapter 6; OECD 2001, chapter 6; Breen et al 2005; Marks 2005; Treiman & Yip 1989; Treiman, Ganzeboom & Rijken 2003; Rijken 1999). Concerning change over the life course, social differentials in education decrease from earlier to later transitions in almost all countries (Blossfeld & Shavit 1993; Rijken 1999, chapter 3), confirming the result of one-country-studies (Mare 1980; Niehof 1997). This tendency is however not linear, and one or the other transition can be more or less socially selective than the previous one (Müller & Karle 1993).

Absolute differences between countries in the level of social inequalities in education are more difficult to numeralise than differences in trends over time within countries. The reason for this is that it is very difficult to measure education in a comparable way in different countries, because the structuring of educational systems, the curricula and credentials awarded are so different (Braun & Müller 1997; Kerckhoff, Ezell & Brown 2002; Barro & Lee 2001; Kerckhoff & Dylan 1999; König, Lüttinger & Müller 1988; Prais 2003, see also chapter 2). Most studies cited above use different measures for education and social background and different modelling strategies, so that the results cannot be easily compared. A direct comparison of regression coefficients is e.g. not possible for the study by Shavit and Blossfeld (1993), as the authors of the single chapters sometimes used social prestige, social status, or social class measures for the individual’s social background.

In the comparative studies which achieve or come close to comparable measurement of education and social differentials in education, it turns out that countries differ with respect to the degree of IEO (Treiman & Yip 1989; Müller et al 1990; Müller & Karle 1993; Müller 1996; Rijken 1999, chapter 3; OECD 2001, chapter 6; Treiman, Ganzeboom & Rijken 2003; OECD 2004, chapter 4; Marks 2005), and that factors assumed to explain the relationship between social class background and educational achievement act with different strength in different countries (Marks 2005). Therefore, the view that the relationship between social background and educational performance does not vary between countries (Erikson & Jonsson 1996a: 12) does not hold empirically.

On the descriptive side, thus, comparative research in educational inequalities greatly increased our knowledge about the incidence and change over time in social differentials in
education in different countries (for a recent review, see Breen & Jonsson 2005). We do however still lack knowledge about the relationship between countries in terms of IEO, and rigorous empirical tests of the explanations for over-time and cross-national differences: Of all the studies cited above, only a few systematically test hypotheses about why social origin effects on education are higher in some countries than in others, substituting names of countries by variables (Treiman & Yip 1989; Rijken 1999, chapter 3; Marks 2005; Treiman, Ganzeboom & Rijken 2003). They will be discussed in more detail in section 3.2.

3 Theoretical approaches for the explanation of IEO

Explanatory research in the field mostly focuses on either the micro-sociological explanation for social (especially social class) inequalities in education on the one hand or macro-sociological explanations for change over time or differences between countries in these inequalities on the other hand. Sometimes even in one paper, micro- and macro-conditions of IEO are discussed, but without any connection between the different levels of analysis (e.g. Marks 2005). Most contextual explanations thus lack proper micro-foundations. This study will specifically try to connect and integrate the so far (relatively) established micro-level explanations for socio-economic educational inequality with explanations at the societal level and thus follow Erikson and Jonsson (1996a). Whenever social phenomena, including cross-national differences with respect to some concept, are to be explained, we must seek to provide a theory that is based on micro-sociological principles (Coleman 1990).

In the following sections, theoretical approaches to explain social inequalities in education will be discussed (for a comprehensive synopsis, see Erikson & Jonsson 1996a). This presentation follows a substantial rather than a chronological order, first focusing on micro-sociological theories explaining why educational stratification exists in the first place and then on macro-sociological explanations for change over time and cross-national differences in educational stratification.3 The empirical evidence will be reviewed as I go along.

3 I will not review theories and evidence of meso-level effects, like schools, classrooms, and neighbourhoods, on social differentials in education. Most research in this area has been on educational achievement only, but not on IEO. Although these factors may play a role as well, it is difficult to draw causal inference from these levels because of problems of endogeneity and self-selection (see Breen & Jonsson 2005): effects of socio-economic intake and a favourable school environment can hardly be separated. Furthermore, the effects seem to be rather small, as soon as social background and school composition are controlled for (Coleman et al 1966): Only 5% of the between school variance is due to differences in school climate, school policies and school resources (OECD 2005). These factors are thus beyond the scope of this study.
3.1 Why does IEO exist in the first place?

The to date most established theories for the explanation of IEO mainly refer to resource differences between families. Cultural as well as material resources are widely seen as responsible for the development of social differentials in education (Blossfeld & Shavit 1993; Bourdieu & Passeron 1977; Boudon 1974; Breen & Goldthorpe 1997; Marks 2005). The effects of resource differences on educational attainment are mediated by socialisation on the one hand and educational choice on the other (Breen & Jonsson 2005), which are complex and highly interdependent social processes. Boudon (1974) was the first to propose an analytical distinction between primary and secondary effects of social origin: Primary effects refer to that part of the association between social origin and ability or school achievement that is mediated by the family’s cultural background.4 Erikson and Jonsson (1996a) similarly distinguish between social origin effects on measured ability and social origin effects on decisions about one’s educational career, given ability. An individual’s educational attainment is always, along with genetic factors, influenced by primary and secondary effects. In Boudon’s framework, a family’s cultural resources are more or less directly related to an individual’s academic abilities, whereas material resources are largely indirect determinants of education that act via class-related educational aspirations and decisions on educational transitions. Today it is rather acknowledged that both cultural and material resources act on socialisation and decision-making processes. The distinction between primary and secondary effects will be used as a general guideline through the following sections, which give a concise overview over the theoretical assumptions and empirical studies of these micro-level explanations for educational inequality. The first section will present socialisation-related and the second section choice-related research on social differentials in education. A third section will show how both processes, socialisation and choice, interact in producing educational inequalities.

3.1.1 “Primary effects”: Academic achievement, given social background

There are several theoretical approaches to differences in school performance between the offspring of different social classes, arguing that economic and cultural inequalities between low and high status families and their close social network are thought to lead to differences in socialisation. The most well known approach is Bourdieu’s Cultural Reproduction Theory (Bourdieu 2004 [1986]; Bourdieu & Passeron 1977). In the framework of this con-

4 Boudon himself was not very interested in these primary effects, as he mainly wanted to show how important secondary effects are, and that culture is insufficient for the explanation of inequality of educational opportunity.
flict theory of educational stratification, which borrows from Weber’s (1968 [1921]) notion of status culture, Bourdieu theoretically spells out the intergenerational transmission of “cultural capital”. There are two core arguments: Firstly, when there are school fees, high-status groups can simply transfer their status on their children by financial investments in education, which enables them to take up high-status positions when they are adults. When education is free of charge, however, high-status groups have to find other means than “buying education” to preserve their advantage, namely by investments in their children’s cultural capital. Secondly, Bourdieu especially emphasized that in terms of class-specific language use and codes of behaviour – central aspects of so-called “incorporated cultural capital” – schools are inherently middle class institutions; and teachers do not reward the cultural capital of the working classes. Therefore, working class pupils tend to be disadvantaged in the school context. Their initial lack of middle class cultural capital and cognitive skills will thus rather be amplified than compensated for by the school. From this theoretical perspective, working class individuals are seen as being “pushed” (Gambetta 1987) into a disadvantaged position, and that external constraints in their environment, deliberately set up by the elite class, prevent them from developing their maximal capabilities. Cultural reproduction theory is one candidate explanation for the finding that increased enrolment in schools in itself does not change the association between social background and school achievement.

Bourdieu and the concept of cultural capital inspired a lot of research in social inequalities in education, mostly on the first argument above – namely, that high status parents confer an advantage on their children by investing into their cultural capital. The idea of cultural capital has been applied in many empirical studies since (e.g. Sullivan 2001; Katsillis & Rubinson 1990; Lareau 1987; De Graaf 1986; DiMaggio 1982; Halsey, Heath & Ridge 1980). In empirical research, the meaning of cultural capital has somewhat shifted from knowledge about and participation in highbrow culture to cultural resources, which support the development of linguistic and cognitive skills. This shift is probably also due to the fact that the notion of “cultural capital” as used by Bourdieu is somewhat vague. Parental reading behaviour, interest, expectations and modelling behaviour rather than parental participation in highbrow culture are today seen as the family resources that most strongly influence children’s cognitive and noncognitive competencies (De Graaf, De Graaf & Kraaykamp 2000). It is not a high cultural background in terms of “classical culture” that counts for cultural reproduction, but rather belonging to “the reading classes”. Of course, higher educated parents can also directly help their children more effectively with their homework. “Given that much learning takes place outside schools, the teaching of aca-
ademic and vocational skills carried out by parents are probably more important than their inculcation of cultural habits” (Erikson & Jonsson 1996a: 22). Better educated parents are also more confident with respect to their children’s abilities, which will probably also make the children themselves more confident. Finally, just showing that cultural resources affect academic achievement is far from proving Bourdieu’s cultural reproduction theory: Cultural resources and activities are cognitively stimulating in the first place, and this is what makes them good predictors of academic achievement, and not culturally exclusive practice and gate-keeping (see Kingston 2001 for a review).

In terms of empirical evidence, it is firstly quite obvious that cultural reproduction in a strict sense simply does not take place: The association between social background and education is far from perfect, and there are several other variables exerting an influence on measured ability than parental cultural capital, however it is measured. For example, Sullivan (2001) found that the relationship between social class and education cannot completely be accounted for by cultural capital, so that this can only be part of the explanation. One of the other factors that play a role in explaining the effect of social background on academic ability is economic capital, which was thought to become less and less important by Bourdieu. But even without school fees, material resources can be assumed to affect socialisation, because parents with higher incomes can buy services to e.g. have more time available for their children or to provide private lessons. Some material resources even have a direct influence on the child's learning environment, e.g. if there is a quiet room for study and textbooks and other “educational resources” available in the pupil’s home. Thus, not only cultural, but also material resources are hypothesized to positively affect a child’s abilities, and “buying education”, even if more indirectly than at earlier times, might still be important today.

Marks (2005: 495ff.), using PISA 2000 data, uses measures for material and cultural resources to account for social class inequalities in reading achievement in 30 countries. Material resources comprise wealth, measured by the presence and/or number of certain items in the student’s home (e.g. a dishwasher; the number of computers and mobile phones; having an own room), and more specific educational resources (possession of a dictionary, the number of calculators, a quiet place and a desk for study). Cultural resources comprise the number of books in the home and presence of items related to “high” culture (classic literature; books of poetry; works of art). Marks’ results show that averaged over all

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5 As it is impossible to identify self-employed parents in the PISA dataset, a simplified class measure without a category for the self-employed is used. Unfortunately, PISA provides ISCO-88 codes “only”, and no variables about employment and supervisory status.
countries, about 20 to 25% of the effect of having an upper or lower service class background or a routine white-collar background on reading achievement (the reference category being the semi- and unskilled working class) can be explained by material resources. Controlling for material resources, cultural resources account for additional shares of the social class effect (20 to 28%). According to Marks, cultural resources are a little bit more important than material resources in explaining class differentials in education, despite the fact that only parental class, and not education, is used as an indicator for social background. Moreover, material and cultural resources are of different importance in different countries. In only one country, namely Korea, material and cultural resources completely account for social class differentials in education. In the other countries, between one and two thirds of the class effects can be explained by a student’s material and cultural resources. However, such estimations usually lead to rather conservative estimates, as the measures for cultural and material resources are very crude and non-exhaustive. Therefore, we can expect the actual explanatory power of cultural and material resources to be somewhat higher. Unfortunately, the measures applied usually are also unsuitable to reveal the exact mechanism at work. Marks did for example not test highbrow cultural capital separately from the other cultural and educational resources, so that the relative importance of factors within the group of cultural resources is unclear.

To conclude, primary effects, i.e. the association between social background and measured ability or academic achievement, are based on differences in socialisation and learning opportunities during childhood. Material and cultural resources and their distribution over different social classes indeed vary over different countries, and both influence how intellectually stimulating a child’s home environment is and how much support parents can give to their child. However, both do not fully explain the relationship between social origin and performance in school. Genetic differences might account for another part of the unexplained association, but as biological factors are not assumed to vary over countries, this is not interesting with respect to cross-national differences in IEO.

3.1.2 “Secondary effects”: Educational attainment, given ability

From the end of compulsory schooling on, choice starts to play a major role in the educational attainment process. Whereas Bourdieu assumed self-selection to occur because of different interests and tastes of people from different social class backgrounds (based on

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6 Differences between schools account for another significant share of the remaining class effects. However, Marks does not provide us with any theoretical reasoning on school effects, and just uses school dummies to measure how big these effects are. This, however, does not explain anything.
their cultural capital), there is a growing body of literature that explains self-selection in terms of rational action theory. This perspective, which originates in human capital theory (Becker 1993 [1964]), rather stresses the pull-factors of educational choice: aspirations and expected benefits of education (Gambetta 1987), but also reflects on constraints in terms of costs of education.

Boudon (1974) was the first to view the educational attainment process as a series of transitions, which makes the element of choice much more visible than approaches that only focus on the final outcome of the whole process. An educational career thus consists of a number of transitions; and the result of each transition is influenced by selection, based on prior achievement, and choice, based on aspirations. There is a correspondingly high popularity of the logistic response model among researchers who adopt an educational choice perspective, firstly introduced into the field by Mare (1980; 1981). More recently, a multinomial transition model was proposed to more adequately reflect the fact that (at least in European educational systems) individuals usually do not just face the decision between “staying on” or “dropping out”, but between several alternative educational pathways (Breen & Jonsson 2000).

A general feature of the different versions of rational choice theory is the assumption that individuals rationally consider costs, benefits and the probability of gaining these benefits when taking important decisions generally. Decisions about investments in education are high-cost situations where deliberate consideration can be assumed to be pervasive. Therefore, Breen and Goldthorpe (1997) argue that educational decisions mainly depend on cost-benefit considerations of alternative educational pathways (e.g. academic vs. vocational or short vs. long tracks) and expectations of success and failure (e.g. passing or failing an examination) in the respective educational pathway. Costs consist of direct costs, like for tuition fees, books and transport, as well as indirect costs, mainly foregone earnings (opportunity costs), which are (at least formally) only relevant for post-compulsory education. The benefits are the expected returns to education in a broad sense, e.g. in terms of income, prestige, and thus access to specific destination classes (social demotion can be viewed as negative benefits). Success expectations depend on ability (previous achievement, see section 3.1.1) as well as constraints and opportunities that are related to different class positions and the educational system. The general model behind such considerations is the model of subjective expected utility (SEU), which says that the individual chooses that option out of a set of feasible alternatives that maximises the utility, consisting of benefits (weighted by the probability of attaining them) minus costs \(U=PB-C\) (Erikson & Jonsson 1996a; Esser 1999).
The rational action approach to social differentials in education refers to aspirations as a major explanatory concept, because aspirations are important for the benefits an individual expects from education. It is however not assumed that classes differ with respect to their aspirations because of class values or the like, but that absolute aspirations simply differ because of the different starting points of the different social classes (Keller & Zavalloni 1964). Lower class youth need to have relatively higher aspirations than middle class youth to reach out for the same absolute social status. In other words: in order to aim at going to university, the aspirations of a working class child have to be much higher than those of a service class child. Examined from the other end of the class distribution: “If children evaluate educational alternatives with their parents’ socioeconomic position as a yardstick, it follows that children from higher classes have more to lose from not going on to higher education (than working class children, S.S.)” (Erikson & Jonsson 1996a: 27f). Aspirations should thus be viewed in a relative rather than an absolute sense, and while absolute aspirations differ between classes, relative aspirations are the same. The consequence is that the social status an individual seeks to achieve (with education being the major means to this goal) partly directly depends on his/her origin. Furthermore, the negative effects of demotion on benefits are assumed to be bigger than the corresponding positive effects of social ascent (Erikson & Jonsson 1996a: 29; see also Tversky & Kahnemann 1986). Thus, individuals are “risk averse” when it comes to educational decisions (as they are with many other ones) – losses are more important than gains.

Breen and Goldthorpe (1997) further developed the approach prepared by Keller and Zavalloni (1964), Boudon (1974) and Erikson and Jonsson (1996a) in a more formal way. The authors claim to provide a parsimonious and general theory of social differentials in education that should be able to explain persisting inequality and equalization of education between social classes. The model by Breen and Goldthorpe builds on the core assumption that families in all classes seek to avoid downward mobility for their children (risk aversion, see above), and on four additional conditions (Breen & Goldthorpe 1997: 282): Firstly, the probability of access to the service class is higher for an individual if he/she decides to stay at school and passes the final examination than if she fails it or does not stay at school in the first place. Secondly, “… remaining at school and failing increases the chances of entering the underclass” (Breen & Goldthorpe 1997: 282). Thirdly, entering the working class is more probable than entering the service class when a pupil leaves school immediately; and when staying on and failing, the odds of getting to the working class as compared to the service class are not higher than when leaving school. Lastly, staying on at school and passing makes access to the service class more probable than to the working class. Breen and
Goldthorpe (1997: 283 ff.) show formally that under these conditions, even at zero costs and when there are no differences between classes in success expectations, class differentials in transition probabilities occur. Therefore, there is a genuine tendency for class-based educational decisions, without the need for cultural or value explanations for secondary effects.

A similar approach was developed by Esser (1999). Esser additionally takes the probability of status decline for a certain educational investment into account. This probability is higher for the offspring of higher classes than for the offspring of lower classes. Thus, the motivation for education is higher among the middle and upper classes than in the working class.

Differences between the classes in economic resources, cultural resources (through ability, i.e. primary effects, and information) and wider returns to education (e.g. through an additional consumption value of education for the offspring from higher classes) amplify this tendency by influencing costs, success expectations and benefits respectively. Therefore, differences in material and cultural resources are also important from the point of view of rational action theory. They are not only decisive aspects of the environment that socialises a child, but are in the same time important factors in the decision making processes during the educational career.

The costs of education have more restrictive consequences for families who are economically not well off, and students from more affluent families usually receive more financial support from their parents while they study (Erikson & Jonsson 1996a: 17). In poor families, children might have to contribute to the family’s income by starting to work as soon as possible. In this extreme case, the costs of education (especially relative opportunity costs) may be so high that the set of feasible alternatives is reduced to one option – labour market entry. Then, of course, there is no real choice any more. Therefore, “economic resources are crucial because they are the main determinant of educational costs for the individual” (Erikson & Jonsson 1996a: 18). Furthermore, there are different costs involved with different educational programmes. Post-compulsory secondary education provided by the state is free in western countries nowadays, but higher education is not free in all countries (this will be expanded in section 3.2.3). Indirect costs are also higher for tertiary than for secondary education, e.g. because students may want or have to move out of their parents’ home. Even if lower class individuals choose higher education, the requirement to work part-time to meet maintenance costs (and maybe even pay fees) will often lead to lower overall results, especially when there is no institutional arrangement for part-
time studies. Thus, material resources are expected to be especially important at the transition to higher education.

Cultural resources enter the decision-making process indirectly through primary effects and directly in the form of information and knowledge about the school system. This is one of the few points where parental education is brought into the foreground, because obviously, parents who enjoyed themselves more education can give more and better advice on educational decisions and strategies to their children (Erikson & Jonsson 1996a: 21f.). They especially know which decisions constrain future sets of alternatives and can give a realistic picture of the intellectual requirements of different educational programmes. As Erikson and Jonsson put it: “Especially at the transition to university, one type of information and corresponding advice that could be valuable is that you do not have to be particularly clever to succeed at university” (Erikson & Jonsson 1996a: 22). Thus, information as one important aspect of cultural capital increases the success expectations in addition to ability (influenced by social background through primary effects).

Empirical results thus far are broadly supportive of rational choice accounts of social differentials in education (Becker 2000; 2003; Need & de Jong 2001). Becker’s analyses show that the perceived costs and benefits of education differ between the social classes, and that the stability in these differences is one factor of the persistence of class differentials in education in the 1960s to 1980s in Germany. An empirical study of Dutch data (Need & de Jong 2001) tried to systematically test the assumptions of Breen and Goldthorpe’s (1997) model. The first result is that individuals indeed avoid downward mobility: more than 90% of students chose an educational career which leads to an educational credential as high or higher than that of their parents. Secondly, ability (as measured by the grade point average) and success expectations were higher among the offspring of more highly educated parents. Thirdly, income did not affect the choice between entering higher education or not, but between more vocational or academic higher education, thus shorter and longer programmes. Finally, the effect of parental education on the students’ educational choice is partly mediated by factors considered important by Rational Action Theory. Educational aspirations seem to be the most important factor involved. Thus, the results are very supportive of Breen and Goldthorpe’s model for explaining class differentials in educational choice. However, to my knowledge, there are no empirical studies testing rational action-bases explanations against other explanations or testing the model in different countries simultaneously.
3.1.3 The complex interaction of socialisation and educational choice

Empirically, it is hardly possible to disentangle the transmission of educational advantage through socialisation and choice. There are two reasons for this: On the one hand, intentional behaviour in *anticipation* of a certain educational career might influence ability, so that choice always creeps into primary effects through the back door. Parental aspirations influence how parents bring up their children. For example, parents deliberately read books together with their children, to support their later academic success. Or a pupil chooses to do her homework, to increase the chances to get the examination results required for university entry. Transition choices also affect the development of abilities *after* the transition, affecting future transitions. Then, rational choice is even part of the explanation for primary effects. On the other hand, ability is an important factor in any later decision process, so that primary effects impact on secondary effects. Thus, primary and secondary effects are closely interwoven. However, the distinction between primary and secondary effects roughly structures the process of social reproduction through the life cycle and is a helpful analytical framework, which integrates different theoretical perspectives. Primary effects then refer to social class differences in ability before any given transition point (no matter if they have come about by socialisation processes or previous educational choice), and secondary effects to social class differences in choice outcomes, given ability at the time of transition.

3.2 Why is IEO stronger in some countries than in others, or why does it change over time?

Why do countries differ with respect to the degree of social differentials in education, or why does the latter change over time within countries? From the empirical result that the association between social origin and educational attainment or achievement vary between countries and over time (see section 2) it can be inferred that “the effects of different individual factors operate with varying force under different social conditions” (Erikson 1996: 95). Many hypotheses on contextual effects have been proposed, primarily to explain change over time in IEO. As the surprising result was however “persistent inequalities” rather than change in most countries, however, micro-sociological theories, mainly rational action theory, developed much more over the last decade than macro-sociological explanations for cross-national differences. Nevertheless, even if there is not much change over time in IEO within countries, there are marked differences between countries in the degree of IEO, which have not yet been explained satisfactorily.
Several broad perspectives on cross-national and over-time differences in IEO can be distinguished: the focus on consequences of educational expansion, connected to modernisation processes and economic development; the (social) inequality perspective, connected to the political regime of a country; and the institutional perspective, connected to the educational system of a country. In the following paragraphs, I will describe their theoretical assumptions, summarize the hypotheses derived from these assumptions, and review publications which empirically test the hypotheses derived from these perspectives using methods of comparative social research.\(^7\) I will also show up possible links with individual level explanations (see section 3.1).

A relatively small number of publications (Treiman & Yip 1989; Rijken 1999, chapter 3; Treiman, Ganzeboom & Rijken 2003; Marks 2005) analyses explanations for cross-national differences in IEO by substituting country names by theoretically meaningful variables (Przeworski & Teune 1970). Concerning cross-nationally comparative studies in IEO, it can be distinguished between those measuring educational attainment – either in (virtual) years of schooling (Treiman & Yip 1989; Treiman, Ganzeboom & Rijken 2003), (virtual) educational transitions\(^8\) (Rijken 1999, chapter 3; Müller & Karle 1993), both derived from ordinal measures – and those measuring educational achievement through standardized performance tests (OECD 2001, chapter 6; OECD 2004, chapter 4; Marks 2005). The measurement of social origin differs considerably, too: Some researchers prefer continuous measures of social status or occupational prestige (Treiman & Yip 1989; Rijken 1999, chapter 3; Treiman, Ganzeboom & Rijken 2003; OECD 2001; 2004), whereas others focus on social class (Müller & Karle 1993; Marks 2005).\(^9\) The studies using multidimensional, cate-

\(^7\) Many studies that only relate to one country also discuss contextual conditions of educational inequality. This literature will however only selectively be incorporated into this review.

\(^8\) “Virtual” in the first case, because the number of years completed is often inferred from the mean years of schooling required to finish a certain educational programme, and not “real” years of schooling, as directly indicated by the respondent (Treiman & Yip 1989). “Virtual” in the second case because these studies do not operate with detailed life history data, but infer the transitions taken from the highest educational attainment (i.e. it is assumed that every individual at the highest level has completed all the lower levels, and so forth). This is a rough simplification, as there are very often several different paths leading to certain credentials, and there may be differences between classes in which path is preferred or imposed. Nevertheless, the results can be interpreted in a meaningful way, as individuals who achieved a certain level of education can be compared with individuals who did not achieve that level, but the level below.

\(^9\) Müller and Karle (1993) show in their analysis using social class and educational transitions as measures for social background and education respectively why unidimensional measures are unsuitable for the analysis of social differentials in education: Firstly, the ordering of classes differs over different transitions. For example, at the transition to tertiary education, sons of farmers who have passed all lower transitions (i.e. who decided against becoming farmers themselves) have higher success probabilities than sons of skilled or unskilled workers. Moreover, sons from the petty bourgeoisie have lower transition probabilities than those from the routine non-manual class, although they usually have more cultural and economic resources. However, education is less important for them in terms of their future, as they will often inherit their fathers’ business. Secondly, an analogous argument applies to the measurement of education: social origin effects differ over transitions in a non-linear way.
gorical measures rather follow the tradition of social mobility research, whereas the ones using unidimensional, metric measures rather follow the tradition of status attainment research.

Table 1 gives some basic information about the four cross-nationally comparative studies mentioned above that try to predict differences between countries in the degree of social differentials in education by contextual variables, and which will thus be referred to repeatedly in the following sections. Apart from one, they all follow a two-step procedure: They firstly estimate social inequalities in education (each study somewhat differently), and then correlate the results with or regress them on contextual indicators. The study by Treiman, Ganzeboom and Rijken (2003) is the only one using multilevel modelling that I am aware of. The studies by Treiman and Yip (Treiman & Yip 1989) as well as Marks (2005) are purely cross-sectional; the studies by Rijken (1999, chapter 3) and Treiman, Ganzeboom and Rijken (2003) use a synthetic cohorts approach.

Table 1: Overview over cross-nationally comparative studies using context indicators

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<tr>
<td><strong>Data</strong></td>
<td>Pooled national datasets, 1967 to 1976 (males only, 19 countries)</td>
<td>International Social Mobility File (25-75 year olds; 12 countries)</td>
<td>International Social Mobility File (25-64 year olds; 29 countries)</td>
<td>PISA 2000 (15 year olds; 30 countries)</td>
</tr>
<tr>
<td>1) Measure for education</td>
<td>Virtual years of schooling</td>
<td>4 virtual educational transitions</td>
<td>Virtual years of schooling</td>
<td>Reading achievement</td>
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<tr>
<td>2) Measure(s) for social background</td>
<td>SIOPS (Standard International Occupational Prestige Scale Treiman 1977) and father's years of schooling</td>
<td>ISEI (International Socio-Economic Index of Occupational Status, Ganzeboom, De Graaf &amp; Treiman 1992)</td>
<td>ISEI, father's virtual years of schooling</td>
<td>Simplified EGP class scheme (Erikson, Goldthorpe &amp; Portocarero 1979)</td>
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<td>Measure for social differentials in education</td>
<td>Regression coefficients from regressing 1) on 2) in each country</td>
<td>Regression coefficients from regressing 1) on 2) in each sex<em>cohort</em>country context for 4 transitions</td>
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</tr>
<tr>
<td>Method</td>
<td>Trivariate two-step</td>
<td>Cross-classified multivariate two-step</td>
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3.2.1 Supply of education: Educational expansion

There are a number of hypotheses relating educational expansion to changes and stability in IEO.

*Educational Expansion and Modernisation*

The first and most prominent hypothesis in comparative social stratification research is the modernisation hypothesis (Treiman 1970; Blau & Duncan 1967), stating that IEO will de-
cline in the course of industrialisation, mainly because of the educational expansion and decrease of the costs of education that take place as countries industrialise. The modernisation hypothesis has developed as an element of functionalist theory in the middle of the last century. It is an aspect of the modernisation hypothesis applied to the overall social attainment process, which is hypothesised to become more meritocratic overall, substituting ascription by achievement over the course of industrialisation (Blau & Duncan 1967). It relates educational attainment and IEO to a country’s technological and economic development. Technological development increases the economy’s demand for skilled labour and highly educated individuals, so that the returns to education increase (as the supply of skilled labour does not increase at the same rate as the demand). Qualifications therefore become more important for the individual to secure a job and an income. Economic growth stimulated by technological innovation increases the state’s and the individuals’ wealth, providing resources for investment in education from the side of the state and the individual. Moreover, not only material conditions, but also values changed considerably in the course of modernisation – governments increasingly endorsed egalitarian ideas, and education started to be seen as a fundamental human right (Lenski 1966). As an effect of these economic and political pressures, educational systems expanded rapidly in all European countries after WWII. To summarise, the central contextual variable that is supposed to be responsible for change over time and differences between countries in the educational stratification process is a country’s level of educational expansion, which is in turn brought about by technological development and the bureaucratization of work (Treiman & Yip 1989).

Many hoped that the provision of free education by the state and increasing returns to higher levels of education would decrease educational stratification, leading to equal opportunities for all, as lack of financial capital was assumed to be the major reason for the working classes’ under-participation in education (Treiman & Yip 1989). It was expected that, because of educational expansion, class inequalities in education would decrease considerably over the 20th century (Blossfeld & Shavit 1993; Treiman 1970). Cross-nationally, it is expected that the more industrialized a country, the smaller the association between social background and educational attainment (Treiman & Yip 1989). In more modernized societies, selection in schools is also expected to be based on achievement rather than ascription.

One theoretical problem of the modernisation hypothesis is that it does not explicitly relate to individual level theories of educational stratification: it is macro-sociological in character, and does not explain potential changes in IEO with respect to social mecha-
nisms that might be at work. If e.g. primary effects are not alleviated by modernisation, school achievement will continue to be associated with social class background, and achievement selection will be nearly as class-based as direct selection by social background. Educational expansion can however be reconciled with Rational Choice theory through the central variable of costs of education: Rational action theory would predict that secondary effects of social origin should decrease with decreasing costs of education. Another theoretical problem of the modernisation hypothesis is that it states uniform effects of modernisation in all countries with similar levels of industrialisation, irrespective of the large differences between countries in the historical development of their educational institutions (see section 3.2.3). This is implausible (Müller & Karle 1993).

The modernisation perspective is inherently comparative and longitudinal, and a significant amount of research was mostly dedicated to the question if IEO has decreased over time, and if countries differ with respect to the pattern of change or stability in IEO. However, in most industrialised countries, despite a general rise of educational levels among all classes and the strong decline (if not disappearance) of gender differentials in education, social inequalities in education still are a matter of fact (see section 2). Thus, class and gender equalisation in education might be competing processes (Shavit & Blossfeld 1996). Only recent studies were able to show any decrease at all (Breen et al 2005; Rijken 1999, chapter 3). Thus, from a longitudinal perspective, the large changes in the technological and economic context and in the supply of education in industrialized countries over the 20th century were thought not to be paralleled by analogous changes in educational inequalities for a long time; but since rather recently, this account has been challenged, and the debate is open again.

The four cross-nationally comparative studies mentioned above measured modernisation as a contextual variable, and three of them (Treiman & Yip 1989; Rijken 1999, chapter 3; Marks 2005) gauge its influence on IEO, the other one on overall attainment only (Treiman, Ganzeboom & Rijken 2003). Partly, these studies also look at change over time in a systematic way, but primarily investigate differences between countries in levels of modernisation/educational expansion and social differentials in education. Evidence concerning the effect of modernisation on IEO is however rather negative in two studies (Treiman & Yip 1989; Rijken 1999, chapter 3) and positive in the two others (Treiman, Ganzeboom & Rijken 2003; Marks 2005). The inconsistency in findings can have many reasons, ranging from very different data sources to different measurement and modelling approaches. The variables used to measure education, social background, modernisation and the variables
controlled for on the macro-level as well as the measures for social inequalities in education differ from study to study.

Marks (2005), using data from PISA 2000, looks at modernisation as indicated by the state of educational expansion at tertiary level and finds a bivariate correlation of .5 between the percentage of university graduates in a country and $R^2$ resulting from regressing reading achievement on social class. Thus, the size of the tertiary level seems to have a strong effect on IEO. However, this study does firstly not measure the process of expansion, but rather the size of a specific part of the educational system at one point in time, and secondly does not control for other variables on the country level, so that we cannot be sure that it is really educational expansion that makes the difference. The level of economic development of a country (measured as GDP) does not correlate with IEO.

Treiman and Yip (1989) find that the effect of industrialisation loses substantial significance if status inequality is controlled for. The dependent variable here is again $R^2$, but resulting from a regression of virtual years of schooling on father's years of schooling and father's occupational prestige. Thus, whenever studies use modernisation indicators without controlling for differences in education between classes, effects of modernisation might be spurious. However, a problem with Treiman and Yip’s study is that the authors do not report standard errors and other important data on their models, so that the result cannot really be evaluated. Furthermore, the results proved to be partly sensitive to outlier countries (Müller & Karle 1993).

Rijken (1999, chapter 3) finds that when countries, transitions, gender and cohort are controlled for, modernization does not have any overall effect on IEO. Thus, differences between countries and the decline of IEO over time cannot be explained by different degrees of modernization. In a more detailed analysis where modernisation is allowed to interact with transitions, however, it turns out that modernisation increases the social origin effects when no qualifications are contrasted with at least primary education (maybe because pupils not getting primary qualifications in modernised countries are a small and extreme group from very problematic family backgrounds), and decreases social origin effects at the transition from primary to lower secondary education, but not at higher transitions.

Treiman, Ganzeboom and Rijken (2003) find that average educational attainment in a country has a negative impact on social differentials in education, i.e. the higher a country’s average level of education, the lower the effect of father’s occupation and education on the respondent’s educational attainment. However, educational expansion is measured as the state of education at one point in time again, and, which is more problematic, the indicator
is derived from the dependent variable. In terms of measurement, it is a very basic requirement that the dependent and the independent variable are unrelated to one another. Therefore, as the methods used in the paper by Treiman et al. (2003) are very questionable, the results are open to debate. Interestingly, the authors do not test the effect of modernisation on IEO, but only on average educational attainment and gender differentials.

Thus, there are inconclusive and mixed results concerning the hypothesis that social differentials in education are affected by modernisation and educational expansion. If anything, it is rather educational expansion or a high average level of education than industrialisation that makes some difference. Also, IEO rather decreases at lower educational transitions, and this cannot be explained completely by modernisation. Therefore, the modernisation hypothesis somewhat seems to be wishful thinking, namely that for maximal economic efficiency, social or ethnic origin should not be related to educational outcomes, and selection in schools should be based on prior achievement only. It can thus be concluded that the modernisation hypothesis might explain rising levels of educational attainment as well as between-country differences therein, but it does not seem to have a large effect on IEO. As the modernisation hypothesis was theoretically not acceptable to a number of researchers and moreover empirically not very successful, several other hypotheses developed a little later to oppose or complement modernisation hypothesis, proposing different relationships between educational expansion and changes in IEO (see Blossfeld & Shavit 1993 for a synopsis): Social and cultural reproduction (Bourdieu & Passeron 1977; Collins 1971), maximally maintained inequality (Raftery & Hout 1993) and differential selection (Mare 1981). The micro-level theories discussed in section 3.1, cultural capital and rational choice theory, were also developed to account for the persistence of social inequalities in education.

**Educational Expansion and Social and Cultural Reproduction**

The Cultural Reproduction Hypothesis modifies the modernisation hypothesis in that it restricts its validity to early transitions in the educational career (Collins 1971). The cultural reproduction hypothesis represents the macro-sociological part of cultural capital theory (Bourdieu & Passeron 1977). It thus states that at higher levels, educational systems will remain exclusive and socially reproductive, because the high status elites restrict access to higher education for the offspring of the working class, whereas at lower levels, educational institutions will open up for low status children because of macro-economic requirements as stated by modernisation theory. A decline in IEO is therefore only predicted for those early transitions where expansion is strongest (Blossfeld & Shavit 1993), and IEO is ex-
pected to be highest at the transition to higher education, especially elite institutions. Rijken (1999, chapter 3), although not explicitly testing this hypothesis, finds that IEO decreases over cohorts for the transition from primary to lower secondary education, and increases for the last transition, from upper secondary to tertiary education. However, as soon as several contextual variables are included in the model, the percentage of students at risk in particular (see the section on differential selection below), the pattern becomes clearer (see the descriptive results in section 2): the modernisation indicator has a negative effect mainly on IEO at the transition from primary to lower secondary education, and over and above modernisation, the lower transitions open up more than the higher ones. Thus, there is some evidence that in the course of modernisation, educational opportunity increases at lower transitions more than at higher ones. The three other studies did not analyse differential effects for different educational transitions.

Educational Expansion and Maximally Maintained Inequality

The hypothesis of maximally maintained inequality (MMI), first proposed by Raftery and Hout (1993), states that IEO persists at those transitions where the elite classes are not yet saturated with education (see also Blossfeld & Shavit 1993). On the other hand, if almost 100% of the service class attend a given level of education, all further expansion must lead to equalisation at that level (ceiling effect). Thus, educational expansion eventually, but not initially, leads to equalisation (Erikson & Jonsson 1996a: 38). From the point of view of Rational Choice Theory, if expansion is so strong that the costs of education decline so much that all members of the service class have the resources to allow their children to continue education, further expansion leads to a decrease in class inequalities in education, given the access probabilities to the different classes remain stable (Breen & Goldthorpe 1997: 294 f.). No comparative study has tested MMI yet, but the results of somewhat decreasing IEO at levels where the service class is not yet saturated with education (Breen et al 2005) rather speaks against the empirical validity of MMI.

Educational Expansion and Differential Selection

A hypothesis that leads to conclusions about the effects of educational expansion that contradict the prediction of the modernisation hypothesis was proposed by Mare (1981), and states that educational expansion will lead to an increase in IEO. The reason for this is that before educational expansion occurred, only the most able and most motivated children from lower backgrounds stayed in education. Thus, most selection occurred at lower transitions, and this is why social origin effects are highest there. As educational systems expand,
selection at low levels decreases and the student population gets more heterogeneous on a number of unmeasured background variables (e.g. motivation and ability). The selection processes at each transition point lead to differentials in continuation rates for different social groups. Increased heterogeneity will then show up in higher social origin effects on education at those transitions that were only open to a homogeneous student population before the expansion. Thus, according to Mare, educational expansion leads to increased competition at later transition points, and more selection with respect to social background.

Rijken (1999, chapter 3) tested if the relative number of students at risk, used as a measure for heterogeneity of the student population, increases social origin effects on school continuation probabilities as hypothesised by Mare (1981), controlling for levels of modernisation and other contextual variables. The author includes a quadratic term in the model to test for a non-linear effect. There is indeed increasing IEO as the proportion of students at risk increases up to 93% of the student population (88% in the final model, when country dummies and other controls are included). From this point onwards, at high selection probabilities, the role of social origin does not increase any more. The curve follows the classical pattern for saturation effects. The inclusion of the relative number of students at risk furthermore reduces the decrease in IEO over transitions and makes a decrease of IEO over cohorts visible. Thus, there is an offsetting effect of differential selection and expansion over time, in accordance with Mare’s (1981) predictions.

3.2.2 Social inequality, educational inequality, income inequality

A second thread of hypotheses to explain cross-national differences in IEO relates social inequalities in education to general social inequality and social policy. The single more specific hypotheses can be summarised to the thesis that the better the relative standing of the working class in a society with respect to income, cultural resources and political power (or the lower class inequalities with respect to income, cultural resources and political power), the lower social differentials in education.

It is firstly hypothesized that IEO is higher in countries where general social inequality in terms of inequality of condition is higher than in other countries, and decreases where economic equalisation takes place (Treiman & Yip 1989; Müller & Karle 1993; Erikson & Jonsson 1996a; Breen & Goldthorpe 1997). This hypothesis is often restricted to the analysis of income inequalities, especially when the focus is on secondary effects only. However, it could be expanded to cultural differences. The distance between the different social classes in terms of material and cultural resources, which can also be described as differences between countries in the relative location of different classes, probably differs be-
tween countries. As not only material, but also cultural resources in the family are assumed to play a certain role for the intergenerational transmission of education (see section 3.1), it can be expected that the larger the differences in cultural resources between social classes and the more culturally diverse a country (e.g. due to immigration or ethnic heterogeneity), the higher the degree of social inequalities in education in that country. To illustrate:

“For example, in a society in which fathers who are professionals have an average of fourteen years of education and fathers who are unskilled laborers have an average of four years of education, it is likely that the difference in achievement between the sons of professionals and those of unskilled laborers will be greater than in a society in which fathers who are unskilled laborers have an average of twelve years of school” (Treiman & Yip 1989: 376).

With respect to socialisation, primary effects can be assumed to be smaller in countries with less pronounced status inequalities, as the disadvantage in material and cultural resources of the lower classes as opposed to the upper classes is lower. In the latter society described above, it is more probable that children are exposed to similar educational opportunities in the home and at school. According to rational action theory, differences in status inequalities between countries would affect the degree of ambition necessary for lower class students to aspire as high as middle or upper class students in each country, so that secondary effects of social origin should also be smaller in countries with lower status inequalities. The relative costs of education are also more similar for lower and upper classes if the distance between the classes in terms of economic resources is lower (Erikson & Jonsson 1996a: 18). Thus, in countries where the social classes are closer to each other, the overall degree of IEO is expected to be lower than in countries where the distance between the classes is very large. As an antithesis, if the rank ordering of social classes is more important than resource differences between classes, we would not expect countries to differ with respect to social inequalities in education (Erikson & Jonsson 1996a). Because of the income redistributions that egalitarian policy typically entails, it is also expected that socialist and socio-democratic regimes, maybe backed up by a strong labour movement and trade unions, produce less educational inequality than conservative or liberal regimes.

It is sometimes argued that the hypothesized negative effect of status inequality on IEO is an indirect effect of modernisation, as modernisation decreases status inequalities between the social classes (Treiman & Yip 1989). This account has however been challenged, as countries at similar levels of modernisation still differ substantially in their degree of status inequality, and status inequality even seems to be growing in some industrial so-
cieties. Thus, modernisation cannot be the only or most important factor of social inequality (Müller & Karle 1993).

Secondly, economic security is another important prerequisite for a decision in favour of a long-term investment like higher education (Erikson & Jonsson 1996a: 18). Thus, in times of high unemployment and economic recession, especially in combination with weakening welfare state policies, students from families whose “breadwinner” is at risk of losing his/her job cannot necessarily rely on their parents’ support in the same way as in favourable economic circumstances. Thus, individuals from lower classes are particularly less inclined to invest in education in times of recession, high unemployment and withdrawal of welfare state benefits, and respective cross-national differences in IEO can be expected.

Thirdly, it can additionally be expected that in countries with a lower cultural and economic distance between the upper and the lower classes, the importance of social status in interpersonal relations is generally lower. In contrast, the stronger everyday interaction is shaped by social status and hierarchical relations in a society, the stronger is the latter’s impact during socialisation and schooling, which leads to a higher association between social origin and education. Comparatively small and egalitarian societies without a dominating elite culture could thus show less educational inheritance (Erikson & Jonsson 1996a: 26). Not only the social structure, but also social relations and values are more egalitarian (as Erikson (1996: 105) put it: “… all indicators point clearly to the somewhat unscientific conclusion that many egalitarian changes »go together«”).

In the case of Sweden, because of far-reaching egalitarian welfare state measures, a low degree of inequality of condition, and vast school reforms, it was expected that educational inequalities would have decreased more than in other countries (Erikson & Jonsson 1996a). This could not be rejected empirically (Jonsson 1993; Erikson & Jonsson 1996b), and in fact, some specific social classes are less disadvantaged in Sweden than in other countries (Müller & Karle 1993). However, systematic cross-national research so far suggests that the role of income inequality is not as big as one might think it would be: The bivariate association between the Gini coefficient and $R^2$ resulting from the prediction of reading achievement by social class is weak (Marks 2005). This parallels the results of micro-level studies concerning economic resources in the family and educational attainment: in Western societies, at least up to the secondary level of schooling, income is nowadays not a very important predictor of educational attainment any more (e.g. Treiman & Yip 1989). In contrast, the distance in education between different classes was found to play a substantial role: Controlling for level of industrialisation, the correlation between status
inequality in education and $R^2$ resulting from a regression of virtual years of schooling on father’s years of schooling and occupational prestige is .53 and significant (Treiman & Yip 1989). The criticism raised above (see page 21) however makes this result hard to evaluate. The study by Treiman et al. (2003) uses general educational inequality in a country (i.e. the variance of educational attainment) as a proxy for social inequality, and finds positive effects on social differentials in education. But as with the measure for educational expansion (see page 21), the indicator for educational inequality was derived from the dependent variable of the multilevel model. This circularity in the measures makes the results rather dubious. As Rijken (1999) did not include social inequality in her range of contextual variables, we do not know how social inequality affects IEO at different educational transitions. Finally, contextual effects of the importance of hierarchies in social interaction and egalitarian values have not yet been included in any empirical test of cross-national differences in IEO.

Another hypothesis related to social inequality refers to differences in the change over time in IEO between Socialist/Communist and Capitalist societies and focuses on more far-reaching political interventions than those found under democratic welfare regimes. Abolishment of social class and gender inequalities was one of the explicit goals of socialist governments. Concerning the educational system, provision of centralized, free state education, comprehensive instead of tracked education, the increase of the minimal school leaving age, as well as affirmative action like admission quotas for the working classes and discrimination against offspring of the bourgeoisie were the main political measures to achieve this (Simkus & Andorka 1982; Mateju 1993). Concerning social policy, radical redistribution of resources and equalization of incomes, aimed at reaching equality of condition rather than opportunity, were undertaken (Mateju 1993). Both mostly started shortly after WWII. Thus, the educational systems of state-socialist societies changed dramatically shortly after the installation of the new political system. However, as soon as the new socialist elites, mostly from the well-educated intelligentsia, had secured their positions, they also tried to use this for the advantage of their own children, reversed some of the measures taken before, and prevented meritocratic selection in favour of personal networks and party membership (Mateju 1993). In Hungary for example, the quota system was abolished and administrative measures relaxed in the 1960s and 1970s (Simkus & An-

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10 It could be argued that Treiman’s argument is tautological. I do not think so, as it says that “the greater the inequality of socioeconomic resources held by fathers, the greater the dependence of status attainment on social origins” (Treiman & Yip 1989) – so that there is a clear distinction between the two generations. Treiman also uses very different measures for both generations: A distributional measure for the parental generation, and the coefficient of determination for the respondent’s generation.
dorka 1982). Thus, the Socialist Transformation Hypothesis states that IEO declines shortly after the installation of state socialism, but increases again as the new elites try to preserve their advantage again (see also Blossfeld & Shavit 1993). Concerning cross-country differences, it is expected that IEO is lower in state socialist countries (e.g. Rijken 1999, chapter 3).

Empirical evidence suggests that the educational reforms introduced in socialist societies were partly successful, but the evidence is mixed. Müller and Karle (1993) find that the wage-earning classes were more successful in socialist than in other countries, and the property-owning classes less successful. Treiman, Ganzeboom and Rijken (2003) also find a negative effect of communism on the relationship between the father's occupation and the respondent's education, but a positive effect with respect to father's education. Rijken (1999, chapter 3) also reports a 50% lower effect of father's social status on educational transitions in socialist countries and periods. Sieben and De Graaf (Sieben & de Graaf 2001; Sieben & De Graaf 2003), using sibling analysis, also find negative effects of socialism. However, comparing levels of class selectiveness of nine European countries, Hungary and Poland are not among the most egalitarian countries (Müller & Karle 1993). Studies comparing former socialist countries with the Netherlands did not find any marked differences in relative educational inequality between these countries – persisting inequality was the main result for all countries (Peschar 1991). Some older studies show that social origin effects decreased over cohorts for the first transition (Simkus & Andorka 1982; Mateju 1986). This decrease was not very strong though, and, social origin effects also did not increase again after relaxing measure in the 1960s and 1970s, as predicted by the socialist transformation hypothesis. The main effect overall was rising levels of education for all, just as in other industrialized countries, which moreover started before the socialist period (Szelényi & Aschaffenburg 1993).

3.2.3 The institutional context

A third thread of hypotheses is more specific in that it refers more directly to the process of education and explains cross-national differences in social inequality in education by institutional differences between (aspects of) educational systems (e.g. Erikson 1996). This approach thus looks more closely into educational systems as mediators of the relationship between parental social status and individual education. The main factors from this perspective are the structure of the educational system (tracking and ability grouping) on the one hand and the costs of education on the other. The first factor refers to compulsory
education. As compulsory education is free in western countries today, the latter factor mostly refers to post-compulsory, especially higher education.

**The structure of compulsory education**

With respect to tracking, it is firstly be hypothesised that tracked systems of secondary education create higher educational inequalities than non-tracked systems (e.g. Oakes 2005; 1990). Tracking involves barriers in the educational career, which purportedly serve to select pupils with respect to their abilities. Because ability is associated with a child’s social origin already at the time when children enter school (primary effects), pupils are necessarily selected not only on “inborn” talent, but also on the basis of their family background. After selection, the quality of instruction and teachers’ pay on the one hand and the pupils’ motivation to achieve on the other may differ between tracks to the disadvantage of the lower tracks, thus amplifying initial social inequalities after selection. The hypothesis that tracking and curriculum differentiation increases social inequalities in education was supported by various studies so far (OECD 2005; Marks 2005; Gamoran 1996; Hanushek & Wößmann 2006). It could also be that not only the opening up of educational options (e.g. by abolishing tracking) decreases IEO, but also the lower overall number of hurdles to take (Erikson & Jonsson 1996a: 35).

Secondly, it is theorised that the earlier academic selection starts, the bigger the overall effect of social origin (Erikson 1996: 96; Erikson & Jonsson 1996a: 35). The timing of the first transition in educational systems thus could be a further predictor of cross-national differences in IEO. This hypothesis is built on micro-sociological processes, summarized under the notion of life course hypothesis (Blossfeld & Shavit 1993): The effects of social origin are strongest for the first transition(s) and then decrease over the educational career (for comparative studies, see Rijken 1999, chapter 3; Blossfeld & Shavit 1993). From the perspective of rational choice theory, this effect is explained as follows: the younger the child when crucial educational decisions have to be taken, firstly, the more do educational decisions rely on the parents’ aspirations, and secondly, the more are perceived success probabilities inferred from the parents’ education, because there is yet little information only on the child’s own abilities (Breen & Jonsson 2005; Erikson & Jonsson 1996a: 36). When a child grows older, it will gradually take more responsibility for own decisions, and the success probability as inferred from the parents is modified by the child’s actual success in school. From the perspective on socialisation, it is argued that younger children depend more on parental cultural resources than older children. The teachers’ recommendation might also be more influential at younger ages. On the other hand, this effect can also be
explained with reference to the decreasing heterogeneity of the student body at higher transitions (Mare 1981; 1980). This can, however, not fully account for the decreasing class effect over transitions, so that there is some support for the life-course hypothesis (Blossfeld & Shavit 1993). To summarise, “if social origin affects drop-out at earlier and later transitions differently, educational systems that provide different survival opportunities at various transition points will produce a different distribution of educational qualifications among the social classes” (Müller & Karle 1993: 4).

Empirical results from longitudinal studies conducted for Sweden (Erikson 1996) and Scotland (Mepherson & Willms 1987) support the hypothesis that earlier selection increases IEO. Other studies however found for different countries that some equalisation had already taken place before the educational reforms (De Graaf & Ganzeboom 1993; Jonsson 1993), or not at all (Heath & Clifford 1996). Cross-national studies come to the results that earlier selection increases social status effects on reading achievement (OECD 2005; Marks 2005), but does not determine high social class inequalities: “Austria and the Netherlands track students at an early age but do not show particularly strong effects for class background. Therefore, tracking can but need not necessarily promote socio-economic inequality” (Marks 2005: 501f., italics in the original). Rijken (1999, chapter 3) finds an effect contradicting the age-at-transition hypothesis for transition probabilities: the higher the age at a transition, the higher the effect of social origin. However, this result can be due to the fact that the age at transition for several transitions in one country is estimated simultaneously, while the age-of-starting-selection hypothesis rather states an effect of age of the first transition only. It is quite conceivable that a higher age at later (especially post-compulsory) transitions increase social inequalities in education, as the opportunity costs of education increase, which might deter lower status students from taking up further education, e.g. university studies. This is indeed shown by Rijken in an additional model, where the timing effect is allowed to interact with transitions. Only the age of transition from lower to upper secondary and from upper secondary to tertiary has significant (and positive) effects; the age of transition from primary to lower secondary school, to which the age-of-selection hypothesis primarily refers, shows an insignificant and very small negative effect.

Thirdly, the selection criteria and procedures can be assumed to affect IEO. Standardised tests should lead to lower secondary effects than parental choice or teacher recommendations, as they lead to more “objective” estimates of actual performance (Erikson & Jonsson 1996a: 40ff.). Then, low achieving pupils from the higher classes would not be allowed to the more advanced tracks, whereas high achieving pupils form lower classes
would. This could be one reason why, in the Netherlands, despite the tracked system, IEO is relatively low: there are standardised tests at the end of primary school, which are not the only criterion of selection, but an important aspect. Free choice of education mainly benefits children from the higher classes. Primary effects, however, would persist, of course. However, there are no empirical studies available yet on the effects of different selection procedures.

To summarise, we can hypothesise that educational systems without academic selection are most equitable. Systems where selection occurs are less equitable than systems without selection, but the later selection takes place and the more it is based on standardised tests, the more equitable they are, compared to systems with early selection and/or with free choice instead of standardised tests as selection criteria. Other possibly important aspects of the institutional structure with respect to tracking are the ease of movement between different tracks and differences in the curriculum (Marks 2005). The existence of “dead end tracks” is also connected to lacking permeability, because then some educational decisions are hardly revisable (Erikson & Jonsson 1996a: 36). I am however not aware of any study testing these hypotheses.

The costs of education

With respect to costs of education, different education financing systems are another institutional factor that could be responsible for cross-national differences in social differentials in education. These costs mainly consist of opportunity costs (foregone earnings) for post-compulsory education and direct costs (like tuition fees for private education and also state education at tertiary level in some countries). If one adopts a rational choice perspective for the explanation of social differentials in education on the micro level, costs of post-compulsory education, especially higher education, are the most important factor that can be assumed to vary over countries. If an educational programme is more costly in one country than in another, it can be expected that IEO with respect to completion of this programme is higher in the first country than in the latter. An educational programme is more costly especially when the programme duration is longer, and when there are fees to pay.

Concerning the length of specific educational programmes, “the more similar in length various branches of study are, the less important will be the costs of schooling for the choice between these branches” (Erikson & Jonsson 1996a: 33). Finishing school at the minimal possible age and entering the labour market entails of course the lowest opportunity costs. As the length of programmes differs between countries, especially with respect
to higher education, this could be important in explaining cross-national differences in IEO. More specifically, some countries, e.g. the UK, offer short university level courses, lasting only two or three years. In other countries, e.g. Germany, until quite recently there were no short cycle programmes like the BA available, and getting a first degree could take six years on average. As longer studies are much more costly, especially with respect to opportunity costs, it can be hypothesised that in countries like Germany social differentials in higher education are larger than in the UK. Although the Bologna process introduced significant changes with respect to the presence of comparable programmes generally and short programmes at universities more specifically in all EU countries, for most cohorts who have already left the educational system, the kinds of programmes offered could have had a strong impact on their educational decisions.

Direct costs are relevant for the private sector of education as well as higher education in some countries. It can be assumed that the larger the private sector in a country, the higher IEO as compared with countries without such elite institutions (Erikson & Jonsson 1996a: 42f.). Furthermore, a major political measure to reduce the individual costs of education is financial support in the form of stipends to pupils and students, which can be assumed to decrease IEO if they are used at a commensurable scale (Erikson 1996: 96; Breen & Goldthorpe 1997). Thus, if there are fees to pay for higher education, without sufficient studentships available for students from low-income families, IEO should be higher at that level than in countries without fees and/or a comprehensive student grant system. Student loans that delay payment of the costs for studies however could increase IEO if students from lower classes are unwilling to run into debts, but could also decrease IEO by enabling them to study in the first place. Erikson (1996) showed that the increasing number of scholarships awarded in Sweden led to a decrease of IEO at the university level before the 1960s. However, as far as I know, there is no systematic cross-national study on the effects of tuition fees, scholarships, the size of the private education sector and the duration of specific educational programmes on IEO. It has however been investigated if public expenditure on education influences the dispersion of educational achievement, as higher public expenditure could mean lower costs for the “consumer” of education. Performing an aggregate analysis, this hypothesis was however refuted (Micklewright & Schnepf 2004).

There is also some rather indirect evidence for the importance of the institutional context for cross-national differences in IEO. Despite far-reaching reforms in several countries, present educational systems still reflect their historical roots to a large extent (see Müller & Karle 1993). This could be one reason why, despite modernisation and educational expansion, IEO has not changed that much over the last century.
4 Summary and conclusions

This paper reviewed cross-national research on social differentials in education, building on a brief summary of micro-level theories for the explanation of IEO. The review of the literature reveals several points why it is so difficult to come to firm conclusions about theoretical propositions of cross-national differences in IEO. The major problems are measurement comparability, especially with respect to education, and modelling strategy, especially when only data about a limited number of countries (or contextual units of analysis more generally) is available. Both issues will be addressed in more detail in chapters 2 and 3 respectively.

Concerning the empirical results presented above, it is pretty clear that we only have scattered knowledge about which aspects do make one society educationally more equitable than another. Table 2 presents the results of the four studies that systematically tested contextual effects on IEO. Modernisation seems to be important only for early transition points, where IEO decreases over time and with modernisation. At later points, expansion rather leads to a more heterogeneous student population, so that IEO increases over time. These offsetting effects can be responsible for the overall persistence of effects found in many studies. However, more recent results point into the direction that some equalisation even has taken place in countries where this was not obvious so far. Tracking seems to increase IEO, but the effect of the age of selection is not totally clear yet. More cross-national research would maybe allow firmer conclusions. Social inequality-related explanations were only tested by one study, with a rather negative result. Other hypotheses (cultural distance between classes, costs of higher education…) have not yet been tested in a comparative design yet.

Table 2: Overview of results of comparative studies of IEO

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<tr>
<td>Multivariate on context level?</td>
<td>yes (trivariate)</td>
<td>yes</td>
<td>yes</td>
<td>no (bivariante)</td>
</tr>
<tr>
<td>Modernisation /industrialisation /economic expansion /economic development (1. modernisation hypothesis: neg. effect; 2. differential selection hypothesis: pos. effect)</td>
<td>1. Mean of standardized per capita energy consumption and standardised proportion of the labour force not in agriculture</td>
<td>1. Complex modernisation index; 2. Relative number of students at risk at each transition;</td>
<td>1. Average virtual years of education in each country (modernisation index not used to predict country differences in IEO)</td>
<td>1. Percent of the population with university education; GDP per capita</td>
</tr>
<tr>
<td></td>
<td>Only a small effect as soon as status inequality is included in the model</td>
<td>Modernisation only decreases IEO at the transition from primary to secondary; % at risk increases IEO</td>
<td>Substantial negative effect</td>
<td>Large effect for the size of the tertiary sector; no effect for GDP</td>
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<tr>
<td>Status/income inequality; State socialism (socialist transformation hypothesis: negative, then positive effect; social inequality: positive effect)</td>
<td>Mean of 1) the standardized ratio of years of education of professionals and years of education of workers in the father’s generation and 2) the standardized coefficient of relative variability (the standard deviation divided by the mean) of father’s years of schooling</td>
<td>Dummy for transitions made under state-socialist conditions</td>
<td>Dummy for socialist country*cohort combinations</td>
<td>Gini coefficient for disposable income</td>
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<tr>
<td>Substantial positive effect</td>
<td>Substantial negative effect</td>
<td>Positive effect on the effect of father’s education; negative effect on the effect of father’s occupation</td>
<td>Small effect</td>
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<tr>
<th>Differentiation of the educational system/tracking</th>
<th>not tested</th>
<th>not tested</th>
<th>not tested</th>
<th>Number of tracks at age 15 and school intra-class correlation</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Large positive effects</td>
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<tr>
<th>Timing of transition with first academic selection</th>
<th>not tested</th>
<th>Formal age at which each transition is supposed to be made</th>
<th>not tested</th>
<th>Age at which academic selection starts</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Substantial negative effects</td>
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<tr>
<th>Problems</th>
<th>Standard errors not reported, intransparent, only two macro-variables; no separate modelling of the effects of parental status and education.</th>
<th>Dodgy method; multilevel modelling would have been more adequate; parental education excluded completely.</th>
<th>Independent var. derived from the dependent var.</th>
<th>Only bivariate relationships; at the contextual level parental education excluded</th>
</tr>
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One obvious point is that, apart from the study by Treiman et al. (2003), parental social status and education are not independently modelled by contextual effects. Marks (2005) and Rijken (1999) only look at social class and social status differences respectively, and Treiman and Yip (1989) combine the effects of father’s prestige and education in R². Treiman et al. (2003) in turn model effects of parental education and status separately, but they use the same contextual predictors for predicting both coefficients. However, social class or status is more closely related to a family’s material resources (and thus the cost factor in educational choice) and parental education to cultural and educational resources (and thus the success expectations factor in educational choice), so that both might imply somewhat different contextual hypotheses. This has not yet been realised in any comparative study.
In terms of methods, only one of the four studies used multilevel modelling (Treiman, Ganzema & Rijken 2003). This study used a country*cohort cross-classification at level two, although cohorts are nested within countries and should thus rather be modelled as another level in between the individual and the country level. This study is also very flawed with respect to the measurement of contextual variables, being circular. The approach of using achievement data (Marks 2005) enriches the range of results, but unfortunately the author restrained from multivariate analyses on the country level. These data do also not allow conclusions on the whole population in a country, but only one cohort. Finally, only one study (Rijken 1999, chapter 3) looks at educational transitions, but the author cross-classifies countries, cohorts, transitions and gender, thus maybe artificially increasing the contextual variance. No study combines the analysis of social origin effects on transition propensities and overall attainment, looking at the overall picture of IEO from a comparative perspective. Thus, although there is a lot to learn from previous comparative studies on IEO, there are several methodological aspects that could be improved.

Taking a step back and evaluating the substantial focus of comparative research in IEO, the mainstream of research focused on social differentials in either educational attainment (i.e. highest level of education) or achievement (i.e. test performance). There are hardly any studies on the effects of social origins on participation in vocational education and training or further education in the sense of lifelong learning, i.e. education outside the general schooling system which occurs after the first regular work contract. The debate is focused on general education and later university education, so that vocational education is left as a desideratum. Nevertheless, effects of social origins and cross-national differences can be expected here, too, e.g. in the sense that individuals from higher social background who do not go to university achieve nevertheless higher levels of vocational education (e.g. become master craftsmen), and that countries with more developed vocational education programmes maybe divert working class students away from university studies more than other countries.

Moreover, the longitudinal approach, focusing on changes within countries over time was much stronger than the cross-national approach, focusing on macro-sociological differences between countries. The finding of persisting class inequalities in education turned many researcher’s attention away from contextual effects and towards individual level theories, mainly rational choice approaches. However, these can also be very useful when think-
ing about cross-national differences in IEO, mainly because the costs of education largely differ between countries.

Socialisation was usually also assumed to work identically in different countries. Although this might be true for the general processes, differences in conditions of socialisation between countries can be responsible for cross-national differences in IEO, too. These are expected to be mostly compositional effects, e.g. differences between countries in the cultural distance between different social classes. However, cultural and income inequality was not a major focus for cross-national analyses of IEO yet, and modernisation was the prime focus of research.

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